Proposed Addition to ATTACHMENT E, LIST OF TOTAL MAXIMUM DAILY LOADS (TMDLs) APPLICABLE TO INDUSTRIAL STORM WATER DISCHARGERS

Total Maximum Daily Load for Boron, Chloride, Sulfate, and Total Dissolved Solids (Salts) in the Calleguas Creek Watershed

Resolution No.	R4-2007-016
Effective Date	December 2, 2008
Impaired Water Body(ies)	Calleguas Creek Watershed, specifically Reach 3 (mainstem), 4 (Revolon Slough above Wood Road), 6 (Arroyo Las Posas & Fox/Barranca Channel), 7 (Arroyo Simi), 8 (Tapo Canyon Creek), 9A and 9B (Conejo Creek), 10 (Arroyo Conejo), 11 (Arroyo Santa Rosa), 12 (North Fork Arroyo Conejo), and 13 (South Fork Arroyo Conejo)
Pollutant(s)	Boron, Chloride, Sulfate, and Total Dissolved Solids (TDS) (these pollutants are commonly referred to as salts)
Responsible Dischargers	Industrial Storm Water General Permittees that discharge non-storm water to the impaired waterbodies either directly or via a municipal separate storm sewer system (MS4) or an upstream reach or tributary
Required Actions	Comply with the conditions and requirements of the Industrial Storm Water General Permit (Order No. 2014-0057-DWQ). If salts are not already addressed in the facility's current Storm Water Pollution Prevention Plan (SWPPP), including its Assessment of Potential Pollutant Sources per Section X.G.2.a.ix, then Responsible Dischargers, as defined above, shall assess all areas of industrial activity at the facility relative to their potential as a source of boron, chloride, sulfate, or TDS in authorized Non-Storm Water Discharges (NSWDs). The facility's SWPPP, including but not limited to the Assessment of Potential Pollutant Sources (Section X.G.2) and, where necessary, Best Management Practices (Section X.H) and Monitoring Implementation Plan (Section X.I), shall be updated based on the results. The revised SWPPP shall be certified and submitted via SMARTS no later than 6 months after incorporation of these TMDL-specific requirements in this Order. Responsible Dischargers that have identified[1] industrial areas of their facility as a potential source of boron, chloride, sulfate, or

[1] Either in the facility's existing SWPPP, or through the update to the facility SWPPP and the Assessment of Potential Pollutant Sources, as described below.

TDS in authorized NSWDs shall comply with the TMDL Action Levels (TALs)[2], expressed as instantaneous maximum values, in the table below. If sampling results indicate a TAL exceedance as set forth in Section XII.A, the Discharger shall commence the Exceedance Response Actions (ERAs) process set forth in Section XII.

TALs for Authorized Non-Storm Water Discharges

Pollutant	Concentration (mg/L, instantaneous maximum)
Boron[3]	1
Chloride	150
Sulfate	250
TDS	850

Authorized NSWDs shall be compared against these TALs when there has been no measurable precipitation in the previous 24 hours.

The State and/or Regional Water Board may require Industrial Storm Water General Permittees to implement additional actions to reduce salts in authorized NSWDs based on, but not limited to, monitoring data and comparison to applicable TALs, visual observations, discharger reports, or site-specific inspections and/or investigations.

Monitoring and Reporting Requirements

Where the facility's Assessment of Potential Pollutant Sources (described above) identifies industrial areas as a potential source of boron, chloride, sulfate, or TDS in authorized NSWDs, Responsible Dischargers shall update the facility Monitoring Implementation Plan (Section X.I) per Section XI.B.6.e-f to include:

- Sampling and analysis of the facility's authorized NSWDs for boron (discharges to Revolon Slough (Reach 4) and Arroyo Simi (Reach 7) only), and chloride, sulfate, and TDS (all discharges to impaired waterbodies, as described above) twice within a reporting year; and
- U.S. EPA approved analytical methods, with appropriate method detection and reporting limits relative to the TALs in

[2] A TMDL Action Level (TAL) is treated in the same manner as a Numeric Action Level (NAL) for the purposes of permit requirements, including the Monitoring Implementation Plan (Section X.I), Monitoring (Section XI), and Exceedance Response Actions (Section XII).

[3] The Boron TAL only applies to Authorized NSWDs in the Arroyo Simi (Reach 7) and Pleasant Valley (Revolon Slough/Reach 4) subwatersheds.

	the table above. The updated Monitoring Implementation Plan shall be included in the revised SWPPP and submitted via SMARTS no later than 6 months after incorporation of these TMDL-specific requirements in this Order.
TMDL documents are available at: http://www.waterboards.ca.gov/losangeles/water_issues/programs/tmdl/tmdl_list.shtml	

Fact Sheet for Calleguas Creek Watershed Boron, Chloride, Sulfate, and Total Dissolved Solids (Salts) TMDL

The TMDL addresses eleven reaches (specifically Reach 3 (mainstem), 4 (Revolon Slough above Wood Road), 6 (Arroyo Las Posas & Fox/Barranca Channel), 7 (Arroyo Simi), 8 (Tapo Canyon Creek), 9A and 9B (Conejo Creek), 10 (Arroyo Conejo), 11 (Arroyo Santa Rosa), 12 (North Fork Arroyo Conejo), and 13 (South Fork Arroyo Conejo)) in the Calleguas Creek Watershed that are identified as having elevated levels of boron, chloride, sulfate, and/or total dissolved solids (TDS) (these pollutants are commonly referred to as salts). Salts primarily impact two beneficial uses: agricultural supply and groundwater recharge. Salt discharges impact beneficial uses mostly in dry weather where high concentrations of salts in agriculture supply water can damage crops, affect plant growth, degrade drinking water, and damage industrial equipment. Most salts do not naturally degrade, and can accumulate in groundwater for decades. The economic cost of increased groundwater and surface water salinity to California – manifested in fallowed farmland, unsuitable drinking water supply, and environmental degradation – is estimated in the millions of dollars annually.[4]

Sources of salts in the watershed include water supply (water imported from the State Water Project or Freeman Diversion and deep aquifer groundwater pumping), water softeners that discharge to publicly owned treatment works (POTWs), POTW treatment chemicals, atmospheric deposition, pesticides and fertilizers, and indoor water use (chemicals, cleansers, food, etc.). These salts are then transported through POTW discharges and agricultural and urban runoff to surface water, shallow groundwater, and/or stranded on the watershed in the soils. While the concentration of salts in the introduced water is usually below water quality objectives, the quantity of water brought into the watershed is sufficient to rank introduced water as the greatest source of salts to the watershed.

To address these impairments, on October 4, 2007, the Los Angeles Regional Water Quality Control Board (Los Angeles Water Board) established the Calleguas Creek Watershed Boron, Chloride, Sulfate, and TDS (Salts) TMDL. The TMDL became effective on December 2, 2008. The goal of the TMDL is to protect and restore the water quality in the Calleguas Creek Watershed by controlling the loading and accumulation of salts.

Numeric Targets

Numeric targets are based on the site-specific numeric water quality objectives provided in the Water Quality Control Plan for the Los Angeles Region (Los Angeles Basin Plan).

Site-specific surface water quality objectives for the Calleguas Creek Watershed are applicable upstream of Potrero Road where surface waters are characterized as freshwater (as opposed to brackish or saltwater). Site-specific objectives have not been

[4] State Water Board, Groundwater Ambient Monitoring and Assessment Program, Groundwater Information Sheet on Salinity, pg. 2, at http://www.waterboards.ca.gov/gama/docs/coc_salinity.pdf.

established, as of this time, for Calleguas Creek below Potrero Road because the reach is tidally influenced. Below are the water quality objectives for Calleguas Creek and its tributaries upstream of Potrero Road.

Pollutant	Surface Water Quality Objectives Upstream of Potrero Road[5] (mg/L)
Boron	1
Chloride	150
Sulfate	250
TDS	850

Wasteload Allocations

The Calleguas Creek Watershed Salts TMDL identifies permitted storm water dischargers, including dischargers subject to the Industrial Storm Water General Permit, as responsible dischargers. Permitted storm water dischargers are assigned an aggregate, mass-based, final dry-weather wasteload allocation (WLA) equal to the average dry-weather critical condition flow rate multiplied by the numeric target for each pollutant. Dry-weather WLAs apply when instream flow rates are below the 86th percentile daily flow and there has been no measurable precipitation in the previous 24 hours.

Aggregate, Mass-based, Final Dry-weather WLAs for Permitted Storm Water Dischargers

Subwatershed	Critical Condition Flow Rate (mgd)	Chloride Allocation (lb/day)	TDS Allocation (lb/day)	Sulfate Allocation (lb/day)	Boron Allocation (lb/day)
Simi	1.39	1,738	9,849	2,897	12
Las Posas	0.13	157	887	261	N/A
Conejo	1.26	1,576	8,931	2,627	N/A
Camarillo	0.06	72	406	119	N/A
Pleasant Valley (Calleguas)	0.12	150	850	250	N/A
Pleasant Valley (Revolon)	0.25	314	1,778	523	2

The mass-based WLAs are derived from the concentration-based numeric targets. In the case of Industrial Storm Water General Permittees, demonstrating compliance with concentration-based values rather than mass-based values is more practical given the nature of monitoring requirements in this permit. Therefore, for the purposes of implementation of this TMDL in this permit, concentration-based WLA equivalents are provided below, which are based on the concentration-based numeric targets. These

[5] These objectives apply upstream of Wood Road in the Revolon Slough (Reach 4) subwatershed.

concentration-based WLA equivalents are consistent with the assumptions and requirements of the mass-based WLAs assigned to permitted storm water dischargers.

Concentration-based WLA Equivalents for Authorized NSWDs from Industrial Storm Water General Permittees

Pollutant	Concentration (mg/L, instantaneous maximum)
Boron[6]	1
Chloride	150
Sulfate	250
TDS	850

No WLAs are established for storm water discharges from permitted storm water dischargers. Because wet-weather flows transport a large mass of salts at low concentrations, permitted storm water discharges are generally meeting water quality objectives during wet weather based on available data.

Required Actions

The required actions apply to Industrial Storm Water General Permittees that discharge non-storm water to the impaired waterbodies either directly or via a municipal separate storm sewer system (MS4) or an upstream reach or tributary.

As described below, compliance with the conditions and requirements of the Industrial Storm Water General Permit is generally expected to achieve the dry weather WLAs assigned to permitted storm water dischargers in the Calleguas Creek Watershed Salts TMDL. Where necessary, this will be verified through sampling and analysis of authorized NSWDs and comparison of results to TMDL Action Levels (TALs), as described below.

Compliance with Wasteload Allocations

The Industrial Storm Water General Permit defines dry-weather discharges as either unauthorized NSWDs or authorized NSWDs (Sections III and IV.A.). Unauthorized NSWDs are prohibited under Section III.B. Authorized NSWDs cannot be in violation of any Basin Plan, including TMDL WLAs contained in a Basin Plan, or statewide water quality control plan or policy (Sections IV.B and VI.A). The required Storm Water Pollution Prevention Plan (SWPPP) must include implementation of appropriate BMPs to ensure that authorized NSWDs do not contain quantities of pollutants that cause or contribute to an exceedance of a water quality standard (Section IV.B.3.c).

Considering the existing conditions and requirements in the Industrial Storm Water General Permit regarding unauthorized and authorized NSWDs, if a Discharger complies with the Industrial Storm Water General Permit, the Discharger is not likely to

[6] The Boron TAL only applies to Authorized NSWDs in the Arroyo Simi (Reach 7) and Pleasant Valley (Revolon Slough/Reach 4) subwatersheds.

discharge salts above the WLAs from its industrial process and materials handling and storage areas, and is unlikely to contribute to an exceedance of a WLA. Therefore, no additional requirements beyond complying with the Industrial Storm Water General Permit are necessary to comply with the WLAs assigned to authorized NSWDs from industrial storm water dischargers at this time. However, if it is determined, based on, but not limited to, monitoring data and comparison to applicable TALs, visual observations of the site, discharger reports, and/or site-specific inspections and/or investigations, that a Discharger may be causing or contributing to an exceedance of a WLA, the State and/or Regional Water Board may require Dischargers to revise SWPPPs, BMPs, and/or monitoring programs, or direct a Discharger to obtain an individual National Pollutant Discharge Elimination System (NPDES) permit if deemed necessary.

Monitoring and Reporting Requirements

Dischargers covered under the Industrial Storm Water General Permit are required to conduct monthly visual observations of their site (IGP, Section XI.A). During the observation events, the Discharger is required to observe and report on the following: (1) the presence or indications of prior, current, or potential unauthorized NSWDs and their sources, (2) authorized NSWDs, sources, and associated BMPs to ensure compliance with the requirements as described in the above paragraph, and (3) outdoor industrial equipment and storage areas, outdoor industrial activities areas, BMPs, and all other potential sources of industrial pollutants (IGP, Section XI.A.1).

Industrial Storm Water General Permittees are also required to complete an Assessment of Potential Pollutant Sources as an element of a facility's SWPPP to identify pollutants that are likely to be present in the facility's authorized NSWDs, including identification of industrial pollutants related to receiving waters with Clean Water Act section 303(d) listed impairments or approved TMDLs that may be causing or contributing to an exceedance of a water quality standard in the receiving waters (IGP, Section X.G.2).

1. TMDL Action Levels (TALs)

Responsible Dischargers shall analyze effluent samples for salts and compare sampling results to the TALs below. A TAL is treated in the same manner as a Numeric Action Level (NAL) for the purposes of permit requirements, including the Monitoring Implementation Plan (Section X.I), Monitoring (Section XI), and Exceedance Response Actions (Section XII). Therefore, Responsible Dischargers shall additionally comply with the TAL exceedance requirements established for this TMDL. A TAL exceedance will require the Responsible Discharger to follow the Exceedance Response Actions (ERAs) in Section XII.

TALs for Authorized Non-Storm Water Discharges

Pollutant	**Concentration (mg/L, instantaneous maximum)**

Boron[7]	1
Chloride	150
Sulfate	250
TDS	850

Authorized NSWDs shall be compared to TALs when there has been no measurable precipitation in the previous 24 hours.

2. Updating the Facility SWPPP: Assessment of Potential Pollutant Sources

If salts are not already addressed in the facility's current SWPPP, upon incorporation of these TMDL-specific requirements into the Industrial Storm Water General Permit, Responsible Dischargers will be required to assess all areas of industrial activity at the facility relative to their potential as a source of boron, chloride, sulfate, or TDS in authorized NSWDs. The facility's SWPPP, including but not limited to the Assessment of Potential Pollutant Sources (Section X.G.2) and, where necessary, Best Management Practices (Section X.H) and Monitoring Implementation Plan (Section X.I), shall be updated based on the results.

The revised SWPPP shall be certified and submitted via SMARTS no later than 6 months after incorporation of these TMDL-specific requirements in this Order.

3. Updating the Facility Monitoring Implementation Plan

Authorized NSWDs Identified as a Potential Source: Responsible Dischargers that identify industrial areas of their facility as a potential source of boron, chloride, sulfate, or TDS in authorized NSWDs will be required to update the facility Monitoring Implementation Plan to include sampling and analysis of authorized NSWDs for boron, chloride, sulfate, and TDS twice during each reporting year, unless the Discharger provides documentation in its SWPPP per Section X.G.1.e, and through its monthly visual observations and records per Section XI.A.1-3, that there are no authorized NSWDs or these authorized NSWDs are fully contained on site. Sampling results will be used to ensure that authorized NSWDs comply with the Industrial Storm Water General Permit and, in particular, Sections IV.B and VI.A, consistent with the WLAs.

The updated Monitoring Implementation Plan must be included with the revised SWPPP and submitted via SMARTS no later than 6 months after incorporation of these TMDL-specific requirements in this Order.

Analytical Methods: To support the additional sampling and analysis required, Industrial Storm Water General Permittees will also be required to update the facility's Monitoring Implementation Plan to include U.S. EPA approved analytical methods, with appropriate method detection and reporting limits per Section XI.B.6.e, to determine the effectiveness of the BMPs for authorized NSWDs at achieving the salts TALs.

[7] The Boron TAL only applies to Authorized NSWDs in the Arroyo Simi and Pleasant Valley (Revolon Slough) subwatersheds.

The updated Monitoring Implementation Plan must be included with the revised SWPPP and submitted via SMARTS no later than 6 months after incorporation of these TMDL-specific requirements in this Order.

Regulatory Mechanisms

The regulatory mechanisms available to the State and/or Regional Water Board to require Industrial Storm Water General Permittees to implement additional actions and additional monitoring include: the Industrial Storm Water General Permit and the authority contained in sections 13263, 13267, and 13383 of the California Water Code. Under these regulatory mechanisms, the State and/or Regional Water Board may require an Industrial Storm Water General Permittee to collect samples of its authorized NSWDs and analyze the discharges for salts to determine compliance with the WLAs in the TMDL.