Attachment A to Resolution No. 2005-012

Amendment to the Water Quality Control Plan – Los Angeles Region to incorporate the Marina del Rey Harbor Toxic Pollutants TMDL

Adopted by the California Regional Water Quality Control Board, Los Angeles Region on October 6, 2005.

Amendments:

Table of Contents
Add:

Chapter 7. Total Maximum Daily Loads (TMDLs) Summaries
7-18 Marina del Rey Harbor Toxic Pollutants TMDL

List of Tables, Figures and Inserts
Add:

Chapter 7. Total Maximum Daily Loads (TMDLs)
Tables
7.18 Marina del Rey Harbor Toxic Pollutants TMDL
7.18.1 Marina del Rey Harbor Toxic Pollutants TMDL: Elements
7.18.2 Marina del Rey Harbor Toxic Pollutants TMDL: Implementation Schedule

Chapter 7. Total Maximum Daily Loads (TMDLs) Summaries, Section 7-18 (Marina del Rey Harbor Toxic Pollutants TMDL)

This TMDL was adopted by the Regional Water Quality Control Board on October 6, 2005.

This TMDL was approved by:

The State Water Resources Control Board on [Insert Date].
The Office of Administrative Law on [Insert Date].
The U.S. Environmental Protection Agency on [Insert Date].

The following tables include the elements of this TMDL.

Table 7-18.1. Marina del Rey Harbor Toxic Pollutants TMDL: Elements

<table>
<tr><th>Element</th><th>Key Findings and Regulatory Provisions</th></tr>
<tr><td>Problem Statement</td><td>The back basins of Marina del Rey Harbor are on the Clean Water Act Section 303(d) list of impaired waterbodies for chlordane, copper, lead, zinc, PCBs, DDT, dieldrin, sediment toxicity and a fish consumption advisory. Review of available data during the development of this TMDL indicated that dieldrin and DDT are no longer causes of impairment. The following designated beneficial uses are impaired by these toxic pollutants: water contact recreation (REC1); marine habitat (MAR); wildlife habitat (WILD); commercial and sport fishing (COMM); and shellfish harvesting (SHELL).</td></tr>
<tr><td>Numeric Target
(Interpretation of the narrative and numeric water quality objective, used to calculate the allocations)</td><td>Numeric targets for the harbor sediments are based on the sediment quality guidelines compiled by the National Oceanic and Atmospheric Administration, which are used in evaluating waterbodies within the Los Angeles Region for development of the 303(d) list. The Effects Range-Low (ERLs) guidelines are established as the numeric targets for sediments in Marina del Rey Harbor.

Numeric Targets for Metals in Sediment (mg/kg)
<table><tr><th>Copper</th><th>Lead</th><th>Zinc</th></tr><tr><td>34</td><td>46.7</td><td>150</td></tr></table>
Numeric Targets for Organic Compounds in Sediment (µg/kg)
<table><tr><th>Chlordane</th><th>Total PCBs</th></tr><tr><td>0.5</td><td>22.7</td></tr></table>
In addition to the sediment numeric target, water column and fish tissue targets are set for the PCB impairment in fish tissue.

The California Toxics Rule (CTR) Criterion for the protection of human health from the consumption of aquatic organisms is selected as the final numeric target for total PCBs in the water column. However, given the inability of current analytical methods to detect concentrations at this low level, an interim numeric target will be applied. The CTR Chronic Criterion for the protection of aquatic life in saltwater is selected as the interim numeric target for the fish tissue impairment by PCBs. This numeric target will remain in effect until advances in technology allow for analysis of PCBs at lower detection limits.
Interim Target for total PCBs in the Water Column: 0.03µg/L
Final Target for total PCBs in the Water Column: 0.00017 µg/L

The numeric Target for PCBs in fish tissue is the Threshold Tissue Residue Level that is derived from CTR human health criteria, which are adopted criteria for water designated to protect humans from consumption of contaminated fish or other aquatic organisms.

Numeric Target for total PCBs in Fish Tissue: 5.3 µg/Kg</td></tr>
</table>

<table>
<tr><th>Element</th><th>Key Findings and Regulatory Provisions</th></tr>
<tr><td>Source Analysis</td><td>Urban storm water has been recognized as a substantial source of metals. Numerous researchers have documented that the most prevalent metals in urban storm water (i.e., copper, lead, and zinc) are consistently associated with suspended solids. Because metals are typically associated with fine particles in storm water runoff, they have the potential to accumulate in marine sediments where they may pose a risk of toxicity. Similar to metals, the majority of organic constituents in storm water are associated with particulates.

Passive leaching of copper-based anti-fouling paints is a potential source of copper loading to the sediment. However, there is insufficient information available to quantify the contribution of boat discharges to the sediment pollutant load. This TMDL requires a study designed to estimate copper partitioning between the water column and sediment in Marina del Rey harbor, in order to determine the impact of passive leaching on the marine sediment.

Direct deposition of airborne particles to the water surface may be responsible for contributing copper, lead and zinc to the Marina del Rey back basins. The estimated contribution from this source is minor. Indirect atmospheric deposition reflects the process by which metals deposited on the land surface may be washed off during storm events and delivered to Marina del Rey Harbor. The loading of metals associated with indirect atmospheric deposition are accounted for in the storm water runoff.</td></tr>
<tr><td>Loading Capacity</td><td>TMDLs are developed for copper, lead, zinc, chlordane, and PCBs within the sediments of Marina del Rey Harbor’s back basins.

The loading capacity for Marina del Rey Harbor is calculated by multiplying the numeric targets by the average annual total suspended solids (TSS) loading to the harbor sediment. The average annual TSS discharged to the back basins of the harbor is 64,166 kilograms per year (kg/yr). The TMDL is set equal to the loading capacity.

<u>Metals Loading Capacity (kilograms/year)</u>
<table><tr><th>Copper</th><th>Lead</th><th>Zinc</th></tr><tr><td>2.18</td><td>3.0</td><td>9.6</td></tr></table>
<u>Organics Loading Capacity (grams/year)</u>
<table><tr><th>Chlordane</th><th>Total PCBs</th></tr><tr><td>0.03</td><td>1.46</td></tr></table></td></tr>
<tr><td>Load Allocations (for nonpoint sources)</td><td>Load allocations (LA) are assigned to nonpoint sources Marina del Rey Harbor. Load allocations are developed for open space and direct atmospheric deposition.

The mass-based load allocation for direct atmospheric deposition is equal to the percentage of the watershed covered by water (5.4%) multiplied by the total loading capacity.</td></tr>
</table>

<table>
<tr><th>Element</th><th>Key Findings and Regulatory Provisions</th></tr>
<tr><td></td><td>
Metals Load Allocations for Direct Atmospheric Deposition (kg/yr)
<table>
<tr><th>Copper</th><th>Lead</th><th>Zinc</th></tr>
<tr><td>0.12</td><td>0.16</td><td>0.52</td></tr>
</table>
Organics Load Allocations for Direct Atmospheric Deposition(g/yr)
<table>
<tr><th>Chlordane</th><th>Total PCBs</th></tr>
<tr><td>0.002</td><td>0.079</td></tr>
</table>
</td></tr>
<tr><td>Waste Load Allocations (for point sources)</td><td>
Waste load allocations (WLA) are assigned to point sources for the Marina del Rey watershed. A grouped mass-based waste load allocation is developed for the storm water permittees (Los Angeles County MS4, Caltrans, General Construction and General Industrial) by subtracting the load allocations from the total loading capacity. Concentration-based waste load allocations are developed for other point sources in the watershed.
Metals Waste Load Allocations for Storm Water (kg/yr)
<table>
<tr><th>Copper</th><th>Lead</th><th>Zinc</th></tr>
<tr><td>2.06</td><td>2.83</td><td>9.11</td></tr>
</table>
Organics Waste Load Allocations for Storm Water (g/yr)
<table>
<tr><th>Chlordane</th><th>Total PCBs</th></tr>
<tr><td>0.03</td><td>1.38</td></tr>
</table>
The storm water waste load allocations are apportioned between the MS4 permittees, Caltrans, the general construction and the general industrial storm water permits based on an areal weighting approach.
Metals Storm Water WLAs Apportioned between Permits (kg/yr)
<table>
<tr><th></th><th>Copper</th><th>Lead</th><th>Zinc</th></tr>
<tr><td>MS4 Permittees</td><td>2.01</td><td>2.75</td><td>8.85</td></tr>
<tr><td>Caltrans</td><td>0.022</td><td>0.03</td><td>0.096</td></tr>
<tr><td>General Construction</td><td>0.033</td><td>0.045</td><td>0.144</td></tr>
<tr><td>General Industrial</td><td>0.004</td><td>0.006</td><td>0.018</td></tr>
</table>
Organics Storm Water WLAs Apportioned between Permits (g/yr)
<table>
<tr><th></th><th>Chlordane</th><th>Total PCBs</th></tr>
<tr><td>MS4 Permittees</td><td>0.0295</td><td>1.34</td></tr>
<tr><td>Caltrans</td><td>0.0003</td><td>0.015</td></tr>
<tr><td>General Construction</td><td>0.0005</td><td>0.022</td></tr>
<tr><td>General Industrial</td><td>0.0001</td><td>0.003</td></tr>
</table>
Each storm water permittee enrolled under the general construction or industrial storm water permits will receive an individual waste load allocation on a per acre basis, based on the acreage of their facility.
</td></tr>
</table>

<table>
<tr><th>Element</th><th>Key Findings and Regulatory Provisions</th></tr>
<tr><td></td><td>
Metals per Acre WLAs for Individual General Construction or Industrial Storm Water Permittees (g/yr/ac)
<table>
<tr><th>Copper</th><th>Lead</th><th>Zinc</th></tr>
<tr><td>2.3</td><td>3.1</td><td>10</td></tr>
</table>
Organics per acre WLAs for Individual General Construction or Industrial Storm Water Permittees (mg/yr/ac)
<table>
<tr><th>Chlordane</th><th>Total PCBs</th></tr>
<tr><td>0.03</td><td>1.5</td></tr>
</table>
Concentration-based waste load allocations are assigned to the minor NPDES permits and general non-storm water NPDES permits that discharge to Marina del Rey Harbor. Any future minor NPDES permits or enrollees under a general non-storm water NPDES permit will also be subject to the concentration-based waste load allocations.
Metals Concentration-based Waste Load Allocations (mg/kg)
<table>
<tr><th>Copper</th><th>Lead</th><th>Zinc</th></tr>
<tr><td>34</td><td>46.7</td><td>150</td></tr>
</table>
Organic Concentration-based Waste Load Allocations (µg/kg)
<table>
<tr><th>Chlordane</th><th>Total PCBs</th></tr>
<tr><td>0.5</td><td>22.7</td></tr>
</table>
</td></tr>
<tr><td>Margin of Safety</td><td>An implicit margin of safety is applied through the use of the more protective sediment quality guideline values. The ERLs were selected over the higher ERMs as the numeric targets.</td></tr>
<tr><td>Implementation</td><td>The regulatory mechanisms used to implement the TMDL will include the Los Angeles County Municipal Storm Water NPDES Permit (MS4), the State of California Department of Transportation (Caltrans) Storm Water Permit, minor NPDES permits, general NPDES permits, general industrial storm water NPDES permits, general construction storm water NPDES permits. Nonpoint sources will be regulated through the authority contained in sections 13263 and 13269 of the Water Code, in conformance with the State Water Resources Control Board's Nonpoint Source Implementation and Enforcement Policy (May 2004). Each NPDES permit assigned a WLA shall be reopened or amended at re-issuance, in accordance with applicable laws, to incorporate the applicable WLAs as a permit requirement.

The Regional Board shall reconsider this TMDL in six years after the effective date of the TMDL based on additional data obtained from special studies. Table 7-14.2 presents the implementation schedule for the responsible permittees.

Minor NPDES Permits and General Non-Storm Water NPDES Permits:</td></tr>
</table>

Element	Key Findings and Regulatory Provisions
	The concentration-based waste load allocations for the minor NPDES permits and general non-storm water NPDES permits will be implemented through NPDES permit limits. Permit writers may translate applicable waste load allocations into effluent limits for the minor and general NPDES permits by applying applicable engineering practices authorized under federal regulations. The minor and existing general non-storm water NPDES permittees are allowed up to seven years from the effective date of the TMDL to achieve the waste load allocations. **General Industrial Storm Water Permit:** The Regional Board will develop a watershed specific general industrial storm water permit to incorporate waste load allocations. Concentration-based permit limits may be set to achieve the mass-based waste load allocations. These concentration-based limits would be equal to the concentration-based waste load allocations assigned to the other NPDES permits. It is expected that permit writers will translate the waste load allocations into BMPs, based on BMP performance data. However, the permit writers must provide adequate justification and documentation to demonstrate that specified BMPs are expected to result in attainment of the numeric waste load allocations. The general industrial storm water permittees are allowed up to seven years from the effective date of the TMDL to achieve the waste load allocations. **General Construction Storm Water Permit:** Waste load allocations will be incorporated into the State Board general permit upon renewal or into a watershed specific general construction storm water permit developed by the Regional Board. Within seven years of the effective date of the TMDL, the construction industry will submit the results of BMP effectiveness studies to determine BMPs that will achieve compliance with the waste load allocations assigned to construction storm water permittees. Regional Board staff will bring the recommended BMPs before the Regional Board for consideration within eight years of the effective date of the TMDL. General construction storm water permittees will be considered in compliance with waste load allocations if they implement these Regional Board approved BMPs. All general construction permittees must implement the approved BMPs within nine years of the effective date of the TMDL. If no effectiveness studies are conducted and no BMPs are approved by the Regional Board within eight years of the effective date of the TMDL, each general construction storm water permit holder will be subject to site-specific BMPs and monitoring requirements to demonstrate compliance with waste load allocations. **MS4 and Caltrans Storm Water Permits:** The County of Los Angeles, City of Los Angeles, and Culver City are

Element	Key Findings and Regulatory Provisions
	jointly responsible for meeting the mass-based waste load allocations for the MS4 permittees. Caltrans is responsible for meeting their mass-based waste load allocations, however, they may choose to work with the MS4 permittees. The primary jurisdiction for the Marina del Rey Harbor watershed is the County of Los Angeles. Each municipality and permittee will be required to meet the waste load allocations at the designated TMDL effectiveness monitoring points. A phased implementation approach, using a combination of non-structural and structural BMPs may be used to achieve compliance with the waste load allocations. The administrative record and the fact sheets for the MS4 and Caltrans storm water permits must provide reasonable assurance that the BMPs selected will be sufficient to implement the numeric waste load allocations. We expect that reductions to be achieved by each BMP will be documented and that sufficient monitoring will be put in place to verify that the desired reductions are achieved. The permits should also provide a mechanism to adjust the required BMPs as necessary to ensure their adequate performance. The implementation schedule for the MS4 and Caltrans permittees consists of a phased approach, with compliance to be achieved in prescribed percentages of the watershed, with total compliance to be achieved within 10 years. However, the Regional Board may extend the implementation period up to 15 years if an integrated water resources approach is employed. The waste load allocations and load allocations have been developed to achieve the numeric targets in the back basins of Marina del Rey Harbor by the end of the compliance period. However, the Regional Board is aware of toxic pollutants bound up in sediment. To the extent that the Regional Board or another responsible jurisdiction or agency determines that toxic pollutants bound in sediments are still preventing the attainment of numeric targets, the Regional Board will issue appropriate investigatory orders or cleanup and abatement orders to achieve attainment of the numeric targets.
Seasonal Variations and Critical Conditions	There is a high degree of inter- and intra-annual variability in total suspended solids discharged to Marina del Rey Harbor. This is a function of the storms, which are highly variable between years. The TMDL is based on a TSS load derived from long-term average rainfall over a 52-year period from 1948 to 2000. This time period contains a wide range of storm conditions and drain discharges to Marina del Rey Harbor. Use of the average condition for the TMDL is appropriate because issues of sediment effects on benthic communities and potential for bioaccumulation to higher trophic levels occurs over long time periods.
Monitoring	Effective monitoring will be required to assess the condition of Marina del Rey Harbor and to assess the on-going effectiveness of efforts by dischargers to reduce toxic pollutants loading from the Marina del Rey Watershed. Special studies may also be appropriate to provide further

Element	Key Findings and Regulatory Provisions
	information about new data, new or alternative sources, and revised scientific assumptions. Below the Regional Board identifies the various goals of monitoring efforts and studies that shall be developed in a coordinated manner. The programs, reports, and studies will be developed in response to subsequent orders issued by the Executive Officer. **Ambient Component** A monitoring program is necessary to assess water quality throughout Marina del Rey Harbor and to assess fish tissue and sediment quality in the harbor's back basins. Data on background water quality for copper will help refine the numeric targets and waste load allocations and assist in the effective placement of BMPs. In addition, fish tissue data is required in Marina del Rey's back basins to confirm continued impairment. Water quality samples shall be collected monthly and analyzed for chlordane and total PCBs at detection limits that are at or below the minimum levels until the TMDL is reconsidered in the sixth year. The minimum levels are those published by the State Water Resources Control Board in Appendix 4 of the Policy for the Implementation of Toxic Standards for Inland Surface Water, Enclosed Bays, and Estuaries of California, March 2, 2000. Special emphasis should be placed on achieving detection limits that will allow evaluation relative to the CTR standards. If these can not be achieved with conventional techniques, then a special study should be proposed to evaluate concentrations of organics. Water quality samples shall also be collected monthly and analyzed for copper, lead, and zinc until the TMDL is reconsidered in the sixth year. For metals water column analysis, methods that allow for (1) the removal of salt matrix to reduce interference and avoid inaccurate results prior to the analysis; and (2) the use of trace metal clean sampling techniques, should be applied. Examples of such methods include EPA Method 1669 for sample collection and handling, and EPA Method 1640 for sample preparation and analysis. Storm water monitoring shall be conducted for metals (copper, lead. and zinc) and organics (chlordane and total PCBs) to provide assessment of water quality during wet-weather conditions and loading estimates from the watershed to the harbor. Special emphasis should be placed on achieving lower detection limits for organochlorine compounds. The MS4 and Caltrans storm water permittees are jointly responsible for conducting bioaccumulation testing of fish and mussel tissue within the Harbor. The permittees are required to submit for approval of the Executive Officer a monitoring plan that will provide the data needed to confirm the 303(d) listing or de-listing, as applicable. Representative sediment sampling shall be conducted quarterly within

Element	Key Findings and Regulatory Provisions
	the back basins of the harbor for copper, lead, zinc, chlordane, and total PCBs at detection limits that are lower than the ERLs. Sediment samples shall also be analyzed for total organic carbon, grain size and sediment toxicity. Initial sediment toxicity monitoring should be conducted quarterly in the first year of the TMDL to define the baseline and semi-annually, thereafter, to evaluate effectiveness of the BMPs until the TMDL is reconsidered in the sixth year. The sediment toxicity testing shall include testing of multiple species, a minimum of three, for lethal and non-lethal endpoints. Toxicity testing may include: the 28-day and 10-day amphipod mortality test; the sea urchin fertilization testing of sediment pore water; and the bivalve embryo testing of the sediment/water interface. The chronic 28-day and shorter-term 10-day amphipod tests may be conducted in the initial year of quarterly testing and the results compared. If there is no significant difference in the tests, then the less expensive 10-day test can be used throughout the rest of the monitoring, with some periodic 28-day testing. **Effectiveness Component** The water quality samples collected during wet weather shall be analyzed for total dissolved solids, settleable solids and total suspended solids if not already part of the sampling program. Sampling shall be designed to collect sufficient volumes of settable and suspended solids to allow for analysis of copper, lead, zinc, chlordane, total PCBs, and total organic carbon in the sediment. Monthly representative sediment sampling shall be conducted at existing monitoring locations throughout the harbor, and analyzed for copper, lead, zinc, chlordane, and total PCBs at detection limits that are lower than the ERLs. The, sediment samples shall also be analyzed for total organic carbon and grain size. Sediment toxicity testing shall be conducted semi-annually, and shall include testing of multiple species (a minimum of three) for lethal and non-lethal endpoints. Toxicity testing may include: the 28-day or10-day amphipod mortality test; the sea urchin fertilization testing of sediment pore water; and the bivalve embryo testing of the sediment/water interface. Toxicity shall be indicated by an amphipod survival rate of 70% or less in a single test, in conjunction with a statistically significant decrease in amphipod survival relative to control organisms (significance determined by T-test, a=0.05). Accelerated monitoring maybe conducted to confirm toxicity at stations identified as toxic. Accelerated monitoring shall consist of six additional tests, approximately every two weeks, over a 12-week period. If the results of any two of the six accelerated tests are less than 90% survival, then the MS4 and Caltrans permittees shall conduct a Toxicity Identification Evaluation (TIE). Alternatively, responsible parties have the option of foregoing accelerated toxicity testing and conducting a TIE directly following an indication of toxicity. The TIE shall include reasonable steps to

Element	Key Findings and Regulatory Provisions
	identify the sources of toxicity and steps to reduce the toxicity The Phase I TIE shall include the following treatments and corresponding blanks: baseline toxicity; particle removal by centrifugation; solid phase extraction of the centrifuged sample using C8, C18, or another media; complexation of metals using ethylenediaminetetraacetic acid (EDTA) addition to the raw sample; neutralization of oxidants/metals using sodium thiosulfate addition to the raw sample; and inhibition of organo-phosphate (OP) pesticide activation using piperonyl butoxide addition to the raw sample (crustacean toxicity tests only). Bioaccumulation monitoring of fish and mussel tissue within the Harbor shall be conducted annually. The permittees are required to submit for approval of the Executive Officer a monitoring plan that will provide the data needed to assess the effectiveness of the TMDL. The general industrial storm water permit shall contain a model monitoring and reporting program to evaluate BMP effectiveness. A permittee enrolled under the general industrial permit shall have the choice of conducting individual monitoring based on the model program or participating in a group monitoring effort. MS4 permittees are encouraged to take the lead in group monitoring efforts for industrial facilities within their jurisdiction because compliance with waste load allocations by these facilities will in many cases translate to reductions in contaminate loads to the MS4 system. **Special Studies** Special studies are necessary to refine source assessments, to provide better estimates of loading capacity, and to optimize implementation efforts. The Regional Board will re-consider the TMDL in the sixth year after the effective date in light of the findings of these studies. Studies required for this TMDL include: • Evaluate partitioning coefficients between water column and sediment to assess the contribution of water column discharges to sediment concentrations in the harbor, and • Evaluate the use of low detection level techniques to determine water quality concentrations for those contaminants where standard detection limits cannot be used to assess compliance for CTR standards or are not sufficient for estimating source loadings from tributaries and storm water. Studies recommended for this TMDL include: • Develop and implement a monitoring program to collect the data necessary to apply a multiple lines of evidence approach; • Refine the relationship between pollutants and suspended solids aimed at better understanding of the delivery of pollutants to the watershed, and • Evaluate the effectiveness of BMPs to address pollutants and/or sediments.

Table 7-18.2. Marina del Rey Harbor Toxic Pollutants TMDL: Implementation Schedule

Date	Action
Effective date of the TMDL	Regional Board permit writers shall incorporate the waste load allocations for sediment into the NPDES permits. Waste load allocations will be implemented through NPDES permit limits in accordance with the implementation schedule contained herein, at the time of permit issuance, renewal or re-opener.
On-going	The Executive Officer shall promptly issue appropriate investigatory and clean up and abatement orders to address any toxicity hotspots within sediments identified as a result of data submitted pursuant to this TMDL, any U.S. Army Corps of Engineer dredging activity, or any other investigation.
Within 6 months after the effective date of the State Board adopted sediment quality objectives and implementation policy	The Regional Board will re-assess the numeric targets and waste load allocations for consistency with the State Board adopted sediment quality objectives.
5 years after effective date of the TMDL	Responsible jurisdictions and agencies shall provide to the Regional Board result of any special studies.
6 years after effective date of the TMDL	The Regional Board shall reconsider this TMDL to re-evaluate the waste load allocations and the implementation schedule.
MINOR NPDES PERMITS AND GENERAL NON-STORM WATER NPDES PERMITS	
7 years after effective date of the TMDL	The non-storm water NPDES permits shall achieve the concentration-based waste load allocations for sediment per provisions allowed for in NPDES permits.
GENERAL INDUSTRIAL STORM WATER PERMIT	
7 years after effective date of the TMDL	The general industrial storm water permits shall achieve the mass-based waste load allocations for sediment per provisions allowed for in NPDES permits. Permits shall allow an iterative BMP process including BMP effectiveness monitoring to achieve compliance with permit requirements.
GENERAL CONSTRUCTION STORM WATER PERMIT	
7 years from the effective date of the TMDL	The construction industry will submit the results of the BMP effectiveness studies to the Regional Board for consideration. In the event that no effectiveness studies are conducted and no BMPs are approved, permittees shall be subject to site-specific BMPs and monitoring to demonstrate BMP effectiveness.

Date	Action
8 years from the effective date of the TMDL	The Regional Board will consider results of the BMP effectiveness studies and consider approval of BMPs no later than eight years from the effective date of the TMDL.
9 years from the effective date of the TMDL	All general construction storm water permittees shall implement Regional Board-approved BMPs.
MS4 AND CALTRANS STORM WATER PERMITS	
12 months after the effective date of the TMDL	In response to an order issued by the Executive Officer, the MS4 and Caltrans storm water NPDES permittees must submit a coordinated monitoring plan, to be approved by the Executive Officer, which includes both ambient monitoring and TMDL effectiveness monitoring. Once the coordinated monitoring plan is approved by the Executive Officer, monitoring shall commence within 6 months. The draft monitoring report shall be made available for public comment and the Executive Officer shall accept public comments for at least 30 days.
5 years after effective date of TMDL (Draft Report) 5 ½ years after effective date of TMDL (Final Report)	The MS4 and Caltrans storm water NPDES permittees shall provide a written report to the Regional Board outlining how they will achieve the waste load allocations for sediment to Marina del Rey Harbor. The report shall include implementation methods, an implementation schedule, proposed milestones, and any applicable revisions to the TMDL effectiveness monitoring plan. The draft report shall be made available for public comment and the Executive Officer shall accept public comments for at least 30 days.
Schedule for MS4 and Caltrans Permittees if Pursuing a TMDL Specific Implementation Plan	
8 years after effective date of the TMDL	The MS4 and Caltrans storm water NPDES permittees shall demonstrate that 50% of the total drainage area served by the MS4 system is effectively meeting the waste load allocations for sediment.
10 years after effective date of the TMDL	The MS4 and Caltrans storm water NPDES permittees shall demonstrate that 100% of the total drainage area served by the MS4 system is effectively meeting the waste load allocations for sediment.
Schedule for MS4 and Caltrans Permittees if Pursuing an Integrated Resources Approach, per Regional Board Approval	
7 years after effective date of the TMDL	The MS4 and Caltrans storm water NPDES permittees shall demonstrate that 25% of the total drainage area served by the MS4 system is effectively meeting the waste load allocations for sediment.
9 years after effective date of the TMDL	The MS4 and Caltrans storm water NPDES permittees shall demonstrate that 50% of the total drainage area served by the MS4

Date	Action
	system is effectively meeting the waste load allocations for sediment.
11 years after effective date of the TMDL	The MS4 and Caltrans storm water NPDES permittees shall demonstrate that 75% of the total drainage area served by the MS4 system is effectively meeting the waste load allocations for sediment.
15 years after effective date of the TMDL	The MS4 and Caltrans storm water NPDES permittees shall demonstrate that 100% of the total drainage area served by the MS4 system is effectively meeting the waste load allocations for sediment.