CALIFORNIA STATE WATER RESOURCES CONTROL BOARD

ORDER NO. 2012-0011-DWQ
NPDES NO. CAS000003
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
STATEWIDE STORM WATER PERMIT
WASTE DISCHARGE REQUIREMENTS (WDRS)
FOR
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

Effective Date: July 1, 2013

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FINDINGS
The State Water Resources Control Board (State Water Board) finds that:

Permit Application

1. The State of California, Department of Transportation (hereafter the Department) has applied to the State Water Board for reissuance of its statewide storm water permit and waste discharge requirements to discharge storm water and permitted non-storm water to waters of the United States under the National Pollutant Discharge Elimination System (NPDES) permit program.

Background and Authority

Permit Background

2. Prior to issuance of the Department's first statewide storm water permit (Order No. 99-06-DWQ), the Regional Water Boards regulated storm water discharges from the Department's storm drain systems with individual permits. On July 15, 1999, the State Water Board adopted a statewide permit to consolidate storm water permits previously adopted by the Regional Water Boards. This statewide permit regulates storm water and non-storm water discharges from the Department's properties and facilities, and discharges associated with operation and maintenance of the State highway system. The Department's properties include all Right-of-Way (ROW) owned by the Department. The Department's facilities include, but are not limited to, maintenance stations/yards, equipment storage areas, storage facilities, fleet vehicle parking and maintenance areas and warehouses with material storage areas.

Federal Authority

3. In 1987, the United States Congress amended the federal Clean Water Act (C.W.A.) and added section 402(p), which established a framework for regulating municipal and industrial storm water discharges under the NPDES Permit Program. On November 16, 1990, the U.S. Environmental Protection Agency (U.S. EPA) promulgated federal regulations for controlling pollutants in storm water runoff discharges (known as Phase I storm water regulations). Phase I storm water regulations require permit coverage for storm water discharges from large and medium Municipal Separate Storm Sewer Systems (MS4s), certain categories of industrial facilities, and construction activities disturbing five or more

acres of land. On December 8, 1999, U.S. EPA promulgated regulations, known as Phase II storm water regulations, which require NPDES permit coverage for storm water discharges from small MS4s and construction sites which disturb one to five acres of land.

State Authority

4. California Water Code (Wat. Code) section 13376 provides that any person discharging or proposing to discharge pollutants to waters of the United States within the jurisdiction of the state shall apply for and obtain Waste Discharge Requirements (WDRs). (For this permit, the State term “WDRs” is equivalent to the federal term “NPDES permits” as used in the Clean Water Act). The State Water Board issues this Order pursuant to section 402 of the Clean Water Act and implementing regulations adopted by U.S. EPA and chapter 5.5, division 7 of the California Water Code (commencing with § 13370 et seq.). It shall serve as an NPDES permit for point source discharges to surface waters. This Order also serves as WDRs pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with § 13260 et seq.). Applicable State regulations on discharges of waste are contained in the California Code of Regulations (Cal. Code Regs.), tit. 23, Division 3, Chapter 9.

Storm Water Definition

Storm Water Discharge

5. Storm water discharges consist only of those discharges that originate from precipitation events. Storm water is defined in the Code of Federal Regulations (40 C.F.R. § 122.26(b)(13)) as storm water runoff, snowmelt runoff, and surface runoff and drainage. During precipitation events, storm water picks up and transports pollutants into and through MS4s and ultimately to waters of the United States.

Non-Storm Water Discharge

6. Non-storm water discharges consist of all discharges from an MS4 that do not originate from precipitation events.

Generally, non-storm water discharges to an MS4 are prohibited, conditionally exempt from prohibition, or regulated separately by an NPDES permit. The categories of conditionally exempt non-storm water discharge are specified at 40 Code of Federal Regulations section 122.26(d)(2)(iv)(B)(1). Non-storm water discharges that are regulated by a separate NPDES permit are not subject to the discharge prohibition. Prohibited non-storm water discharges include conditionally exempt discharges that are found to be a source of pollutants to waters of the United States. Illicit discharges must also be prohibited. An illicit discharge is defined in 40 Code of Federal Regulations section 122.26(b)(2) as "any discharge to a municipal storm sewer that is not composed entirely of storm water except discharges pursuant to an NPDES permit (other than the NPDES Permit for discharges from the Municipal Separate Storm Sewer System) and discharges resulting from fire fighting activities." Provision B of this Order addresses non-storm water discharge.

Non-storm water discharges to an MS4 with a discharge to an ASBS are subject to a different set of conditions as stated in Finding 22.a.

Performance Standards

Performance Standard for Discharges from MS4s

7. Clean Water Act section 402(p) establishes performance standards for discharges from MS4s. Clean Water Act section 402(p)(3)(B) requires that municipal permits "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants." This Order prohibits storm water discharges that do not comply with the maximum extent practicable (MEP) standard.

8. Compliance with the MEP standard involves applying Best Management Practices (BMPs) that are effective in reducing or eliminating the discharge of pollutants to the waters of the United States. MEP emphasizes pollutant reduction and source control BMPs to prevent pollutants from entering storm water runoff. MEP may require treatment of the storm water runoff if it contains pollutants. BMP development is a dynamic process, and the menu of BMPs contained in a SWMP may require changes over time as experience is gained and/or the state of the science and art progresses. MEP is the cumulative effect of implementing, evaluating, and making corresponding changes to a variety of technically appropriate and economically feasible BMPs, ensuring that the most appropriate controls are implemented in the most effective manner. The State Water Board has held that “MEP requires permittees to choose effective BMPs, and to reject applicable BMPs only where other effective BMPs will serve the same purpose, the BMPs would not be technically feasible, or the costs would be prohibitive.” (SWRCB, 2000b).

Permit Coverage and Scope

Discharges Regulated by this Permit

9. This Order regulates the following discharges:

   a. Storm water discharges from all Department-owned MS4s;
   b. Storm water discharges from the Department’s vehicle maintenance, equipment cleaning operations facilities and any other non-industrial facilities with activities that have the potential of generating significant quantities of pollutants; and
   c. Certain categories of non-storm water discharges as listed under provision B. of this Order.

   This Order does not regulate storm water discharges from leased office spaces, Department owned batch plants or any other industrial facilities, as industrial facilities defined in the Statewide Industrial General Permit. The Department will obtain coverage for storm water discharges associated with industrial activities under the Statewide Industrial General Permit for each batch plant and industrial facility, and shall comply with applicable requirements. While this Order does not regulate storm water discharges associated with industrial activities, it does impose contractor requirements for certain industrial facilities.

   This Order does not regulate discharges from the Department’s construction activities, including dewatering effluent discharges from construction projects. Instead, the Department will obtain coverage for storm water discharges associated with construction

activities under Order No. 2009-0009-DWQ Statewide Construction General Permit. While this Order does not regulate storm water discharges associated with construction activities, it does impose electronic filing, notification, reporting and contractor requirements for certain construction projects, and imposes limitations on types of materials that may be used during construction which may have an impact on post-construction discharges. Any discharges from a site occurring after completion of construction are fully subject to the requirements of this Order.

Some Regional Water Boards have issued specific requirements for dewatering effluent discharges in their regions. The Department will consult with the appropriate Regional Water Board and comply with the applicable dewatering requirements in each region.

Department Activities and Discharges

Department Activities

10. The Department is primarily responsible for the design, construction, management, and maintenance of the State highway system including; freeways, bridges, tunnels, and facilities such as corporation yards, maintenance facilities, rest areas, weigh stations, park and ride lots, toll plazas and related properties. The Department is also responsible for initial emergency spill response and cleanup for unauthorized discharges of waste within the Department's ROW.

Department Discharges

11. The Department's discharges include storm water and non-storm water discharges generated from:

    a. Maintenance and operation of State-owned ROW;
    b. Department storage and disposal areas;
    c. Department facilities;
    d. Department Airspaces; and
    e. Other properties and facilities owned and operated by the Department.

    The Department discharges either directly to surface waters or indirectly through municipal storm water conveyance systems. These surface waters include creeks, rivers, reservoirs, wetlands, saline sinks, lagoons, estuaries, bays, and the Pacific Ocean and tributaries thereto, some or all of which are waters of the United States as defined in 40 Code of Federal Regulations section 122.2. As specified, this Order regulates the Department's municipal storm water and non-storm water discharges.

Potential Pollutants

12. Discharges of storm water and non-storm water from Department properties, facilities, and activities have been shown to contribute pollutants to waters of the United States. As such, these discharges may be causing or threatening to cause violations of water quality objectives and can have damaging effects on human health and aquatic ecosystems. The quality and quantity of these discharges vary considerably and are affected by many environmental factors including hydrology, geology, land use, climatology and chemistry, and by controllable management factors including maintenance practices, spill prevention

and response activities, public education (i.e., concerning trash and other storm water pollutants) and pollution prevention.

Pollutant sources from the Department properties, facilities, and activities include motor vehicles, highway surface materials such as fine particles of asphalt and concrete, highway maintenance products, construction activities, erodible shoulder materials, eroding cut and filled slopes, abrasive sand and deicing salts used in winter operations, abraded tire rubber, maintenance facilities, illegal connections, illegal dumping, fluids from accidents and spills, and landscape care products.

Pollutant categories include, but are not limited to, metals (such as copper, lead, and zinc), synthetic organic compounds (pesticides), Polycyclic Aromatic Hydrocarbons (PAHs) from vehicle emissions, oil and grease, Total Petroleum Hydrocarbons (TPH), sediment, nutrients (nitrogen and phosphorus fertilizers), debris (trash and litter), pathogens, and oxygen demanding substances (decaying vegetation, animal waste, and other organic matter).

Characterization Monitoring

13. Under the previous permit (Order No. 99-06-DWQ), the Department conducted a comprehensive, multi-component storm water monitoring program. The Department monitored and collected pollutant characterization information at more than 180 sites statewide, yielding more than 60,000 data points. The Department used the data to evaluate the effectiveness of the Department's maintenance facility pollution prevention plans and highway operation control measures. This information is also used to identify pollutants of concern in the Department's discharges.

Department Discharge Characterization Studies

14. The Department compared the monitoring results from the 2002 and 2003 Runoff Characterization Studies (California Department of Transportation, 2003)[1] to California Toxics Rule (CTR) objectives and to several surface water quality objectives considered potentially relevant to storm water runoff quality. The Department prioritized constituents as high, medium, and low, according to a percentage estimate by which the most stringent water quality objective was exceeded. The Department identified lead, copper, zinc, aluminum, diazinon, chlorpyrifos, and iron as high priority constituents in the Department's runoff. The sources of other water quality objectives considered were:

    a. National Primary Drinking Water Maximum Contaminant Levels (40 C.F.R., § 141.1);
    b. U.S. EPA Action Plan for Beaches and Recreational Waters;
    c. U.S. EPA Aquatic Life Criteria;
    d. California Department of Public Health Maximum Contaminant Levels; and California Department of Fish and Game Recommended Criteria for Diazinon and Chlorpyrifos.

Department Discharges that are Subject to MS4 Permit Regulations

15. An MS4 is a conveyance or system of conveyances, including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm

[1] References are found in Attachment X of this Order.

drains. An MS4 is designed or used for collecting or conveying storm water. It is not a combined sanitary sewer and is not part of a Publicly Owned Treatment Works (POTW). Clean Water Act section 402(p) and 40 Code of Federal Regulations section 122.26 (a)(v) give the State authority to regulate discharges from an MS4 on a system-wide or jurisdiction-wide basis. All MS4s under the Department's jurisdiction are considered one system, and are regulated by this Order. Therefore, all storm water and exempted and conditionally exempted non-storm water discharges from the Department owned MS4 are subject to the requirements in this Order.

Maintenance and Construction Activities not Subject to the Construction General Permit

16. Some maintenance and construction activities such as roadway and parking lot repaving and resurfacing may not be subject to the Construction General Permit. Such activities may involve grinding and repaving the existing surface and have the potential to mobilize pollutants, even though it may not involve grading or land disturbance. The Department's Maintenance Staff Guide (Department, 2007b), Project Planning and Design Guide (Department, 2010) and the California Stormwater Quality Association (CASQA) California Construction Stormwater BMP Handbook (CASQA, 2009) specify BMPs for paving and grinding operations. The Department is required to implement BMPs for such operations to control the discharge of pollutants to the MEP.

Department Construction Projects Involving Lead Contaminated Soils

17. Department construction projects may involve soils that contain lead in quantities that meet the State definition of hazardous waste but not the federal definition. The Department of Toxic Substances Control (DTSC) has issued a variance (V09HQSCD006) effective July 1, 2009, allowing the Department to place soil containing specific concentrations of aerially deposited lead under pavement or clean soil. In addition to complying with the terms of the variance, the Department also needs to notify the appropriate Regional Water Boards to determine the appropriate regulation of these soils.

18. Past monitoring data show that storm water runoff from the Department's facilities contains pollutants that may adversely affect the beneficial uses of receiving waters. Facilities not subject to the Industrial General Permit are required to implement BMPs to reduce the discharge of pollutants from these facilities to the MEP.

Provisions of This Order

19. Storm water discharges from MS4s are highly variable in frequency, intensity, and duration, and it is difficult to characterize the amount of pollutants in the discharges. In accordance with 40 Code of Federal Regulations section 122.44(k)(2), the inclusion of BMPs in lieu of numeric effluent limitations is appropriate in storm water permits. This Order requires implementation of BMPs to control and abate the discharge of pollutants in storm water to the MEP. To assist in determining if the BMPs are effectively achieving MEP standards, this Order requires effluent and receiving water monitoring. The monitoring data will be used to determine the effectiveness of the applied BMPs and to make appropriate adjustments or revisions to BMPs that are not effective.

Receiving Water Limitations

20. The effect of the Department's storm water discharges on receiving water quality is highly variable. For this reason, this Order requires the Department to implement a storm water program designed to achieve compliance with water quality standards, over time through an iterative approach. If discharges are found to be causing or contributing to an exceedance of an applicable Water Quality Standard, the Department is required to revise its BMPs (including use of additional and more effective BMPs).

Discharges to Areas of Special Biological Significance

21. The State Water Board has designated 34 coastal marine waters as Areas of Special Biological Significance (ASBS) in the California Ocean Plan. An ASBS is a coastal area requiring protection of species or biological communities. The Department discharges storm water into the following ASBS:

    a. Redwoods National Park ASBS
    b. Saunders Reef ASBS
    c. James V. Fitzgerald ASBS
    d. Año Nuevo ASBS
    e. Carmel Bay ASBS
    f. Point Lobos ASBS
    g. Julia Pfeiffer Burns ASBS
    h. Salmon Creek Coast ASBS
    i. Laguna Point to Latigo Point ASBS
    j. Irvine Coast ASBS

22. The Ocean Plan prohibits waste discharges into ASBS. The Ocean Plan allows the State Water Board to grant exceptions to this prohibition, provided that: (1) the exception will not compromise protection of ocean waters for beneficial uses, and (2) the public interest will be served. The Department has applied for and been granted an exception under the General Exception for Storm Water and Non-Point Source Discharges to ASBS. The exception allows the continued discharge into ASBS provided the Department complies with the special protections specified in the General Exception.

22a. Non-storm water discharges to ASBS are prohibited except as specified in the General Exception. Certain enumerated non-storm water discharges are allowed under the General Exception if essential for emergency response purposes, structural stability, slope stability, or if occur naturally. In addition, an NPDES permitting authority may authorize non-storm water discharges to an MS4 with a direct discharge to an ASBS to the extent the NPDES permitting authority finds that the discharge does not alter natural ocean water quality in the ASBS. This Order allows utility vault discharges to segments of the Department MS4 with a direct discharge to an ASBS, provided the discharge is authorized by the General NPDES Permit for Discharges from Utility Vaults and Underground Structures to Surface Water, NPDES No. CAG 990002. The State Water Board is in the process of reissuing the General NPDES Permit for Utility Vaults. As part of the renewal, the State Water Board will require a study to characterize representative utility vault discharges to an MS4 with a direct discharge to an ASBS and will impose conditions on such discharges to ensure the

discharges do not alter natural ocean water quality in the ASBS. Given the limited number of utility vault discharges to MS4s that discharge directly to an ASBS, the State Water Board finds that discharges from utility vaults and underground structures to a segment of the Department's MS4 with a direct discharge to an ASBS are not expected to result in the MS4 discharge causing a substantial alteration of natural ocean water quality in the ASBS in the interim period while the General NPDES Permit for Discharges from Utility Vaults is renewed and the study is completed. However, if a Regional Water Board determines a specific discharge from a utility vault or underground structure does alter the natural ocean water quality in an ASBS, the Regional Water Board may prohibit the discharge as specified in this Order.

New Development and Re-development Design Standards

23. 40 Code of Federal Regulations section 122.26(d)(2)(iv)(A)(2) requires municipal storm water permittees to implement a new development and redevelopment program to reduce the post-construction generation and transport of pollutants. Development can involve grading and soil compaction, an increase in impervious surfaces (roadways, roofs, sidewalks, parking lots, etc.), and a reduction of vegetative cover, all of which increase the amount of rainfall that ends up as runoff, and decrease the particle size and the load of watershed sediment. The increase in runoff generally leads to increased pollutant loading from watersheds, even if post-construction pollutant concentrations are similar to pre-construction concentrations. The accelerated erosion and deposition resulting from an increase in runoff and a decrease in the size and load of watershed sediment generally causes a stream channel to respond by deepening and widening and detaching from the historic floodplain. The magnitude of response depends on geology, land use, and channel stability at the time of the watershed disturbance. Increased pollutant loads and alteration of the runoff/sediment balance have the potential to negatively impact the beneficial uses of receiving waters including streams, lakes, wetlands, ground water, oceans, bays and estuaries, and the biological habitats supported by these aquatic systems.

24. Department projects have the potential to negatively impact stream channels and downstream receiving waters through modification of the existing runoff hydrograph. The hydromodification requirements in this Order are "effluent limitations," which are defined by the Clean Water Act to include any restriction on the quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources (C.W.A., § 502(11)).

25. Waters of the United States supporting the beneficial use of fish migration could be adversely impacted by improperly designed or maintained stream crossings, or through natural channel evolution processes affected by Department activities. This Order requires the Department to submit to the State Water Board the annual report required under Article 3.5 of the Streets and Highways Code reporting on the Department's progress in locating, assessing, and remediating barriers to fish passage.

26. Low Impact Development (LID) is a sustainable practice that benefits water supply and contributes to water quality protection. Unlike traditional storm water management, which collects and conveys storm water runoff through storm drains, pipes, or other conveyances

to a centralized storm water facility, LID uses site design and storm water management to maintain the site's pre-project runoff rates and volumes by using design techniques that infiltrate, filter, store, evaporate, and detain runoff close to the source.

27. On October 5, 2000, the State Water Board adopted a precedential decision concerning the use of Standard Urban Storm Water Mitigation Plans (SUSMPs) (Order WQ 2000-11). The SUSMP in that case required sizing design standards for post-construction BMPs for specific categories of new development and redevelopment projects. Order WQ 2000-11 found that provisions in the SUSMPs, as revised in the order, reflected MEP. The LID requirements, post-construction requirements for impervious surface and the design standards in this Order are consistent with Order WQ 2000-11 and meet the requirement for development of a SUSMP.

Self-Monitoring Program

28. Effluent and receiving water monitoring are necessary to evaluate the effectiveness of BMP measures and to track compliance with water quality standards. This Order requires the Department to conduct effluent and receiving water monitoring.

Storm Water Management Plan (SWMP)

29. The SWMP describes the procedures and practices that the Department proposes to reduce or eliminate the discharge of pollutants to storm drainage systems and receiving waters. On May 17, 2001, the State Water Board approved a Storm Water Management Plan submitted by the Department. That SWMP was updated in 2003 (Department, 2003c) and the updates were approved by the Executive Director of the State Water Board on February 13, 2003. On January 15, 2004, the Department submitted a proposed Storm Water Management Plan as part of its NPDES permit application to renew its previous statewide storm water permit (Order No. 99-06-DWQ). The State Water Board and Regional Water Board staff and the Department discussed and revised Best Management Practices (BMP) controls and many other components proposed in each section of the SWMP during numerous meetings from January 2004 to 2006. The Department submitted a revised SWMP in June 2007. The 2004 and 2007 SWMPs have not been approved by the State Water Board and the Department has continued to implement the 2003 SWMP. The Department is in the process of revising aspects of the 2003 SWMP to address the Findings of Violation and Order for Compliance issued by U.S. EPA in 2011 (U.S. EPA Docket No. CWA-09-2011-0001).

30. The SWMP and any future modifications or revisions are integral to and enforceable components of this Order. Any documents incorporated into the SWMP by reference that specify the manner in which the Department will implement the SWMP shall be consistent with the requirements of this Order.

31. This Order requires the Department to submit an Annual Report each year to the State Water Board. The Annual Report serves the purpose of evaluating, assessing, and reporting on each relevant element of the storm water program, and revising activities, control measures, BMPs, and measurable objectives, as necessary, to meet the applicable standards.

32. Revisions to the SWMP requiring approval by the State Water Board's Executive Director are subject to public notice and the opportunity for a public hearing.

Total Maximum Daily Load (TMDL) Requirements

33. TMDLs are calculations of the maximum amount of a pollutant that a water body can receive and still meet water quality standards. A TMDL is the sum of the allowable loads of a single pollutant from all contributing point sources (the waste load allocations or WLAs) and non-point sources (load allocations or LAs), plus the contribution from background sources and a margin of safety (40 C.F.R., § 130.2, subd.(i)). Discharges from the Department's MS4 are considered point source discharges.

34. This Order implements U.S. EPA-approved or U.S. EPA-established TMDLs applicable to the Department. This Order requires the Department to comply with all TMDLs listed in Attachment IV. Attachment IV identifies TMDLs adopted by the Regional Water Boards and approved by the State Water Board and U.S. EPA that assign the Department a Waste Load Allocation (WLA) or that specify the Department as a responsible party in the implementation plan. In addition, Attachment IV identifies TMDLs established by U.S. EPA that specify the Department as a responsible party or that identify NPDES permitted storm water sources or point sources generally, or identify roads generally, as subject to the TMDL. In accordance with 40 Code of Federal Regulations section 122.44, subdivision (d)(1)(vii)(B), NPDES water quality-based effluent limitations (WQBELs) must be consistent with the assumptions and requirements of available TMDL WLAs. In addition, Water Code section 13263, subdivision (a), requires that waste discharge requirements implement any relevant water quality control plans. The TMDL requirements in this Order are consistent with the assumptions and requirements of the TMDLs applicable to the Department.

35. TMDL WLAs in this Order are not limited by the MEP standard. Implementation requirements for many TMDLs are partially or fully specified in Regional Water Board Water Quality Control Plans (Basin Plans) and are an enforceable part of this Order. Applicable Basin Plan amendments and resolutions are identified in Attachment IV for each TMDL listed. Compliance may include, but is not limited to, implementation of BMPs and control measures contained in TMDL implementation plans sufficient to achieve the WLA, or a demonstration that the numeric WLA has been achieved. Due to the nature of storm water discharges, and the typical lack of information on which to base numeric WQBELs, federal regulations (40 C.F.R., § 122.44, subd. (k)(2)) allow for the implementation of BMPs to control or abate the discharge of pollutants from storm water.

36. The Department reported in its 2008-09 Annual Report to the State Water Board that it is subject to over 50 TMDLs and is in the implementation phase of over 30 TMDLs. WLAs and LAs for some TMDLs are shared jointly among several dischargers, with no specific mass loads assigned to individual dischargers. In some of these cases, multiple dischargers are assigned a grouped or aggregate waste load allocation, and each discharger is jointly responsible for complying with the aggregate waste load allocation.

37. The high variance in the level of detail and specificity in the TMDLs developed by the Regional Water Boards and U.S. EPA necessitates the development of more specific permit

requirements in many cases, including deliverables and required actions, derived from each TMDL's WLA and implementation requirements. These requirements will provide clarity to the Department regarding its responsibilities for compliance with applicable TMDLs. The development of TMDL-specific permit requirements is subject to notice and a public comment period. Given the number of TMDLs that apply to the Department, it is not possible to develop TMDL-specific permit requirements for every TMDL listed in Attachment IV without severely delaying the issuance of this Order. Because most of the TMDLs were developed by the Regional Water Boards, and because some of the WLAs are shared by multiple dischargers, the development of TMDL-specific permit requirements is best coordinated initially at the Regional Water Board level.

38. Attachment IV specifies TMDL-specific permit requirements, including deliverables, actions, and compliance due dates, for the Lake Tahoe sediment and nutrients TMDL. These requirements are consistent with the assumptions and requirements of applicable WLAs assigned to the Department, and with the adopted and approved TMDL, Basin Plan, and related Lahontan Regional Water Board Orders and Resolutions.

39. For all remaining TMDLs, the Regional Water Boards, in consultation with the State Water Board and the Department, will develop TMDL-specific permit requirements where necessary within one year of the adoption date of this Order. Regional Water Board staff will also prepare supporting analyses explaining how the proposed TMDL-specific permit requirements will implement the TMDL and are consistent with the assumptions and requirements of any applicable WLA and, where a BMP-based approach to permit limitations is selected, how the BMPs will be sufficient to implement applicable WLAs. Following a notice and comment period, Attachment IV of this Order and the Fact Sheet will be reopened consistent with provision E.11.c. for incorporation of these requirements and supporting analysis into the Order.

40. This Order does not specify the requirements to be followed for TMDL-specific monitoring. TMDL monitoring requirements are found in some of the adopted and approved TMDLs. The Regional Water Boards may include specific TMDL monitoring requirements in the permit requirements developed and incorporated into this Order through the reopener as described in Finding 39, and/or may require monitoring through Regional Water Board orders pursuant to Water Code section 13383.

41. Attachment IV may additionally be reopened consistent with provision E.11.b. of this Order for incorporation of newly adopted TMDLs or amendments to existing TMDLs into the Permit.

<u>Non-Compliance</u>

42. NPDES regulations require the Department to notify the Regional Water Board and/or State Water Board of anticipated non-compliance with this Order (40 C.F.R., § 122.41(l)(2)); or of instances of non-compliance that endanger human health or the environment (40 C.F.R., § 122.41(l)(6)).

Regional Water Board and State Water Board Enforcement

43. The Regional Water Boards and the State Water Board will enforce the provisions and requirements of this Order.

Region Specific Requirements

Basin Plans

44. Each Regional Water Board has adopted a Basin Plan for the watersheds within its jurisdiction. Basin Plans identify the beneficial uses for each water body and the water quality objectives necessary to protect them. The Department is subject to the prohibitions and requirements of each Basin Plan.

Region Specific Requirements

45. Regional Water Boards have identified Region-specific water quality issues and concerns pertaining to discharges from the Department's properties. Region-specific requirements to address these issues are included in this Order.

Local Municipalities and Preemption

46. Storm water and non-storm water from MS4s that are owned and managed by other NPDES permitted municipalities may discharge to storm water conveyance systems owned and managed by the Department. This Order does not supersede the authority of the Department to prohibit, restrict, or control storm water discharges and conditionally exempt non-storm water discharges to storm drain systems or other watercourses within its jurisdiction as allowed by State and federal law.

    Storm water and non-storm water from the Department's ROW, properties, facilities, and activities may discharge to storm water conveyance systems managed by other NPDES permitted municipalities. This Order does not preempt or supersede the authority of the permitted municipalities to prohibit, restrict, or control storm water discharges and conditionally exempt non-storm water discharges to storm drain systems or other watercourses within their jurisdiction as allowed by State and federal law.

Anti-Degradation Policy

47. 40 Code of Federal Regulations section 131.12 requires that state water quality standards include an anti-degradation policy consistent with the federal policy. The State Water Board established California's anti-degradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal anti-degradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plans implement, and incorporate by reference, both the State and federal anti-degradation policies. This Order is consistent with the anti-degradation provision of 40 Code of Federal Regulations section 131.12 and State Water Board Resolution No. 68-16.

Endangered Species Act

48. This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code, §§ 2050 to 2115.5) or the Federal Endangered Species Act (16 U.S.C.A., §§ 1531 to 1544). This Order requires compliance with effluent limitations, receiving water limitations, and other requirements to protect the beneficial uses of waters of the United States. The Department is responsible for meeting all requirements of the applicable Endangered Species Act.

California Environmental Quality Act (CEQA)

49. The action to adopt an NPDES Permit is exempt from the provisions of CEQA (Public Resources Code, § 21100, et. seq.), pursuant to section 13389 of the California Water Code (County of Los Angeles et al., v. California Water Boards et al., (2006), 143 Cal.App.4th 985).

Public Notification

50. The Department, interested agencies, and persons have been notified of the State Water Board's intent to reissue requirements for storm water discharges and have been provided an opportunity to submit their written comments and recommendations. State Water Board staff prepared a Fact Sheet and Response to Comments, which are incorporated by reference as part of this Order.

Public Hearing

51. The State Water Board, through public testimony in public meetings and in written form, has received and considered all comments pertaining to this Order.

Cost of Compliance

52. The State Water Board has considered the costs of complying with this Order and whether the required BMPs meet the minimum "maximum extent practicable" standard required by federal law. The MEP approach is an evolving, flexible, and advancing concept, which considers technical and economic feasibility. Because of the numerous advances in storm water regulation and management and the size of the Department's MS4, the Order does not require the Department to fully incorporate and implement all advances in a single permit term, but takes an incremental approach that allows for prioritization of efforts for the most effective use of the increased, but nevertheless limited, Department funds. This Order will have an effect on costs to the Department above and beyond the costs from the Department's prior permit. Such costs will be incurred in complying with the post-construction, hydrograph modification, Low Impact Development, and monitoring and reporting requirements of this Order. Additional costs will also be incurred in correcting non-compliant discharges.[2] These incremental costs are necessary to advance the controls and management of storm water by the Department and to facilitate reduction of the discharge of pollutants to the MEP.

53. This Order supersedes Order No. 99-06-DWQ.

[2] Although the cost of compliance with TMDL waste load allocations was considered, compliance with TMDLs is not subject to the MEP standard.

54. This Order serves as an NPDES permit pursuant to Clean Water Act section 402 or amendments thereto, and shall become effective on July 1, 2013, provided that the Regional Administrator, U.S. EPA, Region IX, expresses no objections.

IT IS HEREBY ORDERED, pursuant to the provisions of Division 7 of the California Water Code, regulations, and plans and policies adopted thereafter, and to the provisions of the Clean Water Act and regulations and guidelines adopted thereafter, that the Department shall comply with the following:

A. GENERAL DISCHARGE PROHIBITIONS

1. Storm water discharges from the Department's Municipal Separate Storm Sewer System (MS4) containing pollutants that have not been reduced to the Maximum Extent Practicable (MEP), are prohibited. The Department shall achieve the pollutant reductions described in this Prohibition through implementation of the provisions in this Order and the approved SWMP.

2. Discharges to Areas of Special Biological Significance (ASBS)

   a. Existing storm water discharges into an ASBS are allowed only if the discharges:
      1) Are essential for flood control or slope stability, including roof, landscape, road, and parking lot drainage;
      2) Are designed to prevent soil erosion;
      3) Occur only during wet weather; and
      4) Are composed of only storm water runoff, except as provided at B.6.

   b. Discharges composed of storm water runoff shall not alter natural water quality in an ASBS.

   c. The discharge of trash is prohibited.

   d. Only discharges from existing storm water outfalls are allowed. Any proposed or new storm water runoff discharge shall be routed to existing storm water discharge outfalls and shall not result in any new contribution of waste to an ASBS (i.e., no additional pollutant loading). "Existing storm water outfalls" are those that were constructed or under construction prior to January 1, 2005. "New contribution of waste" is defined as any addition of waste beyond what would have occurred as of January 1, 2005. A change to an existing storm water outfall, in terms of re-location or alteration, in order to comply with these special conditions, is allowed and does not constitute a new discharge.

   e. The discharges comply with all terms, prohibitions, and special conditions contained in sections E.2.c.2)a)i) and E.5. of this Order.

3. Discharge of material other than storm water, or discharge that is not composed entirely of storm water, to waters of the United States or another permitted MS4 is prohibited, except as conditionally exempted under Section B.2 of this Order or authorized by a separate National Pollutant Discharge Elimination System (NPDES) permit.

4. The discharge of storm water or conditionally exempt non-storm water that causes or contributes to the violation of water quality standards or water quality objectives (collectively WQSs), the California Toxics Rule (CTR), or impairs the beneficial uses established in a Water Quality Control Plan, or a promulgated policy of the State or Regional Water Boards, is prohibited. The Department shall comply with all discharge prohibitions contained in Regional Water Board Basin Plans.

5. The discharge of storm water to surface waters of the United States in a manner causing or threatening to cause a condition of pollution or nuisance as defined in Water Code section 13050 is prohibited.

6. Discharge of wastes or wastewater from road-sweeping vehicles or from other maintenance activities to any waters of the United States or to any storm drain leading to waters of the United States is prohibited unless in compliance with section E.2.h.3)c)ii) of this Order or authorized by another NPDES permit.

7. The dumping, deposition, or discharge of waste by the Department directly into waters of the United States or adjacent to such waters in any manner that may allow its being transported into the waters is prohibited unless authorized by the Regional Water Board.

8. The discharge of sand, silt, clay, or other earthen materials from any activity in quantities which cause deleterious bottom deposits, turbidity, or discoloration in waters of the United States or which unreasonably affect or threaten to affect beneficial uses of such waters, is prohibited.

B. NON-STORM WATER DISCHARGE PROHIBITIONS

Non-storm water discharges, other than those to ASBS, must comply with the following provisions:

1. The Department shall effectively prohibit non-storm water discharges into its storm water conveyance system unless such discharges are either:

    a. Authorized by a separate NPDES permit; or
    b. Conditionally exempt in accordance with provision B.2. of this NPDES permit

2. Conditionally Exempt Non-storm Water Discharges

   The following non-storm water discharges are conditionally exempt from Prohibition B.1 unless the Department or the State Water Board Executive Director identifies them as sources of pollutants to receiving waters. For discharges identified as sources of pollutants, the Department shall either eliminate the discharge or otherwise effectively prohibit the discharge.

   a. Diverted stream flows;
   b. Rising ground waters;
   c. Uncontaminated ground water infiltration (as defined at 40 C.F.R., § 35.2005(20)) to MS4s;
   d. Uncontaminated pumped ground water;
   e. Foundation drains, including slope lateral drains;
   f. Springs;
   g. Water from crawl space pumps;
   h. Footing drains;
   i. Air conditioning condensation;
   j. Flows from riparian habitats and wetlands;
   k. Water line flushing[3];
   l. Minor, incidental discharges of landscape irrigation water[4];
   m. Discharges from potable water sources[3];
   n. Irrigation water[5];
   o. Minor incidental discharges from lawn watering;
   p. Individual residential car washing; and
   q. Dechlorinated swimming pool discharges.

3. Some Regional Water Boards have separate dewatering and/or "de minimus" NPDES discharge permits or Basin Plan requirements for some or all of these listed non-storm water discharges. The Department shall check with the appropriate Regional Water Board to determine if a specific non-storm water discharge requires coverage under a separate NPDES permit.

4. The Department is not required to prohibit emergency fire fighting flows (i.e., flows necessary for the protection of life or property). Discharges associated with emergency firefighting do not require BMPs, but they are recommended if feasible. As part of the SWMP, the Department shall develop and implement a program to reduce pollutants from non-emergency fire fighting flows (i.e., flows from controlled or practice blazes and maintenance activities) as specified in the SWMP.

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[3] In order to remain conditionally exempt, discharges shall be dechlorinated prior to discharge.

[4] In order to remain conditionally exempt, landscape irrigation systems must be designed, operated and maintained to control non-incidental runoff. See definition of incidental runoff in Attachment VIII.

[5] Return flows from irrigated agriculture are not point-source discharges and are not prohibited from entering the Department's MS4.

5. If the State Water Board Executive Director determines that any category of conditionally exempt non-storm water discharge is a source of pollutants, the State Water Board Executive Director may require the Department to conduct additional monitoring and submit a report on the discharges. The State Water Board Executive Director may also order the Department to cease a non-storm water discharge if it is found to be a source of pollutants.

   Non-storm water discharges to ASBS must comply with the following provisions:

6. Non-storm water discharges to ASBS are prohibited except as stated in this Section.

   The following non-storm water discharges are allowed, provided that the discharges are essential for emergency response purposes, structural stability, slope stability, or occur naturally:

   a. Discharges associated with emergency fire fighting operations.
   b. Foundation and footing drains.
   c. Water from crawl space or basement pumps.
   d. Hillside dewatering.
   e. Naturally occurring groundwater seepage via a storm drain.
   f. Non-anthropogenic flows from a naturally occurring stream via a culvert or storm drain, as long as there are no contributions of anthropogenic runoff.

   Discharges from utility vaults and underground structures to a segment of the Department's MS4 with a direct discharge to an ASBS are permitted if such discharges are authorized by the General NPDES Permit for Discharges from Utility Vaults and Underground Structures to Surface Water, NPDES No. CAG 990002. A Regional Water Board may nonetheless prohibit a specific discharge from a utility vault or underground structure if it determines that the discharge is causing the MS4 discharge to the ASBS to alter natural ocean water quality in the ASBS.

   Additional non-storm water discharges to a segment of the Department's MS4 with a direct discharge to an ASBS are allowed only to the extent the relevant Regional Water Board finds that the discharge does not alter natural ocean water quality in the ASBS.

   Authorized non-storm water discharges shall not cause or contribute to a violation of the water quality objectives in Chapter II of the Ocean Plan or alter natural ocean water quality in an ASBS.

C. EFFLUENT LIMITATIONS

The Department shall reduce the discharge of pollutants from its MS4 to waters of the United States to the MEP, as necessary to achieve TMDL WLAs established for discharges by the Department, and to comply with the Special Protections for discharges to ASBS.

D. RECEIVING WATER LIMITATIONS

1. Receiving water quality objectives, as specified in the Water Quality Control Plans and promulgated policies and regulations of the State and Regional Water Boards, are applicable to discharges from the Department's facilities and properties.

2. The discharge of storm water from a facility or activity shall not cause or contribute to an exceedance of any applicable water quality standard.

3. Storm water discharges shall not cause the following conditions to create a condition of nuisance or to adversely affect beneficial uses of waters of the United States:

   a. Floating or suspended solids, deposited macroscopic particulate matter, or foam;
   b. Bottom deposits or aquatic growth;
   c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;
   d. Visible, floating, suspended, or deposited oil or other products of petroleum origin, and/or;
   e. Toxic or deleterious substances present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.

4. The Department shall comply with Sections A.4, D.2 and D.3 of this Order through timely implementation of control measures and other actions to reduce pollutants in the discharges in accordance with the SWMP and other requirements of this Order including any modifications. The SWMP shall be designed to achieve compliance with Sections A.4, D.2 and D.3 of this Order. If exceedance(s) of WQS persist notwithstanding implementation of the SWMP and other requirements of this Order, the Department shall assure compliance with Sections A.4, D.2 and D.3 of this Order by complying with the procedure specified at Section E.2.c.6)c) of this Order.

5. Provided the Department has complied with the procedure set forth in provision E.2.c.6)c) of this Order and is implementing the revised SWMP required by provision E.1., the Department is not required to repeat the procedure called for in provision E.2.c.6)c) for continuing or recurring exceedances of the same receiving water limitations unless directed by the State Water Board's Executive Director or Regional Water Board Executive Officer to develop additional BMPs.

6. Where the Department discharges waste to a water of the State that is not a water of the United States, compliance with the prohibitions, limitations, and provisions of this Order when followed for that water of the State will constitute compliance with the requirements of the Porter-Cologne Water Quality Control Act, unless the Department is notified otherwise in writing by the State Water Board Executive Director or a Regional Water Board Executive Officer.

E. PROVISIONS

1. Storm Water Management Plan (SWMP)

a. The Department shall update, maintain and implement an effective SWMP that describes how the Department will meet requirements of this Order as outlined in E.1.b below. The Department shall submit for Executive Director approval an updated SWMP consistent with the provisions and requirements of this Order within one year of the effective date of this Order. The SWMP shall identify and describe the BMPs that shall be used. The SWMP shall be reviewed annually and modified as necessary to maintain an effective program in accordance with the procedures of this Order. The SWMP shall reflect the principles that storm water management is to be a year-round proactive program to eliminate or control pollutants at their source or to reduce them from the discharge by either structural or nonstructural means when elimination at the source is not possible.

b. The SWMP shall contain the following elements:

1) Overview
2) Management And Organization
3) Monitoring And Discharge Characterization Program
4) Project Planning And Design
5) BMP Development and Implementation
6) Construction
7) Compliance with the Industrial General Permit
8) Maintenance Program Activities, including facilities operations
9) Non-Departmental Activities
10) Non-Storm Water Activities/ Discharges
11) Training
12) Public Education and Outreach
13) Region Specific Activities (See provision E.6 and Attachment V)
14) Program Evaluation
15) Measurable Objectives
16) Reporting
17) References

The Department shall implement all requirements of this Order regardless of whether those requirements are addressed by an element of the SWMP.

c. The SWMP shall include all provisions and commitments in the 2003 SWMP (Department, 2003c), as revised in response to U.S. EPA's Findings of Violation and Order for Compliance (U.S. EPA Docket No. C.W.A.-09-2011-0001). The Department shall continue to implement the 2003 SWMP to the extent that it does not conflict with the requirements of this Order and until a new SWMP is approved pursuant to this Order.

d. All policies, guidelines, and manuals referenced by the SWMP and related to storm water are intended to facilitate implementation of the SWMP, and shall be consistent with the requirements of this Order.

e. The SWMP shall define terms in a manner that is consistent with the definitions in 40 Code of Federal Regulations section 122.2. This includes, but is not limited to, the definitions for pollutant, waters of the United States, and point source. Where there is a conflict between the SWMP and the language of this Order, the language of this Order shall govern.

f. Unless otherwise specified in this Order, proposed revisions to the SWMP shall be submitted to the State Water Board Executive Director as part of the Annual Report. The Department shall revise all other appropriate manuals to reflect modifications to the SWMP.

g. Revisions to the SWMP requiring Executive Director approval will be publicly noticed for thirty days on the State Water Board's website and via the storm water electronic notification list. During the public notice period, members of the public may submit written comments or request a public hearing. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised at the hearing. Upon review of the request or requests for a public hearing, the Executive Director may, in his or her discretion, schedule a public hearing prior to approval of the SWMP revision. The Executive Director shall schedule a hearing if there is a significant degree of public interest in the proposed revision. If no public hearing is conducted, the Executive Director shall consider all public comments received and may approve the SWMP revision if it meets the conditions set forth in this Order. Any SWMP revision approved by the Executive Director will be posted on the State Water Board's website.

h. The Department shall maintain for public access on its website the latest approved version of the SWMP. The Department shall update the SWMP on its website within 30 days of approval of revisions by the State Water Board.

2. Storm Water Program Implementation Requirements

a. <u>Overview</u>
The Department shall provide an overview of the storm water program in the SWMP. The overview will include:

1) A statement of the SWMP purpose;
2) A description of the regulatory background;
3) A description of the SWMP applicability;
4) A description of the relationship of the Permit, SWMP, and related Department documents; and
5) A description of the permits addressed by the SWMP.

b. Management and Organization

The Department shall provide in the SWMP an overview of its management and organizational structure, roles and responsibilities of storm water personnel, a description of the role and focal point of the Department's storm water program, and a description of the Storm Water Advisory Teams. The Department shall implement the program specified in the SWMP. The Department shall also implement any additional requirements contained in this Order.

1) *Coordination with Local Municipalities*

a) The Department is expected to comply with the lawful requirements of municipalities and other local, regional, and/or other State agencies regarding discharges of storm water to separate storm sewer systems or other watercourses under the agencies' jurisdictions.

b) The Department shall include a ***MUNICIPAL COORDINATION PLAN*** in the SWMP. The plan shall describe the specific steps that the Department will take in establishing communication, coordination, cooperation, and collaboration with other MS4 storm water management agencies and their programs including establishing agreements with municipalities, flood control departments, or districts as necessary or appropriate. The Department shall report on the status and progress of interagency coordination activities in each Annual Report.

2) *Legal Authority*

a) The Department shall establish, maintain, and certify that it has adequate legal authority through statute, permit, contract or other means to control discharges to and from the Department's properties, facilities and activities.

b) The Department has provided a statement certified by its chief legal counsel that the Department has adequate legal authority to implement and enforce each of the key regulatory requirements contained in 40 Code of Federal Regulations sections 122.26(d)(2)(i)(A-F). The Department shall submit annually, as part of the Annual Report, a ***CERTIFICATION OF THE ADEQUACY OF LEGAL AUTHORITY***.

3) *Fiscal Resources*

a) The Department shall seek to maintain adequate fiscal resources to comply with this NPDES Permit. This includes but is not limited to:

i) Implementing and maintaining all BMPs;
ii) Implementing an effective storm water monitoring program; and
iii) Retaining qualified personnel to manage the storm water program.

b) The Department shall submit a ***FISCAL ANALYSIS*** of the storm water program annually. At a minimum, the fiscal analysis shall show:

i) The allocation of funds to the Districts for compliance with this Order;
ii) The funding for each program element;
iii) A comparison of actual past year expenditures with the current year's expenditures and next year's proposed expenditures;
iv) How the funding has met the goals specified in the SWMP and District workplans; and
v) Description of any cost sharing agreements with other responsible parties in implementing the storm water management program.

c) The fourth year report shall contain a ***BUDGET ANALYSIS*** for the next permit cycle.

4) *Practices and Policies*
The Department shall identify in the SWMP any of the Department's practices and policies that conflict with implementation of the storm water program. The Department shall annually propose changes, including changes to implementation schedules, needed to resolve these conflicts and otherwise effectively implement the SWMP and the requirements of this Order.

5) *Inspection Program*
The Department shall have an inspection program to ensure that this Order and the SWMP are implemented, and that facilities are constructed, operated, and maintained in accordance with this Order and the SWMP. The program shall include training for inspection personnel, documentation of field activities, a reporting system that can be used to track effectiveness of control measures, enforcement procedures (or referral for enforcement) for non-compliance, procedures for taking corrective action, and responsibilities and responsible personnel of all affected functional offices and branches.

The inspection program shall also include standard operating procedures for documenting inspection findings, a system of escalating enforcement response to non-compliance (including procedures for addressing third party (i.e., contractor) non-compliance), and a system to ensure the timely resolution of all violations of this Order or the SWMP. The Department shall delegate adequate authority to appropriate personnel within all affected functional offices and branches to require corrective actions (including stop work orders).

6) *Incident Reporting - Non-Compliance and Potential/Threatened Non-Compliance*
The Department shall report all known incidents of non-compliance with this Order. Non-compliance may be emergency, field, or administrative. The Department shall electronically file a complete ***INCIDENT REPORT FORM*** (Attachment I) in the Storm Water Multiple Application Report and Tracking System (SMARTS)[6] and provide verbal notifications as soon as practicable, but no later than the time frames specified in Attachment I. Submission of an Incident Report Form is not an admission by the Department of a violation of this Order.

[6] **https://smarts.waterboards.ca.gov/smarts/faces/SwSmartsLogin.jsp**

The types of incidents requiring non-compliance reporting are discussed in Attachment I. The State Water Board or Regional Water Board may require additional information. The Department shall include in the Annual Report a summary of all incidents by type and District, and report on the status of each.

The Department shall report all potential or threatened non-compliance to the State Water Board and appropriate Regional Water Board in accordance with the "Anticipated non-compliance" provisions described in Attachment VI (Standard Provisions). The report shall describe the timing, nature and extent of the anticipated non-compliance. An Incident Report Form is not required for anticipated non-compliance. Anticipated non-compliance may be for field or administrative incidents only.

c. Monitoring and Discharge Characterization Requirements
The Department shall revise and implement the SWMP consistent with the requirements specified below.

1) *Monitoring Site Selection*
Monitoring shall be conducted in two tiers. Tier 1 consists of all sites for which monitoring is required pursuant to the requirements of the General Exception, including Special Protections, to the California Ocean Plan waste discharge prohibitions for storm water and non-point source discharges to ASBS, and sites in impaired watersheds for which the Department has been assigned a WLA and monitoring requirements pursuant to an approved TMDL. Tier 2 consists of all sites where the Department has existing monitoring data, including both storm water and non-storm water. Tier 2 sites may include locations where the Department has conducted characterization monitoring or where monitoring has been conducted for other purposes.

The Department shall conduct without limitation all Tier 1 monitoring as required under the ASBS Special Protections and under the adopted and approved TMDLs. The Department may satisfy Tier 1 monitoring requirements by participating in stakeholder groups. Retrofitting and verification monitoring under Tier 2 need not be initiated until there are less than 100 sites actively monitored under Tier 1. There shall be a minimum of 100 active monitoring sites at any one time, consisting of Tier 1, Tiers 1 and 2, or Tier 2.

Sites from Tier 2 shall be prioritized by the Department in consideration of the threat to water quality, including the pollutant and its concentration or load, the distance to receiving water, water quality objectives, and any existing impairments in the receiving waters. The prioritized list shall be submitted to the State Water Board within eight (8) months of the effective date of this Order. The State Water Board will review the prioritized list and may revise it to reflect Regional or State Water Board priorities. The revised list will be approved by the Executive Director and will become effective upon notice to the Department.

2) *Water Quality Monitoring*

a) Tier 1 Monitoring Requirements

i) Areas of Special Biological Significance

The Department's ASBS monitoring program shall include both core discharge monitoring and ocean receiving water and reference site monitoring. The State and Regional Water Boards must approve receiving water and reference site sampling locations and any adjustments to the monitoring program. All ocean receiving water and reference area monitoring must be comparable with the Water Boards' Surface Water Ambient Monitoring Program (SWAMP).

Safety concerns: Sample locations and sampling periods must be determined considering safety issues. Sampling may be postponed upon notification to the State and Regional Water Boards if hazardous conditions exist.

(1) Core Discharge Monitoring Program

(a) General Sampling Requirements for Timing and Storm Size

Runoff must be collected during a storm event that is greater than 0.1 inch and generates runoff, and at least 72 hours from the previously measurable storm event. Runoff samples shall be collected during the same storm and at approximately the same time when post-storm receiving water is sampled, and analyzed for the same constituents as receiving water and reference site samples (see section E.2.c.2)a)i)(2)) as described below.

(b) Runoff Flow Measurements

For storm water outfalls in existence as of December 31, 2007, 18 inches (457mm) or greater in diameter/width, including multiple outfall pipes in combination having a width of 18 inches, runoff flows must be measured or calculated, using a method acceptable to and approved by the State Water Board. Report measurements annually for each precipitation season to the State and Regional Water Boards.

(c) Runoff samples – storm events

(i) Outfalls equal to or greater than 18 inches (0.46m) in diameter or width

Samples of storm water runoff shall be collected during the same storm as receiving water samples and analyzed for oil and grease, total suspended solids, and, within the range of the southern sea otter indicator bacteria or some other measure of fecal contamination. Samples of storm water runoff shall be collected and analyzed for critical life stage chronic toxicity (one invertebrate or algal species) at least once during each storm season when receiving water is sampled in the ASBS. If the

Department has no outfall greater than 36 inches, then storm water runoff from the applicant's largest outfall shall be further collected during the same storm as receiving water samples and analyzed for Ocean Plan Table B (shown in Attachment II) metals for protection of marine life, Ocean Plan polynuclear aromatic hydrocarbons (PAHs), current use pesticides (pyrethroids and OP pesticides), and nutrients (ammonia, nitrate and phosphates).

(ii) Outfalls equal to or greater than 36 inches (0.91m) in diameter or width
Samples of storm water runoff shall be collected during the same storm as receiving water samples and analyzed for oil and grease, total suspended solids, and, within the range of the southern sea otter indicator bacteria or some other measure of fecal contamination. Samples of storm water runoff shall be further collected during the same storm as receiving water samples and analyzed for Ocean Plan Table B metals for protection of marine life, Ocean Plan polynuclear aromatic hydrocarbons (PAHs), current use pesticides (pyrethroids and OP pesticides), and nutrients (ammonia, nitrate and phosphates). Samples of storm water runoff shall be collected and analyzed for critical life stage chronic toxicity (one invertebrate or algal species) at least once during each storm season when receiving water is sampled in the ASBS.

(d) If the Department does not participate in a regional monitoring program as described in provision E.2.c.2)a)i)(2)(b)in addition to (i) and (ii) above, a minimum of the two largest outfalls or 20 percent of the larger outfalls, whichever is greater, shall be sampled (flow weighted composite samples) at least three times annually during wet weather (storm event) and analyzed for all Ocean Plan Table A (shown in Attachment II) constituents, Table B constituents for marine aquatic life protection (except for toxicity, only chronic toxicity for three species shall be required), DDT, PCBs, Ocean Plan PAHs, OP pesticides, pyrethroids, nitrates, phosphates, and Ocean Plan indicator bacteria. For discharges to ASBS in more than one Regional Water Board, at a minimum, one (the largest) such discharge shall be sampled annually in each Region.

(e) The Executive Director of the State Water Board may reduce or suspend core monitoring once the storm runoff is fully characterized. This determination may be made at any point after the discharge is fully characterized, but is best made after the monitoring results from the first permit cycle are assessed.

(2) Ocean Receiving Water and Reference Area Monitoring Program
In addition to performing the Core Discharge Monitoring Program in provision E.2.c.2)a)i)(1) above, the Department must perform ocean receiving water monitoring. The Department may either implement an individual monitoring program or participate in a regional integrated monitoring program.

(a) Individual Monitoring Program
If the Department elects to perform an individual monitoring program to fulfill the requirements for monitoring the physical, chemical, and biological characteristics of the ocean receiving waters within the affected ASBS, in addition to Core Discharge Monitoring, the following additional monitoring requirements shall be met:

(i) Three times annually, during wet weather (storm events), the receiving water at the point of discharge from the outfalls described in provision E.2.c.2)a)i)(1)(c) above shall be sampled and analyzed for Ocean Plan Table A constituents, Table B constituents for marine aquatic life, DDT, PCBs, Ocean Plan PAHs, OP pesticides, pyrethroids, nitrates, phosphates, salinity, chronic toxicity (three species), and Ocean Plan indicator bacteria.

The sample location for the ocean receiving water shall be in the surf zone at the point of discharges; this must be at the same location where storm water runoff is sampled. Receiving water shall be sampled prior to (pre-storm) and during (or immediately after) the same storm (post storm). Post storm sampling shall be during the same storm and at approximately the same time as when the runoff is sampled. Reference water quality shall also be sampled three times annually and analyzed for the same constituents pre-storm and post-storm, during the same storm seasons when receiving water is sampled. Reference stations will be determined by the State Water Board's Division of Water Quality and the applicable Regional Water Board(s).

(ii) Sediment sampling shall occur at least three times during every five (5) year period. The subtidal sediment (sand or finer, if present) at the discharge shall be sampled and analyzed for Ocean Plan Table B constituents for marine aquatic life, DDT, PCBs, PAHs, pyrethroids, and OP pesticides. For sediment toxicity testing, only an acute toxicity test using the amphipod *Eohaustorius estuarius* must be performed.

(iii) A quantitative survey of intertidal benthic marine life shall be performed at the discharge and at a reference site. The survey shall be performed at least once every five (5) year period. The survey design is subject to approval by the Regional Water Board and the State Water Board's Division of Water Quality. The results of the survey shall be completed and submitted to the State Water Board and Regional Water Board at least six months prior to the end of the permit cycle.

(iv) Once during each permit term and in each subsequent five year period, a bioaccumulation study shall be conducted to determine the concentrations of metals and synthetic organic pollutants at representative discharge sites and at representative reference sites. The study design is subject to approval by the Regional Water Board and the State Water Board's Division of Water Quality. The bioaccumulation study may include California mussels (*Mytilus californianus*) and/or sand crabs (*Emerita analoga* or *Blepharipoda occidentalis*). Based on the study results, the Regional Water Board and the State Water Board's Division of Water Quality, may adjust the study design in subsequent permits, or add or modify additional test organisms (such as shore crabs or fish), or modify the study design appropriate for the area and best available sensitive measures of contaminant exposure.

(v) Marine Debris: Representative quantitative observations for trash by type and source shall be performed along the coast of the ASBS within the influence of the discharger's outfalls. The design, including locations and frequency, of the marine debris observations is subject to approval by the Regional Water Board and State Water Board's Division of Water Quality.

(vi) The monitoring requirements of the Individual Monitoring Program in this section are minimum requirements. After a minimum of one (1) year of continuous water quality monitoring of the discharges and ocean receiving waters, the Executive Director of the State Water Board may require additional monitoring, or adjust, reduce or suspend receiving water and reference station monitoring. This determination may be made at any point after the discharge and receiving water is fully characterized, but is best made after the monitoring results from the first permit cycle are assessed.

(b) Regional Integrated Monitoring Program

The Department may elect to participate in a regional integrated monitoring program, in lieu of an individual monitoring program, to fulfill the requirements for monitoring the physical, chemical, and biological characteristics of the ocean receiving waters within an ASBS. This regional approach shall characterize natural water quality, pre- and post-storm, in ocean reference areas near the mouths of identified open space watersheds and the effects of the discharges on natural water quality (physical, chemical, and toxicity) in the ASBS receiving waters, and should include benthic marine aquatic life and bioaccumulation components. The design of the ASBS stratum of a regional integrated monitoring program may deviate from the prescribed individual monitoring approach described in provision E.2.c.2)a)i)(2)(a) if approved by the State Water Board's Division of Water Quality and the Regional Water Boards.

(i) Ocean reference areas shall be located at the drainages of flowing watersheds with minimal development (in no instance more than 10% development), and shall not be located in CWA Section 303(d) listed waterbodies or have tributaries that are 303(d) listed. Reference areas shall be free of wastewater discharges and anthropogenic non-storm water runoff. A minimum of low threat storm runoff discharges (e.g. stream highway overpasses and campgrounds) may be allowed on a case-by-case basis. Reference areas shall be located in the same region as the ASBS receiving water monitoring occurs. The reference areas for each Region are subject to approval by the participants in the regional monitoring program and the State Water Board's Division of Water Quality and the applicable Regional Water Board(s). A minimum of three ocean reference water samples must be collected from each station, each from a separate storm during the same storm season that receiving water is sampled. A minimum of one reference location shall be sampled for each ASBS receiving water site sampled by the Department. Because the Department discharges to ASBS in more than one Regional Water Board region, at a minimum, one reference station and one receiving water station shall be sampled in each region.

(ii) ASBS ocean receiving water must be sampled in the surf zone at the location where the runoff makes contact with ocean water (i.e. at "point zero"). Ocean receiving water stations must be representative of worst-case discharge conditions (i.e. co-located at a large drain greater than 36 inches, or if drains greater than 36 inches are not present in the ASBS then the

largest drain greater than18 inches). Ocean receiving water stations are subject to approval by the participants in the regional monitoring program and the State Water Board's Division of Water Quality and the applicable Regional Water Board(s). A minimum of three ocean receiving water samples must be collected during each storm season from each station, each from a separate storm. A minimum of one receiving water location shall be sampled in each ASBS by the Department. At a minimum, one reference station and one receiving water station shall be sampled in each applicable Regional Water Board.

(iii) Reference and receiving water sampling shall commence during the first full storm season following the adoption of these special conditions, and post-storm samples shall be collected during the same storm event when storm water runoff is sampled. Sampling shall occur in a minimum of two storm seasons.

(iv) Receiving water and reference samples shall be analyzed for the same constituents as storm water runoff samples. At a minimum, constituents to be sampled and analyzed in reference and discharge receiving waters must include oil and grease, total suspended solids, Ocean Plan Table B metals for protection of marine life, Ocean Plan PAHs, pyrethroids, OP pesticides, ammonia, nitrate, phosphates, and critical life stage chronic toxicity for three species. In addition, within the range of the southern sea otter, indicator bacteria or some other measure of fecal contamination shall be analyzed.

(v) Determinations of compliance with Special Protections requirements for ASBS discharges (State Water Board resolution DWQ 2012-0012) shall be made by the Executive Director of the State Water Board or his designee. When a determination is made that a site or discharge is in compliance with the Special Protections, the site will no longer be considered an active monitoring site pursuant to provision E.2.c.1). This provision applies regardless of any continued monitoring that may be required at the site pursuant to the Special Protections.

ii) Total Maximum Daily Load Watersheds
The Department shall comply with the TMDL monitoring requirements as expressed in the approved TMDL, in the TMDL-specific permit requirements of Attachment IV, or in orders of the Regional Water Boards pursuant to Water Code section 13383 that require TMDL-related

monitoring. TMDL monitoring shall also include the constituents listed in Attachment II. If there is a conflict between this Order and the requirements of the TMDL, the TMDL requirements will apply, except that the constituents listed in Attachment II shall be monitored even if not required by the TMDL.

Determinations of compliance with the TMDL shall be made by the Executive Officer of the Regional Water Board or his designee. When a determination is made that a site or discharge is in compliance with the TMDL, the site will no longer be considered an active monitoring site pursuant to provision E.2.c.1) and monitoring of Attachment II constituents will be discontinued. This provision applies regardless of any continued monitoring that may be required at the site pursuant to the TMDL.

b) Tier 2 Retrofit and Verification Monitoring Requirements
Corrective actions shall be implemented at the top 15 percent of sites (rounded up) on the Tier 2 priority list, subject to the number of sites per year specified in provision E.2.c.1). Follow up monitoring shall be conducted to confirm the effectiveness of the measures implemented, as determined by the Executive Officer of the Regional Water Board or his designee. Follow up monitoring is not required where the discharge has been eliminated, or where the implemented BMP provides full retention of the 85th percentile, 24-hour rain event.

Determinations of compliance at the Tier 2 sites shall be made by the Executive Officer of the Regional Water Board or his designee. When a determination is made that a site or discharge is in compliance, the site will no longer be considered an active monitoring site pursuant to provision E.2.c.1).

3) *Corrective Actions*
Corrective actions may include structural or non-structural BMPs. All structural BMPs must be designed according to the requirements in provisions E.2.d. and E.2.e.

4) *Field and Laboratory Data Requirements*
The Department shall prepare, maintain, and implement a Quality Assurance Project Plan (QAPP) in accordance with the Surface Water Ambient Monitoring Program. All monitoring samples shall be collected and analyzed according to the Department's QAPP developed for the purpose of compliance with this Order. SWAMP Quality Assurance Program Plan (2008) is available at:

http://www.waterboards.ca.gov/water_issues/programs/swamp/tools.shtml

All samples shall be analyzed by a certified or accredited laboratory as required by Water Code section 13176. Global Positioning System (GPS) coordinates shall be recorded for all monitoring sites, including sites selected for the final Tier 2 priority list (top 15%) according to existing data.

Water quality data (receiving water and effluent) shall be uploaded to the Storm Water Multi-Application Reporting and Tracking System (SMARTS) and must conform to "CEDEN Minimum Data Templates" format. CEDEN Minimum Data Templates are available at **http://ceden.org/**.

Analytical results shall be filed electronically in SMARTS within 30 days of receipt by the Department.

5) *Monitoring Results Report*

The Department shall submit, separate from the Annual Report, a ***MONITORING RESULTS REPORT*** (**MRR)** by October 1 of each year.

a) The MRR shall include a list of all sites in Tier 1 and Tier 2 being actively monitored, and the results of the past fiscal year's monitoring activities including effluent and receiving water quality monitoring.
b) The Department shall specifically highlight sample values that exceed applicable WQSs, including toxicity objectives. Complete sample results or lab data need not be included, but must be retained and filed electronically, and must be provided to the Regional Water Board or State Water Board as provided in provision E.2.c.4).
c) The MRR shall include a summary of sites requiring corrective actions needed to achieve compliance with this Order, and a review of any iterative procedures (where applicable) at sites needing corrective actions.
d) The reporting period for the MRR shall be July 1 of the prior year through June 30 of the current year.

6) *Compliance Monitoring and Reporting*

a) The Department shall review and propose any updates, as needed, to the Non-compliance Reporting Plan for Municipal and Construction Activities in section 9.4.1 of the SWMP. The plan shall identify the staff in each District Office and Regional Water Board to send and receive ***INCIDENT REPORT FORMS*** (Attachment I). The Department shall continue to implement the July 2008 Construction Compliance Evaluation Plan or any updated plan as approved by the Executive Director.
b) The Department shall summarize, by District, all non-compliance incidents, including construction, in the Annual Report. The summary shall include incident dates, types, locations, and the status of the non-compliance incidents.

c) Receiving Water Limitations Compliance

i) Upon a determination by the Department or the Regional Water Board Executive Officer that a discharge is causing or contributing to an exceedance of an applicable WQS, the Department shall provide verbal notification within 5 days, and within 30 days thereafter submit a report to the appropriate Regional Water Board with a copy to the State Water Board. Verbal notification is not required where the determination is made by the Regional Water Board. An Incident Report is not required. Where the pollutant causing the exceedance is subject to a waste load allocation listed in Attachment IV of this Order, the Department shall comply with the requirements of the relevant TMDL in lieu of this provision.

ii) The report shall describe BMPs that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedance. The report shall include an implementation schedule. The Regional Water Board Executive Officer may require modifications to the report.

iii) The Department shall submit any modifications to the report required by the Regional Water Board within 30 days of notification.

iv) The Department shall implement the revised BMPs and conduct any additional monitoring required according to the implementation schedule.

d) Toxicity

i) Tests for chronic toxicity, where required, shall be estimated as specified in Short-term Method for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, EPA/821-R-02-013, October 2002; Table IA, 40 Code of Federal Regulations section 136 and its subsequent amendments or revisions.

ii) For the Department's discharges, the In-stream Waste Concentration (IWC) is 100 percent (i.e., either is 100 percent storm water or 100% non-storm water). To calculate either a Pass or Fail of the effluent concentration chronic toxicity test at the IWC, the instructions in Appendix A in the National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA/833-R-10-003) shall be used. A Pass result indicates no toxicity at the IWC, and a Fail result indicates toxicity at the IWC. Results shall be reported as provided in provision E.2.c.5).

e) Toxicity Reduction Evaluations (TREs)

i) The Department shall include in the SWMP a TRE workplan (1-2 pages) specifying the steps that will be taken in preparing a TRE, when a TRE is required pursuant to provision E.2.c.6)e)ii). The workplan shall include, at a minimum:

(a) A description of the investigation and evaluation techniques that will be used to identify potential causes and sources of toxicity, effluent variability, and BMP efficiencies.

(b) A description of the steps that will be taken to identify effective pollutant/toxicity reduction opportunities.
(c) If a Toxicity Identification Evaluation (TIE) is necessary, an indication of who would conduct the TIEs (i.e., a Department laboratory or outside contractor).

ii) Upon a determination that a discharge is causing or contributing to an exceedance of an applicable toxicity standard, a TRE may be required by the appropriate Regional Water Board Executive Officer on a site specific basis. The TRE shall be conducted according to the workplan in the SWMP.

d. Project Planning and Design

The Department shall describe in the SWMP how storm water management is incorporated into the project planning and design process, and how the procedures and methodologies used in the selection of Design and Construction BMPs will be used in Department projects. The Department shall implement the program specified in the SWMP, any documents incorporated into the SWMP by reference, and any additional requirements contained in this Order.

Department and Non-Department projects within the Department's ROW that are new development or redevelopment shall comply with the standard project planning and design requirements for new development and redevelopment specified below. These requirements shall apply to all new and redevelopment projects that have not completed the project initiation phase on the effective date of this Order.

1) *Design Pollution Prevention Best Management Practices*

The following design pollution prevention best management practices shall be incorporated into all projects that create disturbed soil area (DSA), including projects designed to meet the post-construction treatment requirements (Section E.2.d.2)). The SWMP shall be updated to reflect these principles.

a) Conserve natural areas, to the extent feasible, including existing trees, stream buffer areas, vegetation and soils;
b) Minimize the impervious footprint of the project;
c) Minimize disturbances to natural drainages;
d) Design and construct pervious areas to effectively receive runoff from impervious areas, taking into consideration the pervious areas' soil conditions, slope and other pertinent factors;
e) Implement landscape and soil-based BMPs such as compost-amended soils and vegetated strips and swales;
f) Use climate-appropriate landscaping that minimizes irrigation and runoff, promotes surface infiltration, and minimizes the use of pesticides and fertilizers; and

g) Design all landscapes to comply with the California Department of Water Resources Water Efficient Landscape Ordinance.

http://www.water.ca.gov/wateruseefficiency/landscapeordinance/technical.cfm

Where the California Department of Water Resources Water Efficient Landscape Ordinance conflicts with a local water conservation ordinance, the Department shall comply with the local ordinance.

2) *Post-Construction Storm Water Treatment Controls*

a) <u>Projects Subject to Post-Construction Treatment Requirements</u>

i) Department Projects

The Department shall implement post construction treatment control BMPs for the following new development or redevelopment projects:

(1) Highway Facility projects that create 1 acre or more of new impervious surface.

(2) Non-Highway Facility projects that create 5,000 square feet or more of new impervious surface.

ii) Non-Department Projects within Department ROW

(1) The Department shall exercise control or oversight over Non-Department projects through encroachment permits or other means.

(2) Non-Department development or redevelopment projects shall be subject to the same post-construction treatment control requirements as Department projects.

(3) For all Non-Department Projects that trigger post-construction treatment control requirements, the Department shall review and approve the design of post-construction treatment controls and BMPs prior to implementation.

iii) Waiver

Where a Regional Water Board Executive Officer finds that a project will have a minimal impact on water quality, the Executive Officer may waive the treatment control requirements, or lessen the stringency of the requirements, for a project. Waivers may not be granted for projects subject to treatment control requirements based on a waste load allocation assigned to the Department.

b) <u>Numeric Sizing Criteria for Storm Water Treatment Control BMPs:</u>

Treatment control BMPs constructed for Department and Non-Department projects shall be designed according to the following priorities (in order of preference):

i) Infiltrate, harvest and re-use, and/or evapotranspire the storm water runoff;
ii) Capture and treat the storm water runoff.

The storm water runoff volumes and rates used to size BMPs shall be based on the 85th percentile 24-hour storm event. This sizing criterion shall apply to the entire treatment train within Project Limits. Design Pollution Prevention BMPs can be used to comply with this requirement.

In the event the entire runoff volume from an 85th percentile 24-hour storm event cannot be infiltrated, harvested and re-used, or evapotranspired, the excess volume may be treated by Low Impact Development (LID)-based flow-through treatment devices. Where LID-based flow-through treatment devices are not feasible, the excess volume may be treated through conventional volume-based or flow-based storm water treatment devices.

The Department shall always prioritize the use of landscape and soil-based BMPs to treat storm water runoff. Other BMPs may be used only after landscape and soil-based BMPs are determined to be infeasible. The Department shall also consider other effective storm water treatment control methods or devices for Department approval.

c) <u>Scope of Design Criteria Applicability for Redevelopment Projects</u>
   i) For Highway Facilities:
      (1) Where redevelopment results in an increase in impervious area that is less than or equal to 50 percent of the total post-project impervious area within Project Limits, the numeric sizing criteria shall only apply to the new impervious area and not to the entire project.

      If the redeveloped impervious area cannot be hydraulically separated from the existing impervious area, the Department shall either: provide treatment for redeveloped areas and as much of the hydraulically inseparable flow as feasible, based on site conditions and constraints; or identify treatment opportunities equivalent to the redeveloped area (see Alternative Compliance, below).

      If it is not possible to separate the flows from redeveloped areas from the existing impervious area, the treatment system shall be designed to treat as much of the hydraulically inseparable flow as feasible, and shall bypass or divert any excess around the treatment device. The purpose of this requirement is to prevent overloading the treatment device and impairing its performance.

      (2) Where redevelopment results in an increase in impervious area that is greater than 50 percent of the total post-project impervious area within Project Limits, the numeric sizing criteria apply to the entire project.

ii) For Non-Highway Facilities, where redevelopment results in an increase in impervious area that is less than or equal to 50 percent of the total post-project impervious area of an existing development, the numeric sizing criteria shall only apply to the new impervious area and not to the entire project.

(1) If the redeveloped impervious area cannot be hydraulically separated from the existing impervious area, the Department shall either provide treatment for existing and redeveloped areas, or identify treatment opportunities equivalent to the redeveloped area (See Alternative Compliance, below).

(2) Where redevelopment results in an increase in impervious area that is greater than 50 percent of the total post-project impervious area of an existing development, the numeric sizing criteria apply to the entire project.

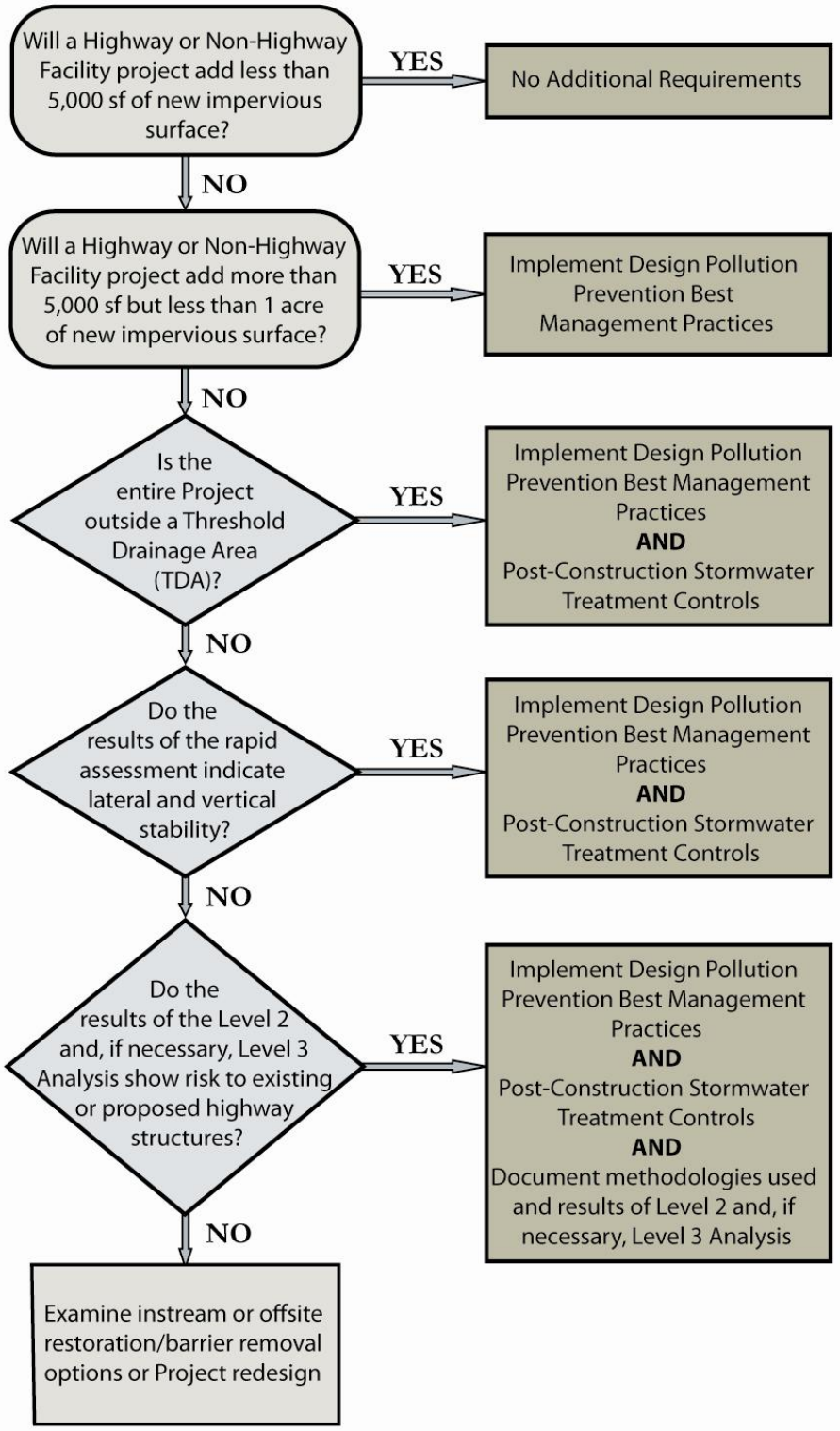
d) Alternative Compliance

If the Department determines that all or any portion of on-site treatment for a project is infeasible on-site, the Department shall prepare a proposal for alternative compliance for approval by the Regional Water Board Executive Officer or his designee until such time as a statewide process is approved by the Executive Director of the State Water Board. The proposal shall include documentation supporting the determination of infeasibility. Alternative compliance may be achieved outside Project Limits within the Department's ROW, including within another Department project. Alternative compliance to be achieved outside Project Limits shall include provisions for the long-term maintenance of such treatment facilities.

3) *Hydromodification Requirements*

The Department shall ensure that all new development and redevelopment projects do not cause a decrease in lateral (bank) and vertical (channel bed) stability in receiving stream channels. Unstable stream channels negatively impact water quality by yielding much greater quantities of sediment than stable channels. The Department shall employ the risk-based approach detailed in this permit to assess lateral and vertical stability. The approach assists the Department in assessing pre-project channel stability and implementing mitigation measures that are appropriate to protect structures and minimize stream channel bank and bed erosion. The approach is depicted in Figure 1 and described below.

FIGURE 1: Hydromodification Flowchart



a) Highway or Non-Highway Facility projects that add between 5,000 square feet and 1 acre of new impervious surface must implement the Design Pollution Prevention Best Management Practices in Section E.2.d.1).

b) Highway or Non-Highway Facility projects that add 1 acre or more of new impervious surface completely outside of a Threshold Drainage Area[7] must implement the Design Pollution Prevention Best Management Practices and the Post-Construction Storm Water Treatment Controls in Section E.2.d.

c) Highway or Non-Highway Facility projects that add 1 acre or more of new impervious surface with any impervious portion of the project located within a Threshold Drainage Area must conduct a rapid assessment of stream stability[8] at each stream crossing (e.g., pipe, culvert, swale or bridge) within that Threshold Drainage Area. If the stream crossing is a bridge, a follow up rapid assessment of stream stability is also required and can be coordinated with the federally-mandated bridge inspection process. The assessment will be conducted within a representative channel reach to assess lateral and vertical stability. A representative reach is a length of stream channel that extends at least 20 channel widths upstream and downstream of a stream crossing. For example, a 20 foot-wide channel would require analyzing a 400 foot distance upstream and downstream of the discharge point or bridge. If sections of the channel within the 20 channel width distance are immediately upstream or downstream of steps, culverts, grade controls, tributary junctions, or other features and structures that significantly affect the shape and behavior of the channel, more than 20 channel widths should be analyzed.

d) If the results of the rapid assessment indicate that the representative reach is laterally and vertically stable (i.e., a rating of excellent or good) the Department does not have to conduct further analyses and must implement the Design Pollution Prevention Best Management Practices and the Post-Construction Storm Water Treatment Controls in Section E.2.d.

e) If the results of the rapid assessment indicate that the representative reach will not be laterally and vertically stable (i.e., a rating of excellent or good), the Department must determine whether the instability, in conjunction with the proposed project, poses a risk to existing or proposed highway structures by conducting appropriate Level 2 (and, if necessary, Level 3) analyses. The Department shall follow the Level 2 and 3 analysis guidelines contained in HEC-20 (FHWA, 2001) or a suitable equivalent within an accessible portion of the reach. If the results of the appropriate Level 2 (and, if necessary Level 3) analyses indicate that there is no risk to existing or proposed highway

[7] Threshold Drainage Area is defined as the area draining to a location at least 20 channel widths downstream of a stream crossing (pipe, swale, culvert, or bridge) within Project Limits. Delineating the Threshold Drainage Area is not necessary if there is/ are no stream crossing(s) within the Project Limits.

[8] Guidance and worksheets used for the rapid assessment of stream stability are in the Federal Highway Administration publication "*Assessing Stream Channel Stability at Bridges in Physiographic Regions"* (FHWA, 2006).

structures, the Department must implement the Design Pollution Prevention Best Management Practices and the Post-Construction Storm Water Treatment Controls in Section E.2.d. and document the methodologies used, the results, and the mitigation measures suggested as part of the appropriate Level 2 and, if necessary, Level 3 analyses.

f) If the results of the Level 2 and 3 analysis indicate that the instability, in conjunction with the proposed project, poses a risk to existing or proposed highway structures, other options must be implemented, including, but not limited to, in-stream and floodplain enhancement/restoration, fish barrier removal as identified in the report required under Article 3.5 of the Streets and Highways Code (see below), regional flow control, off-site BMPs, and, if necessary, project re-design.

4) *Stream Crossing Design Guidelines to Maintain Natural Stream Processes*
The Department shall review and revise as necessary the guidance document "Fish Passage Design for Road Crossings" (Department, 2009). In reviewing and revising the guidance document, the Department shall be consistent with the latest stream crossing design, construction, and rehabilitation criteria contained in the California Salmonid Stream Habitat Restoration Manual (California Department of Fish & Game, 2010) and National Marine Fisheries Service guidance (NMFS, 2001). The review shall be completed no later than one year after the effective date of this Order. The Department shall submit in the Year 2 Annual Report a report detailing the review of the guidance document. The Year 2 Annual Report shall also report on the implementation of the road crossing guidelines.

If it is infeasible to meet any of the guidelines specified above, the Department shall prepare written documentation justifying the determination of infeasibility. Documentation shall be provided to the Regional Water Board for approval.

The Department shall submit to the State Water Board by October 1 of each year the same report required under Article 3.5 of the Streets and Highways Code requiring the Department to report on the status of its efforts in locating, assessing, and remediating barriers to fish passage.

e. <u>BMP Development & Implementation</u>
In the SWMP, the Department shall include a description of how BMPs will be developed, constructed and maintained. The Department shall continue to evaluate and investigate new BMPs through pilot studies. The Department shall submit updates to the ***STORM WATER TREATMENT BMP TECHNOLOGY REPORT*** and the ***STORM WATER MONITORING AND BMP DEVELOPMENT STATUS REPORT*** in the Annual Report.

1) *Vector Control*

a) All storm water BMPs that retain storm water shall be designed, operated and maintained to minimize mosquito production, and to drain within 96 hours of the end of a rain event, unless designed to control vectors. BMPs shall be maintained at the frequency specified by the manufacturer. This limitation does not apply in the Lake Tahoe Basin and in other high-elevation regions of the Sierra Nevada above 5000 feet elevation with similar alpine climates. The Department shall operate and maintain all BMPs to prevent the propagation of vectors, including complying with applicable provisions of the California Health and Safety Code relating to vector control.
b) The Department shall cooperate and coordinate with the California Department of Public Health (CDPH) and with local mosquito and vector control agencies on issues related to vector production in the Department's structural BMPs. The Department shall prepare and maintain an inventory of structural BMPs that retain water for more than 96 hours. The inventory need not include BMPs in the Lake Tahoe Basin or other regions of the Sierra Nevada above 5000 feet. The inventory shall be provided to CDPH in electronic format for distribution to local mosquito and vector control agencies. The inventory shall be provided in Year 2 of the permit and updated every two years.

2) *Storm Water Treatment BMPs*

a) The Department shall inspect all newly installed storm water treatment BMPs within 45 days of installation to ensure they have been installed and constructed in accordance with approved plans. If approved plans have not been followed, the Department shall take appropriate remedial actions to bring the BMP or control into conformance with its approved design.
b) The Department shall inspect all installed storm water treatment BMPs at least once every year, beginning one year after the effective date of this Order.
c) The Department may drain storm water treatment BMPs to the MS4 if the discharge does not cause or contribute to exceedances of water quality standards. Retained sediments shall be disposed of properly, in compliance with all applicable local, State, and federal acts, laws, regulations, ordinances, and statutes.
d) The Department shall develop and utilize a watershed-based database to track and inventory treatment BMPs and treatment BMP maintenance within its jurisdiction. At a minimum, the database shall include:

i) Name and location of BMP;
ii) Watershed, Regional Water Board and District where project is located;
iii) Size and capacity;
iv) Treatment BMP type and description;
v) Date of installation;
vi) Maintenance certifications or verifications;
vii) Inspection dates and findings;

viii) Compliance status;
ix) Corrective actions, if any; and
x) Follow-up inspections to ensure compliance.

Electronic reports for each BMP inspected during the reporting period shall be submitted to each associated Regional Water Board in tabular form. A summary of the tracking system data shall be included in the Annual Report along with a report on maintenance activities for post construction BMPs. The tracking system database shall be made available to the State Water Board or any Regional Water Board upon request.

3) BMPs shall not constitute a hazard to wildlife.

4) *Biodegradable Materials.*
The Department shall utilize wildlife-friendly 100% biodegradable[9] erosion control products wherever feasible. At any site where erosion control products containing non-biodegradable materials have been used for temporary site stabilization, the Department shall remove such materials when they are no longer needed. If the Department finds that erosion control netting or products have entrapped or harmed wildlife at any site or facility, the Department shall remove the netting or product and replace it with wildlife-friendly biodegradable products.

f. Construction

1) *Compliance with the Statewide Construction Storm Water General Permit (CGP) and Lake Tahoe Construction General Permit (TCGP)*
Construction activities that may receive coverage under the CGP or the TCGP are not covered under this MS4 Permit. The Department shall electronically file Permit Registration Documents (PRD) for coverage under the CGP or TCGP for all projects subject to the CGP or TCGP.

2) *Construction Activities not Requiring Coverage Under the CGP*
For construction activities that are not subject to the CGP or the TCGP, the Department shall implement BMPs to reduce the discharge of pollutants to the MEP in storm water discharges associated with land disturbance activities including clearing, grading and excavation activities that result in the disturbance of less than one acre of total land area. The Department shall also implement BMPs to reduce the discharge of pollutants to the MEP for construction and maintenance activities that do not involve land disturbance such as roadway and parking lot repaving and resurfacing. The Department must comply with any region-specific waste discharge requirements, including any requirements applicable to activities involving less than one acre land disturbance.

[9] For purposes of this Order, photodegradable synthetic products are not considered biodegradable.

3) *Construction Projects Involving Lead Contaminated Soils*
The Department has applied for and received variances from the California Department of Toxic Substances Control (DTSC) for the reuse of some soils that contain lead. For construction projects that have received a DTSC variance, the Department shall notify the appropriate Regional Water Board in writing 30 days prior to advertisement for bids to allow a determination by the Regional Water Board of the need for development of Waste Discharge Requirements (WDRs).

4) *Pavement Grindings*
The Department shall comply with the requirements of the Regional Water Boards for the management of pavement grindings as well as with all local and State regulations, including Titles 22 and 27 of the California Code of Regulations.

5) *Contractor Compliance*
The Department shall require its contractors to comply with this Order and with all applicable requirements of the CGP.

6) *Construction Non-Compliance Reporting*
Incidents of non-compliance with the CGP shall be reported pursuant to the provisions of the CGP. The Department shall provide in the Annual Report a summary of all construction project non-compliance (Section E.2.c.6)b)).

g. <u>Compliance with Statewide Industrial Storm Water General Permit (IGP)</u>
Industrial activities are not covered under this MS4 permit. The Department shall electronically file PRDs for coverage under the IGP for all facilities subject to coverage under the IGP. The categories of industrial facilities are provided in Attachment 1 of the Industrial General Permit (NPDES Permit No. CAS000001; the current Order No. 97-03-DWQ). The Department shall require its industrial facility contractors to comply with all requirements of the IGP. The discharge of pollutants from facilities not covered by the Industrial General Permit will be reduced to the MEP through the appropriate implementation of BMPs.

h. <u>Maintenance Program Activities and Facilities Operations</u>

1) *Implement SWMP Requirements*
The Department shall implement the program specified in the SWMP to reduce or eliminate pollutants in storm water discharges from Department maintenance facilities and maintenance activities. The Department shall also implement any additional requirements contained in this Order.

2) A ***FACILITY POLLUTION PREVENTION PLAN (FPPP)*** describes the activities conducted at a facility and the BMPs to be implemented to reduce or eliminate the discharge of pollutants in storm water runoff from the facility.

The Department shall prepare, revise and/or update the FPPPs for all maintenance facilities by October 1 of the first year. Each facility shall be evaluated separately and assigned appropriate site specific BMPs. The FPPP shall describe the activities conducted at the facility and the BMPs to be implemented to reduce or eliminate the discharge of pollutants in storm water runoff from the facility. The FPPP shall describe the inspection program used to ensure that maintenance BMPs are implemented and maintained. The Department shall identify in each Annual Report the status of the FPPP for each Maintenance Facility by District and Region, including the date of the last update or revision and the nature of any revisions.

The Department shall evaluate all non-maintenance Facilities, excluding leased properties, for water quality problems. If the Department identifies a water quality problem at a non-maintenance facility, it shall prepare an FPPP for that facility. If Regional Water Board staff determines that a non-maintenance facility may discharge pollutants to the storm water drainage system or directly to surface waters, the Department shall prepare an FPPP for that facility.

Regional Water Board staff has the authority to require the submittal of an FPPP at any time, to require changes to a FPPP, and to require changes in the implementation of the provisions of a FPPP.

3) *Highway Maintenance Activities*
   a) The Department shall develop and implement runoff management programs and systems for existing roads, highways, and bridges to reduce runoff pollutant concentrations and volumes entering surface waters. The Department shall:

      i) Identify priority and watershed pollutant reduction opportunities (e.g., improvements to existing urban runoff control structures). Priority shall be given to sites in sensitive watersheds or where there is an existing or potential threat to water quality;
      ii) Establish schedules for implementing appropriate controls; and
      iii) Identify road segments with slopes that are prone to erosion and sediment discharge and stabilize these slopes to control the discharge of pollutants to the MEP. An inventory of vulnerable road segments shall be maintained in the District Work Plans. Stabilization activities shall be reported in the Annual Report. This section does not apply to landslides and other forms of mass wasting which are covered under section E.2.h.3)d).

b) Vegetation Control

The Department shall control its handling and application of chemicals including pesticides, herbicides, and fertilizers to reduce or eliminate the discharge of pollutants to the MEP. The Department shall incorporate integrated pest management and integrated vegetation management practices into its vegetation control program[10]. At a minimum, the Department shall:

i) Apply herbicides and pesticides in compliance with federal, state and local use regulations and product label directions.

(1) Violations of regulations shall be reported to the County Agricultural Commissioners within 10 business days.
(2) The Annual Report shall include a summary of violations and follow-up actions to correct them.

ii) Minimize the application of chemicals by using integrated pest management and integrated vegetation management. For example, the Department may reduce the need for application of fertilizers and herbicides by using native species and using mechanical and biological methods for control of exotic species.

iii) Prior to chemical applications, assess site-specific and application-specific conditions to prevent discharge. The assessment shall include the following variables:

(1) Expected precipitation events, especially those with the potential for high intensity;
(2) Proximity to water bodies;
(3) Intrinsic mobility of the chemical;
(4) Application method, including any tendency for aerial dispersion;
(5) Fate and transport of the chemical after application;
(6) Effects of using combinations of chemicals; and
(7) Other conditions as identified by the applicator.

iv) Apply nutrients at rates and by means necessary to establish and maintain vegetation without causing significant nutrient runoff to surface water.
v) Ensure that all employees or contractors who, within the scope of their duties, prescribe or apply herbicides, pesticides, or fertilizers (including over-the-counter products) are appropriately trained and licensed to comply with these provisions.
vi) Propose SWMP provisions as appropriate.
vii) Include the following items in the Annual Report:

[10] **http://www.epa.gov/opp00001/factsheets/ipm.htm**
http://www.ipm.ucdavis.edu/

(1) A summary of the Department's chemical use. Report the quantity of chemicals used during the previous reporting period by name and type of chemical, by District, and by month.
(2) An assessment of long-term trends in herbicide usage. Include a table presenting yearly District herbicide totals by chemical type;
(3) A comparison of the statewide herbicide use with the Department's herbicide reduction goals;
(4) An analysis of the effectiveness of implementation of vegetation control BMPs. Improvements to BMP implementation either being used or proposed for usage shall be discussed. If no improvements are proposed, explain why;
(5) Justification for any increases in use of herbicides, pesticides, and fertilizers;
(6) A report on the number and percentage of employees who apply pesticides and have been trained and licensed in the Department's Pesticide and Fertilizer Pollution Control Program policies; and
(7) Training materials, if requested by the State Water Board.

c) Storm Water Drainage System Facilities Maintenance

i) The Department shall inspect all urban[11] drainage inlets and catch basins a minimum of once per year and shall remove all waste and debris from drainage inlets and catch basins when waste and debris have accumulated to a depth of 50 percent of the inlet or catch basin capacity.
ii) Waste and debris, including sweeper and vacuum truck waste, shall be managed and reported in accordance with all applicable laws and regulations, including the Cal. Code Regs. Title 27, Division 2, Subdivision 1.
iii) The Department shall develop a ***WASTE MANAGEMENT PLAN*** that includes a comprehensive inventory of waste storage, transfer, and disposal sites; the source(s) of waste and the physical and chemical characterization of the waste retained at each site; estimated annual volumes of material and existing or planned waste management practices for each waste and facility type. Waste characterization need not be conducted on a site-by-site basis but may be evaluated programmatically based upon the highway environment and associated land uses contributing to the sites, climate, and ecoregion. The Waste Management Plan shall be submitted for State Water Board review and approval within one year of the effective date of this Order.

[11] For purposes of this requirement, the term "urban" shall mean located within an "urbanized area" as determined by the latest Decennial Census by the Bureau of the Census (Urbanized Area).

d) Landslide Management Activities
The Department shall develop a ***LANDSLIDE MANAGEMENT PLAN*** that includes BMPs for Department construction and maintenance work landslide-related activities (e.g., prevention, containment, clean-up). The *Landslide Management Plan* shall address all forms of mass wasting such as slumps, mud flows, and rockfalls, and shall include BMPs specifically for burn site management activities. The Department shall submit the *Landslide Management Plan* with the Year 1 Annual Report and implement the *Landslide Management Plan* for the remainder of the Permit term.

4) *Surveillance Activities*

a) Spill Response
The Department will follow the applicable Emergency Management Agency (EMA) procedures and timelines specified in Water Code sections 13271 and 13272 for reporting spills.

b) Illegal Connection/Illicit Discharge (IC/ID) and Illegal Dumping Response

i) The Department shall implement the BMPs and other requirements of the SWMP and this Order to reduce and eliminate IC/IDs and illegal dumping.

ii) The Department shall develop an ***IC/ID AND ILLEGAL DUMPING RESPONSE PLAN*** that includes, at a minimum, the following:

(a) Procedures for investigating reports or discoveries of IC/IDs or incidents of illegal dumping, for remediating or eliminating the IC/IDs, and for clean-up of illegal dump sites.
(b) Procedures for prevention of illegal dumping at sites subject to repeat or chronic incidents of illegal dumping.
(c) Procedures for educating the public, raising awareness and changing behaviors regarding illegal dumping, and encouraging the public to contact the appropriate local authorities if they witness illegal dumping.

Within 6 months of the effective date of this Order, the Department shall submit the ***IC/ID AND ILLEGAL DUMPING RESPONSE PLAN*** to the State Water Board Executive Director for approval.

iii) The Department shall report all suspected IC/IDs to the Regional Water Board.

c) Reporting Requirements for Trash and Litter
The Department shall report on the trash and litter removal activities that are currently underway or are initiated after adoption of this Order. Activities include, but are not limited to, storm drain maintenance, road sweeping, public education and the Adopt-A-Highway program. Reporting and assessment of these or future activities shall follow protocols established by the Department

and shall include estimated annual volumes of the trash and litter removed. Results shall be submitted as part of the Annual Report in a summary format by District. Prior year's data shall be included to facilitate an analysis of trends.

d) Department Activities Outside the Department's Right-of-Way
The Department shall include provisions in its contracts that require the contractor to obtain and comply with applicable permits for project-related facilities and operations outside the Department's ROW. Facilities may include concrete or asphalt batch plants, staging areas, concrete slurry processing or other material recycling operations, equipment and material storage yards, material borrow areas, and access roads.

5) *Maintenance Facility Compliance Inspections*

a) District staff shall inspect all maintenance facilities at least twice annually. Follow up inspections shall be conducted when deficiencies are noted. The inspections are to identify areas contributing to a discharge of pollutants associated with maintenance facility activities, to determine if control practices to reduce pollutant loadings identified in the Facility Pollution Prevention Plans (FPPP) are adequate and properly implemented, and to determine whether additional control practices are needed. The District shall keep a record of inspections. The record of the inspections shall include the date of the inspection, the individual(s) who performed the inspection, a report of the observations, recommendations for any corrective actions identified or needed, and a description of any corrective actions undertaken.

b) The Regional Water Board may require the Department to conduct additional site inspections, to submit reports and certifications, or to perform additional sampling and analysis to the extent authorized by the Water Code.

c) Records of all inspections, compliance certifications, and non-compliance reporting shall be retained for a period of at least three years. With the exception of non-compliance reporting, the Department is not required to submit these records unless requested.

6) *Operation and Maintenance of Post-Construction BMPs*
The Department shall prepare and implement long-term operation and maintenance plans for every site subject to the post-construction storm water treatment design standards. The plans must ensure the following: a) Long-term structural LID BMPs are maintained as necessary to ensure they continue to work effectively; b) Proprietary devices are maintained according to the manufacturer's directions; and c) Post-construction BMPs are replaced if they lose their effectiveness.

i. Non-Departmental Activities

The Department shall summarize its control over all non-departmental (third party) activities performed on Department ROW in the SWMP. The summary shall describe how the Department shall ensure compliance with this Order in all non-departmental activities.

The Department shall not grant or renew encroachment permits or easements benefitting any third party required to obtain coverage under the Statewide Construction and/or Industrial Storm Water General Permits unless the party has obtained coverage. In all leases, rental agreements, and all other contracts with third parties conducting activities within the ROW, the Department shall require the third party to comply with applicable requirements of the Construction General Permit, the Industrial General Permit, and this Order.

j. Non-Storm Water Activities/ Discharges

1) The Department shall describe the management activities for all non-storm water discharges in the SWMP. Management activities shall include the procedures for prohibiting illicit discharges and illegal connections, and procedures for spill response, cleanup, reporting, and follow-up.

2) *Agricultural Return Flows*
The Department shall provide reasonable support to the monitoring activities of agricultural dischargers whose runoff enters the MS4. Reasonable support includes facilitating monitoring activities, providing necessary access to monitoring sites, and cooperating with monitoring efforts as needed. It does not include actively conducting monitoring or providing funding. The Department may require agricultural dischargers to follow established Department access and encroachment procedures in establishing sites and conducting monitoring activities, and may deny access at sites that may restrict traffic flow or pose a danger to any party.

3) See Section B of this Order for the complete list of conditionally exempt non-storm water discharges and compliance requirements.

k. Training

1) The Department shall implement a training program for Department employees and construction contractors. The training program shall be described in the SWMP.

2) The training program shall cover:

   a) Causes and effects of storm water pollution;
   b) Regulatory requirements;
   c) Best Management Practices;
   d) Penalties for non-compliance with this Order; and
   e) Lessons learned.

3) The Department shall provide a review and assessment of all training activities in the Annual Report.

l. Public Education and Outreach

The Department shall implement a Statewide Public Education Program and describe it in the SWMP. The Department shall continue to seek opportunities to participate in public outreach and education activities with other MS4 permittees.

1) The Statewide Public Education Program shall include the following elements:

   a) Research: A plan for conducting research on public behavior that affects the quality of the Department's runoff. The information gathered will form the foundation for all the public education conducted.
   b) Education: Education of the general public to modify behavior and communicate with commercial and industrial entities whose actions may add pollutants to the Department's storm water.
   c) Mass Media Advertising: Continue the advertising campaign as a focal point of the public education strategy. The campaign should focus on the behaviors of concern and should be designed to motivate the public to change those behaviors. The public education campaign should be revised and updated according to the results of the research. The Department may cooperate with other organizations to implement the public education campaign.

2) A ***PUBLIC EDUCATION PROGRAM PROGRESS REPORT*** shall be submitted as part of the Annual Report.

m. Program Evaluation

1) The Department shall implement the program specified in the SWMP and any additional requirements contained in this Order.
2) *Field Activities* ***SELF-AUDIT***
   The Department will perform compliance evaluations for field activities including construction, highway maintenance, facility maintenance, and selected targeted program components. The results of the field compliance evaluations for each fiscal year will be provided in the Annual Report.

3) ***OVERALL PROGRAM EFFECTIVENESS EVALUATION***:
Each year, the Department shall submit an ***OVERALL PROGRAM EFFECTIVENESS EVALUATION*** together with the Annual Report. The Department shall increase the scope of the evaluation each year in response to the environmental monitoring data it collects. The effectiveness evaluation shall be comparable to that outlined in CASQA's *Municipal Stormwater Program Effectiveness Assessment Guidance*[12] and shall emphasize assessment of BMPs specifically targeting primary pollutants of concern. The effectiveness evaluation shall include, but is not limited to, the following components:

a) Assessment of program effectiveness in achieving permit requirements and measurable objectives.
b) Assessment of program effectiveness in protecting and restoring water quality and beneficial uses.
c) Identification of quantifiable effectiveness measurements for each BMP, including measurements that link BMP implementation with improvement of water quality and beneficial use conditions.
d) Identification of how the Department will propose revisions to the SWMP to optimize BMP effectiveness when effectiveness assessments identify BMPs or programs that are ineffective or need improvement.

n. Measurable Objectives
The Department shall implement the program specified in the SWMP and any additional requirements contained in this Order. In the SWMP, the Department shall identify measurable objectives to meet the SWMP's goals, proposed activities and tasks to meet the objectives, and a time schedule for the proposed activities and tasks. In the Annual Report, the Department shall report on its progress in meeting the measurable objectives.

o. References
The Department shall provide references for all information, documents, and studies used in the development of the SWMP.

3. Annual Report

a. The Department shall submit 13 copies of an ***ANNUAL REPORT*** to the State Water Board Executive Director by October 1 of each year. An electronic copy shall also be uploaded into SMARTS in the portable document format (PDF). The reporting period for the Annual Report shall be July 1 through June 30. The Annual Report shall contain all information and submittals required by this Order including, but not limited to:

1) A District-by-District description of storm water pollution control activities conducted during the reporting period;
2) A progress report on meeting the SWMP's measurable objectives;

[12] **https://www.casqa.org/store/products/tabid/154/p-7-effectiveness-assessment-guide.aspx**

3) An Overall Program Effectiveness Evaluation as described in section E.2.m.3);
4) Proposed revisions to the SWMP, including revisions to existing BMPs, along with corresponding justifications;
5) A report on post-construction BMP maintenance activities;
6) A list of non-approved BMPs that were implemented in each District during the reporting period including the type of BMP, reason for use, physical location, and description of any monitoring;
7) An evaluation of project planning and design activities conducted during the year;
8) A summary of non-compliance with this Order and the SWMP as specified in Section E.2.c.6)b). The summary shall include an assessment of the effectiveness of any Department enforcement and penalties, and as appropriate, proposed solutions to improve compliance;
9) An evaluation of the Monitoring Results Report, including a summary of the monitoring results;
10) Proposed revisions to the Department's Vegetation Control Program;
11) Proposals for monitoring and control of non-storm water discharges that are found to be sources of pollutants as described in Section B. of this Order;
12) District Workplans (See below); and
13) Measures implemented to meet region-specific requirements.

A partial summary of reporting requirements is contained in Attachment IX of this Order.

b. ***DISTRICT WORKPLANS***

The Department shall submit ***DISTRICT WORKPLANS*** (workplans) for each District by October 1 of each year, as part of the Annual Report. The workplans will be forwarded to the appropriate Regional Water Board Executive Officer for acceptance. Workplans are deemed accepted after 60 days after receipt by the Regional Water Board unless rejected in writing. District staff shall meet with Regional Water Board staff on an annual basis prior to submittal of the workplans to discuss alternatives and ensure that appropriate post construction controls are included in the project development process through review of the workplan and early consultation and coordination between District and Regional Water Board staff. Workplans shall conform with the requirements of applicable Regional Water Board Basin Plans and shall include, at a minimum:

1) A description of all activities and projects, including maintenance projects, to be undertaken by the Districts. For all projects with soil disturbing activities, this shall include a description of the construction and post construction controls to be implemented;
2) The area of new impervious surface and the percentage of new impervious surface to existing impervious surface for each project;
3) The area of disturbed soil associated with each project or activity;
4) A description of other permits needed from the Regional Water Boards for each project or activity;

5) Potential and actual impacts of the discharge(s) from each project or activity;
6) The proposed BMPs to be implemented in coordination with other MS4 permittees to comply with WLAs and LAs assigned to the Department for specific pollutants in specific watersheds or sub watersheds;
7) The elements of the statewide monitoring program to be implemented in the District;
8) Identification of high-risk areas (such as locations where spills or other releases may discharge directly to municipal or domestic water supply reservoirs or ground water percolation facilities);
9) Spill containment, spill prevention and spill response and control measures for high-risk areas; and
10) Proposed measures to be taken to meet Region-specific requirements included in Attachment V.
11) An inventory of vulnerable road segments having slopes that are prone to erosion and sediment discharge.

4. TMDL Compliance Requirements

a. Implementation

The Department shall comply with all TMDLs listed in Attachment IV.

Waste Load Allocations, Load Allocations, effluent limitations, implementation requirements, and monitoring requirements for the TMDLs listed in Attachment IV are specified in the adopted and approved Regional Water Board Basin Plans or in U.S. EPA-established TMDLs, which are incorporated herein by reference as enforceable parts of this Order. Applicable Basin Plan Amendments and resolutions are identified in Attachment IV for Regional Water Board-established TMDLs that the Department is subject to.

TMDL-specific permit requirements, including deliverables and actions with their associated due dates, are also specified in Attachment IV for the Lake Tahoe sediment and nutrients TMDL. TMDL-specific permit requirements for all other TMDLs in Attachment IV will be incorporated into Attachment IV through a reopener as described in provisions E.4.b and E.11.c. below. In addition, consistent with provision E.11.b of this Order, the State Water Board may reopen this Order to incorporate any modifications or revisions to the TMDLs in Attachment IV, or to incorporate any new TMDLs adopted during the term of this Order that assign a WLA to the Department or that identify the Department as a responsible party in the TMDL implementation plan.

b. TMDL-Specific Permit Requirements

Within six months of the adoption date of this Order, the Department shall consult with each Regional Water Board, and the State Water Board to identify the WLAs, deliverables and actions to be implemented by the Department in meeting the TMDLs identified in Attachment IV. The Regional Water Boards have been directed to propose and submit, within one year of the adoption date of this Order, specific requirements for incorporation into Attachment IV through a reopener under provision E.11.c. The submission will include:

1) Proposed TMDL-specific permit requirements, including deliverables, actions, and compliance due dates consistent with the TMDLs,

2) An explanation of how the proposed TMDL-specific permit requirements, including deliverables, actions, and compliance due dates, are consistent with the assumptions and requirements of any applicable WLA and how these will achieve the goal of the TMDL, and

3) Where a BMP-based approach is proposed, an explanation of how the proposed BMPs will be sufficient to implement applicable WLAs.

The State Water Board will reopen this Order consistent with provision E.11.c to incorporate into Attachment IV, the Fact Sheet, and any other Permit provisions as necessary, TMDL-specific permit requirements. Once the TMDL-specific permit requirements are adopted, the Department shall comply with the incorporated requirements in accordance with the specified compliance due dates.

Compliance due dates that have already passed are enforceable as of the effective date of the approval of the TMDL-specific permit requirements. TMDL-specific compliance due dates that exceed the term of this Order may be included for reference, and will become enforceable in the event that the Order is administratively extended.

c. Status Review Report

The Department shall prepare a ***TMDL STATUS REVIEW REPORT*** to be submitted with each Annual Report. The TMDL Status Review Report shall include the following information for all TMDLs listed in Attachment IV.

1) An analysis of the effectiveness of existing BMPs and activities in meeting existing TMDLs;
2) A summary update of monitoring activities for each TMDL and any monitoring needed to demonstrate compliance with an approved TMDL;
3) A summary of measures implemented to comply with existing TMDLs;
4) A summary of measures and a time schedule to meet existing TMDLs;
5) An update of the Department Statewide TMDLs table;

6) A summary of TMDLs adopted during the past year where the Department is assigned a WLA or the Department is identified as a responsible party in the implementation plan.

5. ASBS Compliance Requirements

a. Priority Discharges
Attachment III identifies locations where the Department discharges to ASBS that the State Water Board has determined to have priority discharges. Priority discharges are those that pose the greatest threat to water quality in the ASBS and which the State Water Board identifies to require monitoring and installation of structural or non-structural controls.

b. Compliance Schedule

1) On the effective date of the Exception, all non-authorized non-storm water discharges (e.g., dry weather flow) to ASBS shall be effectively prohibited.

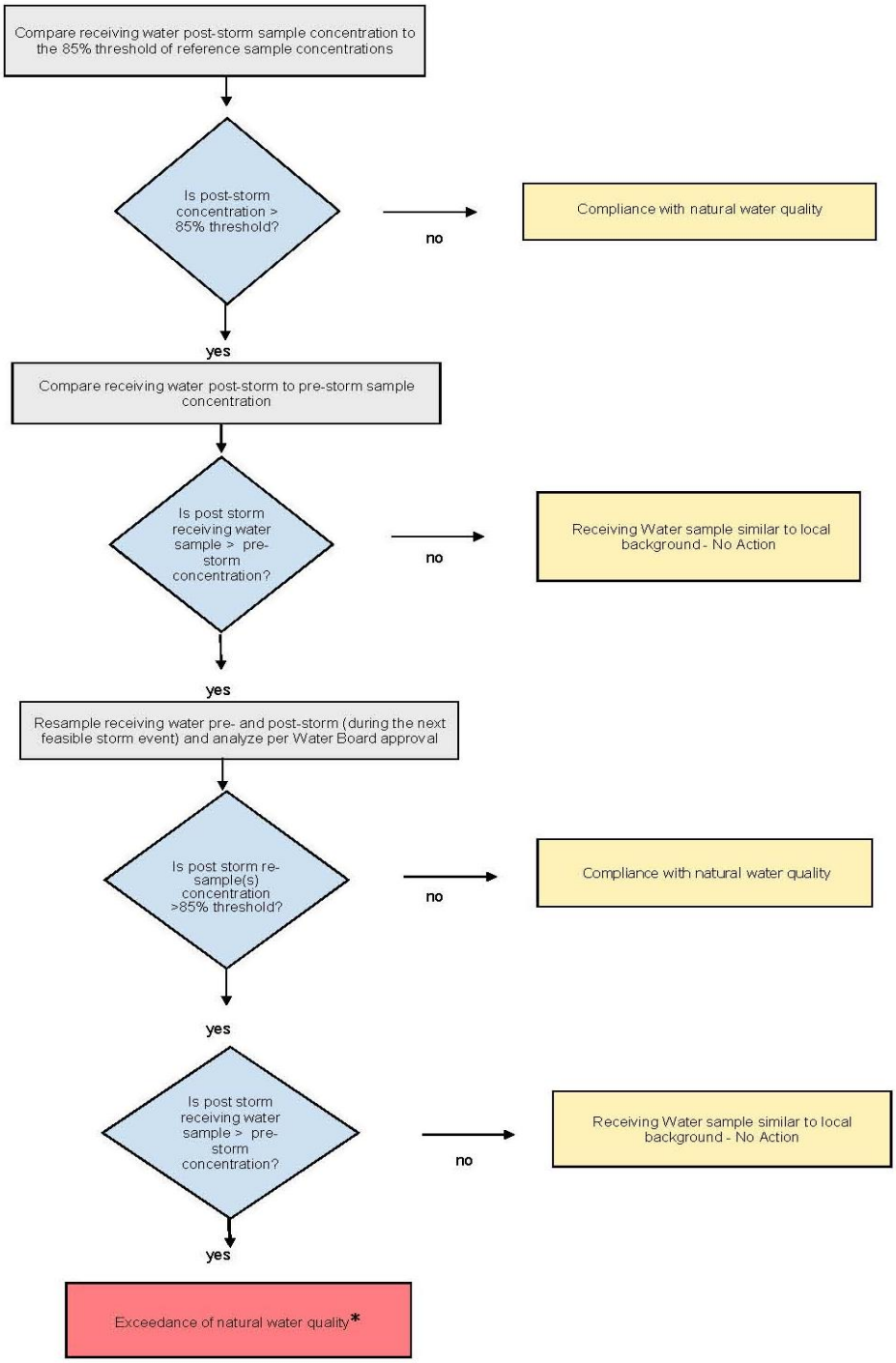
2) No later than September 20, 2013, the Department shall submit a draft written ASBS Compliance Plan to the State Water Board Executive Director that describes its strategy to comply with these provisions, including the requirement to maintain natural water quality in the affected ASBS (see provision E.5.c.). The final ASBS Compliance Plan, including a description and final schedule for structural controls based on the results of runoff and receiving water monitoring, shall be submitted no later than September 20, 2014 and shall be included in the SWMP.

3) Within 18 months of the effective date of the Exception, any non-structural controls that are necessary to comply with these provisions shall be implemented.

4) Within six (6) years of the effective date of the Exception, any structural controls identified in the ASBS Compliance Plan that are necessary to comply with these provisions shall be operational.

5) Within six (6) years of the effective date of the Exception, the Department must comply with the requirement that their discharges into the affected ASBS maintain natural ocean water quality. If the initial results of post-storm receiving water quality testing indicate levels higher than the 85th percentile threshold of reference water quality data and the pre-storm receiving water levels, then the Department must re-sample the receiving water, pre- and post-storm. If after re-sampling, the post-storm levels are still higher than the 85th percentile threshold of reference water quality data, and the pre-storm receiving water levels, for any constituent, then natural ocean water quality is exceeded. See Figure 2.

Figure 2
ASBS Special Protections
Flowchart to Determine Compliance with Natural Water Quality



*** When an exceedance of natural water quality occurs, the Department must comply with section I.A.2.h of the Special Protections as well as the requirements of this Order. Note, when sampling data is available, end-of-pipe effluent concentrations will be considered by the Water Boards in making this determination.**

6) The Executive Director of the State Water Board may only authorize additional time to comply with provisions E.5.b.4) and E.5.b.5) above if good cause exists to do so. Good cause means a physical impossibility or lack of funding.

   If the Department claims physical impossibility, it shall notify the Executive Director of the State Water Board in writing within thirty (30) days of the date that the discharger Department first knew of the event or circumstance that caused or would cause it to fail to meet the deadline in provisions E.5.b.4) or E.5.b.5). The notice shall describe the reason for the noncompliance or anticipated noncompliance and specifically refer to this Permit provision. The Department shall describe the anticipated length of time the delay in compliance may persist, the cause or causes of the delay as well as measures to minimize the impact of the delay on water quality, the measures taken or to be taken by the Department to prevent or minimize the delay, the schedule by which the measures will be implemented, and the anticipated date of compliance. The Department shall adopt all reasonable measures to avoid and minimize such delays and their impact on water quality.

   The Department may request an extension of time for compliance based on lack of funding. The request for an extension shall require a demonstration and documentation of a good faith effort to acquire funding through the Department's budgetary process, and a demonstration that funding was unavailable or inadequate.

c. ASBS Compliance Plan
   The Department shall develop and submit to the Executive Director of the State Water Board a draft ASBS Compliance Plan not later than September 20, 2013. The ASBS Compliance Plan shall address all locations listed in Attachment III as follows:

   1) Include a map of surface drainage of storm water runoff, showing areas of sheet runoff, priority discharge locations, and any structural Best Management Practices (BMPs) already employed and/or BMPs to be employed in the future. The map shall also show the storm water conveyances in relation to other features such as service areas, sewage conveyances and treatment facilities, landslides, areas prone to erosion, and waste and hazardous material storage areas, if applicable.

   2) Describe the measures by which all non-authorized non-storm water runoff (e.g., dry weather flows) has been eliminated, how these measures will be maintained over time, and how these measures are monitored and documented.

   3) Require minimum inspection frequencies as follows:
      a) The minimum inspection frequency for construction sites shall be weekly during the rainy season;
      b) The minimum inspection frequency for industrial facilities shall be monthly during the rainy season; and

c) Storm water outfall drains equal to or greater than 18 inches (457 mm) in diameter or width shall be inspected once prior to the beginning of the rainy season and once during the rainy season, and maintained to remove trash and other anthropogenic debris.

4) Address storm water discharges (wet weather flows) and, in particular, describe how pollutant reductions in storm water runoff, that are necessary to comply with these special conditions, will be achieved through BMPs. Structural BMPs need not be installed if the discharger can document to the satisfaction of the State Water Board Executive Director that such installation would pose a threat to health or safety. BMPs to control storm water runoff discharges (at the end-of-pipe) during a design storm shall be designed to achieve on average the following target levels:

   a) Table B Instantaneous Maximum Water Quality Objectives in Chapter II of the Ocean Plan; or
   b) A 90% reduction in pollutant loading during storm events, for the Department's total discharges.

   The baseline for these determinations is the effective date of the Exception, except for those structural BMPs installed between January 1, 2005 and adoption of the Special Protections.

5) Address erosion control and the prevention of anthropogenic sedimentation in ASBS. The natural habitat conditions in the ASBS shall not be altered as a result of anthropogenic sedimentation.

6) Describe the non-structural BMPs currently employed and planned in the future (including those for construction activities), and include an implementation schedule. The ASBS Compliance Plan shall include non-structural BMPs that address public education and outreach. The ASBS Compliance Plan shall also describe the structural BMPs, including any low impact development (LID) measures currently employed and planned for higher threat discharges, and shall include an implementation schedule. To control storm water runoff discharges (at the end-of-pipe) during a design storm, the Department must first consider, and use where feasible, LID practices to infiltrate, use, or evapotranspire storm water runoff on-site, if LID practices would be the most effective at reducing pollutants from entering the ASBS.

7) The BMPs and implementation schedule shall be designed to ensure that natural water quality conditions in the receiving water are achieved and maintained by either reducing flows from impervious surfaces or reducing pollutant loading, or some combination thereof.

d. Reporting
If the results of the receiving water monitoring described in provision E.2.c.2)a)i) indicate that the storm water runoff is causing or contributing to an alteration of natural ocean water quality in the ASBS, the discharger shall submit a report to the State Water Board and Regional Water Board within 30 days of receiving the results.

1. The report shall identify the constituents in storm water runoff that alter natural ocean water quality and the sources of these constituents.

2. The report shall describe BMPs that are currently being implemented, BMPs that are identified in the SWMP for future implementation, and any additional BMPs that may be added to the SWMP to address the alteration of natural water quality. The report shall include a new or modified implementation schedule for the BMPs.

3. Within 30 days of the approval of the report by the State Water Board Executive Director, the discharger shall revise its ASBS Compliance Plan to incorporate any new or modified BMPs that have been or will be implemented, the implementation schedule, and any additional monitoring required.

4. As long as the discharger has complied with the procedures described above and is implementing the revised SWMP, the discharger does not have to repeat the same procedure for continuing or recurring exceedances of natural ocean water quality conditions due to the same constituent.

6. Region Specific Requirements

a. The Department shall implement the region-specific requirements specified in this Order.
b. In the SWMP, the Department shall describe how individual Districts will address region-specific requirements in each Regional Water Board.
c. Region specific requirements are specified in Attachment V of this Order.

7. Regional Water Board Authorities

a. Upon the effective date of this Order, the Regional Water Boards shall enforce the requirements of this Order. Enforcement may include, but is not limited to, reviewing FPPPs, reviewing workplans and monitoring reports, conducting compliance inspections, conducting monitoring, reviewing Annual Reports and other information, and issuing enforcement orders.
b. Regional Water Boards may require submittal of FPPPs.
c. Regional Water Boards may require retention of records for more than three years.
d. To the extent authorized by the Water Code, Regional Water Boards may impose additional monitoring and reporting requirements and may provide guidance on monitoring plan implementation (Water Code, § 13383).
e. Regional Water Board staff may inspect the Department's facilities, roads, highways, bridges, and construction sites.

f. Regional Water Boards may issue other individual storm water NPDES permits or WDRs to the Department, particularly for discharges beyond the scope of this Order.

8. Requirements of Other Agencies

This Order does not preempt or supersede the authority of other State or local agencies (such as the Department of Toxic Substances Control or the California Coastal Commission) and local municipalities to prohibit, restrict, or control storm water discharges and conditionally exempt non-storm water discharges to storm drain systems or other watercourses within their jurisdictions as allowed by State and federal law.

9. Standard Provisions

The Department shall comply with the Standard Provisions (Attachment VI) and any amendments thereto.

10. Permit Compliance and Rescission of Previous Waste Discharge Requirements

This Order shall serve and become effective as an NPDES permit and the Department shall comply with all its requirements on July 1, 2013. Requirements prescribed by this Order supersede the requirements prescribed by Order No. 99-06-DWQ, except for compliance purposes for violations occurring before the effective date of this Order.

11. Permit Re-Opener

This Order may be modified, revoked and reissued, or terminated for cause due to promulgation of amended regulations, receipt of U.S. EPA guidance concerning regulated activities, judicial decision, or in accordance with 40 Code of Federal Regulations 122.62, 122.63, 122.64, and 124.5. The State Water Board may reopen and modify this Order at any time prior to its expiration under any of the following circumstances:

a. Present or future investigations demonstrate that the discharge(s) regulated by this Order may have the potential to cause or contribute to adverse impacts on water quality and/or beneficial uses.
b. New or revised Water Quality Objectives come into effect, or any new TMDL is adopted or revised that assigns a WLA to the Department or that identifies the Department as a responsible party in the TMDL implementation plan. In such cases, effluent limitations and other requirements in this Order may be modified as necessary to reflect the new TMDLs or the new or revised Water Quality Objectives; or
c. TMDL-specific permit requirements for adopted TMDLs are developed by a Regional Water Board for incorporation into this Order.

d. The State Water Board determines, after opportunity for public comment and a public workshop, that revisions are warranted to those provisions of the Order addressing compliance with water quality standards in the receiving water and/or those provisions of the Order establishing an iterative process for implementation of management practices to assure compliance with water quality standards in the receiving water.

12. Dispute Resolution

In the event of a disagreement between the Department and a Regional Water Board over the interpretation of any provision of this Order, the Department shall first attempt to resolve the issue with the Executive Officer of the Regional Water Board. If a satisfactory resolution is not obtained at the Regional Water Board level, the Department may submit the issue in writing to the Executive Director of the State Water Board or his designee for resolution, with a copy to the Executive Officer of the Regional Water Board. The issue must be submitted to the Executive Director within ten days of any final determination by the Executive Officer of the Regional Water Board. The Executive Officer of the Regional Water Board will be provided an opportunity to respond.

13. Order Expiration and Reapplication

a. This Order expires on June 30, 2018.

b. If a new order is not adopted by June 30, 2018, then the Department shall continue to implement the requirements of this Order until a new one is adopted.

c. In accordance with Title 23, Division 3, Chapter 9 of the California Code of Regulations, the Department shall file a report of waste discharge no later than 180 days before the expiration date of this Order as application for reissuance of this permit and waste discharge requirements. The application shall be accompanied by a SWMP, and a summary of all available water quality data for the discharge and receiving waters, including conventional pollutant data from at least the most recent three years, and toxic pollutant data from at least the most recent five years, in the discharge and receiving water. Additionally, the Discharger shall include the final results of any studies that may have a bearing on the limits and requirements of the next permit.

CERTIFICATION

The undersigned, Clerk to the State Water Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on September 19, 2012.

AYE:	Chairman Charles R. Hoppin Vice Chair Frances Spivy-Weber Board Member Tam M. Doduc Board Member Steven Moore Board Member Felicia Marcus
NAY:	None
ABSENT:	None
ABSTAIN:	None

Jeanine Townsend

Jeanine Townsend
Clerk to the Board

CALIFORNIA STATE WATER RESOURCES CONTROL BOARD
1001 I STREET
SACRAMENTO, CA 95814

FACT SHEET
FOR
NPDES PERMIT and WASTE DISCHARGE REQUIREMENTS for
State of California
Department of Transportation
NPDES Permit No. CAS000003

ORDER No. 2012-0011-DWQ

This Fact Sheet contains information regarding the waste discharge requirements and National Pollutant Discharge Elimination System (NPDES) permit for the California State Department of Transportation (Department) for discharges of storm water and certain types of non-storm water. This Fact Sheet describes the factual, legal, and methodological basis for the permit conditions, provides supporting documentation, and explains the rationale and assumptions used in deriving the limits and requirements.

BACKGROUND

In 1972, the Federal Water Pollution Control Act (also referred to as the Clean Water Act (C.W.A.)) was amended to provide that the discharge of pollutants to waters of the United States from any point source is unlawful, unless the discharge is in compliance with an NPDES permit. The 1987 amendments to the Clean Water Act added section 402(p). Section 402(p) establishes that storm water discharges are point source discharges and lays out a framework for regulating municipal and industrial storm water discharges under the NPDES program. On November 16, 1990, the U.S. Environmental Protection Agency (U.S. EPA) promulgated final regulations that establish the storm water permit requirements.

Pursuant to the 1990 regulations, storm water permits are required for discharges from a municipal separate storm sewer system (MS4) serving a population of 100,000 or more. U.S. EPA defines an MS4 as a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) owned or operated by a State (40 Code of Federal Regulations (C.F.R.), § 122.26(b)(8)). The regulations also require storm water permits for 11 categories of industry, including construction activities where the construction activity: (1) disturbs more than 1 acre of land; (2) is part of a larger common plan of development; and/or (3) is found to be a significant threat to water quality.

Before July 1999, storm water discharges from Department storm water systems were regulated by individual NPDES permits issued by the Regional Water Quality Control Boards (Regional Water Boards). On July 15, 1999, the State Water Resources Control Board (State Water Board) issued a statewide permit (Order No. 99-06-DWQ), which

regulated all storm water discharges from Department owned MS4s, maintenance facilities and construction activities. The existing permit (Order No. 99-06-DWQ) will be superseded by adoption of a new permit.

Industrial activities are covered by two General Permits that have been adopted by the State Water Board. The Department's construction activities are subject to the requirements under the NPDES General Permit for Construction Activities (CGP, NPDES Permit No. CAS000002) for construction activities that are equal to or greater than 1 acre. The exception to this is in the Lake Tahoe area, where the Lahontan Regional Water Board adopted its own construction general permit (NPDES Permit No. CAG616002). The Department's industrial facility activities are subject to the requirements of the NPDES General Permit for Industrial Activities (IGP, NPDES Permit No. CAS000001).

The Department is responsible for the design, construction, management, and maintenance of the State highway system, including freeways, bridges, tunnels, the Department's facilities, and related properties. The Department's discharges consist of storm water and non-storm water discharges from State owned right-of-way (ROW).

Clean Water Act section 402(p) and 40 Code of Federal Regulations section 122.26 (a)(v) give the State authority to regulate discharges from an MS4 on a system-wide or jurisdiction-wide basis. The State Water Board considers all storm water discharges from all MS4s and activities under the Department's jurisdiction as one system. Therefore, this Order is intended to cover all of the Department's municipal storm water activities.

This Order will be implemented by the Department and enforced by the State Water Board and nine Regional Water Boards.

The Department operates highways and highway-related properties and facilities that cross through local jurisdictions. Some storm water discharges from the Department's MS4 enter the MS4s owned and managed by these local jurisdictions. This Order does not supersede the authority of local agencies to prohibit, restrict, or control storm water discharges and conditionally exempt non-storm water discharges to storm drain systems or other watercourses within their jurisdiction as allowed by State and federal law. The Department is expected to comply with the lawful requirements of municipalities and other local, regional, and/or state agencies regarding discharges of storm water to separate storm sewer systems or other watercourses under the agencies' jurisdictions.

GENERAL DISCHARGE PROHIBITIONS

This Order authorizes storm water and conditionally exempt non-storm water discharges from the Department's properties, facilities and activities. This Order prohibits the discharge of material other than storm water, unless specifically authorized in this Order.

The Department owns and operates highway systems that are located adjacent to and discharge into many ASBS. This Order specifies that Department discharges to an ASBS are prohibited except in compliance with the conditions and special protections contained in the General Exception for Storm Water and Non-Point Source Discharges to ASBS, State Water Board Resolution 2012-0012. This State Water Board resolution is hereby incorporated by reference and the Department is required to comply with applicable requirements. Attachment III identifies 77 priority Department ASBS discharge locations. These locations represent sites having significant potential to impact the ASBS that are feasible to retrofit. The following locations are not included in the list:

1. Inland sites discharging indirectly to the ASBS,
2. Sites where the discharge is attenuated through vegetation,
3. Sites where it is infeasible to install a BMP, e.g. an overhanging outfall or where there is insufficient space to install a treatment control, and
4. Sites that would pose a safety hazard to motorists, or that would be unsafe to install or maintain.

Provision E.5 of the Order requires the Department to ensure that structural controls at these locations are operational within six years of the effective date of the General Exception.

NON-STORM WATER

Non-storm water discharges are subject to different requirements under the Order depending on whether they are discharged to ASBS.

Non-storm water discharges outside ASBS:

Non-storm water discharges must be effectively prohibited unless they are authorized by a separate NPDES permit or are conditionally exempt under provisions of the Order consistent with 40 CFR, §122.26 (d)(2) (iv)(B). Non-storm water discharges that are not specifically or conditionally exempted by this Order are subject to the existing regulations for point source discharges. Conditionally exempt non-storm water discharges that are found to be significant sources of pollution are to be effectively prohibited.

Discussion of Agricultural Return Flows:
The Department (2007a) indicated in its Non-Storm Water Report that agricultural irrigation water return flows carrying pollutants pass under the Department's ROW in many locations and enter its MS4. Agricultural return flows are not prohibited or conditionally exempted non-storm water discharges and are not subject to the non-storm water requirements of the Order.

The regulations conditionally exempt MS4s from the requirement to effectively prohibit "irrigation water" discharges to the MS4. The regulations also completely exempt MS4s from addressing non-storm water discharges (also called "illicit discharges") if they are regulated by an NPDES permit (40 C.F.R., §§ 122.26(b)(2); 122.26(d)(2)(iv)(B)). The

term “irrigation water” is not defined and the regulations do not clarify whether that term is intended to encompass agricultural return flows that may run on to the Department’s rights of way.

Because agricultural return flows cannot be regulated by an NPDES permit, it is unlikely that they were intended to be treated as “illicit discharges” under the federal MS4 regulations. In discussing illicit non-storm water discharges and the requirement to effectively prohibit such discharges, the preamble of the Phase I final regulations states: “The CWA prohibits the *point source* discharge of non-storm water not subject to an NPDES permit through municipal separate storm sewers to waters of the United States. Thus, classifying such discharges as illicit properly identifies such discharges as being illegal” (55 FR 47996) (emphasis added). Implicit in this statement is that illicit discharges do not include non-point source discharges, including agricultural return flows, which are statutorily excluded from the definition of a point-source discharge (C.W.A., § 502(14)).[1]

Clean Water Act Section 402(l)(1) states that an NPDES permitting agency “shall not require a permit under this section for discharges composed entirely of return flows from irrigated agriculture.” Accordingly, agricultural return flows co-mingling with an illicit discharge would be treated as a point source discharge. This fact, however, does not lead the State Water Board to find that agricultural return flows should be subject to the conditional prohibition on non-storm water discharges.

First, the illicit discharge prohibition acts to prevent non-storm water discharges “*into* the storm sewers” (C.W.A., § 402(p)(3)(B)(ii)) (emphasis added). Based on a plain reading of the statutory language,[2] a determination of what constitutes an illicit discharge should be made with reference to the nature of the discharge as it enters the MS4. Unless the agricultural return flow has co-mingled with a point source discharge prior to entering the MS4, it is not subject to the discharge prohibition. Further, since certain point source discharges are conditionally exempted from the requirement for effective prohibition under 40 Code of Federal Regulations section 122.26(d)(2)(iv)(B)(*1*), the fact that the agricultural return flow may have co-mingled with such an exempted dry weather point source discharge prior to entering the MS4 does not render it an illicit discharge subject to the effective prohibition.[3] *See Fishermen Against the Destruction of the Environment, Inc. v. Closter Farms, Inc. (11th Cir. 2002)* 300 F.3d 1294.

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[1] Elsewhere in the preamble, EPA refers to the conditionally exempted non-storm water discharges as “seemingly innocent flows that are characteristic of human existence *in urban environments* and which discharge to municipal separate storm sewers” (55 F.R.48037) (emphasis added). This language further suggests that the term “irrigation water” was not intended to encompass irrigation return flows characteristic of a rural area.

[2] 40 C.F.R. §122.26(d)(2)(iv)(B)(*1*) similarly states that the MS4 is to “prevent illicit discharges *to* the municipal separate storm sewer system.” (emphasis added).

[3] The Federal Register discussion clarifies that “irrigation return flows are excluded from regulation under the NPDES program,” but that “joint discharges,” i.e. discharges with a component “from activities unrelated to crop production” may be regulated (55 FR 47996).

Second, even assuming that the agricultural return flow mingling with a point source discharge *after* entering the MS4 would trigger the requirements related to non-storm water discharges, agricultural return flows are not expected to require an effective prohibition. Irrigation of agricultural fields typically occurs in dry weather, not wet weather, and therefore the State Water Board anticipates that irrigation return flows into the Department's MS4 would generally not co-mingle with discharges other than exempt non-storm water discharges.

Further, agricultural return flows entering an MS4, while not regulated by an NPDES permit, are through much of the State regulated under WDRs, waivers, and Basin Plan prohibitions. The regulations exempt MS4s from addressing non-storm water discharges that are regulated by an NPDES permit. Flows to the Department's MS4 regulated through state-law based permits are subject to regulatory oversight analogous to being subject to an NPDES permit. The appropriate regulatory mechanism for these discharges is the non-point source regulatory programs and not a municipal storm water permit.[4]

Non-Storm Water Discharges to ASBS:

Non-storm water discharges to ASBS are prohibited except as specified in the General Exception. Certain enumerated non-storm water discharges are allowed under the General Exception if essential for emergency response purposes, structural stability, slope stability, or if occur naturally.

Discussion of Utility Vault Discharges:
In addition, an NPDES permitting authority may authorize non-storm water discharges to an MS4 with a direct discharge to an ASBS to the extent the NPDES permitting authority finds that the discharge does not alter natural ocean water quality in the ASBS. This Order allows utility vault discharges to segments of the Department MS4 with a direct discharge to an ASBS, provided the discharge is authorized by the General NPDES Permit for Discharges from Utility Vaults and Underground Structures to Surface Water, NPDES No. CAG 990002. The State Water Board is in the process of reissuing the General NPDES Permit for Utility Vaults. As part of the renewal, the State Water Board will require a study to characterize representative utility vault discharges to an MS4 with a direct discharge to an ASBS and will impose conditions on such discharges to ensure the discharges do not alter natural ocean water quality in the ASBS. Given the limited number of utility vault discharges to MS4s that discharge directly to an ASBS, the State Water Board finds that discharges from utility vaults and underground structures to MS4s with a direct discharge to an ASBS are not expected to result in the MS4 discharge causing a substantial alteration of natural ocean water quality in the ASBS in the interim period while the General NPDES Permit for Discharges from Utility Vaults is renewed and

[4] It should also be noted that the Department has limited control options since up gradient flows such as agricultural runoff must in many cases be allowed to flow under or alongside the roadway so as to not threaten roadway integrity.

the study is completed. However, if a Regional Water Board determines a specific discharge from a utility vault or underground structure does alter the natural ocean water quality in an ASBS, the Regional Water Board may prohibit the discharge as specified in this Order. It should also be noted that, under the California Ocean Plan Section III.E.2 (Implementation Provisions for ASBS), limited-term activities that result in temporary and short-term changes in existing water quality in the ASBS may be permitted.

EFFLUENT LIMITS

The State of California Nonpoint Source Program Five-Year Implementation Plan (SWRCB, 2003) (the Plan) describes a variety of pollutants in urban storm water and non-storm water that are carried in MS4 discharges to receiving waters. These include oil, sand, de-icing chemicals, litter, bacteria, nutrients, toxic materials and general debris from urban and suburban areas. The Plan identifies construction as a major source of sediment erosion and automobiles as primary sources of petroleum hydrocarbons.

The Natural Resources Defense Council (NRDC) also identified two main causes of storm water pollution in urban areas (NRDC, 1999). Both identified causes are directly related to development in urban and urbanizing areas:

1. Increased volume and velocity of surface runoff. There are three types of human-made impervious cover that increase the volume and velocity of runoff: (i) rooftops, (ii) transportation imperviousness, and (iii) non-porous (impervious) surfaces. As these impervious surfaces increase, infiltration will decrease, forcing more water to run off the surface, picking up speed and pollutants.

2. The concentration of pollutants in the runoff. Certain industrial, commercial, residential and construction activities are large contributors of pollutant concentrations in urban runoff. As human population density increases, it brings with it proportionately higher levels of car emissions, car maintenance wastes, municipal sewage, pesticides, household hazardous wastes, pet wastes, trash, etc.

As a result of these two causes, runoff leaving developed urban areas is significantly greater in volume, velocity, and pollutant load than pre-development runoff from the same area.

NPDES storm water permits must meet applicable provisions of sections 301 and 402 of the Clean Water Act. For discharges from an MS4, Clean Water Act section 402(p)(3)(B)(iii) requires control of pollutants to the maximum extent practicable (MEP). A permitting agency also has the discretion to require dischargers to implement more stringent controls, if necessary, to meet water quality standards (*Defenders of Wildlife v. Browner* (9th Cir. 1999) 191 F.3d 1159, 1166.), (discussed below under Receiving Water Limitations).

MEP is the technology-based standard established by Congress in Clean Water Act section 402(p)(3)(B)(iii) that municipal dischargers of storm water must meet. Technology-based standards establish the level of pollutant reductions that dischargers must achieve. MEP is generally achieved by emphasizing pollution prevention and source control BMPs as the first lines of defense in combination with structural and treatment methods where appropriate. The MEP approach is an ever evolving, flexible, and advancing concept, which considers technical and economic feasibility. As knowledge about controlling urban runoff continues to evolve, so does that which constitutes MEP.

In a precedential order (State Water Board Order WQ 2000-11 (In the Matter of the petitions of the Cities of Bellflower et al.)), the State Water Board has stated as follows:

> While the standard of MEP is not defined in the storm water regulations or the Clean Water Act, the term has been defined in other federal rules. Probably the most comparable law that uses the term is the Superfund legislation, or CERCLA, at section 121(b). The legislative history of CERCLA indicates that the relevant factors, to determine whether MEP is met in choosing solutions and treatment technologies, include technical feasibility, cost, and state and public acceptance. Another example of a definition of MEP is found in a regulation adopted by the Department of Transportation for onshore oil pipelines. MEP is defined as to "the limits of available technology and the practical and technical limits on a pipeline operator . . . ."
>
> These definitions focus mostly on technical feasibility, but cost is also a relevant factor. There must be a serious attempt to comply, and practical solutions may not be lightly rejected. If, from the list of BMPs, a permittee chooses only a few of the least expensive methods, it is likely that MEP has not been met. On the other hand, if a permittee employs all applicable BMPs except those where it can show that they are not technically feasible in the locality, or whose cost would exceed any benefit to be derived, it would have met the standard. MEP requires permittees to choose effective BMPs, and to reject applicable BMPs only where other effective BMPs will serve the same purpose, the BMPs would not be technically feasible, or the cost would be prohibitive. Thus while cost is a factor, the Regional Water Board is not required to perform a cost-benefit analysis.

The final determination of whether a municipality has reduced pollutants to the maximum extent practicable can only be made by the permitting agency, and not by the discharger.

Because of the numerous advances in storm water regulation and management and the size of the Department's MS4, this Order does not require the Department to fully incorporate and implement all advances in a single permit term. The Order allows for prioritization of efforts to ensure the most effective use of available funds.

This Order will have an impact on costs to the Department above and beyond the costs from the Department's prior permit. Such costs will be incurred in complying with the post-construction, hydrograph modification, Low Impact Development, and monitoring and reporting requirements of this Order. Additional costs will also be incurred in correcting non-compliant discharges. Recognizing that there are cost increases associated with the Order, the State Water Board has prepared a cost analysis to approximate the anticipated cost associated with implementing this permit. The resulting cost analysis is discussed later in this Fact Sheet under the section on "Cost of Compliance and Other MEP Considerations." The cost analysis has been prepared based on available data and is not a cost-benefit analysis.

The individual and collective activities required by this Order and contained in the Department's Storm Water Management Plan (SWMP) meet the MEP standard.

RECEIVING WATER LIMITATIONS

Under federal law, an MS4 permit must include "controls to reduce the discharge of pollutants to the maximum extent practicable . . . and such other provisions as . . . the State determines appropriate for the control of such pollutants." (Clean Water Act §402(p)(3)(B)(iii).) The State Water Board has previously determined that limitations necessary to meet water quality standards are appropriate for the control of pollutants discharged by MS4s and must be included in MS4 permits. (State Water Board Orders WQ 91-03, 98-01, 99-05, 2001-15; see also *Defenders of Wildlife v. Browner* (9th Cir. 1999) 191 F3d 1159.). The Proposed Order accordingly prohibits discharges that cause or contribute to violations of water quality standards.

The Proposed Order further sets out that, upon determination that a Permittee is causing or contributing to an exceedance of applicable water quality standards, the Permittee must engage in an iterative process of proposing and implementing additional control measures to prevent or reduce the pollutants causing or contributing to the exceedance. This iterative process is modeled on receiving water limitations set out in State Water Board precedential Order WQ 99-05 and required by that Order to be included in all municipal storm water permits.

The Ninth Circuit held in *Natural Resources Defense Council, Inc. v. County of Los Angeles* (2011) 673 F.3d 880 that engagement in the iterative process does not provide a safe harbor from liability for violations of permit terms prohibiting exceedances of water quality standards. The Ninth Circuit holding is consistent with the position of the State Water Board and Regional Water Boards that exceedances of water quality standards in an MS4 permit constitute violations of permit terms subject to enforcement by the Boards or through a citizen suit. While the Boards have generally directed dischargers to achieve compliance by improving control measures through the iterative process, the Board retains the discretion to take other appropriate enforcement and the iterative process does not shield dischargers from citizen suits.

The State Water Board has received multiple comments, from the Department and from other interested parties, expressing confusion and concern about the Order provisions regarding receiving water limitations and the iterative process. The Department has commented that the provisions as currently written do not provide the Department with a viable path to compliance with the proposed Order. Other commenters, including environmental parties, support the current language.

As stated above, the provisions in this Order regarding receiving water limitations and the iterative process are based on precedential Board orders. Accordingly, substantially identical provisions are found in the proposed statewide Phase II MS4 NPES permit, as well as the Phase I NPDES permits issued by the Regional Water Boards. In the context of the proposed Phase II MS4 permit, similar comments have been received. Because of the broad applicability of any policy decisions regarding the receiving water limitations and iterative process provisions, the State Water Board has proposed a public workshop to consider this issue and seek public input.

Rather than delay consideration of adoption of the tentative Order in anticipation of any future changes to the receiving water limitations and iterative process provisions that may result from the public workshop and deliberation, the Board has added a specific reopener clause at Section 11.d. to facilitate any future revisions as necessary.

NUMERIC EFFLUENT LIMITATIONS AND BLUE RIBBON PANEL OF EXPERTS

Under 40 Code of Federal Regulations section 122.44(k)(2)&(3); the State Water Board may impose BMPs for control of storm water discharges in lieu of numeric effluent limitations.[5]

In 2005, the State Water Board assembled a blue ribbon panel to address the feasibility of including numeric effluent limits as part of NPDES municipal, industrial, and construction storm water permits. The panel issued a report dated June 19, 2006, which included recommendations as to the feasibility of including numeric limitations in storm water permits, how such limitations should be established, and what data should be required (SWRCB, 2006).

[5] On November 12, 2010, U.S. EPA issued a revision to a November 22, 2002 memorandum in which it had "affirm[ed] the appropriateness of an iterative, adaptive management best management practices (BMP) approach" for improving storm water management over time. In the revisions, U.S. EPA recommended that, in the case the permitting authority determines that MS4 discharges have the reasonable potential to cause or contribute to a water quality excursion, the permitting authority, where feasible, include numeric effluent limitations as necessary to meet water quality standards. However, the revisions recognized that the permitting authority's decision as to how to express water quality based effluent limitations (WQBELs), i.e. as numeric effluent limitations or BMPs, would be based on an analysis of the specific facts and circumstances surrounding the permit. U.S. EPA has since invited comment on the revisions to the memorandum and will be making a determination as to whether to "either retain the memorandum without change, to reissue it with revisions, or to withdraw it." http://www.epa.gov/npdes/pubs/sw_tmdlwla_comments_pdf

The report concluded that “It is not feasible at this time to set enforceable numeric effluent criteria for municipal BMPs and in particular urban discharges. However, it is possible to select and design them much more rigorously with respect to the physical, chemical and/or biological processes that take place within them, providing more confidence that the estimated mean concentrations of constituents in the effluents will be close to the design target.”

Consistent with the findings of the Blue Ribbon Panel and precedential State Water Board orders (State Water Board Orders Nos. WQ 91-03 and WQ 91-04), this Order allows the Department to implement BMPs to comply with the requirements of the Order.

In 1980, the State Water Resources Control Board adopted concentration-based numeric effluent limitations for total nitrogen, total phosphate, total iron, turbidity, and grease and oil for storm water discharges in the Lake Tahoe Basin. The Lahontan Regional Water Board included revised versions of those limitations in Table 5.6-1 of the Water Quality Control Plan for the Lahontan Region (Basin Plan). The numeric effluent limitations in Table 5.6-1 were included in previous iterations of the Department's MS4 permit. This Order does not include these referenced numeric effluent limitations. The TMDL for sediment and nutrients in Lake Tahoe, approved by U.S. EPA on August 16, 2011, removed statements from the Basin Plan requiring the effluent limitations in Table 5.6-1 to apply to municipal jurisdictions and the Department. The Lake Tahoe TMDL would constitute cause for permit revocation and reissuance in accordance with 40 Code of Federal Regulations section 122.62(a)(3), so the removal of the referenced numeric effluent limitations is consistent with 40 Code of Federal Regulations section 122.44(l)(1). Further, any water quality based effluent limitations in MS4 permits are imposed under section 402(p)(3)(B) of the Clean Water Act rather than under section 301(b)(1)(C), and are accordingly not subject to the antibacksliding requirements of section 402(o). The Order requires compliance with pollutant load reduction requirements established by the Lake Tahoe TMDL for total nitrogen, total phosphorus, and fine sediment particles.

OTHER PROVISIONS OF THIS ORDER

Storm Water Management Plan (SWMP)

The SWMP describes the procedures and practices that the Department proposes to reduce or eliminate the discharge of pollutants to storm drainage systems and receiving waters. On May 17, 2001, the State Water Board approved a Storm Water Management Plan submitted by the Department. That SWMP was updated in 2003 (Department, 2003c) and the updates were approved by the Executive Director of the State Water Board on February 13, 2003. On January 15, 2004, the Department submitted a proposed Storm Water Management Plan as part of its NPDES permit application to renew its previous statewide storm water permit (Order No. 99-06-DWQ). The State Water Board and Regional Water Board staff and the Department discussed and revised Best Management Practices (BMP) controls and many other components proposed in each section of the SWMP during numerous meetings from January 2004 to 2006. The Department submitted a revised SWMP in June 2007 (Department, 2007c). The 2004

and 2007 SWMPs have not been approved by the State Water Board and the Department has continued to implement the 2003 SWMP. The Department is in the process of revising aspects of the 2003 SWMP to address the Findings of Violation and Order for Compliance issued by U.S. EPA in 2011 (U.S. EPA Docket No. CWA-09-2011-0001).

This Order requires the Department to update, maintain and implement an effective SWMP that describes how the Department will meet requirements of this Order. Within one year of the effective date of the Order, the Department shall submit for Executive Director approval a SWMP consistent with the provisions and requirement of the Order. The SWMP is an integral and enforceable component of this Order and is required to be updated on an annual basis.

In ruling upon the adequacy of federal regulations for discharges from small municipal storm sewer systems, the court in *Environmental Defense Center v. United States EPA* (9th Cir. 2003) 344 F.3d 832 held that NPDES "notices of intent" that required the inclusion of a proposed storm water management program (SWMP) are subject to the public participation requirements of the federal Clean Water Act because they are functionally equivalent to NPDES permit applications and because they contain "substantive information" about how the operator will reduce its discharges to the maximum extent practicable. By implication, the public participation requirements of the Clean Water Act may also apply to proposals to revise the Department's SWMP. Although the Proposed Order contains significantly more detailed and prescriptive requirements for achievement of MEP than previously adopted orders for the Department, some of the substantive information about how MEP will be achieved is arguably still set out in the SWMP. This Order accordingly provides for public participation in the SWMP revision process. However, because there may be a need for numerous revisions to the SWMP during the term of this Order, a more streamlined approach to SWMP revisions is needed to provide opportunities for public hearings while preserving the State Water Board's ability to effectively administer its NPDES storm water permitting program. (See *Costle v. Pacific Legal Foundation* (1980) 445 U.S. 198, 216-221, *Natural Resources Defense Council v. Costle* (9th Cir. 1977) 568 F.2d 1369, 1382.)

This Order establishes that revisions to the SWMP requiring Executive Director approval will be publicly noticed for thirty days on the State Water Board's website (except as otherwise specified). During the public notice period, a member of the public may submit a written comment or request that a public hearing be conducted. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. Upon review of the request or requests for a public hearing, the Executive Director may, in his or her discretion, schedule a public hearing to take place before approval of the SWMP revision. The Executive Director shall schedule a hearing if there is a significant degree of public interest in the proposed revision. If no public hearing is conducted, the Executive Director may approve the SWMP revision if it meets the conditions set forth in this Order. Any SWMP revision approved by the Executive Director will be posted on the State Water Board's website.

The Department references various policies, manuals, and other guidance related to storm water in the SWMP. These documents are intended to facilitate implementation of the SWMP and must be consistent with all requirements of the Order.

In addition to the annual submittal of the proposed SWMP revisions, this Order also requires the Department to submit workplans that explain how the program will be implemented in each District. The purpose of the workplans is to bring the proposed statewide program of the SWMP to the practical and implementable level at the District, watershed, and water body level.

Legal Authority
The Department has submitted a certification of adequate legal authority to implement the program. Through implementation of the storm water program, the Department may find that the legal authority is, in fact, not adequate. This Order requires the Department to reevaluate the legal authority each year and recertify that it is adequate. The Department is required to submit the Certification of the Adequacy of Legal Authority as part of the Annual Report each year. If it becomes clear that the legal authority is not adequate to fully implement the SWMP and the requirements of this Order, the Department must seek the authority necessary for implementation of the program.

SWMP Implementation Requirements

Management and Organization
The Department must maintain adequate funding to implement an effective storm water program and must submit an analysis of the funding each year. This includes a report on the funding that is dedicated to storm water as well as an estimate of the funding that has been allocated to various program elements that are not included in the storm water program funding. An example of this would be to estimate the funding that has been made available to the Maintenance Program to implement the development of Maintenance Facility Pollution Prevention Plans (FPPP) and to implement the Best Management Practices (BMPs) that are necessary for water quality.

The Department's facilities and rights-of-way may cross or overlap other MS4s. The Department is required to coordinate their activities with other municipalities and local governments that have responsibility for storm water runoff. This Order requires the Department to prepare a Municipal Coordination Plan describing the approach that the Department will take in establishing communication, coordination, cooperation and collaboration with other storm water management programs.

Discharge Monitoring and Reporting Program
Since 1998, the Department has conducted monitoring of runoff from representative transportation facilities throughout California. The key objectives of the characterization monitoring were to produce scientifically credible data on runoff from the Department's facilities, and to provide useful information in designing effective storm water management strategies. Between 2000 and 2003, the Department conducted a three-year characterization monitoring study (Department, 2003b). The study generated over

60,000 data points from over 180 monitoring sites. Results were compared with California Toxics Rule (CTR) objectives and other relevant receiving water quality objectives (U.S. EPA, 2000b). Copper, lead, and zinc were estimated to exceed the CTR objectives for dissolved and total fractions in greater than 50% of samples. Diazinon and chlorpyrifos were also found to exceed the California Department of Fish and Game recommended chronic criteria in a majority of samples.

The discharge monitoring program has been structured to focus on the highest priority water quality problems in order to ensure the most effective use of limited funds. A tiered approach is established that gives first priority to monitoring in ASBS and TMDL watersheds. Monitoring in these locations must be conducted pursuant to the applicable requirements of the ASBS Special Protections or TMDL, without limitation as to the number of sites. The second monitoring tier requires the Department to examine and prioritize existing monitoring locations where existing data show elevated levels of pollutants. Fifteen percent of the highest priority sites must be scheduled for retrofit, with a maximum of 100 sites per year.

Monitoring constituents were chosen by the State Water Board from the results of the Department's comprehensive, multi-component storm water characterization monitoring program conducted in 2002 and 2003 and various other characterization studies.

Toxicity in storm water discharges from the Department's rights-of-way has been reported in a number of studies. A 2005 report prepared for the Department by the University of California at Davis "Toxicity of Storm Water from Caltrans Facilities" reported significant occurrences of acute and chronic toxicity (Department, 2005). Toxicity Identification Evaluations showed toxicity from a number of compounds, including heavy metals, organic compounds, pesticides and surfactants. Toxicity testing is required under the Order, and a workplan for conducting Toxicity Reduction Evaluations is required to be included in the SWMP.

Monitoring data must be filed electronically in the Storm Water Multiple Application Report and Tracking System (SMARTS). Receiving water monitoring data must be comparable[6] with the Surface Water Ambient Monitoring Program (SWAMP), (SWAMP, 2010), and must be uploaded to the California Data Exchange Network (CEDEN).

Incident Reporting - Non-Compliance and Potential/Threatened Non-Compliance
The Department may at times be out of compliance with the requirements of this Order. Incidents of non-compliance and potential or threatened non-compliance must be reported to the State and Regional Water Boards. This Order identifies the conditions under which non-compliance reporting will be required. This Order distinguishes between emergency, field, and administrative (procedural) incidents that require notification to the

[6] U.S. EPA defines comparability as the measure of confidence with which one data set, element, or method can be considered as similar to another. Functionally, SWAMP comparability is defined as adherence to the SWAMP Quality Assurance Program Plan and the Surface Water Ambient Monitoring Program Information Management Plan.

State and Regional Water Boards, and requires that a summary of non-compliance incidents and the subsequent actions taken by the Department to reduce, eliminate and prevent the reoccurrence of the non-compliance be included in the Annual Report.

Emergency, field and administrative incidents are defined in Attachment I and have separate reporting requirements. Generally, failure to meet any permit requirement that is local or regional in nature will be reported to the Regional Water Boards. Attachment I outlines the reporting timelines for the three categories. This reporting will be conducted through the Storm Water Multiple Application Report and Tracking System (SMARTS)[7]. Distribution of this report internally between the State Water Board and any Regional Water Boards will be conducted through this system.

Project Planning and Design

In Order WQ 2000-11, the State Water Board considered Standard Urban Storm Water Mitigation Plans (SUSMPs) related to new development and redevelopment. The SUSMPs include a list of BMPs for specific development categories, and a numeric design standard for structural or treatment control BMPs. The numeric design standard created objective and measurable criteria for the amount of runoff that must be treated or infiltrated by BMPs. While this Order does not regulate construction activities, it does regulate the post-construction storm water runoff pursuant to municipal storm water regulations. SUSMPs are addressed in this Order through the numeric sizing criteria that apply to treatment BMPs at specified new and redevelopment projects and through requirements to implement Low Impact Development through principles of source control, site design, and storm water treatment and infiltration.

The Order provides the Department with an alternative compliance method for complying with the Treatment Control BMP numeric sizing criteria for projects where on-site treatment is infeasible. Under that method, the Department may propose complying with the requirements by installing and maintaining equivalent treatment BMPs at an offsite location (meaning outside of Project Limits) within the watershed, or by contributing funds to achieve the same amount of treatment at a regional project within the watershed. This compliance method will provide some flexibility to the Department in meeting the treatment control requirements.

Hydromodification and Channel Protection

Department development and redevelopment projects have the potential to negatively impact stream channels and downstream receiving waters. The potential impacts of hydromodification by Department projects must be assessed in the project planning and design stage, and measures taken to mitigate them. This section describes the rationale and approach for the hydromodification and channel protection requirements.

A dominant paradigm in fluvial geomorphology holds that streams adjust their channel dimensions (width and depth) in response to long-term changes in sediment supply and

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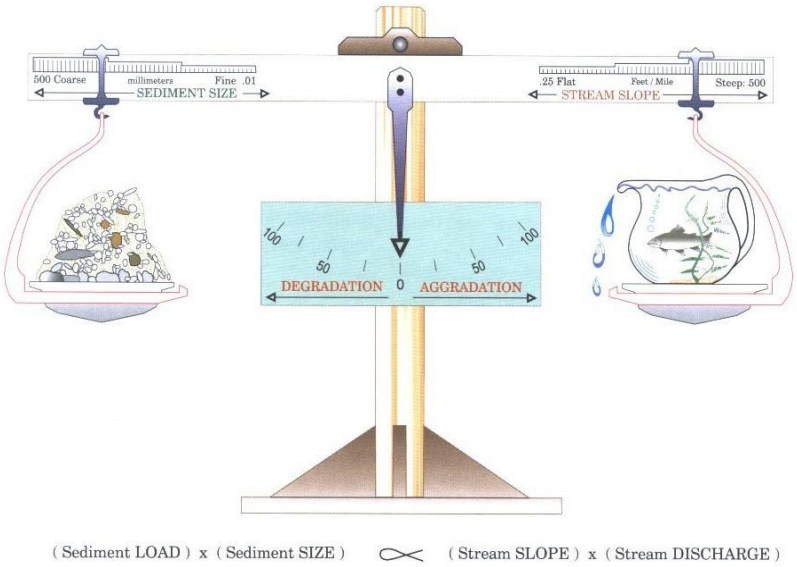
https://smarts.waterboards.ca.gov/smarts/faces/SwSmartsLogin.jsp

bankfull discharge. The bankfull stage corresponds to the discharge at which channel maintenance is the most effective, that is, the discharge at which the moving sediment, forming or removing bars, and forming or changing bends and meanders, are doing work that results in the average morphologic characteristics of channels (Finkenbine, 2000). A.W. Lane showed the generalized relationship between sediment load, sediment size, stream discharge and stream slope, as shown in Figure 1, (Rosgen, 1996). A change in any one of these variables sets up a series of mutual adjustments in the companion variables resulting in a direct change in the physical characteristics of the stream channel.

Figure 1 - Schematic of the Lane Relationship



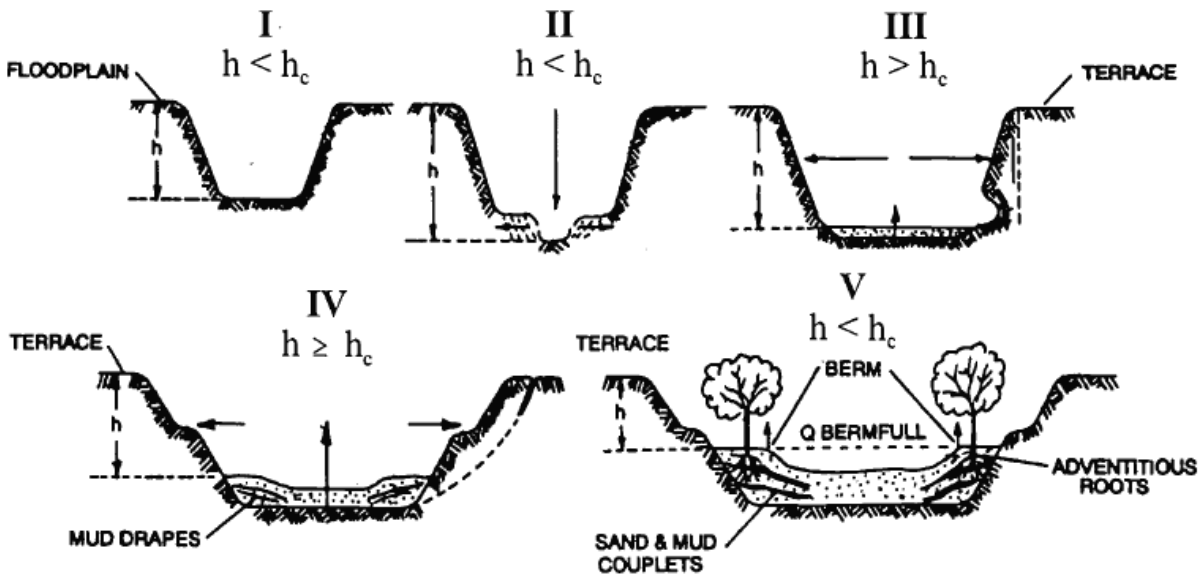
After Lane (1955) as cited in Rosgen (1996)

Stream slope times stream discharge (the right side of the scale) is an approximation of stream power, a unifying concept in fluvial geomorphology (Bledsoe, 1999). Urbanization generally increases stream power and affects the resisting forces in a channel (represented as sediment load and sediment size on the left side of the scale).

During construction, sediment loads can increase from 2 to 40,000 times over pre-construction levels (Goldman, 1986). Most of this sediment is delivered to stream channels during large, episodic rain events (Wolman, 2001). This increased sediment load leads to an initial aggradation phase where stream depths may decrease as sediment fills the channel, leading to a decrease in channel capacity and an increase in flooding and overbank deposition. A degradation phase initiates after construction is completed.

Schumm et al (Schumm, 1984) developed a channel evolution model that describes the series of adjustments from initial downcutting, to widening, to establishing new floodplains at lower elevations (Figure 2).

Figure 2 - Channel Changes Associated with Urbanization



h = bank height
hc = critical bank height (the bank is susceptible to failure when bank heights are greater than critical bank height. Stable banks have low angles and heights)

After Incised Channel Evolution Sequence in Schumm et al. 1984

Channel incision (Stage II) and widening (Stages III and to a lesser degree, Stage IV) are due to a number of fundamental changes on the landscape. Connected impervious area and compaction of pervious surfaces increase the frequency and volume of bankfull discharges (Stein, 2005; Booth, 1997), resulting in an increase in stream power. Increased drainage density (miles of stream length per square mile of watershed) also affects receiving channels (May, 1998; SCVURPPP, 2002). Increased drainage density and hydraulic efficiency leads to an increase in the frequency and volume of bankfull discharges because the time of concentration is shortened. Flows from engineered pipes and channels are also often “sediment starved” and seek to replenish their sediment supply from the channel.

Encroachment of stream channels can also lead to an increase in stream slope, which leads to an increase in stream power. In addition, watershed sediment loads and sediment size (with size generally represented as the median bed and bank particle size,

or d_{50}) decrease during urbanization (Finkenbine, 2000; Pizzuto, 2000). This means that even if pre- and post- development stream power are the same, more erosion will occur in the post-development stage because the smaller particles are less resistant.

As shown in Stages II and III, the channel deepens and widens to accommodate the increased stream power (Hammer, 1973; Booth, 1990) and decrease in sediment load and sediment size. Channels may actually narrow as entrained sediment from incision is deposited laterally in the channel (Trimble, 1997). After incised channels begin to migrate laterally (Stage III), bank erosion begins, which leads to general channel widening (Trimble, 1997). At this point, a majority of the sediment that leaves a drainage area comes from within the channel, as opposed to the background and construction related hillslope contribution (Trimble, 1997). Stage IV is characterized by more aggradation and localized bank instability. Stage V represents a new quasi-equilibrium channel morphology in balance with the new flow and sediment supply regime. In other words, stream power is in balance with sediment load and sediment size.

The magnitude of the channel morphology changes discussed above varies along a stream network as well as with the age of development, slope, geology (sand-bedded channels may cycle through the evolution sequence in a matter of decades whereas clay-dominated channels may take much longer), watershed sediment load and size, type of urbanization, and land use history. It is also dependent on a channel's stage in the channel evolution sequence when urbanization occurs. Management strategies must take into account a channel's stage of adjustment and account for future changes in the evolution of channel form (Stein, 2005).

The hydromodification requirements in this Order are based on established Federal Highway Administration procedures for assessing stream stability at highway crossings. These procedures are geomorphically based and have historically been used to inform bridge and culvert design and to ensure that these structures are not impacted by decreased lateral and vertical stability (FHWA, 2001; FHWA, 2006). Maintaining lateral and vertical stability will not only protect highway structures but will serve the broader interest of maintaining stable stream form and function.

These hydromodification requirements are risk based and reflect the concept that stable channels (as determined from a Level 1 rapid analysis) do not have to undergo any further analysis and that hydrology-based design standards are protective.

If stream channels are determined to be laterally and or vertically unstable, the analysis procedures are much more rigorous and the mitigation measures are potentially more extensive. There is support in the literature for the type of tiered, risk-based approach taken in this Order (Booth, 1990; Watson, 2002; Bledsoe, 2002; Bledsoe et al., 2008).

California Senate Bill 857 (2006) amended Article 3.5 of the Streets and Highways Code to require the Department to assess and remediate barriers to passage of anadromous fish at stream crossings along the State Highway System. The bill also requires the Department to, among other things, prepare an annual report to the legislature on the

status of the Department's efforts in locating, assessing, and remediating barriers to fish passage. Waters of the State supporting the beneficial use of fish migration could be adversely impacted by improperly designed or maintained stream crossings, or through natural channel evolution processes. Accordingly, this Order requires the Department to also submit the annual report required under SB 857 to the State Water Board.

Low Impact Development (LID)
On January 20, 2005, the State Water Board adopted sustainability as a core value for all California Water Boards' activities and programs, and directed State Water Board staff to consider sustainability in all future policies, guidelines, and regulatory actions. Sustainability can be achieved through appropriate implementation of the LID techniques required by this Order.

The proper implementation of LID techniques not only results in water quality protection benefits and a reduction of land development and construction costs, but also enhances property values, and improves habitat, aesthetic amenities, and quality of life (U.S. EPA, 2007). Further, properly implemented LID techniques reduce the volume of runoff leaving a newly developed or re-developed area thereby lowering the peak rate of runoff, and thus minimizing the adverse effects of hydromodification on stream habitat (SWRCB, 2007). The requirements of this Order facilitate the implementation of LID strategies to protect water quality, reduce runoff volume, and to promote sustainability.

Unlike traditional storm water management, which collects and conveys storm water runoff through storm drains, pipes, or other conveyances to a centralized storm water facility, LID takes a different approach by using site design and storm water management to maintain the site's pre-development runoff rates and volumes. The goal of LID is to mimic a site's pre-development hydrology by using design techniques that infiltrate, filter, store, evaporate, and detain runoff close to the source of rainfall. LID has been a proven approach in other parts of the country and is seen in California as an alternative to conventional storm water management.

LID is a tool that can be used to better manage natural resources and limit the pollution delivered to waterways. To achieve optimal benefits, LID needs to be integrated with watershed planning and appropriate land use programs. LID by itself will not deliver all the water quality outcomes desired; however, it does provide enhanced storm water treatment and mitigates increased volume and flow rates (SWRCB, 2007).

This Order approaches LID through source control design principles, site design principles and storm water treatment and infiltration principles. Source control and site design principles are required as applicable to provide enough flexibility such that projects are not forced to include inappropriate or impractical measures. Not all of the storm water treatment and infiltration principles identified in the Order are required to be implemented but are listed in order of preference with the most environmentally protective and effective alternatives listed first.

BMP Development and Implementation
The Department has developed a BMP program for control of pollutants from existing facilities and for new and reconstructed facilities. This BMP program includes development, construction, maintenance and evaluation of BMPs, and investigation of new BMPs. The goal of BMP implementation is to control the discharge of pollutants to the applicable standards.

While erosion control BMPs are typically used on construction sites, some are used as permanent, post-construction BMPs. Typical erosion control BMPs involve use of straw or fiber rolls and mats. These rolls and mats are often held together by synthetic mesh or netting. Synthetic materials are persistent in the environment and have been found to be a source of pollutants, trash (Brzozowski, 2009), and hazard to wildlife through entrapment (Brzozowski, 2009; Barton and Kinkead, 2005; Walley et al, 2005; Stuart et al, 2001). For erosion control products used as permanent, post-construction BMPs, this Order requires the use of biodegradable materials, and the removal of any temporary erosion control products containing synthetic materials when they are no longer needed. Biodegradable materials are required in erosion control products used by the Departments of Transportation in the states of Delaware and Iowa (Brzozowski, 2009). Use of synthetic (plastic) materials is also prohibited through a Standard Condition in Streambed Alteration Agreements by the California Department of Fish and Game, Region 1 (Van Hattem, personal communication, 2009).

Potential Unintended Public Health Concerns Associated with Structural BMPs
The Department worked collaboratively with the California Department of Public Health (CDPH) on a comprehensive, multi-component monitoring program of more than 120 structural BMPs for mosquito production (Department, 2004). The data revealed that certain BMPs may unintentionally create habitat suitable for mosquitoes and other vectors. The California Health and Safety Code prohibits landowners from knowingly providing habitat for or allowing the production of mosquitoes and other vectors, and gives local vector control agencies broad inspection and abatement powers. This Order requires the Department to comply with applicable provisions of the Health and Safety Code and to cooperate and coordinate with CDPH and local mosquito and vector control agencies on vector control issues in the Department's MS4.

Construction
The Department's construction activities were previously regulated under the MS4 permit (Order 99-06-DWQ), which required the Department to comply with the substantive provisions of the CGP but not the requirement to file separate notices of intent for each construction project. Some Regional Water Boards have had difficulty enforcing the provisions of the CGP when enrollment under that permit is not required. This Order requires the Department to file for separate coverage for each construction project under the CGP. This change is expected to increase the Department's accountability for discharges from construction sites and improve the ability of the Regional Water Boards to take enforcement actions as necessary.

Though discharges from construction activities are not regulated under this Order, any discharges from a site occurring after completion of construction (i.e. post-construction discharges) are fully subject to the requirements of this Order.

Some Department construction-related activities such as roadway and parking lot repaving and resurfacing may mobilize pollutants, even though they may not trigger coverage under the CGP. Such activity may discharge pollutants to the environment, however. BMPs for the control of such discharges are specified in the Department's Project Planning and Design Guide and Construction Site BMP Field Manual and Trouble Shooting Guide, and in the California Stormwater Quality Association (CASQA) California Stormwater BMP Handbook (Department, 2010; Department, 2003a); (CASQA, 2009). The Department is required to implement BMPs to control such discharges.

Because some Department construction projects may not involve grading or land disturbance of one acre or more, these smaller projects do not trigger requirements to enroll under the Construction General Permit. This Order requires the Department to implement BMPs to control discharges from such projects to the MEP. Failure to implement appropriate BMPs is a violation of this Order.

Maintenance Program Activities
Preservation of vegetation is an effective method for the control of pollutants in runoff; however the Department must control vegetation in its rights-of-way for purposes of traffic safety and nuisance. The Department currently implements a vegetation control program with a stated purpose of minimizing the use of agricultural chemicals and maximizing the use of appropriate native and adapted vegetation for erosion control, filtering of runoff, and velocity control.

Notwithstanding the Department's commitment to reduce the use of agricultural chemicals, the Department reported a total amount of 208,549 pounds of herbicide used in the 2008-2009 Storm Water Management Program Annual Report (Department (2010a); CTSW-RT-10-182-32.1). Reported reasons for increased herbicide usage included:

1. Local weather conditions, such as increased rainfall, leading to increased weed production.
2. The need to address new mandates for fire suppression (fuel abatement) adjacent to roadways.
3. Requests from local cities and counties.
4. Increase in or outbreaks of noxious weeds in areas adjacent to farmland.

This Order contains detailed requirements for the control of vegetation and reporting requirements for the use of agricultural chemicals.

The Department's maintenance facilities discharge pollutants to the MS4. This Order requires the Department to prepare Facility Pollution Prevention Plans (FPPPs) for all maintenance facilities. The Department is also required to implement BMP programs at each facility as necessary and periodically inspect each facility.

Spill cleanup is part of the Department's maintenance program. This Order requires the Department to ensure that spills on its rights-of-way are fully and appropriately cleaned up, and to provide appropriate notifications to local municipalities which may be affected by the spill. The Department is also required to notify the appropriate Regional Water Board of any spill with the potential to impact receiving waters.

This Order requires the Department to monitor and clean storm drain inlets when they have reached 50 percent capacity. The Department must initiate procedures contained in an Illegal Connection/Illicit Discharge (IC/ID) and Illegal Dumping Response Plan where storm water structures are found to contain excessive material resulting from illegal dumping, and it must determine if enhanced BMPs are needed at the site.

This Order requires the Department to implement the BMPs and other requirements of the SWMP and this Order to reduce and eliminate IC/IDs. It also requires the Department to prepare a Storm Drain System Survey Plan and an Illegal Dumping Response Plan.

Facilities Operations
There is potential for the discharge of pollutants from Department facilities during rain events. The discharge of pollutants from facilities not covered by the IGP will be reduced to the MEP through the appropriate implementation of BMPs.

This Order requires the Department to file an NOI for coverage under the IGP for industrial facilities as specified in Attachment 1 of the IGP. This requirement is expected to increase the Department's accountability for discharges from industrial facilities and improve the ability of the Regional Water Boards to take enforcement actions as necessary.

Department Activities Outside the Department's Right-of-Way
Facilities and operations outside the Department's ROW may support various Department activities. Facilities may include concrete or asphalt batch plants, staging areas, concrete slurry processing or other material recycling operations, equipment and material storage yards, material borrow areas, and access roads. Facilities may be operated by the Department or by a third party. The Department is required to include provisions in its contracts that require the contractor to obtain and comply with applicable permits for facilities and operations outside the Department's ROW when these facilities are active for the primary purpose of accommodating Department activities.

Non-Department Projects and Activities
Non-Department projects and activities include construction projects or other activities conducted by a third party within the Department's ROW. The Department is responsible for runoff from all non-Department projects and activities in its rights-of-way unless a separate permit is issued to the other entity. At times, local municipalities or private developers may undertake construction projects or other activities within the Department's ROW. The Department may exercise control or oversight over these third party projects or activities through encroachment permits or other means. This Order sets project planning and design requirements for non-Department projects.

Management Activities for Non-Storm Water Discharges
Non-storm water discharges are dry weather flows that do not originate from precipitation events. Non-storm water discharges are illicit discharges and are prohibited by the federal regulations (40 C.F.R., § 122.26 (d)(2)(iv)(B)(*1*)) unless exempted or separately permitted. Procedures for prohibiting illicit discharges and illegal connections, and for responding to illegal dumping and spills are needed to prevent environmental damage and must be described in the SWMP.

Training and Public Education
Education is an important element of municipal storm water runoff management programs. U.S. EPA (2005) finds that "An informed and knowledgeable community is crucial to the success of a storm water management program since it helps ensure the following: Greater support for the program as the public gains a greater understanding of the reasons why it is necessary and important, [and] greater compliance with the program as the public becomes aware of the personal responsibilities expected of them and others in the community, including the individual actions they can take to protect or improve the quality of area waters."

U.S. EPA also states "The public education program should use a mix of appropriate local strategies to address the viewpoints and concerns of a variety of audiences and communities, including minority and disadvantaged communities, as well as children."

This Order requires the Department to implement a Training and Public Education program. The Training and Public Education program focuses on three audiences: Department employees, Department contractors, and the general public. The Department must implement programs for all three audiences. The Training and Public Education program is considered a BMP and an analysis of its effectiveness is needed.

Program Evaluation
This Order requires the Department to evaluate the effectiveness and adequacy of the storm water program on an annual basis. This includes both water quality monitoring and a self-audit of the program. The audit is intended to determine the effectiveness of the storm water and non-storm water programs through the evaluation of factors and program components such as:

1. Storm water and non-storm water discharges, including pollutant concentrations from locations representative of the Department's properties, facilities, and activities;
2. Maintenance activity control measures;
3. Facility pollution prevention plans;
4. Permanent control measures; and
5. Highway operation control measures.

In addition to water quality monitoring and the self-audit, the Department must perform an Overall Program Effectiveness Evaluation each year to determine the effectiveness of the program in achieving environmental and water quality objectives. The scope of the evaluation is expected to increase each year in response to the continuing collection of environmental monitoring data.

Reporting
Comprehensive reporting is needed to determine compliance with this Order and to track the effectiveness of the Department's storm water program over time. A summary of the reports required from the Department is presented in Attachment IX of the Order. The State Water Board and Regional Water Boards have the authority under various sections of the California Water Code to request additional information as needed.

The Department must track, assess and report on program implementation to ensure its effectiveness. In addition to the individual reports referenced above, the Department is required to submit an annual report to the State Water Board by October 01 of each year. The Annual Report must evaluate compliance with permit conditions, evaluate and assess the effectiveness of BMPs, summarize the results of the monitoring program, summarize the activities planned for the next reporting cycle, and, if necessary, propose changes to the SWMP.

Total Maximum Daily Load (TMDL)

Section 303(d) of the Clean Water Act requires States to identify waters ("impaired" water bodies) that do not meet water quality standards after applying certain required technology-based effluent limits. States are required to compile this information in a list and submit the list to the U.S. EPA for review and approval. This list is known as the Section 303(d) list of impaired waters.

As part of the listing process, States are required to prioritize waters/watersheds for future development of TMDLs. A TMDL is defined as the sum of the individual waste load allocations (WLAs) for point sources of pollution, plus the load allocations (LAs) for nonpoint sources of pollution, plus the contribution from background sources of pollution and a margin of safety. The State Water Board and Regional Water Boards have ongoing efforts to monitor and assess water quality, to prepare the Section 303(d) list, and to subsequently develop TMDLs.

TMDLs are developed by either the Regional Water Boards or U.S. EPA in response to Section 303(d) listings. TMDLs developed by Regional Water Boards include implementation provisions and can be incorporated as Basin Plan amendments. TMDLs developed by U.S. EPA typically contain the total load and load allocations required by Section 303(d), but do not contain comprehensive implementation provisions. Subsequent steps after Regional Water Board TMDL development are: approval by the State Water Board, approval by the Office of Administrative Law, and ultimately, approval by U.S. EPA.

The Department has been assigned mass based and concentration based WLAs for constituents contributing to a TMDL in specific regions. The Department is subject to TMDLs in the North Coast, San Francisco Bay, Central Coast, Los Angeles, Central Valley, Lahontan, Colorado River, Santa Ana, and San Diego Regions. These TMDLs are summarized in Table 1.

Table 1. Department Statewide TMDLs

Water Body	Pollutant	U.S. EPA Approved/Established
North Coast Region		
Albion River	Sediment	December 2001
Big River	Sediment	December 2001
Eel River, Lower HA	Temperature & Sediment	December 18, 2007
Eel River, Middle Fork, Eden Valley and Round Valley HSAs	Temperature & Sediment	December 2003
Eel River, Middle Main HA	Temperature & Sediment	December 2005
Eel River, North Fork HA	Sediment & Temperature	December 30, 2002
Eel River, South Fork HA	Sediment & Temperature	December 16, 1999
Eel River, Upper Main HA	Sediment & Temperature	December 29, 2004
Garcia River	Sediment	March 16, 1998
Gualala River	Sediment	November 29, 2004
Klamath River	Temperature, Dissolved Oxygen, Nutrient, & Microcystin	December 28, 2010
Lost River	Nitrogen and Biochemical Oxygen Demand	December 30, 2008
Mad River	Sediment & Turbidity	December 21, 2007
Mattole River	Sediment & Temperature	December 21, 2003
Navarro River	Temperature & Sediment	December 27, 2000
Noyo River	Sediment	December 16, 1999
Redwood Creek	Sediment	December 30, 1998
Scott River	Sediment	August 11, 2006
Shasta River	Dissolved Oxygen & Temperature	January 26, 2007
Ten Mile River	Sediment	December 2000
Trinity River	Sediment	December 20, 2001
Trinity River, South Fork HA	Sediment	December 1998
Van Duzen River & Yager Creek	Sediment	December 16, 1999
San Francisco Bay Region		
Napa River	Sediment	January 20, 2011
Richardson Bay	Pathogens	December 18, 2009
San Francisco Bay	PCBs	March 29, 2010
San Francisco Bay	Mercury	February 12, 2008
Sonoma Creek	Sediment	September 8, 2010
Urban Creek	Diazinon & Pesticide Toxicity	May 16, 2007
Central Coast Region		
San Lorenzo River (*includes Carbonera Lompico, Shingle Mill Creeks)*	Sediment	February 19, 2004
Morro Bay *(includes Chorro Creek, Los Osos Creek, and the Morro Bay Estuary)*	Sediment	January 20, 2004

Water Body	Pollutant	U.S. EPA Approved/Established
Los Angeles Region		
Ballona Creek	Trash	August 1, 2002 & February 8, 2005
Legg Lake	Trash	February 27, 2008
Los Angeles River	Trash	July 24, 2008
Machado Lake	Trash	February 27, 2008
Malibu Creek Watershed	Trash	June 26, 2009
Revolon Slough and Beardsley Wash	Trash	August 1, 2002 & February 8, 2005
Ventura River Estuary	Trash	February 27, 2008
Ballona Creek, Ballona Estuary, and Sepulveda Channel	Bacteria	March 26, 2007
Harbor Beaches of Ventura County (Kiddie Beach and Hobie Beach)	Bacteria	December 18, 2008
Malibu Creek and Lagoon	Bacteria	January 10, 2006
Marina del Rey, Harbor Back Basins, Mother's Beach	Bacteria	March 18, 2004
Santa Monica Bay Beaches during Dry & Wet Weather	Bacteria	June 19, 2003
Ballona Creek	Metals	December 22, 2005 and reaffirmed on October 29, 2008
Calleguas Creek and its Tributaries and Mugu Lagoon	Metals and Selenium	March 26, 2007
Los Cerritos	Metals	March 17, 2010
Los Angeles River	Metals	December 22, 2005 and October 29, 2008
San Gabriel River	Metals	March 26, 2007
Machado Lake	Eutrophic, Algae, Ammonia, and Odors (Nutrient)	March 11, 2009
Santa Clara River Reach 3	Chloride	June 18, 2003
Ballona Creek Estuary	Toxic Pollutants	December 22, 2005
Colorado Lagoon	Organochlorine Pesticides, Polychlorinated Biphenyls, Sediment Toxicity, Polycyclic Aromatic Hydrocarbons, and Metals	June 14, 2011
Machado Lake	Pesticides and Polychlorinated Biphenyls	March 20, 2012
Marina del Rey Harbor	Toxic Pollutants	March 16, 2006
Calleguas Creek its Tributaries and Mugu Lagoon	Organochlorine Pesticides, Polychlorinated Biphenyls, and Siltation	March 14, 2006
Central Valley Region		
Cache Creek, Bear Creek, Sulphur Creek and Harley Gulch	Mercury	February 7, 2007
Clear Lake	Nutrients	September 21, 2007

Water Body	Pollutant	U.S. EPA Approved/Established
Sacramento – San Joaquin Delta	Methylmercury	October 20, 2011
Lahontan Region		
Lake Tahoe	Sediment and Nutrients	August 16, 2011
Truckee River	Sediment	September 16, 2009
Colorado River Region		
Coachella Valley Storm Water Channel	Bacterial Indicators	April 27, 2012
Santa Ana Region		
Big Bear Lake	Nutrients for Hydrological Conditions	September 25, 2007
Lake Elsinore and Canyon Lake	Nutrients	September 30, 2005
Rhine Channel Area of the Lower Newport Bay	Chromium and Mercury	June 14, 2002
San Diego Creek and New Port Bay	Metals (Cadmium, Copper, Lead, & Zinc)	June 14, 2002
San Diego Creek Watershed	Selenium	June 14, 2002
San Diego Creek Watershed and the Upper & Lower Newport Bay	Organochlorine (DDT, Chlordane, Dieldrin, PCBs, and Toxaphene)	June 14, 2002
San Diego Region		
Chollas Creek	Diazinon	November 3, 2003
Chollas Creek	Dissolved Copper, Lead, and Zinc	December 18, 2008
Rainbow Creek	Total Nitrogen and Total Phosphorus	March 22, 2006
Project 1 – Revised Twenty Beaches and Creek in the San Diego Region (Including Tecolote Creek)	Indicator Bacteria	June 22, 2011

Because the TMDL-based requirements of this Order have been imposed to comply with 40 Code of Federal Regulations section 122.44(d)(1)(vii)(B), the requirements are not subject to the MEP standard. The Department must implement all controls necessary to meet the WLAs or LAs included with the TMDL, or to meet the specifically assigned actions to implement the TMDL. Implementation requirements for some of the TMDLs are contained in the Regional Water Board Basin Plans and adopted orders and are incorporated into this Order by reference (see Attachment IV). TMDLs approved during the term of this Order are expected to be incorporated into this Order through a reopener.

Pursuant to 40 Code of Federal Regulations section 122.44(d)(1)(vii)(B), the effluent limitations for NPDES permits must be consistent with the assumptions and requirements of any available WLA for the discharge prepared by the state and approved by EPA. In addition, Water Code section 13263, subdivision (a), requires that waste discharge requirements implement any relevant water quality control plans. Where effluent limitations are expressed as BMPs, there should be adequate demonstration in the

administrative record of the permit that the BMPs will be sufficient to comply with the WLAs.[8]

This Order requires the Department to comply with all TMDLs listed in Attachment IV. Attachment IV identifies TMDLs adopted by the Regional Water Boards and approved by the State Water Board and U.S. EPA that assign the Department a Waste Load Allocation (WLA) or that specify the Department as a responsible party. In addition, Attachment IV identifies TMDLs established by U.S. EPA that specify the Department as a responsible party or that identify NPDES permitted storm water sources or point sources generally, or identify roads generally, as subject to the TMDL. For many of the TMDLs, WLAs, LAs, effluent limitations, implementation requirements, and monitoring requirements are specified in the adopted and approved Regional Water Board Basin Plans, which are incorporated by reference as enforceable parts of this Order. The Order additionally requires the Department to prepare a TMDL Status Review report with each Annual Report.

Where complete implementation requirements have not been specified in the TMDLs or otherwise approved by the Regional Water Boards as of the date of adoption of this Order, it is necessary that specific requirements and clear deliverables be developed to ensure consistency of this permit with assigned WLAs and to provide clear and enforceable conditions for the Department. It is expected that Regional Water Boards will develop such specific TMDL permit requirements, in consultation with the Department as necessary, within one year of the effective date of this Order and that Attachment IV will be reopened consistent with provision E.11.c. for incorporation of such requirements into the Order. In order to be incorporated into Attachment IV, TMDL specific permit requirements developed by the Regional Water Board staff must be accompanied by a statement of how the requirements implement the TMDL, how the effluent limitations and conditions are consistent with the assumptions and requirements of any applicable WLA, and, where a BMP-based approach to permit limitations is selected, how these will achieve the goal of the TMDL.

The requirements of this Order, including the implementation requirements contained in the TMDL implementation plans which are incorporated by reference, are expected to be sufficient to implement the WLAs in each TMDL for which the Department has been assigned a WLA.

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[8] On November 12, 2010, U.S. EPA issued a revision to a November 22, 2002, memorandum, recommending that "where the TMDL includes WLAs for stormwater sources that provide numeric pollutant load or numeric surrogate pollutant parameter objectives, the WLA should, where feasible, be translated into numeric WQBELs in the applicable stormwater permits." The revision further stated, however, that the permitting authority's decision as to how to express water quality based effluent limitations (WQBELs), i.e. as numeric effluent limitations or BMPs, would be based on an analysis of the specific facts and circumstances surrounding the permit. U.S. EPA has since invited comment on the revisions to the memorandum and will be making a determination as to whether to "either retain the memorandum without change, to reissue it with revisions, or to withdraw it." http://www.epa.gov/npdes/pubs/sw_tmdlwla_comments_pdf

Attachment IV incorporates TMDL-specific permit requirements for the sediments and nutrients TMDL for Lake Tahoe. The TMDL requires the Department to meet pollutant load reduction requirements and to develop and implement a comprehensive Pollutant Load Reduction Plan (PLRP).

Attachment IV specifies that the Department must reduce fine sediment particle (FSP), total phosphorus (TP), and total nitrogen (TN) loads by 10%, 7%, and 8%, respectively, by September 30, 2016. It additionally specifies that the load reductions shall be measured in accordance with the processes outlined in the Lake Clarity Crediting Program Handbook. The Lahontan Regional Water Board developed the Lake Clarity Crediting Program to establish protocols for accounting and tracking pollutant load reductions within the urban environment. The Lake Clarity Crediting Handbook defines one Lake Clarity Credit as equal to 1×10^{16} fine sediment particles, providing a water quality metric that is directly related to the Lake Tahoe TMDL primary pollutant of concern.

On February 9, 2011 the Lahontan Regional Water Board Executive Officer issued the Department an Order to submit a technical report in accordance with California Water Code Section 13267 requiring the development of jurisdiction-specific baseline load estimates for the Lake Tahoe TMDL pollutants of concern. The submitted baseline pollutant load estimate provides the basis for translating percentage based pollutant load reduction requirements defined by the TMDL into jurisdiction-specific, particle and mass-based pollutant load reduction requirements. The baseline basin-wide pollutant loads for the TMDL reflect conditions as of water year 2003/2004 (October 1, 2003 – September 30, 2004), hereafter referred to as “baseline.” The Department has estimated its baseline fine sediment particle load to be 3.72×10^{19} particles. To meet the required 10% fine sediment particle load reduction, the Department must reduce its fine sediment particle load to 3.35×10^{19} fine sediment particles, a difference of 3.70×10^{18} fine sediment particles. Dividing the needed fine sediment particle reduction (3.70×10^{18}) by the Lake Clarity Credit definition (1×10^{16} fine sediment particles per Credit) results in the requirement for the Department to earn 370 Lake Clarity Credits which is reflected in Attachment IV.

Consistent with the TMDL provisions, Attachment IV also requires the Department to develop, implement, and maintain a PLRP to guide stormwater activities and project implementation. The PLRP will describe how proposed operations and maintenance activities, capital improvements, facilities retrofit projects, and other actions are expected to meet required pollutant load reduction requirements. The PLRP lays out Department Plans to achieve required pollutant load reductions for the first five year period. The PLRP will be updated in 2017 to demonstrate how the Department will achieve pollutant load reduction requirements for the second five-year TMDL implementation period. The PLPR will also describe what areas or “catchments” the Department plans to perform load reduction activities and claim Lake Clarity Credits. The process of proposing Lake Clarity Credit awards is described as “catchment registration” in the Lake Clarity Crediting Program Handbook.

Attachment IV additionally requires submission of a Progress Report documenting pollutant load reductions and the preparation and submission of a Stormwater Monitoring Plan for review and approval by the Regional Water Board.

Region Specific Requirements

The Regional Water Boards have identified specific areas within their Regions requiring special conditions (Attachment V). These special conditions are needed to account for the unique value of the resource(s) within the Region, special pollutant or pollution control issues within the Region, or storm water management and compliance issues applicable to the Region. These special requirements need not be applied statewide but are applicable only to Department discharges within the Regions as specified in Attachment V. Region specific requirements are included for the North Coast, San Francisco Bay, and Lahontan Regional Water Boards.

North Coast Region

1. Sediment. Region specific requirements addressing sediment discharges in sediment-impaired watersheds in the North Coast Region are based on the "Total Maximum Daily Load Implementation Policy Statement for Sediment-Impaired Receiving Waters in the North Coast Region," as included in the Basin Plan and Resolution No. R1-2004-0087. The Policy requires the use of NPDES permits and waste discharge requirements to achieve compliance with sediment-related water quality standards. The requirements in Attachment V to systematically inventory, prioritize, control, monitor, and adapt, as well as to include a time schedule in the annual District Workplan, are consistent with region-wide excess sediment control regulations.

   The sediment requirements are intended to reduce the adverse impacts of excessive sediment discharges to sediment-impaired waters, including impacts to the cold water salmonid fishery and the COLD, COMM, RARE, SPWN, and MIGR beneficial uses. The beneficial uses associated with the cold water salmonid fishery are often the most sensitive to sediment discharges. Risks to salmonids from excessive sediment are well documented in scientific literature and include:
   - the filling of pools and subsequent reduction in available in-stream salmonid habitat;
   - burial of spawning gravels;
   - gill abrasion and death due to extremely high turbidity levels;
   - reduction in macroinvertebrate populations available as food for salmonids; and
   - alterations in channel geometry to a wider, shallower channel which is subject to increases in solar heating.

2. Riparian Vegetation Requirements. Region specific requirements to protect and restore riparian vegetation are based on the Water Quality Objective for temperature. The temperature objective states, in part, that the natural receiving water temperature shall not be altered unless it can be demonstrated that such alteration does not adversely affect beneficial uses. Removal of riparian vegetation associated with

Department activities has the potential to decrease shade, increase solar radiation, and raise water temperatures, and may therefore cause an exceedance of the temperature objective.

The requirements in Attachment V direct the Department to protect and restore riparian vegetation to the greatest extent feasible. In many cases, activities involving the removal of riparian vegetation will require a 401 water quality certification, which will contain more specific conditions regarding the removal and/or establishment of vegetation.

These requirements are intended to prevent alterations to natural receiving water temperature from Department activities. The primary mechanism in which riparian vegetation influences water temperature is through the shade. Loss of riparian vegetation and the shade that it provides can lead to increased solar radiation, hotter water temperatures, and adverse impacts to beneficial uses. The beneficial uses most sensitive to increases in water temperature are often those associated with the cold water salmonid fishery. Risks to salmonids are well documented in scientific literature and include:

- reduced feeding rates and growth rates;
- impaired development of embryos and alevins;
- changes in the timing of life history events, such as upstream migration, spawning, and seaward migration;
- increased disease infection rates and disease mortality; and
- direct mortality.

San Francisco Bay Region

The Urban Runoff Management, Comprehensive Control Program section of the Basin Plan (Chapter 4.14) requires municipalities and local agencies, including the Department, to address existing water quality problems and prevent new problems associated with urban runoff through the development and implementation of a comprehensive control program focused on reducing current levels of pollutant loading to storm drains to the maximum extent practicable.

The Highway Runoff Control Program section of the Basin Plan (Chapter 4.14.2) requires the Department to manage and monitor pollutant sources from its ROW through development and implementation of a highway runoff management plan.

The Basin Plan comprehensive and highway runoff program requirements are designed to be consistent with federal regulations (40 C.F.R., §§ 122-124) and are implemented through issuance of NPDES permits to owners and operators of MS4s. A summary of the regulatory provisions is contained in Title 23 of the California Code of Regulations at section 3912. The Basin Plan identifies beneficial uses and establishes water quality objectives for surface waters in the Region, as well as effluent limitations and discharge prohibitions intended to protect those uses. The region-specific requirements in Attachment V of this Order implement the plans, policies, and provisions of the Regional Water Board's Basin Plan.

1. Trash Load Reduction.

   a. Legal Authority. The following legal authorities apply to the trash load reduction requirements specified in Attachment V:
      - Clean Water Act sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 Code of Federal Regulations sections 122.26(d)(2)(i)(B, C, D, E, and F) and 40 Code of Federal Regulations section 122.26(d)(2)(iv).
      - Federal NPDES regulations 40 Code of Federal Regulations section 122.26(d)(2)(iv)(B) requires, "shall be based on a description of a program, including a schedule, to detect and remove (or require the discharger to the municipal storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer."
      - Federal NPDES regulation 40 Code of Federal Regulations section 122.26(d)(2)(iv)(B)(2) requires, "a description of procedures to conduct on-going field screening activities during the life of the permit, including areas or locations that will be evaluated by such field screens."
      - Federal NPDES regulation 40 Code of Federal Regulations section 122.26(d)(2)(iv)(B)(3) requires, "a description of procedures to be followed to investigate portions of the separate storm sewer system that, based on the results of the field screen, or other appropriate information, indicate a reasonable potential of containing illicit discharges or other sources of non-storm water."
      - Federal NPDES regulations 40 Code of Federal Regulations section 122.26(d)(2)(iv)(B)(4) requires, "a description of procedures to prevent, contain, and respond to spills that may discharge into the municipal separate storm sewer."
      - San Francisco Bay Basin Plan, Chapter 4 – Implementation, Table 4-1 Prohibitions, Prohibition 7, which is consistent with the State Water Board's Enclosed Bays and Estuaries Policy, Resolution 95-84, prohibits the discharge of rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas. This prohibition was adopted by the Regional Water Board in the 1975 Basin Plan, primarily to protect recreational uses such as boating.

   b. Extent, Impacts, and Conclusions. Trash[9] and litter are a pervasive problem near and in creeks and in San Francisco Bay having major impacts on the environment, including aquatic life and habitat in those waters. Ubiquitous, unacceptable levels of trash in waters of the San Francisco Bay Region warrant a comprehensive and

[9] For the purposes of this provision, trash is defined to consist of litter and particles of litter. Man made litter is defined in California Government Code section 68055.1 (g): *Litter* means all improperly discarded waste material, including, but not limited to, convenience food, beverage, and other product packages or containers constructed of steel, aluminum, glass, paper, plastic, and other natural and synthetic materials, thrown or deposited on the lands and waters of the state, but not including the properly discarded waste of the primary processing of agriculture, mining, logging, sawmilling, or manufacturing.

progressive program of education, warning, and enforcement, and certain areas warrant consideration of structural controls and treatment. Trash in urban waterways of coastal areas can become *marine debris*, known to harm fish and wildlife and cause adverse economic impacts.[10] It accumulates in streams, rivers, bays, and ocean beaches throughout the San Francisco Bay Region, particularly in urban areas.

Trash adversely affects numerous beneficial uses of waters, particularly recreation and aquatic habitat. Not all litter and debris delivered to streams are of equal concern with regard to water quality. Besides the obvious negative aesthetic effects, most of the harm of trash in surface waters is to wildlife in the form of entanglement or ingestion.[11,12] Some elements of trash exhibit significant threats to human health, such as discarded medical waste, human or pet waste, and broken glass.[13] Also, some household and industrial wastes can contain toxic batteries, pesticide containers, and fluorescent light bulbs containing mercury. Large trash items such as discarded appliances can present physical barriers to natural stream flow, causing physical impacts such as bank erosion. From a management perspective, the persistent accumulation of trash in a waterbody is of particular concern, and signifies a priority for prevention of trash discharges. Also of concern are trash *hotspots* where illegal dumping, littering, and/or accumulation of trash occur.

The narrative water quality objectives applicable to trash are Floating Material (Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses), Settleable Material (Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses), and Suspended Material (Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses).

The Regional Water Board, at its February 11, 2009 hearing, adopted a resolution proposing that 26 waterbodies be added to the 303(d) list for trash. The adopted Resolution and supporting documents are contained in Attachment 10.1 – 303(d) Trash Resolution and Staff Report, Feb 2009.

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[10] Moore, S.L., and M.J. Allen. 2000. Distribution of anthropogenic and natural debris on the mainland shelf of the Southern California Bight. *Mar. Poll. Bull*. 40:83-88.
[11] Laist, D. W. and M. Liffmann. 2000. *Impacts of marine debris: research and management needs*. Issue papers of the International Marine Debris Conference, Aug. 6-11, 2000. Honolulu, HI, pp. 16–29.
[12] McCauley, S.J. and K.A. Bjorndahl. 1998. Conservation implications of dietary dilution from debris ingestion: sublethal effects in post-hatchling loggerhead sea turtles. *Conserv. Biol*. 13(4):925-929.
[13] Sheavly, S.B. 2004. *Marine Debris: an Overview of a Critical Issue for our Oceans*. 2004 International Coastal Cleanup Conference, San Juan, Puerto Rico. The Ocean Conservancy.

Data collected by Regional Water Board staff using the SWAMP Rapid Trash Assessment (RTA) Protocol,[14] over the 2003–2005 period,[15] suggest that the current approach to managing trash in waterbodies is not reducing the adverse impact on beneficial uses. The levels of trash in the waters of the San Francisco Bay Region are high, even with the Basin Plan prohibitions and potentially large fines. During dry weather conditions, a significant quantity of trash, particularly plastic, is making its way into storm drains and being transported downstream to San Francisco Bay and the Pacific Ocean. On the basis of 85 surveys conducted at 26 sites throughout the Bay Area, staff have found an average of 2.93 pieces of trash for every foot of stream, and all the trash was removed when it was surveyed, indicating high return rates of trash over the 2003–2005 study period.

A number of key conclusions can be made from the RTA study:

- Lower watershed sites have higher densities of trash.
- All watersheds studied in the San Francisco Bay Region have high levels of trash.
- There are trash source hotspots, usually associated with parks, schools, or poorly kept commercial facilities.
- Dry season deposition of trash, associated with wind and dry season runoff, contributes measurable levels of trash to downstream locations.
- The majority of trash is plastic at lower watershed sites where trash accumulates in the wet season. This suggests that urban runoff is a major source of floatable plastic found in the ocean and on beaches as marine debris.
- Parks that have more evident management of trash by city staff and local volunteers, including cleanup within the creek channel, have measurably less trash and higher RTA scores.

c. Short-Term Trash Load Reduction Plan. The Short-Term Trash Load Reduction Plan is intended to describe actions to incrementally reduce trash loads toward the 2016 requirement of a 40% reduction and eventual abatement of trash loads to receiving waters.

d. Baseline Trash Load and Trash Load Reduction Tracking Method. In order to achieve the incremental trash load reductions in an accountable manner, the Department will propose Baseline Trash Loads and a Trash Load Reduction Tracking Method. The Tracking will account for additional trash load reducing actions and BMPs implemented by the Department. The Department is also able to propose, with documentation, areas for exclusion from the Tracking Method accounting, by demonstrating that these areas already meet Discharge Prohibition A.3 and have no trash loads.

[14] SWAMP Rapid Trash Assessment Protocol, Version 8
[15] SWAMP S.F. Bay Region Trash Report, January 23, 2007

e. Minimum Full Trash Capture. Installation of full trash capture systems is MEP as demonstrated by the significant implementation of these systems in the Los Angeles region. The minimum full trash capture requirements in Attachment V of this Order represent a moderate initial step toward employing this tool for trash load reduction.

f. Long Term Trash Load Reduction. The Department will submit a plan to achieve a long term trash load reduction of 70% by 2019 and 100% reduction by 2024.

g. Costs of Trash Control. Costs for either enhanced trash management measure implementation or installation and maintenance of trash capture devices are significant, but when spread over several years, and when viewed on a per-capita basis, are reasonable. To meet Basin Plan and local MS4 requirements, trash capture devices have already been installed by other municipalities in the Bay Area.

   Cost information on various trash capture devices is included in the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP) BMP Trash Toolbox (July 2007). The Toolbox contains cost information for both trash capture devices and enhanced trash management measure implementation, covers a broad range of options, and also discusses operation and maintenance costs.

2. Storm Water Pump Stations. In late 2005, Regional Water Board staff investigated an occurrence of low salinity and dissolved oxygen conditions in Old Alameda Creek (Alameda County) and Alviso Slough (Santa Clara County). In the case of Old Alameda Creek, discharge of black-colored water from the Alvarado pump station to the slough was observed at the time of the data collection on September 7, 2005, confirming dry weather urban runoff as the source of the violations of the 5 mg/L dissolved oxygen water quality objective. Such conditions were measured again on September 21, 2005.

   On October 17, 2005, waters in Alviso Slough were much less saline than the salt ponds and had the lowest documented dissolved oxygen of the summer, suggesting a dry weather urban runoff source. The dissolved oxygen sag was detected surface to bottom at 2.3 mg/L at a salinity of less than 1 part per thousand (ppt), mid-day, when oxygen levels should be high at the surface. The sloughs have a typical depth of 6 feet.

   Board staff's investigations of these incidents, documented in a memorandum,[16] found that "storm water pump stations, universally operated by automatic float triggers, have been confirmed as the cause in at least one instance, and may represent an overlooked source of controllable pollution to the San Francisco Bay

[16] Internal Water Board Memo dated December 2, 2005: "Dry Weather Urban Weather Urban Runoff Causing or Contributing to Water Quality Violations: Low Dissolved Oxygen (DO) in Old Alameda Creek and Alviso Slough"

Estuary and its tidal sloughs... [that] discharges of dry weather urban runoff from these pump stations are not being managed to protect water quality, and [that] surveillance monitoring has detected measurable negative water quality consequences of this current state of pump station management."

Pump station discharges of dry weather urban runoff can cause violations of water quality objectives. These discharges are controllable point sources of pollution that are virtually unregulated. The Regional Water Board has determined that the measures included in Attachment V are necessary to address these discharges and water quality problems.

Lahontan Region

1. The Lahontan Basin Plan encourages the infiltration of storm water runoff to treat pollutants in discharges and mitigate the effects of increased runoff to surface waters from the addition of impervious surfaces. The 20-year, 1-hour design storm has been historically applied and accepted as an effective requirement to mitigate discharges of storm water to surface waters in the sensitive high mountain watersheds of the Lahontan Region. Water Board staff has estimated that facilities designed to treat or infiltrate the 20-year, 1-hour storm event effectively capture approximately 85 percent of the average annual runoff volume in the Lake Tahoe Basin. However, it is recognized that the natural environment provides adequate infiltration and/or treatment in areas where there is little or no connectively to surface waters. Therefore the Lahontan Water Board encourages the Department to focus implementation of storm water treatment facilities in those areas that discharge directly to surface waters to maximize water quality benefits. This requirement is applicable to existing highways and facilities in the Mammoth Lakes Area Hydrologic Unit.

2. The Natural Environment as Treatment (NEAT) study has helped identify the priority areas within the Lake Tahoe Hydrologic Unit where storm water treatment and control measure implementation has the most benefit for water quality protection. Similarly, the NEAT study has helped identify those areas where there may be limited water quality benefits associated with implementing structural treatment and control measures. The NEAT approach is also applicable in other areas. This provision is needed to focus available resources on the areas where the most water quality benefit can be achieved.

3. The October 15 to May 1 grading prohibition is necessary to reduce erosion and sedimentation from disturbed areas within the sensitive high elevation areas within the Lahontan Region. These are areas where snow fall restricts the ability to control storm water pollution through the winter months. This requirement mitigates winter erosion issues by requiring disturbed soil areas to be winterized prior to the onset of snow, and allows for exceptions where there is a compelling need.

Regional Water Board Authorities

Regional Water Boards and their staff will oversee implementation and compliance with this Order. As appropriate, they will review reports, conduct inspections, and take enforcement actions on violations of this Order.

Cost of Compliance and Other MEP Considerations

General Cost Considerations in Storm Water Regulation and Management
The Department will incur incremental costs in implementing this Order, such as the cost of complying with the Order's storm water treatment BMP, post-construction, hydromodification, Low Impact Development, and monitoring and reporting requirements. The Department will also incur additional costs in following the iterative process as required by the Order. The cost of complying with TMDL waste load allocations is not considered since TMDLs are not subject to the MEP standard.

In adopting Order WQ 2000-11, the State Water Board found that cost is a relevant factor, among others such as feasibility and public acceptance, that should be considered in determining MEP. The State Water Board considered the costs in preparing this Order and has determined that the costs reflect the MEP standard. The State Water Board further found in adopting Order WQ 2000-11 that in considering the cost of compliance, it is also important to consider the costs of impairment; that is, the negative impact of pollution on the economy and the positive impact of improved water quality. So, while it is appropriate and necessary to consider the cost of compliance, it is also important to consider the larger economic impacts of implementation of the storm water management program.

Many studies have been undertaken to assess the cost of compliance with storm water permits. Most studies have focused on municipal programs as opposed to "linear MS4s" or Departments of Transportation. A study by the Los Angeles Regional Water Board reported wide variability in the cost of compliance among municipal permit holders which was not easily explained (LARWQCB, 2003).

In 1999, United States Environmental Protection Agency (U.S. EPA) reported on multiple studies it conducted to determine the cost of urban runoff management programs. A study of Phase II municipalities determined that the annual cost of the Phase II program was expected to be $9.16 per household. U.S. EPA also studied 35 Phase I municipalities, finding costs to be similar to those anticipated for Phase II municipalities, at $9.08 per household annually (U.S. EPA, 1999a).

A program cost study was also conducted by the Los Angeles Regional Water Board, where program costs reported in the municipalities' annual reports were assessed. The Water Board estimated the average per household cost to implement the MS4 program in Los Angeles County was $12.50.

The State Water Board also commissioned a study by California State University, Sacramento to assess costs of the Phase I MS4 program. This study is current and includes an assessment of costs incurred by the City of Encinitas in implementing its program. Annual cost per household ranged from $18-46, with the City of Encinitas representing the upper end of the range (SWRCB, 2005). The cost of the City of Encinitas' program is understandable, given the city's coastal location, reliance on tourism, and additional costs resulting from a consent decree with environmental groups regarding its program. For these reasons, as well as the general recognition the city receives for implementing a superior program, the city's program cost can be considered as the high end of the spectrum for municipal storm water management program costs.

The California Department of Finance (Finance, 2003) conducted a comprehensive review of the Department's storm water program. Finance noted widely divergent compliance cost estimates produced by regulators and environmental organizations versus consultant's estimates. Finance also had difficulty identifying compliance costs because of the way storm water activities are integrated with other functions and allocated among the different divisions within the Department, and because they are funded from different sources. Finance made three findings related to cost:

1. The projected costs of compliance are escalating.
2. Storm water compliance costs are integrated into many of the Department's business processes and are not accurately tracked.
3. As storm water compliance costs increase, the amount of funding available for highway projects decreases, which reduces the number of projects that can be constructed.

The review concluded that balancing costs and benefits is a difficult policy decision and there should be a recognition of the trade-offs associated with resource allocation decisions given the Department's limited resources.

It is important to note that storm water program costs are not all attributable to compliance with MS4 permits. Many program components and their associated costs existed before any MS4 permits were issued. For example, for the Department, storm drain maintenance, street sweeping and trash/litter collection costs cannot be solely or even principally attributable to MS4 permit compliance since these practices have long been implemented before the MS4 permit was issued. Even many structural BMPs (erosion protection, energy dissipation devices, detention basins etc.) are standard engineering practice for many projects and are not implemented solely to comply with permit provisions. Therefore, the true cost resulting from MS4 permit requirements is some fraction of the cost to operate and maintain the highway system.

The California State University, Sacramento study found that only 38% of program costs are new costs fully attributable to MS4 permits. The remainder of program costs was either pre-existing or resulted from enhancement of pre-exiting programs (SWRCB, 2005). The County of Orange found that even lesser amounts of program costs are solely attributable to MS4 permit compliance, reporting that the amount attributable to

implement its Drainage Area Management Plan is less than 20% of the total budget. The remaining 80% is attributable to pre-existing programs (County of Orange, 2007). Any increase in cost to the Department by the requirements of this Order will be incremental in nature.

Storm water management programs cannot be considered solely in terms of their costs. The programs must also be viewed in terms of their value to the public. For example, household willingness to pay for improvements in fresh water quality for fishing and boating has been estimated by U.S. EPA to be $158-210 per household (U.S. EPA, 1999a). This estimate can be considered conservative, since it does not include important considerations such as marine waters benefits, wildlife benefits, or flood control benefits. The California State University, Sacramento study corroborates U.S. EPA's estimates, reporting annual household willingness to pay for statewide clean water to be $180 (SWRCB, 2005). Though these costs may be assessed differently at the state level (for the Department) than at the municipal level, the results indicate that there is public support for storm water management programs and that costs incurred by the Department to implement its storm water management program remain reasonable.

It is also important to consider the cost of not implementing a storm water management program. Urban runoff in southern California has been found to cause illness in people bathing near storm drains (Haile et al.,1996). A study of south Huntington Beach and north Newport Beach found that an illness rate of about 0.8% among bathers at those beaches resulted in about $3 million annually in health-related expenses (Lin, 2005). Extrapolation of such numbers to the beaches and other water contact recreation areas in the state would increase these numbers significantly.

Storm water runoff and its impact on receiving waters also impacts the tourism industry. The California Travel and Tourism Commission (2009) estimated that in 2008 direct travel spending in California was $97.6 billion directly supporting 924,000 jobs, with earnings of $30.6 billion. Travel spending in 2008 generated $1.6 billion in local taxes and $2.8 billion in state taxes. Impacts on tourism from storm water runoff (e.g. beach closures) can have a significant impact on the economy. The experience of Huntington Beach provides an example of the potential economic impact of poor water quality. Approximately 8 miles of Huntington Beach were closed for two months in the middle of summer of 1999, impacting beach visitation and the local economy.

Cost Considerations Relative to the Department

In written comments and before the Board, the Department has stated that the requirements of the first public drafts would impose prohibitive costs on the Department at a time of economic difficulty and limited resources. State Water Board staff has carefully considered the Department's comments and revised the draft Tentative Order to continue to address critical water quality problems in consideration of the cost of compliance.

State Water Board staff completed a Draft Tentative Order and submitted it to the Department, U.S. EPA, and the Natural Resources Defense Council for informal stakeholder review in the fall of 2010. Further review was provided by the Regional Water Boards. Staff revised the Draft Tentative Order to address the informal comments received and released it for public review on January 7, 2011 (Draft Tentative Order). Approximately 330 comments from 16 commenters were received on the Draft Tentative Order, and a public hearing was held on July 19, 2011. Staff further revised the Draft Tentative Order and released a Revised Draft Tentative Order on August 18, 2011 (Revised Draft Tentative Order). Approximately 220 comments from 33 commenters were received on the Revised Draft Tentative Order, and a State Water Board workshop was held on September 21, 2011. In each set of comments and before the Board, the Department expressed significant concerns with the cost of compliance with the Tentative Orders.

On October 6, 2011, the California Senate Select Committee on California Job Creation and Retention held a hearing on the economic impacts of the State Water Board's three general or statewide storm water permits that were under renewal: the Phase II Small MS4 permit, the Industrial General Permit, and the Department's MS4 permit. The Executive Director of the State Water Board testified at the hearing that the comments regarding cost of compliance with the permits were being considered carefully and that the three permits required substantial revision to address the comments. State Water Board staff held bi-weekly meetings with the Department in October through December 2011 to discuss their concerns. Revisions resulting from these meetings are contained in the Second Revised Draft Tentative Order which was released for public review on April 27, 2012 (Second Revised Draft Tentative Order).

This section is a general discussion of the cost of compliance with the Second Revised Draft Tentative Order and of current expenditures by the Department to comply with the existing permit (Order 99-06-DWQ) (Existing Permit). It also discusses the more significant changes between the Revised Draft and Second Revised Draft Tentative Orders.

It is very difficult to precisely determine the true cost of implementation of the Department's storm water management program as affected by this Order. Due to the extensive, distributed nature of the Department's MS4, permit requirements that involve an unknown level of implementation or that depend on environmental variables that are as yet undefined, and the difficulty in isolating program costs attributable to permit compliance, only general conclusions can be drawn from this information.

The Department has made a number of estimates of the cost of complying with the Draft and Revised Draft Tentative Orders. Generally, the Department's estimates are based on worst-case scenarios or the most restrictive interpretation of the Tentative Orders. In a presentation to a meeting of the American Association of State Highway and

Transportation Officials (AASHTO) on June 22, 2011,[17] the Department's Chief Environmental Engineer, Scott McGowen estimated the annual cost of compliance at $281million. This estimate was based on the January 7, 2011 Draft Tentative Order. At the July 19, 2011 public hearing, the Department estimated the annual compliance cost at approximately $450 million, based on the same January 7, 2011 Draft Tentative Order. At the September 21, 2011 State Water Board workshop, the Department estimated an annual compliance cost of $904 million, based on the requirements of the August 18, 2011 Revised Draft Tentative Order. It should be noted that the August 18 draft removed or modified a number of provisions that were expected to reduce the cost of compliance.

Annual expenditures for the Department's storm water management program under the Existing Permit (DWQ 99-06) are provided in the Department's annual reports. For fiscal years 2007-08 through 2010-11, the Department reported annual personal services and operating expenses of $93.8 million, $93.6 million, $75.2 million, and $89.2 million. These figures do not include the cost of capital improvements needed to comply with the permit.

State Water Board staff estimated the capital expenditures for the Existing Permit in two ways. First, the Department provided the number of post-construction storm water treatment BMPs installed in 2009-10 and 2010-11 along with typical unit costs for each BMP. In 2007-08, the Department spent approximately $74.7 million for 396 treatment BMPs, $104.5 million in 2009-10 for 667 treatment BMPs, and $75.7 million in 2010-11 for 506 treatment BMPs. The Department indicated that anomalies in the data for 2008-09 make them unreliable and they are therefore not included. The Department also indicated that the unit cost factors do not include costs for design, ROW and other related elements. The estimates therefore can be considered on the low side.

Second, capital expenditures were estimated from budget appropriations from the Department's State Highway Operation and Protection Program (SHOPP) as reported in the 2008-09 annual report. The SHOPP account is the primary source of funding for storm water-related capital expenses. Storm water compliance costs are not consistently reported in the annual reports; however, the 2008-09 annual report contains sufficient information to make an estimate. The capital value of the SHOPP "storm water mitigation element" for fiscal years 2009-10 through 2012-13 is $640 million, including capital outlay support, or about $160 million per year.

Using average personal services and operating expenses for the last four years ($88 million) and average annual programmed SHOPP funding, the Department's expenditures to comply with the Existing Permit amount to approximately $248 million.

[17] Caltrans NPDES Tentative Order, Natural Systems and Ecological Communities Subcommittee at the National Planning and Environmental Practitioners Meeting. AASHTO, June 22, 2011.

As stated above, the Department has estimated cost of compliance with the Draft Tentative and Revised Draft Tentative Orders variously at $281 to $904 million. These estimates are based on "worst case scenarios" and on the most restrictive interpretations of the Orders' requirements. In preparing the Second Revised Tentative Order, staff worked to provide greater clarity and certainty to the Department on the scope of permit obligations and to eliminate compliance costs that were not expected to yield significant water quality benefits. With the exception of a lowering of the post-construction treatment threshold for non-highway facility projects from 10,000 square feet of new impervious surface to 5,000 square feet[18], no requirements have been added to the Second Revised Draft Tentative Order that would materially increase the cost of compliance over the Revised Draft Tentative Order. In contrast, a number of substantive requirements have been removed, replaced or modified from the Revised Draft Tentative Order with the goal of focusing the Department's limited resources on the most significant water quality issues. These changes are expected to result in a lower cost of compliance with the Second Revised Draft Tentative Order as compared to the Revised Tentative Order. These include:

1. Water quality monitoring program
    a. Replaced random compliance-driven monitoring approach with a tiered approach focusing on ASBS and TMDL watersheds, and deferring to the monitoring requirements specified in the ASBS Special Protections and TMDLs
    b. Deleted sampling pool, water quality action levels, and response process flow chart
    c. Removed 29 constituents from the monitoring constituent list
    d. Limited the monitoring for new constituents to TMDL watersheds
    e. For sites with existing monitoring data, limited BMP retrofits to 15 percent of the highest priority sites
    f. Deleted the long-term monitoring program
    g. Deleted maintenance facility compliance monitoring
2. Project Planning and Design
    a. Raised the treatment threshold for highway projects from 5,000 square feet of new impervious surface to one acre
    b. Deleted the requirement for pilot Low Impact Development retrofits and effectiveness evaluations
3. Hydromodification
    a. Removed requirement for programmatic stream stability assessments and a retrofit implementation schedule
    b. Raised the risk assessment threshold for non-highway facility projects from 10,000 square feet of new impervious surface to one acre

[18] The threshold was lowered for consistency with the draft statewide Phase II Small MS4 General Permit and with regional MS4 permits.

4. Region Specific Requirements – removed, modified or scaled back requirements for the San Francisco Bay, Los Angeles, Central Valley, Lahontan, and San Diego Regional Water Boards with the goal of maximizing statewide consistency of requirements for the Department.
5. Construction Program – replaced requirement to inspect contractor operations outside the ROW with a requirement to include compliance language in its construction contracts
6. TMDLs – Revised Attachment IV to more precisely identify the TMDLs applicable to the Department and shifted responsibility to prepare TMDL implementation plans from the Department to the Regional Water Boards.
7. ASBS – Added Attachment III to identify priority Department ASBS outfalls for installation of controls
8. Maintenance Program
    a. Deleted the requirement to report the amount of waste and debris removed from drainage inlets
    b. Replaced the site-by-site characterization of waste management sites with a programmatic characterization
    c. Deleted the requirement to prepare and implement a storm drain system survey plan
    d. Replaced quantitative measurements of trash and litter removal with estimated annual volumes
9. Non-Storm Water
    a. Deleted surveillance monitoring of agricultural return flows
    b. Deleted characterization monitoring of slope lateral drains

Though no firm conclusions or precise estimates can be drawn from this analysis, it is expected that the revisions to the Revised Draft Tentative Order will significantly reduce the cost of compliance.

ATTACHMENT I
Incident Report Form

Type of incident: ☐ **Field** ☐ **Administrative**	
Name of person completing this form:	Person's agency name and address:
_____	Person's phone and e-mail:

For Field incidents complete Sections 1 and 3. For Administrative incidents complete Section 2. See Non-Compliance Notification Schedule on Page 2.

SECTION 1: Field incidents

Date(s) and time(s) of incident:	1. Start date / time:
	2. End date / time:
Location of Incident:	3. Nearest city / town:
	4. Street address / nearest cross street:
County: _____	5. Latitude / Longitude:
	6. Additional location detail:
Materials involved in the incident: (use Comments Section below if necessary):	6. Name(s) of material(s) discharged:
	7. Approximate quantity discharged (specify units):
	8. Approximate concentration of material:
Discharge to surface water? ☐ **No** ☐ **Yes** If yes, answer questions 9-11	9. Name of waterbody:
	10. Apparent effects (if any) on waterbody:
	11. Estimated extent of impacts to waterbody:
Was CalEMA notified? ☐ **No** ☐ **Yes** If yes, answer questions12-14	12. Date and time of notification:
	13. Name of person making the notification:
	14. Phone number of person making the notification:
Was the Regional Water Board (RWB) notified? ☐ **No** ☐ **Yes** If yes, answer questions 15-17	15. Name of RWB contact:
	16. RWB contact's phone / e-mail:
	17. Name of person making the notification:
Were downgradient communities / people notified? ☐ **No** ☐ **Yes** If yes, answer questions 18 - 20	18. Date and time of notification:
	19. Name of person making the notification:
	20. Phone number of person making the notification:
	21. Name of downgradient community/ person:

	Field Non-Compliance (check all that apply**)**
	Lack of BMP(s), ineffective implementation of BMP(s), or failure of BMP(s) resulted in a discharge of pollutants to surface water.
	Monitoring data indicates an exceedance of a defined standard. Defined standards include TMDL Waste Load Allocations, and water quality standards in the Water Quality Control Plans and promulgated policies and regulations of the State and Regional Water Boards, including California Ocean Plan limitations and prohibitions.
	Discharge of prohibited non-storm water.
	Failure to comply with Facility Pollution Prevention Plan (FPPP) requirements.
	Failure to comply with inspection, monitoring, and reporting requirements and protocols.
	Other (describe - use Comments Section below if needed):

SECTION 2: Administrative Non-Compliance (check all that apply)

	Failure to submit reports or documents required by the Permit and/or SWMP, failure of timely submittal, and/or failure to submit required information.
	Failure to develop and/or maintain a site-specific FPPP or to implement any other procedural requirement of the Permit.
	Other (describe - use Comments Section below if needed):

SECTION 3: Description of Incident

Activities in the area prior to the incident (If any):
Initial assessment of any impact caused by the discharge (If any):
Samples collected and analyses requested (If any):
Steps taken to mitigate damage and prevent reoccurrence (If any):
Current Status:
Schedule for proposed mitigation/abatement (If any):
Other Comments:

Non-Compliance Notification Schedule

Type of Incident	Within 5 Working Days (Verbal)	Within 10 Working Days (Written)	Within 30 Calendar Days (Written)	In Annual Report
Emergency Incidents[1]	–	–	–	Chronological summary and status of all incidents
Field[2]	Notify RWB Executive Officer	To RWB Executive Officer and copies to Dept. HQ	–	Chronological summary and status of all incidents
Administrative[3]	Notify RWB Executive Officer or SWB Contact[3]	–	To RWB Executive Officer, SWB Executive Director, and copies to Dept. HQ.	Chronological summary and status of all incidents

[1] Sudden, unexpected, unpreventable incidents that threaten public health, public safety, property, or the environment that pose a clear and imminent danger requiring immediate action to prevent or mitigate the damage or threat, and that result in a discharge or potential discharge.

[2] Failure to meet any non-administrative requirement of the SWMP or Permit or to meet any applicable water quality standard. This includes failure to install required BMPs or conduct required monitoring or maintenance. It also includes discharges or prohibited non-storm water that do not meet the definition of emergency incidents. It does not include determinations by the Department or a Regional Water Board Executive Officer that a discharge is causing or contributing to an exceedance of an applicable WQS. See provision E.2.c.6)c).

[3] Failure to meet any administrative or procedural requirement of the SWMP or Permit including submission of required reports, notifications and certifications. The report of non-compliance shall be submitted to the same organization (State or Regional Water Board) to which the required report was originally due.

Certification – I certify that under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature of Contractor (if applicable)	Title	Telephone	Date:
Signature of Department Representative	Title	Telephone	Date:

ATTACHMENT II

Monitoring Constituent List
(Not Applicable to ASBS Discharges)

Constituent	Analytical Method	Reporting Limit[1]	Units
WATER COLUMN CHEMISTRY			
Conventional Pollutants			
Hardness as CaCO3	SM 2340 B or C	5	mg/L
pH	Calibrated Field Instrument		pH Units
Temperature	Calibrated Field Instrument		C +/-
Flow Rate	Calibrated Field Instrument		ft^3/s
Total Dissolved Solids	EPA 160.1	1	mg/L
Total Suspended Solids	EPA 160.2	1	mg/L
Hydrocarbons			
Oil & Grease	EPA 1664B	1.4	mg/L
Polycyclic Aromatic Hydrocarbons (Total)	EPA 8310	0.05	µg/L
Nutrients			
Total Kjeldahl Nitrogen (TKN)	EPA 351.3	100	µg/L
Nitrate as Nitrogen (NO_3-N)	EPA 300.0	100	µg/L
Phosphorous (Total)	EPA 365.2	30	µg/L
Metals			
Aluminum (Total)	EPA 200.8	25	µg/L
Chromium (Total)	EPA 200.8	1	µg/L
Copper (Total)	EPA 200.8	1	µg/L
Iron (Total)	EPA 200.8	1	µg/L
Lead (Total)	EPA 200.8	1	µg/L
Zinc (Total)	EPA 200.8	5	µg/L
Microbiological			
Fecal Coliform	SM 9221 C E	2	MPN/100 mL
Enterococcus[2]	EPA 1600	2	CFU/100 mL
WATER COLUMN TOXICITY			
Chronic[3]	EPA 821-R-02-013	Pass/Fail	

[1] Reporting limits should be sufficient enough to detect the presence of a constituent based on the applicable Regional Water Board Basin Plan. If no limit is specified in the Basin Plan, the reporting limit specified in this table will be used. If no limit is specified in this table, then the Regional Boards shall be consulted.

[2] Only applicable for direct discharges to marine waters. See definition of direct discharges and indirect discharges in Attachment VIII (glossary).

[3] To calculate either a Pass or Fail of the effluent concentration chronic toxicity test at the IWC, the instructions in Appendix A in the National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA/833-R-10-003) shall be used.

ATTACHMENT II

ASBS Monitoring

TABLE A
Monitoring Constituent List
(excerpted from California Ocean Plan dated 2009)

Constituent	Units
Grease and Oil	mg/L
Suspended Solids	mg/L
Settleable Solids	mL/L
Turbidity	NTU
PH	

TABLE B
Monitoring Constituent List
(excerpted from California Ocean Plan dated 2009)

Constituent	Units
Arsenic	µg/L
Cadmium	µg/L
Chromium	µg/L
Copper	µg/L
Lead	µg/L
Mercury	µg/L
Nickel	µg/L
Selenium	µg/L
Silver	µg/L
Zinc	µg/L
Cyanide	µg/L
Total Chlorine Residual	µg/L
Ammonia (as N)	µg/L
Acute Toxicity	TUa
Chronic Toxicity	TUc
Phenolic Compounds (non-chlorinated)	µg/L
Chlorinated Phenolics	µg/L
Endosulfan	µg/L
Endrin	µg/L
HCH	µg/L

Analytical Chemistry Methods: All constituents shall be analyzed using the lowest minimum detection limits comparable to the Ocean Plan water quality objectives. For metal analysis, all samples, including storm water effluent, reference samples, and ocean receiving water samples, shall be analyzed by the approved analytical method with the lowest minimum detection limits (currently Inductively Coupled Plasma/Mass Spectrometry) described in the Ocean Plan.

ATTACHMENT III

ASBS Priority Discharge Locations

SampleID	Regional Board	ASBS Name	Longitude	Latitude
SAU020	1	Saunders Reef	-123.65329	38.86177
SAU019	1	Saunders Reef	-123.65328	38.86161
SAU016	1	Saunders Reef	-123.65178	38.85683
SAU017	1	Saunders Reef	-123.65164	38.85692
SAU012	1	Saunders Reef	-123.65019	38.8543
SAU011	1	Saunders Reef	-123.64983	38.85387
SAU021	1	Saunders Reef	-123.64868	38.85176
SAU008	1	Saunders Reef	-123.6478	38.8521
SAU006	1	Saunders Reef	-123.64727	38.85041
SAU002	1	Saunders Reef	-123.64709	38.84988
RED026	1	Redwoods National Park	-124.10221	41.59516
RED027	1	Redwoods National Park	-124.10126	41.59657
RED028	1	Redwoods National Park	-124.10101	41.59729
RED029	1	Redwoods National Park	-124.10046	41.59976
RED030	1	Redwoods National Park	-124.1003	41.60084
RED031	1	Redwoods National Park	-124.10026	41.6013
RED065	1	Redwoods National Park	-124.09299	41.28217
FIT011	2	James V. Fitzgerald	-122.51771	37.53154
ANO030	3	Ano Nuevo	-122.30121	37.11334
ANO033	3	Ano Nuevo	-122.29881	37.11202
ANO032	3	Ano Nuevo	-122.29764	37.1113
ANO034	3	Ano Nuevo	-122.297	37.11084
ANO035	3	Ano Nuevo	-122.29297	37.10714
MUG002	4	Laguna Point to Latigo Point	-119.0618833	34.08635
MUG005	4	Laguna Point to Latigo Point	-119.0382833	34.08393
MUG009	4	Laguna Point to Latigo Point	-119.0367000	34.08367
MUG007	4	Laguna Point to Latigo Point	-119.0363667	34.08378
MUG008	4	Laguna Point to Latigo Point	-119.0363667	34.08378
MUG010	4	Laguna Point to Latigo Point	-119.0149833	34.07098
MUG013	4	Laguna Point to Latigo Point	-118.9931667	34.06530
MUG016	4	Laguna Point to Latigo Point	-118.9869833	34.06287
MUG017	4	Laguna Point to Latigo Point	-118.9867500	34.06268
MUG028	4	Laguna Point to Latigo Point	-118.9740500	34.05890
MUG029	4	Laguna Point to Latigo Point	-118.9730167	34.05835
MUG031	4	Laguna Point to Latigo Point	-118.9683000	34.05622
MUG041	4	Laguna Point to Latigo Point	-118.9645	34.0534833
MUG046	4	Laguna Point to Latigo Point	-118.9608500	34.05205
MUG048	4	Laguna Point to Latigo Point	-118.9594833	34.05172
MUG049	4	Laguna Point to Latigo Point	-118.9594333	34.05165
MUG051	4	Laguna Point to Latigo Point	-118.9581000	34.05033
MUG052	4	Laguna Point to Latigo Point	-118.9574333	34.04982
MUG053	4	Laguna Point to Latigo Point	-118.9564500	34.04943
MUG059	4	Laguna Point to Latigo Point	-118.9514167	34.04738

ATTACHMENT III

ASBS Priority Discharge Locations

SampleID	Regional Board	ASBS Name	Longitude	Latitude
MUG058	4	Laguna Point to Latigo Point	-118.9506000	34.04778
MUG060	4	Laguna Point to Latigo Point	-118.9499000	34.04728
MUG061	4	Laguna Point to Latigo Point	-118.9498500	34.04723
MUG077	4	Laguna Point to Latigo Point	-118.9345833	34.04513
MUG078	4	Laguna Point to Latigo Point	-118.9341	34.0451333
MUG070	4	Laguna Point to Latigo Point	-118.9320000	34.04600
MUG066	4	Laguna Point to Latigo Point	-118.9252333	34.04612
MUG073	4	Laguna Point to Latigo Point	-118.9236833	34.04577
MUG135	4	Laguna Point to Latigo Point	-118.89858	34.0401
MUG147	4	Laguna Point to Latigo Point	-118.89558	34.03921
MUG150	4	Laguna Point to Latigo Point	-118.8919800	34.03906
MUG187	4	Laguna Point to Latigo Point	-118.87051	34.0369
SAD0950	4	Laguna Point to Latigo Point	-118.8385500	34.02699
SAD0960	4	Laguna Point to Latigo Point	-118.8375000	34.02619
SAD0970	4	Laguna Point to Latigo Point	-118.8364600	34.02535
SAD0980	4	Laguna Point to Latigo Point	-118.8348600	34.02435
MUG318	4	Laguna Point to Latigo Point	-118.8342000	34.02389
SAD0990	4	Laguna Point to Latigo Point	-118.8326600	34.02302
SAD1000	4	Laguna Point to Latigo Point	-118.8303400	34.02123
MUG355	4	Laguna Point to Latigo Point	-118.8292000	34.02056
SAD1030	4	Laguna Point to Latigo Point	-118.8263200	34.01810
SAD1040	4	Laguna Point to Latigo Point	-118.8256600	34.01748
SAD1050	4	Laguna Point to Latigo Point	-118.8249200	34.01700
SAD1060	4	Laguna Point to Latigo Point	-118.8225400	34.01559
MUG347	4	Laguna Point to Latigo Point	-118.7834300	34.02196
MUG346	4	Laguna Point to Latigo Point	-118.7831400	34.02207
MUG283	4	Laguna Point to Latigo Point	-118.7658600	34.02550
IRV020	8	Irvine Coast	-117.8402333	33.5740167
IRV009	8	Irvine Coast	-117.8312	33.5653
IRV007	8	Irvine Coast	-117.8281667	33.5645
IRV003	8	Irvine Coast	-117.823917	33.56195
IRV002	8	Irvine Coast	-117.8221	33.5606
CAR007	3	Carmel Bay	-121.9247	36.52453
CAR006	3	Carmel Bay	-121.92457	36.52469

Attachment IV
TMDL Requirements

Attachment IV identifies TMDLs adopted by the Regional Water Boards and approved by the State Water Board and U.S. EPA which assign the Department a Waste Load Allocation (WLA) or which specify the Department as a responsible party. In addition, Attachment IV identifies TMDLs established by U.S. EPA which specify the Department as a responsible party or which identify NPDES permitted storm water sources or point sources generally, or identify roads generally, as subject to the TMDL.

The Department is obligated to consult each TMDL and to comply with all applicable allocations and other provisions. Applicable Regional Water Board Basin Plan Amendments, orders and resolutions are listed in the first column in Attachment IV. Compliance with all TMDLs must be demonstrated to the satisfaction of the appropriate Regional Water Board.

Attachment IV also contains TMDL-specific permit requirements for the Lake Tahoe Sediment and Nutrients TMDL. These requirements are directly enforceable through this Order. Consistent with provision E.4.b, within one year of the adoption date of this Order, the State Water Board will re-open Attachment IV for incorporation of specific permit requirements implementing the remainder of the TMDLs listed in Attachment IV. Once the TMDL-specific permit requirements are adopted, the Department shall comply with the incorporated requirements in accordance with the specified compliance due dates.

Attachment IV
TMDL Requirements

TMDL	Implementation Requirements
R1 – North Coast Region	
Albion River * *Sediment* Effective Date: December 2001 BPA: Resolution:	
Big River * *Sediment* Effective Date: December 2001 BPA: Resolution:	
Eel River, Lower HA* *Temperature and Sediment* Effective Date: December 18, 2007 BPA: Resolution:	
Eel River, Middle Fork, Eden Valley and Round Valley HSAs * *Temperature and Sediment* Effective Date: December 2003 BPA: Resolution:	
Eel River, Middle Main HA * *Temperature and Sediment* Effective Date: December 2005	

TMDL	Implementation Requirements
BPA: Resolution:	
Eel River, North Fork HA* *Sediment and Temperature* Effective Date: December 30, 2002 BPA: Resolution:	
Eel River, South Fork HA* *Sediment and Temperature* Effective Date: December 16, 1999 BPA: Resolution:	
Eel River, Upper Main HA * *Sediment and Temperature* Effective Date: December 29, 2004 BPA: Resolution:	
Garcia River *Sediment* Effective Date: March 16, 1998 BPA: Action Plan for the Garcia River Watershed Resolution:	
Gualala River * *Sediment* Effective Date: November 29, 2004 BPA:	

TMDL	Implementation Requirements
Resolution:	
Klamath River in California *Temperature, Dissolved Oxygen, Nutrient, & Microcystin* Effective Date: December 28, 2010 BPA: Action Plan for Klamath River TMDLs Resolution: R1-2010-0026	
Lost River *Nitrogen and Biochemical oxygen Demand to address Dissolved Oxygen and pH Impairments* Effective Date: December 30, 2008 BPA: Action Plan for Lost River TMDL Resolution: R1-2010-0026	
Mad River * *Sediment and Turbidity* Effective Date: December 21, 2007 BPA: Resolution:	
Mattole River * *Sediment & Temperature* Effective Date: December 30, 2003 BPA: Resolution:	
Navarro River * *Temperature & Sediment*	

TMDL	Implementation Requirements
Effective Date: December 27, 2000 BPA: Resolution:	
Noyo River * *Sediment* Effective Date: December 16, 1999 BPA: Resolution:	
Redwood Creek * *Sediment* Effective Date: December 30, 1998 BPA: Resolution:	
Scott River *Sediment and Temperature* Effective Date: August 11, 2006 BPA: Action Plan for Scott River. Resolutions: R1-2005-0113 & R-2010-0026	
Shasta River *Dissolved Oxygen & Temperature* Effective Date: January 26, 2007 BPA: Action Plan for the Shasta River Watershed Resolution: R1-2006-0052	
Ten Mile River * *Sediment*	

TMDL	Implementation Requirements
Effective Date: December 2000 BPA: Resolution:	
Trinity River* *Sediment* Effective Date: December 20, 2001 BPA: Resolution:	
Trinity River, South Fork HA* *Sediment* Effective Date: December 1998 BPA: Resolution:	
Van Duzen River and Yager Creek * *Sediment* Effective Date: December 16, 1999 BPA: Resolution:	
R2 - San Francisco Region	
Napa River *Sediment* Effective Date: January 20, 2011 BPA: Chapter 7, Water Quality Attainment Strategies including TMDLs Resolution: R2-2009-0064	
Richardson Bay *Pathogens* Effective Date: December 18, 2009	

TMDL	Implementation Requirements
BPA – Pathogens in Richardson Bay Resolution: R2-2008-0061	
San Francisco Bay *PCBs* Effective Date: March 29, 2010 BPA: Exhibit A & TMDL & Implementation Plan for PCBs Resolution: R1-2008-0012	
San Francisco Bay *Mercury* Effective Date: February 12, 2008 BPA – Chapter 7, SF Bay Mercury TMDL Resolution: R2-2006-0052	
Sonoma Creek *Sediment* Effective Date: September 8, 2010 BPA: Exhibit A & Implementation Plan Resolutions: R2-2008-0103 and 2010-0016	
Urban Creek *Diazinon & Pesticide Toxicity* Effective Date: May 16, 2007 BPA: BPA – Chapter 3, Toxicity Resolution: R2-2005-0063	

TMDL	Implementation Requirements
R3 - Central Coast Region	
San Lorenzo River (includes Carbonera Lompico, and **Shingle Mill Creeks)** *Sediment* Effective Date: February 19, 2004 BPA: Attachment to R3-2002-0063 Resolution: R3-2002-0063	
Morro Bay (includes Chorro Creek, Los Osos Creek, and the Morro Bay Estuary) *Sediment* Effective Date: January 20, 2004 BPA: Attachment A to R3-2002-0051 Resolution: R3-2003-0051	
R4 - Los Angeles Region	
Ballona Creek *Trash* Effective Date: August 1, 2002 & February 8, 2005 BPA: Attachment A, Chapter 7-3. Resolution: 2004-0023	
Legg Lake *Trash* Effective Date: February 27, 2008	

TMDL	Implementation Requirements
BPA: Attachment A Chapter 7-27 Resolution: R4-2007-10	
Los Angeles River *Trash* Effective Date: July 24, 2008 BPA: Attachment A, Chapter 7-2 Resolution: R4-2007-012	
Machado Lake *Trash* Effective Date: February 27, 2008 BPA: Attachment A Chapter 7-26 Resolution: R4-2007-06	
Malibu Creek Watershed *Trash* Effective Date: June 26, 2009 BPA: Attachment A, Chapter 7-31 Resolution: R4-2008-007	
Revolon Slough and Beardsley Wash *Trash* Effective Date: August 1, 2002 & February 8, 2005 BPA: Attachment A, Chapter 7-3. Resolution: 2004-0023	
Ventura River Estuary *Trash*	

TMDL	Implementation Requirements
Effective Date: February 27, 2008 BPA: Attachment A, Chapter 7-25 Resolution: R4-2007-008	
Ballona Creek, Ballona Estuary, and Sepulveda Channel *Bacteria* Effective Date: March 26, 2007 BPA: Attachment A, Chapter 7-21 Resolution: R4-2006-011	
Harbor Beaches of Ventura County (Kiddie Beach and Hobie Beach) *Bacteria* Effective Date: December 18, 2008 BPA: Attachment A, Chapter 7-28 Resolution: R2007-017	
Malibu Creek and Lagoon *Bacteria* Effective Date: January 10, 2006 BPA: Attachment A, Chapter 7-10 Resolution: 2004-019R	
Marina del Rey, Harbor Back Basins, Mother's Beach *Bacteria* Effective Date: March 18, 2004	

TMDL	Implementation Requirements
BPA: Attachment A, Chapter 7-5 Resolution: 2003-012	
Santa Monica Bay Beaches during Dry & Wet Weather *Bacteria* Effective Date: June 19, 2003 BPA: Attachment A, Chapter 7-5 Resolution: 2003-012	
Ballona Creek *Metals* Effective Date: December 22, 2005 and reaffirmed on October 29, 2008 BPA: Attachment A, Chapter 7-12 Resolution: R2007-015	
Calleguas Creek and its Tributaries and Mugu Lagoon *Metals and Selenium* Effective Date: March 26, 2007 BPA: Attachment A, Chapter 7-19 Resolution: R4-2006-012	
Los Cerritos Channel * *Metals* Effective Date: March 17, 2010 BPA: Resolution:	

TMDL	Implementation Requirements
Los Angeles River *Metals* Effective Date: December 22, 2005 and October 29, 2008 BPA: Attachment A, Chapter 7-13 and Attachment B. Resolution: R2007-014	
San Gabriel River * *Metals* Effective Date: March 26, 2007 BPA: Resolution:	
Machado Lake *Eutrophic, Algae, Ammonia, and Odors (Nutrient)* Effective Date: March 11, 2009 BPA: Attachment A to R08-006 Resolution: R08-006	
Santa Clara River Reach 3 * *Chloride* Effective Date: June 18, 2003 BPA: Resolution:	
Ballona Creek Estuary *Toxic Pollutants* Effective Date: December 22, 2005 BPA: Attachment A, Chapter 7-14	

TMDL	Implementation Requirements
Resolution: R4-2005-008	
Colorado Lagoon *Organochlorine Pesticides, Polychlorinated Biphenyls, Sediment Toxicity, Polycyclic Aromatic Hydrocarbons, and Metals* Effective Date: June 14, 2011 BPA: Attachment A, Chapter 7-30 Resolution: No. R09-005	
Machado Lake *Pesticides and Polychorinated Biphenyls* Effective Date: March 20, 2011 BPA: Attachment A, Chapter 7-38 Resolution: Resolution No. R10-008	
Marina del Rey Harbor *Toxic Pollutants* Effective Date: March 16, 2006 BPA: Attachment A, Chapter 7-18 Resolution: R4-2005-012	

TMDL	Implementation Requirements
Calleguas Creek its Tributaries and Mugu Lagoon *Organochlorine Pesticides, Polychlorinated Biphenyls, and Siltation* Effective Date: March 14, 2006 BPA: Attachment A, Chapter 7-17 Resolution: R4-2005-010	
R5 – Central Valley Region	
Cache Creek, Bear Creek, Sulphur Creek, and Harley Gulch *Mercury* Effective Date: February 7, 2007 BPA: Attachment 1 to R5-2005-0146 Resolution: R5-2005-0146	
Clear Lake *Nutrients* Effective Date: September 21, 2007 BPA: Attachment 1 to R5-2006-0060 Resolution: R5-2006-0060	
Sacramento-San Joaquín River Delta Estuary *Methyl mercury* Effective Date: October 20, 2011 BPA: Sacramento River and San Joaquin River	

TMDL	Implementation Requirements
Basins for the Control of Methylmercury and Total Mercury in the Sacramento –San Joaquin River Delta Estuary Resolution: R5-2010-0043	
R6 – Lahontan Region	
Lake Tahoe *Sediment and Nutrients* Effective Date: August 16, 2011 BPA: WQ Amendment May 2008 Resolution: 2009-0028	**<u>IMPLEMENTATION REQUIREMENTS</u>** **A. Pollutant Load Reduction Requirements** The Department must reduce fine sediment particle (FSP), total phosphorus (TP), and total nitrogen (TN) loads by 10%, 7%, and 8%, respectively, by September 30, 2016. Pollutant load reductions shall be measured in accordance with the processes outlined in the most recent version of Lake Clarity Crediting Program Handbook. To demonstrate compliance with the average annual fine sediment particle pollutant load reduction requirements, the Department must earn and maintain 361 Lake Clarity Credits for the water year October 1, 2015 to September 30, 2016, and for subsequent water years. **B. Pollutant Load Reduction Plans** The Department shall prepare a Pollutant Load Reduction Plan (PLRP) describing how it expects to meet the pollutant load reduction requirements described in Section A above. The Department shall submit a plan no later than September 15, 2013 that shall include, at a minimum, the following elements: 1. *Catchment registration schedule* The PLRP shall include a list of catchments that the Department plans to register pursuant to the approved Lake Clarity Crediting Program to meet load reduction requirements. The list shall include catchments where capital improvement projects have been constructed since May 1, 2004 that the Department expects to claim credit for, and catchments where projects will be constructed and other load reduction activities (capital improvements, institutional controls, and other measures/practices implement) taken during the term of this Order. 2. *Proposed pollutant control measures* The PLRP shall generally describe storm water program activities to reduce fine sediment particle, total phosphorus, and total nitrogen loading that the Department will implement in identified catchments. 3. *Pollutant load reduction estimates* The Department shall conduct pollutant load reduction analyses on a representative catchment subset to demonstrate that proposed implementation actions are expected to achieve the pollutant load reduction requirements specified in Section A above. For representative catchments, the analysis shall include detailed estimates of both baseline pollutant loading and expected pollutant loading resulting from implementation actions and provide justification why the conducted load reduction analysis is adequate for extrapolation to other catchments.

TMDL	Implementation Requirements
	The pollutant loading estimates shall differentiate between estimates of pollutant load reductions achieved since May 1, 2004 and pollutant load reductions from actions not yet taken. *4. Load reduction schedule* The PLRP shall describe a schedule for achieving the pollutant load reduction requirements described in Section A above. The schedule shall include an estimate of expected pollutant load reductions for each year of this Permit term based on preliminary numeric modeling results. The schedule shall also describe which catchments the Department anticipates it will register for each year of this Permit term. *5. Annual adaptive management* The PLRP shall include a description of the processes and procedures to annually assess storm water management activities and associated load reduction progress. The plan shall describe how the Department will use information from the monitoring and implementation or other efforts to improve operational effectiveness and for achieving the pollutant load reduction requirements specified in Section A. 6. *Pollutant Load Reduction Plan Update* By March 15, 2017, the Department shall update its Pollutant Load Reduction Plan to describe how it will achieve the pollutant load reduction requirements for the second five-year TMDL implementation period, defined as the ten-year load reduction milestone in the Lake Tahoe TMDL. Specifically, the update Pollutant Load Reduction Plan shall demonstrate how the Department will reduce baseline fine sediment particle, total nitrogen, and total phosphorus loads by 21 percent, 14 percent, and 14 percent, respectively, by water year 2021. **C. Pollutant Load Reduction Progress** To demonstrate pollutant load reduction progress, the Department shall submit a Progress Report by March 15, 2014 documenting pollutant load reductions accomplished between May 1, 2004 (baseline year) and October 15, 2011. **D. Pollutant Load Reduction Monitoring and Water Quality Monitoring Requirements** Caltrans shall prepare and submit a Stormwater Monitoring Plan for review and approval by the Regional Board by July 15, 2013 and implement the approved plan.

TMDL	Implementation Requirements
Truckee River *Sediment* Effective Date: September 16, 2009 BPA: WQ Amendment May 2008 Resolution: 2009-0028	
R7 - Colorado River Region	
Coachella Valley Storm Water Channel *Bacterial Indicators* Effective Date*: April 27, 2012* BPA: Attachment 1: Final CVSC Bacteria TMDL Resolution: R7-2010-0028	
R8 - Santa Ana Region	
Big Bear Lake *Nutrients for Dry Hydrological Conditions* Effective Date: September 25, 2007 BPA: Attachment toR8-2006-0023 Resolutions: R8-2006-0023, and R8-2008-0070	
Lake Elsinore and Canyon Lake *Nutrients* Effective Date: September 30, 2005 BPA: Attachment to. R8-2004-0037 & R8-2006- 0031	

TMDL	Implementation Requirements
Resolution: R8-2007-0083	
Rhine Channel Area of the Lower Newport Bay* *Chromium and Mercury* Effective Date: June 14, 2002 BPA: Resolution:	
San Diego Creek and Newport Bay* *Metals (Cadmium, Copper, Lead, & Zinc)* Effective Date: June 14, 2002 BPA: Resolution:	
San Diego Creek Watershed* *Selenium* Effective Date: June 14, 2002 BPA: Resolution:	
San Diego Creek Watershed and the Upper & Lower Newport Bay* *Organochlorine Compounds (DDT, Chlordane, Dieldrin, PCBs, & Toxaphene* Effective Date: June 14, 2002 BPA: Resolution:	

TMDL	Implementation Requirements
R9 – San Diego Region	
Chollas Creek *Diazinon* Effective Date: November 3, 2003 BPA: Attachment A to R9-2002-0123 Resolution: Investigation Order R9-2004-0277	
Chollas Creek *Dissolved Copper, Lead and Zinc* Effective Date: December 18, 2008 BPA: Attachment A to Resolution No. R9-2007-0043 Resolution: R9-2007-0036	
Rainbow Creek *Total Nitrogen and Total Phosphorus* Effective Date: March 22, 2006 BPA: Attachment A to R9-2005-0036 Resolution: R9-2007-0036	
Project 1- Revised Twenty Beaches and Creeks in the San Diego Region (including Tecolote Creek) *Indicator Bacteria* Effective Date: June 22, 2011 BPA: Attachment A to Resolution R9-2010-001	

TMDL	Implementation Requirements
Resolution: R9-2010-0001	

* U.S. EPA Established TMDLs

ATTACHMENT V—REGION SPECIFIC REQUIREMENTS

PART 1
NORTH COAST REGION

1. North Coast Regional Water Board Resolution R1-2004-0087 directs its staff to utilize existing regulatory programs to address sources of sediment within sediment impaired watersheds. The Department owns road right-of-way and other property within watersheds that are listed as impaired for sediment. Some of these facilities have sources of sediment (eroding shoulders, failed culverts, unstabilized cut and fill slopes, etc) that discharge into sediment impaired waterbodies. Consistent with Resolution R1-2004-0087 and the Water Quality Control Plan for the North Coast Region, the Department shall take the following steps in watersheds listed for sediment to identify, prioritize and control sources of sediment that discharge anthropogenic amounts of sediment into impaired waters. These requirements are in addition to any watershed-specific TMDL implementation requirements listed in Attachment IV of this Order. Steps to be taken include:

   a. Inventory: Identify sources of excess sediment or threatened discharge, and quantify the discharge or threatened discharges from the source(s).

   b. Prioritize: Prioritize efforts to control discharge of excess sediment based on, but not limited to, severity of threat to water quality and beneficial uses, the feasibility of source control, and source site accessibility. The inventory and prioritized steps shall be completed within two (2) years of the adoption of this Order and updated annually.

   c. Implement: Develop and implement feasible sediment control practices to prevent, minimize, and control the discharge.

   d. Monitor and Adapt: Use monitoring results to direct adaptive management measures in order to refine and adjust erosion control practices and implementation schedules, until sediment discharge is reduced and no longer causes a violation of any sediment related narrative or numeric objective.

   Each District within the North Coast Region shall include a time schedule for the above-referenced activities within the District Workplan for Regional Water Board approval. The time schedule shall implement the required activities as quickly as feasible. An annual update on activities and compliance with the projected time schedule shall be included in each subsequent annual report.

2. Removal of riparian vegetation may result in a threatened discharge or an exceedance of a water quality objective. The North Coast Region has many watersheds that are impaired for excess sediment and temperature. Riparian vegetation shall be protected and restored to the greatest extent feasible and removal may require permitting by the Regional Water Board.

PART 2
SAN FRANCISCO BAY REGION

1. **Trash Load Reduction**
   a. The Department shall demonstrate compliance with Discharge Prohibition 7,Table 4-1 of the San Francisco Bay Regional Water Board Basin Plan[1] through the timely implementation of control measures to achieve the following target levels to reduce trash loads from the Department's MS4 by 40% by 2017, 70% by 2020, and 100% by 2025.

   b. **Trash Load Reduction Plans**

      i. **Short-Term Trash Loading Reduction** – The Department shall submit a Short-Term Trash Load Reduction Plan, including an implementation schedule, to the Regional Water Board by July 1, 2013. The Plan shall describe control measures and best management practices that are currently being implemented and the current level of implementation and additional control measures and best management practices that will be implemented, and/or an increased level of implementation designed to attain a 40 percent trash load reduction from its MS4 by July 1, 2017. The Plan shall account for the Minimum Full Trash Capture requirement of subsection 2.b.iii of this Part.

      ii. **Long-Term Trash Load Reduction** - The Department shall submit a Long-Term Trash Load Reduction Plan, including an implementation schedule, to the Regional Water Board by October 1, 2017. The Plan shall describe control measures and best management practices that are being implemented and the level of implementation and additional control measures and best management practices that will be implemented and/or increased level of implementation designed to attain a 70 percent trash load reduction from its MS4 by July 1, 2020, and 100 percent trash load reduction by July 1, 2025.

      The Department may choose to establish a municipal-coordination plan to design, build, operate, or maintain controls in conjunction with other watershed stakeholders. The Short-Term Trash Load Reduction Plan goal may be met with Department specific activities and devices, or from load reduction resulting from municipal-coordination implementation or any combination thereof.

[1] San Francisco Bay Basin Plan, Chapter 4 – Implementation, Table 4-1 Prohibitions, Prohibition 7, which is consistent with the State Water Board's Enclosed Bays and Estuaries Policy, Resolution 95-84, prohibits the discharge of rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.

iii. **Baseline Trash Load and Trash Load Reduction Tracking Method** – The Department shall determine the baseline trash load from its MS4 to establish the basis for trash load reductions from its MS4 and submit the determined baseline trash load level to the Regional Water Board by July 1, 2013, along with documentation of methodology used to determine the load level. The submittal shall also include a description of the trash load reduction tracking method that will be used to account for trash load reduction actions and to demonstrate progress toward and attainment of trash load reduction levels. The submittal shall account for the drainage areas in the Department's jurisdiction that are associated with the baseline trash load from its MS4, and the baseline trash load level per unit drainage area characteristics used to derive the total baseline trash load level.

In the determination of applicable areas that generate trash loads for inclusion in the Baseline Trash Load, the Department may propose areas for exclusion, with supporting documentation that the areas demonstrate no material trash presence.

iv. **Minimum Full Trash Capture** – The Department shall install and maintain controls to capture and treat runoff from an area that cumulatively totals at least ten percent of the Department's right-of-way by July 1, 2017.

All installed devices that meet the following full trash capture definition may be counted toward this requirement regardless of date of installation. A full capture system or device is any single device or series of devices that traps all particles retained by a 5 mm mesh screen and has a design treatment capacity of not less than the peak flow rate Q resulting from a one-year, one-hour, storm in the subdrainage area.

The Department may choose to establish a municipal coordination plan to design, build, operate, and/or maintain controls in conjunction with other watershed stakeholders. The minimum trash capture requirement may be met with Department specific activities and devices, or from load reduction resulting from municipal coordination implementation, or any combination thereof, so long as the municipal coordination is a full capture device.

c. **Trash Reduction Reporting**

In each Annual Report, the Department shall provide a summary of its trash load reduction actions (control measures and best management practices) including the types of actions and levels of implementation, and the total trash loads by volume removed. Beginning with the 2014 Annual Report, the Department shall also report its percent annual trash load reduction relative to its Baseline Trash Load.

2. **Storm Water Pump Stations**

The Department shall comply with the following implementation measures to reduce polluted water discharges from its pump stations:

a. Complete an inventory of pump stations within the Department's jurisdiction in Region 2, including locations and key characteristics[2] and submit to the Regional Water Board within one year of permit adoption.

b. Inspect and collect dissolved oxygen (DO) data from 20 percent of the pump stations once a year (100 percent in five years) after a minimum of a two week antecedent period with no precipitation. DO monitoring is exempted where all discharge from a pump station remains in the storm water collection system or infiltrates into a dry creek immediately downstream.

c. If DO levels are at or below 3 milligrams per liter (3 mg/L), apply corrective actions, such as continuous pumping at a low flow rate, aeration, or other appropriate methods to maintain DO concentrations of the discharge above 3 mg/L.

d. Report inspection and monitoring results in the Annual Report.

[2] Characteristics include name of pump station, latitude and longitude in NAD83, number of pumps, drainage area in acres, dominant land use(s), first receiving water body, maximum pumping capacity of station in gallons per minute (gpm), flow measurement capability (Y or N), flow measurement method, average wet season discharge rate in gpm, dry season discharge (Y, N, or unknown), nearest municipal wastewater treatment plant, wet well storage capacity in gallons, trash control (Y or N), trash control measure, and date built or last updated.

PART 3
LAHONTAN REGION

The Water Quality Control Plan for the Lahontan Region (Basin Plan) has additional requirements which have been historically applied to the Department's permits and which apply to this NPDES Permit in the Lahontan Region. These requirements include:

1. For projects meeting the criteria specified in Provision E.2.d.of the permit (Project Planning and Design), the following numeric sizing criteria for storm water treatment control BMPs apply:

   Where storm water runoff is determined to have connectivity to surface waters and/or is not adequately infiltrated or treated by the natural environment, storm water/urban runoff collection, treatment, and/or infiltration disposal facilities shall be designed, installed, and maintained for the discharge of storm water runoff from all impervious surfaces generated by the 20-year, one-hour design storm (1) within the Truckee River Hydrologic Unit (3/4- inch of rain), (2) within the East Fork Carson River and West Fork Carson River Hydrologic Units (one inch of rain), and (3) within the Mammoth Creek Hydrologic Unit above 7,000-foot elevation (one inch of rain). Hydrologic evaluations may be required or may be conducted consistent with the NEAT study described in item No. 2 below to help determine areas where infiltration of the 20-year, 1-hour storm is required.

2. In 2009, the Department completed the Natural Environment as Treatment (NEAT) study and report for 38 miles of roadway within the Lake Tahoe Hydrologic Unit. The NEAT approach is consistent with the strategic approach required by this permit. Projects developed within the NEAT study area shall be designed and constructed based on the priority areas identified by the study.

3. Unless granted a variance by the Lahontan Regional Water Board Executive Officer, there shall be neither removal of vegetation nor disturbance of existing ground surface conditions between October 15 of any year and May 1 of the following year, except when there is an emergency situation that threatens the public health or welfare. This prohibition period applies to the Lake Tahoe, Truckee River, East Fork Carson River, and West Fork Carson River Hydrologic Units and above the 5,000-foot elevation in the portions of Mono and Inyo Counties within the Lahontan Region.

4. Project Review Requirements

   a. The Department shall participate in early project design consultation for all projects within the Lake Tahoe, Truckee River, East and West Forks Carson River and Mammoth Creek Hydrologic Units.

   b. The Department must solicit Lahontan Regional Water Board staff review when project development/design is at the 20 to 30 percent design level (prior to Project "Approval" and Environmental Document), 60 percent design level, and 90 percent design level (Plans, "Specifications" and Estimates).

ATTACHMENT VI — STANDARD PROVISIONS

1. **Duty to Comply.** The Department shall comply with all of the conditions of this Order. Any permit noncompliance constitutes a violation of the CWA and the Porter-Cologne Water Quality Control Act, which may be grounds for enforcement action or denial of permit coverage. [40 C.F.R. § 122.41(a)]

   The Department shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. [40 C.F.R. § 122.41(a)(1)]

2. **Modification, Revocation and Reissuance, or Termination.** This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Department for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any General Permit condition.

3. **Enforcement**
   a. The provision contained in this enforcement section shall not act as a limitation on the statutory or regulatory authority of the State and Regional Water Board.

   b. Any violation of the Order constitutes violation of the California Water Code and regulations adopted hereunder and the provisions of the Clean Water Act, and is the basis for enforcement action, permit termination, permit revocation and reissuance, denial of an application for permit reissuance; or a combination thereof.

   c. The State and Regional Water Boards may impose administrative civil liability may refer a discharger to the State Attorney General to seek civil monetary penalties, may seek injunctive relief or take other appropriate enforcement action as provided in the California Water Code or federal law.

   d. All applications, reports, or information submitted to the State Water Board or Regional Water Boards shall be signed and certified. The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this Order including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six months per violation, or by both. [40 C.F.R. § 122.41(k)]

4. **Need to Halt or Reduce Activity not a Defense.** It shall not be a defense for the Department in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. [40 C.F.R. § 122.41(c)]

5. **Duty to Mitigate.** The Department shall take all reasonable steps to minimize or prevent any discharge in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. [40 C.F.R. § 122.41(d)]

6. **Proper Operation and Maintenance.** The Department at all times shall properly operate and maintain any facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Department to achieve compliance with the conditions of this Order. Proper operation and maintenance also include adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems installed by the Department only when necessary to achieve compliance with the conditions of this Order. [40 C.F.R. § 122.41(e)]

7. **Property Rights.** This Order does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, State, or local laws or regulations. [40 C.F.R. § 122.41(g)]

8. **Duty to Provide Information.** Within a reasonable time specified by the State Water Board, Regional Water Boards, or U.S. EPA, the Department shall furnish records, reports, or information required to be kept by this Order, and shall furnish any information requested to determine whether cause exists for modifying, revoking, and reissuing, or terminating this Order or to determine compliance with this Order. [40 C.F.R. § 122.41(h)]

9. **Inspection and Entry.** [40 C.F.R. § 122.41(i)] Upon the presentation of credentials and other documents as may be required by law, the Department shall allow the State and Regional Water Boards, or U.S. EPA to:

    a. Enter upon the Department's premises where a regulated facility or activity is located or conducted or where records are required to be kept under the conditions of this Order;

    b. Have access to and copy at reasonable times any records that must be kept under the conditions of this Order;

    c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and

d. Sample or monitor at reasonable times for the purposes of assuring ensuring permit compliance, or as otherwise authorized by the Clean Water Act.

10. **Monitoring and Records.** [40 C.F.R. § 122.41(j)]

a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

b. The Department shall retain records of all monitoring information for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the State Water Board's Executive Director or Regional Water Board's Executive Officer at any time.

c. Records of monitoring information shall include:

i. The date, exact place, and time of sampling or measurements;
ii. The individual(s) who performed the sampling or measurements;
iii. The date(s) analyses were performed;
iv. The individual(s) who performed the analyses;
v. The analytical techniques or methods used; and
vi. The results of such analyses.

d. Monitoring must be conducted according to test procedures approved under 40 C.F.R. § 136 unless another method is required under 40 C.F.R. subchapters N or O.

e. The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this Order shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than four years, or both.

11. **Signatory Requirements.** All reports, certifications, and records required by this Order or requested by the State Water Board and Regional Water Boards or U.S. EPA shall be signed by either a principal executive officer or by a duly authorized representative. A person is a duly authorized representative only if [40 C.F.R. §§ 122.22 & 122.41(k)]:

a. The authorization is made in writing by the principal executive officer; and

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of manager, operator, superintendent, or position of equivalent responsibility or an individual or position having overall responsibility for

environmental matters for the Department. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)

If an authorization is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, the Department shall provide a new authorization prior to submittal of any reports, certifications, or records signed by the newly authorized representative.

12. **Certification.** Any person signing documents under Provision 11 above shall make the following certification [40 C.F.R. § 122.22(d)]:

    "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

13. **Reporting Requirements.**

    a. *Planned changes*. The Department shall give advance notice to the State Water Board and the appropriate Regional Water Board of any planned physical alteration or additions to the permitted facility. Notice is required under this provision only when the alteration or addition could significantly change the nature or increase the quantity of pollutants discharged; [40 C.F.R. § 122.41(l)(1)]

    b. *Anticipated noncompliance*. The Department shall give advance notice to the appropriate Regional Water Board of any planned changes at the permitted facility or activity which may result in noncompliance with Permit requirements; [40 C.F.R. § 122.41(l)(2)]

    c. *Compliance Schedules*. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order shall be submitted no later than 14 days following each scheduled date; [40 C.F.R. § 122.41(l)(5)]

    d. *Other Information*. Where the Department becomes aware that it failed to submit any relevant facts, or submitted incorrect information in a permit application or in any required report, it shall promptly submit such facts or information [40 C.F.R. § 122.41(l)(8)].

e. The Department shall submit, except for the Annual Report, one copy of each report required by the permit to the State Water Board. The Department shall also submit one copy to each of the appropriate Regional Water Boards. The Department may choose to submit its properly signed reports electronically into SMARTS in the Portable Document Format (PDF) and submit hard copies only upon request of the State or Regional Water Board staff.

14. **Oil and Hazardous Substance Liability.** Nothing in this Order shall be construed to preclude the institution of any legal action or relieve the Department from any responsibilities, liabilities, or penalties to which the Department is or may be subject to under Section 311 of the CWA.

15. **Severability.** The provisions of this Order are severable; and if any provision of this Order or the application of any provision of this Order to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this Order shall not be affected thereby.

16. **Availability.** A copy of this Order shall be maintained at the facility and be available at all times to the appropriate facility personnel and to representatives of the Regional Water Boards, State Water Board, or U.S. EPA.

17. **Education.** The Department shall ensure that all personnel whose decisions or activities could affect storm water quality are familiar with the requirements of this NPDES Permit.

ATTACHMENT VII — LIST OF ACRONYMS & ABBREVIATIONS

ASBS	Areas of Special Biological Significance
BAT	Best Available Technology Economically Achievable
Basin Plans	Regional Water Quality Control Plans
BCT	Best Conventional Pollutant Control Technology
BMPs	Best Management Practices
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CGP	Construction General Permit - NPDES General Permit for Storm Water Discharges Associated with Construction Activities
CTR	California Toxics Rule
CWA	Clean Water Act
CWC	California Water Code
Department	California Department of Transportation (Caltrans)
EC	Electrical Conductivity
EMA	Emergency Management Agency
ESA	Environmentally Sensitive Area
FPPP	Facility Pollution Prevention Plan
GPS	Global Positioning System
Hydromodification	Hydrograph Modification
IC/ID	Illegal Connection/ Illicit Discharge
IGP	Industrial General Permit - NPDES General Permit for Discharges Associated with Industrial Activities Excluding Construction Activities
LA	Load Allocation
LID	Low Impact Development
MEP	Maximum Extent Practicable
MRP	Monitoring and Reporting Program
MS4	Municipal Separate Storm Sewer System
NCIR	Non-Compliance Incident Report
NOI	Notice of Intent
NPDES	National Polluant Discharge Elimination System
Ocean Plan	California Ocean Plan
PAHs	Polycyclic Aromatic Hydrocarbons
POTW	Publicly Owned Treatment Works
Regional Water Board	Regional Water Quality Control Board
ROW	Department Right-of-Way
State Water Board	State Water Resources Control Board
SUSMP	Standard Urban Storm Water Mitigation Plan
SWAMP	Surface Water Ambient Monitoring Program
SWMP	Storm Water Management Plan
SWPPP	Storm Water Pollution Prevention Plan
TCGP	Tahoe Construction General Permit
TDS	Total Dissolved Solids
TMDL	Total Maximum Daily Load
TPH	Total Petroleum Hydrocarbon
TSS	Total Suspended Solids
USEPA	United States Environmental Protection Agency
WDRs	Waste Discharge Requirements
WLA	Waste Load Allocation
WQBEL	Water Quality-Based Effluent Limitation
WQO	Water Quality Objective
WQS	Water Quality Standard
Workplans	District Workplans

ATTACHMENT VIII - GLOSSARY

Acute Toxicity. A chemical stimulus severe enough to rapidly induce an effect; in aquatic toxicity tests, an effect observed within 96 hours or less is considered acute. When expressed as toxic units acute (TUa), TUa=100/96-hour LC 50%. Acute toxicity can also be expressed as lethal concentration 50% (LC 50).

Administrative Noncompliance. Failure to comply with the procedural requirements of this Order. Examples include but are not limited to: failure to submit required reports or documents required by the Permit and/or SWMP, missed deadlines or late submittal, and/or failure to submit required information, failure to develop and/or maintain site-specific FPPP or to implement any other procedural requirement of the Permit.

Areas of Special Biological Significance (ASBS). Ocean or estuarine areas designated by the State Water Board that require special protection of species or biological communities to the extent where alteration of natural water quality is undesirable. The California Ocean Plan describes ASBSs as “those areas containing biological communities of such extraordinary value that no risk of change in their environment as the result of man's activities can be entertained". ASBSs are a subset of State Water Quality Protection Areas.

Basin Plans. Basin Plans (regional water quality control plans) are the principal regulatory mechanisms for protection of water quality in California. Basin plans describe the beneficial uses that each water body supports, e.g. drinking, swimming, fishing, and agricultural irrigation; the water quality objectives necessary to protect those uses; and the program implementation needed to achieve the objectives, such as waste discharge permits and enforcement actions.

Batch Plant. A processing plant where concrete or asphalt is mixed before transport to a construction site. Batch plants are considered to be industrial activities as defined in 40 CFR 122.26(b)(14) (iii) and are regulated under the Industrial General Permit.

Beneficial Uses. The uses of the water protected against degradation including, but not limited to, domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves.

Best Available Technology Economically Achievable (BAT). Technology-based compliance standard established by the Clean Water Act. BAT is based on consideration of the age of the equipment and facilities involved, the processes employed, the engineering aspects of the application of various types of control techniques, process changes, non-water quality environmental impact (including energy requirements) and other factors as deemed appropriate. BAT effluent limitations guidelines, in general, represent the best existing performance of treatment technologies that are economically achievable within an industrial point source category or subcategory.

Best Conventional Pollutant Control Technology (BCT). Technology-based compliance standard for the discharge from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, oil and grease. BCT is established by a two-part "cost reasonableness" test, which compares the cost for an industry to reduce its pollutant discharge with the cost to a POTW for similar levels of reduction of a pollutant loading. The second test examines the cost-effectiveness of additional industrial treatment beyond BCT. Limits must be reasonable under both tests.

Best Management Practices (BMPs). Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of "waters of the United States." BMPs include structural and nonstructural controls, treatment requirements, operation and maintenance procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Non-Approved BMP. Any BMP for maintenance, construction, design pollution prevention, and treatment that are not in the Department's SWMP (CTSW-RT-02-008) or Statewide Storm Water Quality Practice Guidelines (CTSW-RT-02-009) approved for statewide use.

Post-Construction BMPs. Any structural or non-structural controls that detain, retain, or filter storm water to prevent the release of pollutants to receiving waters after final site stabilization is attained.

Structural BMPs. Any structural facility designed and constructed to mitigate the adverse impacts of storm water runoff (e.g. canopy, structural enclosure). The category may include both Treatment Control BMPs and Source Control BMPs.

Source Control BMPs. Any schedules of activities, prohibitions of practices, maintenance procedures, managerial practices or operational practices that aim to prevent storm water pollution by reducing the potential for contamination at the source. Examples include treatment techniques that use natural measures to reduce pollution levels, do not require extensive construction efforts, and/or promote pollutant reduction by controlling the pollutant source.

Treatment Control BMPs. Any engineered system designed to remove pollutants by simple gravity settling of particulate pollutants, filtration, biological uptake, media absorption or any other physical, biological, or chemical process.

California Ocean Plan (Ocean Plan). The water quality control plan for California near-coastal waters, first adopted by the State Water Resources Control Board in 1972. The purpose of the Ocean Plan is to protect the beneficial uses of the State's ocean waters by identifying water quality objectives, setting general waste discharge requirements, and listing discharge prohibitions. In addition, the Ocean Plan is used to develop and update statewide water quality control plans, policies, and standards involving marine waters.

California Toxics Rule. The Federal regulation, found at 40 CFR § 131.38. Establishes water quality criteria (limits) for heavy metals and other toxic compounds for the protection of beneficial uses of surface waters in California.

Catch Basins. A storm drain inlet having a sump below the outlet to capture settled solids, debris, sediment, and prevent clogging.

Chronic Toxicity. The ability of a substance or a mixture of substances to cause harmful effects over an extended period of time. Expressed as toxic units chronic (TUc), TUc=100/NOEL, where NOEL is the No Observed Effect Level.

Construction Activity. Any construction or demolition activity, clearing, grading, grubbing, or excavation or any other activity that results in a land disturbance. Construction does not include emergency construction activities required to immediately protect public health and safety or routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility.

Cut and Fill. The process of moving earth by excavating part of an area and using the excavated material for adjacent embankment of fill areas.

Department Airspaces. Any area within the Department's operating right-of-way that can safely accommodate a privately managed use such as: parking lots, self storage units, commercial businesses, light industry, and cellular telephone towers. The Department executes airspace leases with third parties for these uses.

Department Facility. A Maintenance Facility, Non-maintenance Facility, Highway Facility, Industrial Facility, or Vehicle Maintenance.

Maintenance Facility. A facility under Department ownership or control that contains fueling areas, maintenance stations/yards, waste storage or disposal facilities, wash racks, equipment or vehicle storage and materials storage areas.

***Non-maintenance Facility*.** Laboratories or office buildings used exclusively for administrative functions.

Highway Facility. Highways are linear facilities designed to carry vehicular and pedestrian traffic. These include freeways, highways, and expressways as designated by the California Streets and Highway Code and the California legislature. These facilities also include all support infrastructure associated with these freeways, including bridges, toll plazas, inspection and weigh stations, sound walls, retaining walls, culverts, vegetated slopes, shoulders, intersections, off ramps, on ramps, over passes, lights, signal lights, gutter, guard rail, and other support facilities. The support infrastructure is considered a Highway Facility only when accompanied by an increase in highway impervious surface. Otherwise, it is considered a non-highway .

***Industrial Facility*.** A collection of industrial processes discharging storm water associated with industrial activity within the property boundary or operational unit.

Non-Highway Facility. For purposes of this permit, a Non-Highway Facility is any facility not meeting the definition of a Highway Facility, including but not limited to rest stops, park and ride facilities, maintenance stations, vista points, warehouses, laboratories, and office buildings.

Discharge*.* When used without qualification means the discharge of a pollutant.

Direct Discharge. Any discharge from the MS4 that does not meet the definition of an indirect discharge.

Indirect Discharge. Any discharge from the MS4 that is conveyed to the receiving water through 300 feet or more of an unlined ditch or channel as measured between the discharge point from the MS4 and the receiving water.

Discharge of a Pollutant. The addition of any pollutant or combination of pollutants to waters of the United States from any point source, or any addition of any pollutant or combination of pollutants to the waters of the contiguous zone or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. The term includes additions of pollutants to waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works.

District Workplans (DWPs). Annual workplans prepared by each District containing descriptions of all activities and projects to be undertaken in the District that are necessary to implement the SWMP and comply with the requirements of this Order. DWPs are submitted annually with the Annual Report. Formerly known as the Regional Work Plans.

Drainage Inlet. A location where water runoff enters a storm water drainage system that includes streets, gutters, conduits, natural or artificial drains, channels and watercourses, or other facilities that are owned, operated, maintained and used for the purpose of collecting, storing, transporting or disposing of storm water

Effluent. Any discharge from the MS4.

Emergency. Any sudden, unexpected occurrence, involving a clear and imminent danger, demanding immediate action to prevent or mitigate loss of, or damage to, life, health, property, or essential public services. "Emergency" includes such occurrences as fire, flood, earthquake, or other soil or geologic movements, as well as such occurrences as riot, accident, or sabotage.

Erosion. The diminishing or wearing away of land due to wind, or water. Often the eroded material (silt or sediment) becomes a pollutant via stormwater runoff. Erosion occurs naturally, but can be intensified by land disturbing and grading activities such as farming, development, road building, and timber harvesting.

Facility Pollution Prevention Plan (**FPPP**). A plan that identifies the functional activities specific to the maintenance facility and the applicable BMPs and other procedures utilized by facility personnel to control the discharge of pollutants in storm water. Facilities subject to FPPPs include: maintenance yards/stations; material storage facilities/permanent stockpile locations (if not totally enclosed); equipment storage and repair facilities, roadside rest areas, agricultural and highway patrol weigh stations, decant storage or disposal locations, and permanent and temporary solid and liquid waste management sites.

FPPPs are not required for temporary stockpile locations (in continuous use for less than one year). All temporary stockpile locations shall implement the applicable best management practices defined in the Caltrans Stormwater Quality Handbook Maintenance Staff guide. Any stockpile location in continuous use for more than one year is deemed permanent and requires a Facility Pollution Prevention Plan.

Hydrograph Modification (Hydromodification). The alteration of the hydrologic characteristics of surface waters through watershed development. Under past practices, new and re-development construction activities resulted in urbanization, which in turn modified natural watershed and stream processes. The impacts of hydromodification include, but are not limited to, increased bed and bank erosion, loss of habitat, increased sediment transport and deposition, and increased flooding. Urbanization does this by altering the terrain, modifying the vegetation and soil characteristics, introducing impervious surfaces such as pavement and buildings, and altering the condition of stream channels through straightening, deepening, and armoring. These changes affect hydrologic characteristics in the watershed and affect the supply and transport of sediment in the stream system.

Hydromodification Management Plan. A plan to control and reduce the impacts of hydrograph modification from development activities in a watershed.

Illegal Connection/Illicit Discharge (IC/ID).

Illegal Connection. An engineered conveyance that is connected to an MS4 without authorization by local, state, or federal statutes, ordinances, codes, or regulations.

Illicit Discharge. Any discharge to an MS4 that is prohibited under local, state, or federal statutes, ordinances, codes, or regulations. It includes all non-storm water discharges except conditionally exempt non-storm water discharges.

***Illegal Dumping*.** Discarding or disposal within the Department's right-of-way, properties or facilities, either intentionally or unintentionally, of trash and other wastes in non-designated areas that may contribute to storm water pollution.

Impervious Cover. Any surface in the landscape that cannot effectively absorb or infiltrate rainfall; for example, sidewalks, rooftops, roads, and parking lots.

Incidental Runoff. Unintended small amounts (volume) of runoff from landscape irrigation, such as minimal over-spray from sprinklers that escapes the irrigated area. Water leaving an irrigated area is not considered incidental if it is due to improper (e.g. during a precipitation event) or excessive application, if it is due to intentional overflow or application, or if it is due to negligence. Leaks and other discharges (e.g. broken sprinkler heads) are not considered incidental if not corrected within 72 hours of learning of the discharge or if the discharge exceeds 1000 gallons.

Land Use. How land is managed or used by humans (e.g., residential and industrial development, roads, mining, timber harvesting, agriculture, grazing, etc.). Land use is generally regulated at the local level in the U.S. based on zoning and other regulations. Land use mapping differs from land cover mapping in that it is not always obvious what the land use is from visual inspection.

Load Allocation. The portion of a receiving water's loading capacity that is attributed either to one of its existing or future nonpoint sources of pollution or to natural background sources. Load allocations are best estimates of the loading, which can range from reasonably accurate estimates to gross allotments, depending on the availability of data and appropriate techniques for predicting the loading (40 CFR 130.2(g)).

Low Impact Development (LID). An approach to land development with the goal of mimicking or replicating the pre-project hydrologic regime through the use of design techniques to create a functionally equivalent hydrologic site design. Hydrologic functions of storage, infiltration and ground water recharge, as well as the volume and frequency of discharges are maintained through the use of integrated and distributed micro-scale storm water retention and detention areas, reduction of impervious surfaces, and the lengthening of runoff flow paths and flow time. Other strategies include the preservation/protection of environmentally sensitive site features such as riparian buffers, wetlands, steep slopes, mature trees, flood plains, woodlands, and highly permeable soils.

Maximum Extent Practicable (MEP). The minimum required performance standard for implementation of municipal storm water management programs to reduce pollutants in storm water. Clean Water Act § 402(p)(3)(B)(iii) requires that municipal permits "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants." MEP is the cumulative effect of implementing, evaluating, and making corresponding changes to a variety of technically appropriate and economically feasible BMPs, ensuring that the most appropriate controls are implemented in the most effective manner. To achieve the MEP standard, municipalities must employ whatever BMPs are technically feasible and are not cost-prohibitive. Reducing pollutants to the MEP means choosing effective BMPs, and rejecting applicable BMPs only where other effective BMPs will serve the same purpose, or the BMPs would not be technically feasible, or the costs would be prohibitive. A final determination of whether a municipality has reduced pollutants to the MEP can only be made by the State or Regional Water Boards.

Municipal Separate Storm Sewer System (MS4). A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) that is: (1) Owned or operated by a state, city, town, village, or other public entity that discharges to waters of the U.S.; (2) Designed or used to collect or convey storm water; (3) Not a combined sewer; and (4) Not part of a Publicly Owned Treatment Works.

Natural Ocean Water Quality. The water quality (based on selected physical, chemical and biological characteristics) that is required to sustain marine ecosystems, and which is without apparent human influence, i.e., an absence of significant amounts of: (a) man-made constituents (e.g., DDT); (b) other chemical (e.g., trace metals), physical (temperature/thermal pollution, sediment burial), and biological (e.g., bacteria) constituents at concentrations that have been elevated due to man's activities above those resulting from the naturally occurring processes that affect the area in question; and (c) non-indigenous biota (e.g., invasive algal bloom species) that have been introduced either deliberately or accidentally by man. Discharges "shall not alter natural ocean water quality" as determined by a comparison to the range of constituent concentrations in reference areas agreed upon via the regional monitoring program(s). If monitoring information indicates that natural ocean water quality is not maintained, but there is sufficient evidence that a discharge is not contributing to the alteration of natural water quality, then the Regional Water Board may make that determination. In this case, sufficient information must include runoff sample data that has equal or lower concentrations for the range of constituents at the applicable reference area(s).

New Development. Any newly constructed facility, street, road, highway or contiguous road surface installed as part of a street, road or highway project within the Department's right-of-way.

Non-Department Activities. Third party activities that are primarily controlled by encroachment permits, leases, and rental agreements. They include both construction activities and non-construction activities.

Non-Department Projects. Same as Non-Department Activities.

Non-storm Water. Discharges that are not induced by precipitation events and are not composed entirely of storm water. These discharges include, but are not limited to, discharges of process water, air conditioner condensate, non-contact cooling water, vehicle wash water, concrete washout water, paint wash water, irrigation water, pipe testing water, lawn watering overspray, hydrant flushing, and fire fighting activities.

Nonpoint Source. Pollution that is not released through a discrete conveyance but rather originates from multiple sources over a relatively large area. Nonpoint sources can be divided into source activities related to either land or water use, including failing septic tanks, animal agriculture, forest practices, and urban and rural runoff.

Nuisance. Anything that meets all of the following requirements: (1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property; (2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal; (3) occurs during, or as a result of, the treatment or disposal of wastes.

Perennial Stream. Any stream shown as a solid blue line on the latest version of the U.S. Geological Survey (USGS) 7.5 minute series quadrangle map (sometimes referred to as a blue-line stream). Where 7.5 minute series maps have not been prepared by USGS, 15 minute series maps are used.

Pesticide. Substances intended to repel, kill, or control any species designated a "pest" including weeds, insects, rodents, fungi, bacteria, or other organisms. The family of pesticides includes herbicides, insecticides, rodenticides, fungicides, algicides, and bactericides.

Algicide. A pesticide that controls algae in swimming pools and water tanks.

***Herbicide*.** A pesticide designed to control or kill plants, weeds, or grasses.

Insecticide. A pesticide compound specifically used to kill or prevent the growth of insects.

Rodenticide. A pesticide or other agent used to kill rats and other rodents or to prevent them from damaging food, crops, or forage

Fungicide. A pesticide used to control or destroy fungi on food or grain crops.

Bactericide. A pesticide used to control or destroy bacteria, typically in the home, schools, or on hospital equipment.

pH. A measure of the degree of acidity or alkalinity in a water sample. The pH of natural waters tends to range between 6 and 9, with neutral being 7. Extremes of pH can have deleterious effects on aquatic systems.

Point source. Any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged.

Pollutant. Dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 *et seq.*)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water.

Pollutants of Concern. Pollutants in a discharge with potential to cause a condition of pollution or nuisance due to the discharge of excessive amounts, proximity to receiving waters, or the properties of the pollutant. Pollutants that impair waterbodies listed under CWA section 303(d) are also Pollutants of Concern. Pollutants in the Department's discharge that may be Pollutants of Concern include, but are not limited to, total suspended solids; sediment; pathogens (e.g., bacteria, viruses, protozoa); heavy metals (e.g., copper, lead, zinc, and cadmium); petroleum products and polynuclear aromatic hydrocarbons; synthetic organics (e.g., pesticides, herbicides, and PCBs); nutrients (e.g., nitrogen and phosphorus fertilizers); oxygen-demanding substances (e.g., decaying vegetation and animal waste), and litter and trash.

Pollution. An alteration of the quality of the waters of the state by waste to a degree which unreasonably affects the beneficial uses of the water or facilities which serve those beneficial uses (Porter-Cologne Water Quality Control Act, section 13050(l)(1)).

Redevelopment. The creation, addition, and/or replacement of impervious surface on an already developed site. Examples include the expansion of a building footprint, road widening, the addition or replacement of a structure, and creation or addition of impervious surfaces. Replacement of impervious surfaces includes any activity that removes impervious materials and exposes the underlying soil or pervious subgrade. Redevelopment does not include trenching and resurfacing associated with utility work; pavement grinding and resurfacing of existing roadways; construction of new sidewalks, pedestrian ramps, or bike lanes on existing roadways; or routine replacement of damaged pavement such as pothole repair or replacement of short, non-contiguous sections of roadway. Redevelopment does include replacement of existing roadway surfaces where the underlying soil or pervious subgrade is exposed during construction. Replaced impervious surfaces of this type shall be considered "new impervious surfaces" for purposes of determining the applicability of post-construction treatment controls as provided in provision E.2.d.2).

Roadway. Any road within the Department's right-of-way.

Routine Maintenance. Activities intended to maintain the original line and grade, hydraulic capacity, or original purpose of a facility. Routine maintenance does not include replacement of existing roadway surfaces where the underlying soil or pervious subgrade is exposed.

Right-of-Way (ROW). Real property that is either owned or controlled by the Department or subject to a property right of the Department. Right-of-way that is in current use is referred to as operating ROW.

Sediment. Soil, sand, and minerals washed from land into water, usually after rain.

Slope Lateral Drainage. Horizontal drains placed in hillside embankments to intercept groundwater and direct it away from slopes to provide stability.

Spill. The sudden release of a potential pollutant to the environment.

Storm Water. Storm water runoff, snowmelt runoff, and surface runoff and drainage, as defined in 40 CFR 122.26 (b)(13).

Storm Water Runoff. The portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, channels or pipes.

Standard Urban Storm Water Mitigation Plan (SUSMP). Plans designating the Best Management Practices that must be used in specified categories of development and redevelopment. The State Water Board adopted a precedential decision (Order WQ 2000-11) upholding a SUSMP requirement imposed under a Phase I MS4 permit and requiring SUSMPs in all MS4 permits.

Storm Water Management Plan (SWMP). Description of the procedures and practices used to reduce or eliminate the discharge of pollutants to storm drain systems and receiving waters.

Surface Water Ambient Monitoring Program (SWAMP). The State Water Board's monitoring, assessment, and reporting program for ambient surface water.

Threshold Drainage Area (TDA). The area draining to a location 20 channel widths downstream (representative reach) of a stream crossing (pipe, swale, culvert, or bridge) within Project Limits.

Threatened Non-compliance. Any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

Total Dissolved Solids (TDS). A quantitative measure of the residual minerals dissolved in water that remain after evaporation of a solution and used to evaluate the quality of freshwater systems.

Total Kjeldahl Nitrogen (TKN). The sum of organic nitrogen and total ammonia nitrogen.

Total Maximum Daily Load (TMDL). The sum of the individual WLAs for point sources and LAs for nonpoint sources and natural background. If a receiving water has only one point source discharger, the TMDL is the sum of that point source WLA plus the LAs for any nonpoint sources of pollution and natural background sources, tributaries, or adjacent segments. TMDLs can be expressed in terms of either mass per time, toxicity, or other appropriate measure. If Best Management Practices (BMPs) or other nonpoint source pollution controls make more stringent load allocations practicable, then wasteload allocations can be made less stringent. Thus, the TMDL process provides for nonpoint source control tradeoffs (40 CFR 130.2(i)).

Total Petroleum Hydrocarbon (TPH). A measure of the concentration or mass of petroleum hydrocarbons in a given amount of soil or water. TPH is a mixture of different compounds from different sources.

Total Suspended Solids (TSS). Suspended particulate matter: Fine material or soil particles that remain suspended by the water column. They create turbidity and, when deposited, can smother fish eggs or alevins.

Toxicity. The adverse response(s) of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies.

Trash. All improperly discarded waste material associated with human habitation, of human origin; or from any producing, manufacturing, or processing operation including, but not limited to, product packaging or containers constructed of steel, aluminum, glass, paper, plastic, and other natural and synthetic materials that are thrown or deposited in waters or where it could be transported, as floating, suspended, and/or settleable materials, to waters of the State, including watersheds. (SWRCB Trash Policy).

Turbidity. Murkiness or cloudiness of water, indicating the presence of suspended solids.

United States Environmental Protection Agency (U.S. EPA). U.S. EPA works to develop and enforce regulations that implement environmental laws enacted by the United States Congress. U.S. EPA is responsible for researching and setting national standards for the Storm Water Program.

Waste. Includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal.

Wasteload Allocation (WLA). The portion of a receiving water's total maximum daily load that is allocated to one of its existing or future point sources of pollution. Waste load allocations constitute a type of water quality-based effluent limitation.

Water Quality Objectives (WQO). The limits or levels of water quality elements or biological characteristics established to reasonably protect the beneficial uses of water or to prevent nuisance within a specific area. Water quality objectives may be numeric or narrative.

Water Quality Standards (WQS). State-adopted and U.S. EPA-approved water quality standards for surface water bodies. The standards prescribe the beneficial uses (swimmable, fishable, drinkable, etc.) of the water body and establish the WQOs that must be met to protect designated uses.

Waters of the State. Any surface water or groundwater, including saline waters, within boundaries of the state, as defined in CWC 13050(e). This Order contains requirements to protect the beneficial uses of waters of the State.

Waters of the United States. All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters subject to the ebb and flow of the tide. Waters of the United States [as defined in 40 CFR 230.3(s)] include all interstate waters and intrastate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use of which would affect or could affect interstate or foreign commerce. The definition also applies to tributaries of the aforementioned waters. See 40 CFR 122.2 for the complete definition, which is hereby incorporated by reference.

Watershed. A drainage area or basin in which all water drains or flows toward a central collector such as a stream, river, or lake at a lower elevation.

Wetlands. Areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Workplans. See District Workplans

Attachment IX: Reporting Requirements

Reporting Requirement	Permit Section	Page #	Due Date	Frequency
Annual Report	E.3.	56	October 1, 2013	Annually
Draft ASBS Compliance Plan	E.5.b.2)	59	September 20, 2013	18 months after the General Exception effective date
Final ASBS Compliance Plan	E.5.b.2)	59	September 20, 2014	30 months after the General Exception effective date
Budget Analysis	E.2.b.3)c)	26	October 1, 2017	Year 4 of Permit Cycle
Certification of the Adequacy of Legal Authority	E.2.b.2)b)	25	October 1, 2013	Annually as part of the Annual Report
District Workplans	E.3.b.	56	October 1, 2013	Annually as part of the Annual Report
Facility Pollution Prevention Plan (FPPP)	E.2.h.2)	48	October 1, 2013	Annually as part of the Annual Report and as required by the Regional Water Board
Fiscal Analysis	E.2.b.3)b)	25	October 1, 2013	Annually as part of the Annual Report
IC/ID & Illegal Dumping Response Plan	E.2.h.4)b)ii)	51	December 31, 2013	Update as needed annually
Incident Report Form	E.2.b.6)and Attachment I	26	October 1, 2013	As Needed
Landslide Management Plan	E.2.h.3)d)	51	October 1, 2013	Year 1 Annual Report
Monitoring Results Report (MRR)	E.2.c.5)	35	October 1, 2013	Annually
Monitoring Site Prioritization (Tier 2)	E.2.c.1)	27	March 1, 2014	Within 8 months of the effective date
Municipal Coordination Plan	E.2.b.1)b)	25	October 1, 2013	To be Included in the SWMP and Progress Report as part of the Annual Report
Overall Program Effectiveness Evaluation	E.2.m.3)	55	October 1, 2013	Annually as part of the Annual Report
Public Education Program Progress Report	E.2.l.2)	54	October 1, 2013	Annually as part of the Annual Report
Self-Audit - (includes construction activities)	E.2.m.2)	55	October 1, 2013	Annually as part of the Annual Report
Stormwater Monitoring & BMP Development Status Report	E.2.e.	44	October 1, 2013	Annually as part of the Annual Report
Stormwater Treatment BMP Technology Report	E.2.e.	44	October 1, 2013	Annually as part of the Annual Report
TMDL Status Review Report	E.4.c.	59	October 1, 2014	Annually as part of the Annual Report
Updated Stormwater Management Plan (SWMP)	E.1.a.	23	October 1, 2013	Revisions as part of the Annual Report
Waste Management Plan	E.2.h.3)c)iii)	50	July 1, 2014	Within 1 year of the Effective Date

Note: This table is a partial list of reporting requirements. The Department shall submit all required reports as provided in the Order. Any discrepancy between the text of the NPDES Permit and this table will be resolved in favor of the Permit.

Effective Date of this Order is July 1, 2013
Effective Date of the ASBS Special Protections (General Exception) is March 20, 2012

ATTACHMENT X — REFERENCES

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