STATE OF CALIFORNIA

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

MONITORING PROGRAM - No. CI 7388
FOR
ORDER 07-xxxx
NPDES PERMIT NO. CAS004002
WASTE DISCHARGE REQUIREMENTS

MUNICIPAL SEPARATE STORM SEWER SYSTEM DISCHARGES WITHIN THE VENTURA COUNTY WATERSHED PROTECTION DISTRICT, COUNTY OF VENTURA AND THE INCORPORATED CITIES THEREIN.

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August 28, 2007 - Second draft

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MONITORING PROGRAM

1. The primary objectives of the Monitoring Program include, but are not limited to:
   (a) Assessing the chemical, physical, and biological impacts of storm water discharges on receiving waters resulting from urban storm water discharges.
   (b) Assessing the overall health and evaluating long-term trends in receiving water quality.
   (c) Assessing compliance with effluent limitations and water quality objectives.
   (d) Characterization of the quality of storm water discharges.
   (e) Identifying sources of pollutants.
   (f) Measuring and improving the effectiveness of measures implemented under this Order.

2. The results of the monitoring requirements outlined below shall be used to refine BMPs for the reduction of pollutant loading and the protection and enhancement of the beneficial uses of the receiving waters in Ventura County.

3. The Permittees shall implement the Monitoring Program as follows:

CORE MONITORING

A. Mass Emissions

I. The Principal Permittee shall monitor mass emissions to accomplish the following objectives:
   i. Estimate the mass emissions from the MS4.
   ii. Assess trends in the mass emissions over time.
   iii. Determine if the MS4 is contributing to exceedences of water quality objectives by comparing results to applicable water quality objectives in the Water Quality Control Plan Los Angeles Region (Basin Plan), and the California Toxics Rule (CTR) for both acute and chronic criteria.

1. The Santa Clara River mass emission station (ME-SCR) shall be relocated so that mass emissions measurements include urban storm water discharges from the cities of San Buenaventura (Ventura) and Oxnard. Until the ME-SCR station is relocated, the Principal Permittee in coordination with the cities of Ventura (ME-SB) and Oxnard (ME-OX) shall separately monitor mass emissions from the 2 urbanized areas.
   (a) Monitor "end-of-pipe" of the largest representative drainage systems transporting 60 percent or more of discharges from the Municipal drainage area to the Santa Clara River for the city of Ventura and the city of Oxnard, to estimate the total mass emissions for these cities.

2. The Principal Permittee shall monitor mass emissions from the following 5 mass emission stations:
   (a) ME-VR for Ventura River.
   (b) ME-SCR for Santa Clara River.
   (c) ME-SB for Santa Clara River (until ME-SCR is relocated).
   (d) ME-OX for the Santa Clara River (until ME-SCR is relocated).
   (e) ME-CC for Calleguas Creek.

3. Samples for mass emission monitoring may be taken with the same type of automatic sampler used under Order 00-108.

4. Samplers shall be set to monitor storms that produce 0.25 inches or greater of rainfall.

5. Samples are to be flow-weighted composites and can be collected manually or automatically for ME-SB and ME-OX (see the following sections A.6 and A.7).

6. Samples shall be flow-weighted composites, collected during the first 3 hours or for the duration of the storm if it is less than 3 hours. A minimum of 3 sample aliquots, separated by a minimum of 15 minutes, shall be taken within each hour of discharge, unless the Regional Water Board Executive Officer approves an alternate protocol.

7. Flow may be estimated using EPA methods at sites where flow measurement devices are not in place.

8. The Principal Permittee shall monitor:
   (a) The first storm event of the wet season that produces at least 0.25 inches of rain, and 2 additional storm events, all separated by 7 days of dry weather.
   (b) A total of 3 monitoring events (storm events - wet weather) shall be sampled per mass emission station per year.

9. Grab samples shall be taken for pathogen indicators and oil and grease, only.

10. All samples taken shall be analyzed for all constituents listed in Attachment "G" (Storm Water Monitoring Program's Constituents with Associated Minimum Levels). If a constituent is not detected at the Method Detection Limit (MDL) for its respective test method in more than 75 percent of the first 48 sampling events at a station, it need not be further analyzed unless the observed occurrences show concentrations greater than state water quality objective. The Principal Permittee shall conduct annual confirmation sampling for non-detected constituents during the first storm of the wet season every year at each station.

11. At a minimum a sufficient sample volume must be collected to perform all of the required chemical and biological tests, including toxicity.

12. When monitoring can not be performed to comply with the requirements of this Order due to circumstances beyond the Permittees control, then within 48 hours the following shall be submitted to the Regional Water Board Executive Officer:
    (a) Statement of situation.
    (b) Explanation of circumstance(s) with documentation.
    (c) Statement of corrective action for the future.

13. Monitoring results submitted for compliance shall include:
    (a) Statement that a sample is a wet or dry weather sample.
    (b) Rain totals and hydrographs for monitoring events in both narrative and graphic formats.
    (c) All applicable Standard Monitoring Provisions listed in section "J".

14. Monitoring results from each station shall be sent electronically to the Regional Board's Storm Water Site at MS4stormwaterrb4@waterboards.ca.gov, no later than 45 days from sample collection date. The sample data transmitted shall be in the most recent update of the Southern California Municipal Storm Water Monitoring Coalition's (SMC) Standardized Data Transfer Formats (SDTFs).

15. A summary of the years' mass emission station's monitoring results highlighting exceedences (POC) to the Basin Plan, and the CTR for both acute and chronic criteria with corresponding sampling dates shall be included with the Annual Storm Water Report.

B. Aquatic Toxicity Monitoring (Wet Weather)

I. The objective of aquatic toxicity monitoring is to evaluate if storm water (wet weather) discharges are causing or contributing to acute and/ or chronic toxic impacts on aquatic life by the following:
    i. Toxicity testing at mass emission stations is to be evaluated using marine test organisms to assess impacts on the marine or estuarine environments.

1. The Principal Permittee shall analyze, mass emission samples for aquatic toxicity to evaluate the extent and causes of toxicity in receiving waters. Permittees shall utilize documents such as: Ventura County's Technical Guidance Manual for Storm Water Quality Control Measures and U.S. EPA's National Management Measures to Control Nonpoint Source Pollution from Urban Areas to implement measures to eliminate or reduce sources of toxicity in storm water.

2. The Principal Permittee shall analyze samples for toxicity from 2 storm events, separated by 7 days of dry weather (including, the first storm event that produces a rainfall of at least 0.25 inches) for each mass emission station per wet season.
   (a) A minimum of 1 marine species shall be used for toxicity testing for each mass emission station event. Specifically, ***Strongylocentrotus purpuratus*** (sea urchin) fertilization/ development tests shall be used. This test should include a dilution series (0.5x steps) that ranges from the undiluted sample (or the highest concentration that can be tested within the limitations of the test methods or sample type) too less than or equal to 6% sample. In no case shall the toxicity test species ***Strongylocentrotus purpuratus*** (sea urchin) be substituted with another organism unless Permittees receive written authorization from the Regional Water Board Executive Officer.

3. Toxicity Identification Evaluations (TIE)
   (a) The Principal Permittee shall complete acute and/ or chronic Phase I (Toxicity Characterization Procedures) TIEs for all sites showing 90 percent or more toxicity to any 1-test organism in the first year. The acute and chronic Phase I TIEs shall include the following treatments and corresponding blanks:
      (1) Baseline toxicity.
      (2) Particle removal by centrifugation.
      (3) Solid phase extraction of the centrifuged sample using C18 media.
      (4) Complexation of metals using ethylenediaminetetraacetic acid (EDTA) addition to the raw sample.
      (5) Neutralization of oxidants/ metals using sodium thiosulfate addition to the raw sample.
      (6) Inhibition of Organophosphate (OP) pesticide activation using piperonyl butoxide addition to the raw sample (crustacean toxicity tests only).

4. A TIE Prioritization Metric may be utilized to rank sites for TIEs. [1]

5. Toxicity Reduction Evaluations (TRE)
   (a) When the same pollutant or class of pollutants is identified through the TIE process as causing at least 50% of the toxic responses in at least 2 samples at a sampling location, a TRE shall be performed for that identified toxic pollutant. TRE development shall be performed by a neutral third party (retained by the Permittees), in consultation with the Regional Water Board staff. The TRE shall include all reasonable steps to identify the source(s) of toxicity and discuss appropriate BMPs to eliminate the causes of toxicity. No later than 30 days after the source of toxicity and appropriate BMPs are

[1] Appendix 5. SMC Model Monitoring Program.

identified, the Permittees shall submit the TRE Corrective Action Plan to the Regional Water Board Executive Officer for approval. At a minimum, the Plan shall include a discussion of the following items:

(1) The potential sources of pollutant(s) causing toxicity.
(2) A list of municipalities that may have jurisdiction over sources of pollutant(s) causing toxicity.
(3) Recommended BMPs to reduce the pollutant(s) causing toxicity.
(4) Proposed post construction control measures to reduce the pollutant(s) causing toxicity.
(5) Follow-up monitoring to demonstrate that toxicity has been removed.

(b) Phase I results are intended as a first step in specifically identifying the toxicants but the data generated can also be used to develop treatment methods to remove toxicity without specific identification of the toxicants. Since Phase I TIEs characterize the physical/ chemical nature of the constituents which cause toxicity, additional TIE (Phase II- Toxicity Identification Procedures- identify non-polar organics, ammonia, or metals, and Phase III- Toxicity Confirmation Procedures) analyses may be required in order to identify and/ or confirm the identity of the pollutants causing toxicity before the TRE can be completed.

(c) If TRE implementation for a specific pollutant coincides with TMDL implementation for that pollutant, the efforts may be coordinated.

(d) Upon approval by the Regional Water Board Executive Officer, the Permittee(s) having jurisdiction over sources causing or contributing to toxicity shall implement the recommended BMPs and take all reasonable steps necessary to eliminate toxicity.

(e) The Principal Permittee shall be responsible for the development of a maximum of 2 TREs per year. If applicable, the Principal Permittee may use the same TRE for the same toxic pollutant or pollutant class in different watersheds. The TRE process shall be coordinated with TMDL development and implementation (i.e., If a TMDL for 4,4'-DDD is being implemented when a TRE for 4,4'-DDD is required, the efforts shall be coordinated to avoid overlap).

(f) The Principal Permittee shall report on the development, implementation, and results for each TRE Corrective Action Plan in the Annual Report, beginning the year following the identification of each pollutant or pollutant class causing toxicity.

(g) Samples for toxicity are to be flow-weighted composites and can be collected manually or automatically (see sections A.6 and A.7).

6. At a minimum a sufficient sample volume shall be collected to perform the required toxicity test. When using the toxicity test species the following is required:

(a) ***Strongylocentrotus purpuratus*** (sea urchin) a minimum sample volume of 2 liters.

7. Sample storage (holding time) time shall not exceed 72 hours (from collection through lab processing).

8. The same refrigerated sample showing toxicity shall be used for the TIE, even though the holding time may exceed 72 hours.

9. Toxicity monitoring results shall be sent to the Regional Water Board in the same electronic format and time period as provided for the mass emission monitoring results in section A.14.

10. The Principal Permittee shall report on the development, implementation, and results for each TRE Corrective Action Plan in the Annual Storm Water Report, beginning the year following the identification of each pollutant or pollutant class causing toxicity.

11. All constituents (POC) that caused toxicity or exceeded any applicable water quality objectives at the associated mass emission station the previous year shall be listed in each Annual Storm Water Report.

12. A summary of the years' mass emission station's Aquatic Toxicity monitoring results with corresponding sampling dates and ToxCalc output shall be included with the Annual Storm Water Report.

13. When the SMC Standardized Toxicity Testing Protocol is completed, the Regional Water Board Executive Officer may direct Permittees to replace the current toxicity program with the standardized procedure.

C. Total Maximum Daily Load Monitoring For Storm Water (Wet Weather) and Non-Storm Water (Dry Weather) Discharges

I. This Monitoring section incorporates monitoring to determine compliance with the TMDL Waste Load Allocations (WLAs) for storm water (wet weather) and non-storm water (dry weather) that have been adopted by the Regional Water Board and have been approved by the Office of Administrative Law and the U.S. EPA.
II. Grab samples shall be taken for pathogen indicators.
III. Samples for toxicity are to be flow-weighted composites and may be collected manually or automatically (see sections A.6 and A.7).
IV. Toxicity Monitoring shall be done according to the following procedures.
    i. Chronic Toxicity- The Permittee shall conduct critical life stage chronic toxicity tests on 24-hour composite 100 % effluent samples in accordance with U.S. EPA's Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, October 2002 (EPA-821-R-02-013). or

ii. U.S. EPA's Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms, October 2002 (EPA-821-R-02-014), or current version.
   a) Chronic Toxicity Test Species- The Permittee is to perform 3 species screening, to determine which is the most sensitive species (the plant, the fish, or the invertebrate). Once it is determined which species is the most sensitive, continue using that species for the next 2 monitoring years, then repeat the 3 species screening process to determine which species is the most sensitive, continue using that species for the next 2 monitoring years, then to repeat the 3 species screening process. The Permittee is to screen every 2 years.

iii. Acute Toxicity- The Permittee shall conduct acute toxicity tests on 100% effluent samples by methods specified in 40 CFR Part 136, which cites U.S. EPA's Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, October, 2002 (EPA-821-R-02-012) or a more recent edition to ensure compliance.
   a) Acute Toxicity Test Species- The fathead minnow, *Pimephales promelas*, shall be used as the test species for fresh water discharges and the topsmelt, *Atherinops affinis*, shall be used as the test species for brackish discharges. The method for topsmelt is found in U.S. EPA's Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, October, 2002 (EPA-821-R-02-012).

V. Monitoring results for each major outfall shall be sent electronically to the Regional Water Board's Storm Water Site at MS4stormwaterrb4@waterboards.ca.gov, no later than 45 days from sample collection date. The sample data transmitted shall be in the Southern California Municipal Storm Water Monitoring Coalition's (SMC) Standardized Data Transfer Formats (SDTFs) current version.

VI. A summary of the reporting years' monitoring results for each major outfall with corresponding sampling dates and ToxCalc output (if applicable) shall be included in the Annual Monitoring Report.

VII. After the Regional Water Board considers and adopts the MS4s workplan for determining compliance with WQBELs at the "end of pipe" to control the discharge of pollutants, then the workplan/ monitoring program for WQBELs compliance at the "end of pipe" may be substituted for the Monitoring - (wet weather and/ or dry weather) program. The Regional Water Board (or Regional Water Board Executive Officer, when duly delegated), consistent with 40 CFR 122.41, may approve changes to the workplan/ monitoring plan.

VIII. For storm event (wet weather) monitoring:
   i. A storm event means those days with 0.25 inches of rain or greater, and the event is separated by 7 days of dry weather.

IX. For non-storm water (dry weather) event monitoring for the Malibu Creek and Lagoon - Bacteria TMDL:
   i. A dry day is defined as a non-wet day.
   ii. A wet day is defined as a day with a 0.1 inch or more of rain and three days following the rain event.

1. TMDL WLAs for Santa Clara River Nitrogen Compounds.
   (a) Storm Water (wet weather)
      (1) Each MS4 Permittee (Ventura County Watershed Protection District, Ventura County, and the cities of Santa Paula and Fillmore) shall monitor its discharge to Reach 3 of the Santa Clara River for Nitrogen Compounds (Ammonia as Nitrogen, and Nitrate plus Nitrite Nitrogen) during 3 storm events.
      (2) Each MS4 Permittee shall monitor 3 storm events at the "end-of pipe" of publicly owned major outfalls with the largest representative drainage systems transporting 60 percent or more of storm water discharge from the MS4s' drainage area to Reach 3 of the Santa Clara River.
      (3) MS4 discharges shall not exceed the WQBELs (see the following Table 1).
         (A) Nitrogen Compounds WQBELs- (upon Order adoption date).
      (4) Each MS4 Permittee shall report in the Annual Report major outfalls transporting 60 percent or more of storm water discharge from the MS4 during wet weather monitoring events.
         (A) Outfall(s) name and ID number.
   (b) Non-Storm Water (dry weather)
      (1) Each MS4 Permittee (Ventura County Watershed Protection District, Ventura County, and the Cities of Santa Paula and Fillmore) shall monitor its discharge to Reach 3 of the Santa Clara River for Nitrogen Compounds (Ammonia as Nitrogen, and Nitrate plus Nitrite Nitrogen) at a minimum of one dry weather event per month.
      (2) Each MS4 Permittee shall monitor monthly at the "end-of pipe" of all publicly owned major outfalls with flow during dry weather to Reach 3 of the Santa Clara River.
      (3) MS4 discharges shall not exceed the WQBELs (see the following Table 2).
         (A) Nitrogen Compounds WQBELs- (upon Order adoption date).
      (4) Each MS4 Permittee shall report in the Annual Report all publicly owned major outfalls with no flow/ flow during dry weather monitoring events.
         (A) Outfall(s) name and ID number.
         (B) Outfall(s) associated "no flow" or "flow observed".

Table 1 - Nitrogen Compounds WQBELs - Wet Weather

Parameters	Units	Effluent Limits	
		EMC	1-hour
Ammonia	mg/L	2.0	4.2
Nitrate plus nitrite	mg/L	8.1	

Table 2 - Nitrogen Compounds WQBELs - Dry Weather

Parameters	Unit	Effluent Limits	
		30-day Average	Maximum Daily
Ammonia	mg/L	1.16	3.69
Nitrate plus nitrite	mg/L	8.1	

2. TMDL WLAs for Malibu Creek and Lagoon - Bacteria.
   (a) Non-Storm Water (dry weather)
      (1) Each MS4 Permittee (Ventura County Watershed Protection District, Ventura County, and the Cities of Thousand Oaks and Simi Valley) shall monitor its discharge to the Malibu Creek Watershed for Bacteria at a minimum of one dry weather event per month.
      (2) Each MS4 Permittee shall monitor monthly at the "end-of pipe" of all publicly owned major outfalls with flow during dry weather to the Malibu Creek Watershed.
      (3) MS4 discharges shall not exceed the WQBELs and Exceedence Days (see the following Table 3 and Table 4).
         (A) Summer Dry Weather Bacteria WQBELs- January 24, 2009.
         (B) Winter Dry Weather Bacteria WQBELs- January 24, 2012.
      (4) Each MS4 Permittee shall report in the Annual Report all publicly owned major outfalls with no flow/ flow during dry weather monitoring events.
         (A) Outfall(s) name and ID number.
         (B) Outfall(s) associated "no flow" or "flow observed".

Table 3 - Bacteria WQBELs - Dry Weather (Numerical Limit)

Parameters	Unit	Effluent Limits	
		Fresh Water	
		Geometric Mean	Single Sample
E. coli	mg	126/ 100	235/ 100
Fecal coliform	mg	200/ 100	400/ 100

Table 4 - Bacteria Exceedence Days for Geometric Mean \ Single Sample - Dry Weather (Frequency)

Summer Dry Weather			**Winter Dry Weather**		
April 1 - October 31			**November 1 - March 31**		
Geometric Mean	**Single Sample**		**Geometric Mean**	**Single Sample**	
30-day sampling (No. days)	Daily sampling (No. days)	Weekly sampling (No. days)	30-day sampling (No. days)	Daily sampling (No. days)	Weekly sampling (No. days)
0	0	0	0	3	1

3. TMDL WLAs for Calleguas Creek, Its Tributaries and Mugu Lagoon - Toxicity, Chlorpyrifos, and Diazinon TMDL.
   (a) Storm Water (wet weather)
      (1) Each MS4 Permittee (Ventura County Watershed Protection District, Ventura County, and the cities of Camarillo, Moorpark, Oxnard, Simi Valley and Thousand Oaks) shall monitor its discharge to Calleguas Creek, Its Tributaries and Mugu Lagoon (Calleguas Creek Watershed) for Toxicity, Chlorpyrifos and Diazinon during 3 storm events.
      (2) Each MS4 Permittee shall monitor 3 storm events at the "end-of pipe" of publicly owned major outfalls with the largest representative drainage systems transporting 60 percent or more of storm water discharge from the MS4s' drainage area to the Calleguas Creek Watershed.
      (3) MS4 discharges shall not exceed the WQBELs (see the following Table 5 and Table 7).
         (A) Toxicity, and Chlorpyrifos and Diazinon Interim WQBELs- (upon Order adoption date).
         (B) Chlorpyrifos and Diazinon Final WQBELs- March 24, 2008.
      (4) Each MS4 Permittee shall report in the Annual Report major outfalls transporting 60 percent or more of storm water discharge from the MS4 during wet weather monitoring events.
         (A) Outfall(s) name and ID number.
   (b) Non-Storm Water (dry weather)
      (1) Each MS4 Permittee (Ventura County Watershed Protection District, Ventura County, and the Cities of Camarillo, Moorpark, Oxnard, Simi Valley and Thousand Oaks) shall monitor its discharge to the Calleguas Creek Watershed for Toxicity, Chlorpyrifos and Diazinon at a minimum of one dry weather event per month.
      (2) Each MS4 Permittee shall monitor monthly at the "end-of pipe" of all publicly owned major outfalls with flow during dry weather to the Calleguas Creek Watershed.
      (3) MS4 discharges shall not exceed the WQBELs (see the following Table 6 and Table 8).

(A) Toxicity, and Chlorpyrifos and Diazinon Interim WQBELs- (upon Order adoption date).
(B) Chlorpyrifos and Diazinon Final WQBELs- March 24, 2008.

(4) Each MS4 Permittee shall report in the Annual Report all publicly owned major outfalls with no flow/ flow during dry weather monitoring events.
(A) Outfall(s) name and ID number.
(B) Outfall(s) associated "no flow" or "flow observed".

Table 5 - Toxicity WQBEL - Wet Weather

Parameter	Unit	Effluent Limit
		Chronic (EMC)
Toxicity	TUc	1.0

Table 6 - Toxicity WQBEL - Dry Weather

Parameter	Unit	Effluent Limit
		Chronic (4 day)
Toxicity	TUc	1.0

Table 7 - Chlorpyrifos and Diazinon Interim \ Final WQBELs - Wet Weather

Parameters	Unit	Effluent Limits			
		Chronic (EMC)		Acute (1hr)	
		Interim	Final	Interim	Final
Chlorpyrifos	ug/L	0.45	0.014		
Diazinon	ug/L	0.556	0.10	1.73	0.10

Table 8 - Chlorpyrifos and Diazinon Interim \ Final WQBELs - Dry Weather

Parameters	Unit	Effluent Limits			
		Chronic (4 day)		Acute (1hr)	
		Interim	Final	Interim	Final
Chlorpyrifos	ug/L	0.45	0.014		
Diazinon	ug/L	0.556	0.10	1.73	0.10

4. TMDL WLAs for Organochlorine (OC) Pesticides, Polychlorinated Biphenyls (PCBs), and Siltation in Calleguas Creek, its Tributaries and Mugu Lagoon.
(a) Non-Storm Water (dry weather)
(1) Each MS4 Permittee (Ventura County Watershed Protection District, Ventura County, and the Cities of Camarillo, Moorpark, Oxnard, Simi Valley, and Thousand Oaks) shall monitor its discharge to the Calleguas Creek Watershed for OC Pesticides and PCBs at a minimum of one dry weather event per month.

(2) Each MS4 Permittee shall monitor monthly at the "end-of pipe" of all publicly owned major outfalls with flow during dry weather to the Calleguas Creek Watershed.
(3) MS4 discharges shall not exceed the WQBELs (see the following Table 9 and Table 10).
  (A) OC Pesticides and PCBs Interim WQBELs (upon Order adoption date).
(4) The "No Net Loading" effluent limitation will be determined through using the lowest detection limit for each constituent.
  (A) The result of the analysis shall be "No Detect" when using the lowest detection limit laboratory procedure.
  (B) In no case shall the lowest detection limits be above the Threshold Values.
(5) Each MS4 Permittee shall report in the Annual Report all publicly owned major outfalls with no flow/ flow during dry weather monitoring events.
  (A) Outfall(s) name and ID number.
  (B) Outfall(s) associated "no flow" or "flow observed".

Table 9 - OC Pesticides and PCBs Interim WQBELs - Dry Weather

Parameters	Units	Effluent Limits	
		Daily Maximum	Threshold Value
Chlordane	ng/L	No net loading	1.2
4,4-DDD	ng/L	No net loading	6.0
4,4-DDE	ng/L	No net loading	1.2
4,4-DDT	ng/L	No net loading	10.0
Dieldrin	ng/L	No net loading	10.0
PCBs	ng/L	No net loading	31.0
Toxaphene	ng/L	No net loading	500.0

Table 10 - Sediments WQBELs - Dry Weather

Parameters	Units	Effluent Limits	
		Average Monthly	Maximum Daily
Total Suspended Solids	mg/L	50	150
Settleable Solids	ml/L	0.1	0.3

SPECIAL STUDIES

D. Trash and Debris Study

I. The Principal Permittee shall conduct the trash and debris study to accomplish the following objectives:
   i. Quantitatively assess the types and amount of trash and debris on the coastal areas and beaches within the Ventura County.
   ii. Identify areas impaired for trash and debris, and to develop control strategies.

1. The Principal Permittee and Permittees shall implement a trash and debris study for the following areas:
   (a) Channel Island Waterfront.
   (b) Ormond Wetland/ Lagoon/ Beach.

2. Coastal waters/ Inland waters shall quantify trash and debris types collected from its waters.
3. Beaches shall quantify trash and debris distribution and types by sampling stratified random sites.

4. Trash and debris from coastal waters/ inland waters and beaches shall be documented accordingly:
   (a) Trash and debris is to be bagged according to location.
   (b) Bagged trash and debris to be identified and quantified by:
      (1) Sort debris into broad categories used by the Center for Marine Conservation during their Coastal Cleanup days (i.e., glass, metal, plastics, foamed plastics, rubber, paper, wood, cloth, etc.).
      (2) The broad categories are to be recorded, enumerated and weighed.
      (3) Each broad category of debris is to be further sorted into specific subcategories (e.g., cups, buoys, toys, fishing line, trash bags, etc.).
      (4) The subcategories are to be recorded and enumerated.
      (5) Within the subcategories brand names are to be recorded when possible, to estimate their percent of total and establish cross-brand trends.

5. Trash and debris study shall begin no later than the second October following (Order adoption date).

6. Trash and debris study Final Report shall be completed and submitted to the Regional Water Board Executive Officer no later than 18 months from the study's start date.

7. Trash and debris collected in the study shall be disposed of in compliance with applicable State, Federal, and Local regulations.

E. Pyrethroid Insecticides Study

I. The Principal Permittee shall perform a Pyrethroid Insecticides study to accomplish the following objectives:
   i. Evaluate whether tributaries are toxic to aquatic organisms.
   ii. Evaluate whether Pyrethroid Insecticide concentrations are at or approaching levels known to be toxic to sediment-dwelling aquatic organisms.
   iii. Prioritize drainage and sub-drainage areas where Best Management Practices need to be implemented, if necessary.

1. The Permittees shall incorporate tributary monitoring for Pyrethroid Insecticides within the Calleguas Creek Watershed according to the following:
   (a) No later than second year of this Order, monitoring within the Calleguas Creek Watershed Management Area (WMA) shall begin for a period of 2 years.
   (b) In selecting sites to conduct tributary monitoring for Pyrethroid Insecticides, Permittees shall review existing monitoring programs in the watersheds by other public and private entities, watershed coalitions, and citizen volunteers, so as to complement and not duplicate efforts.
   (c) Establish 2 to 6 stations along the mainstem of each major Calleguas Creek tributary, such as: Conejo Creek.
   (d) Establish 2 to 3 stations along secondary tributaries (originate at the outfall of storm drains/ channels) entering each major Calleguas Creek tributary.
      (1) Stations shall be established outside of the influence of the mainstem.

2. The Principal Permittee shall monitor Pyrethroid Insecticides stations according to the following:
   (a) The Principal Permittee shall monitor the first storm event of the wet season that produces at least 0.25 inches of rain, and 2 additional storm events, for a total of 2 sampling events per station per monitoring year.
      (1) Monitoring shall occur after sediment has settled within the waterbody.
   (b) Approximately 3 L of sediment is to be collected at each station in a pre-cleaned glass jar by skimming the upper 1 cm of the sediment column with a steel scoop, and held on ice until returned to the laboratory.
   (c) Sediment shall be homogenized in the laboratory by hand mixing, then held at 4 °C (toxicity samples) or -20 °C (chemistry samples).
   (d) All samples taken shall be analyzed for the following Pyrethroids:
      (1) biefenthrin.
      (2) cyfluthrin.

(3) cypermethrin.
(4) deltamethrin.
(5) esfenvalerate.
(6) lambda-cyhalothrin.
(7) permethrin.
(8) tralomethrin (if laboratory is capable of analyzing for it).

(e) Detection limits for all Pyrethroids shall be as close to 1ng/g (dry weight) as reasonably achievable.

(f) Each sediment sample is to measure the following:
(1) total organic carbon (OC).

3. All samples shall be tested for toxicity to 7 to 10 day old ***Hyalella azteca*** according to standard U.S. EPA testing methods.[2]
(a) Use of the approach described in *Aquatic Toxicity Due to Residential Use of Pyrethroid Insecticides*[3] for toxicity testing shall be used.

4. Analyses to be conducted at a laboratory that has performed sediment toxicity testing for Pyrethroid Insecticides, is preferred.

5. Monitoring results from each station shall be sent electronically to the Regional Board's Storm Water Site at MS4stormwaterrb4@waterboards.ca.gov, no later than 45 days from sample collection date. The sample data transmitted shall be in the most recent update of the Southern California Municipal Storm Water Monitoring Coalition's (SMC) Standardized Data Transfer Formats (SDTFs).

6. If toxicity is attributed to Pyrethroids then consultation with staff at U.S. EPA, the California Department of Pesticide Regulations and the California Stormwater Quality Association's (CASQA) pesticides committee (UP3 Project web site), shall be required to obtain relevant information to use in developing the recommendations to mitigate Pyrethroids in the Final Report.

7. Final Report for the Pyrethroid Insecticides study shall contain the following:
(a) Executive summary.
(b) Methods.
(c) Results.
(d) Discussion.
(e) Recommendations to mitigate Pyrethroids.

[2] *U.S. EPA. Methods for Measuring the Toxicity and Bioaccumulation of Sediment-Associated Contaminants with Freshwater Invertebrates*; EPA Publication 600/R-99/064; U.S. Environmental Protection Agency: Washington, DC, 2000; 192 pp.
[3] *Aquatic Toxicity Due to Residential Use of Pyrethroid Insecticides*; Weston, D.P.; Holmes, R.W.; You, J.; Lydy, M.J. Environ. Sci. Technol.; (Article); 2005; 39(24); 9780 pp.

8. The Final Report shall be completed and submitted to the Executive Officer of the Regional Water Board no later than 8 months after completion of the study.

F. Hydromodification Control Study

1. The Principal Permittee shall conduct or participate in special studies to develop tools to predict and mitigate the adverse impacts of Hydromodification, and to comply with hydromodification control criteria. These are the following:
   (a) Develop a mapping and classification system for streams based on their susceptibility to the effects of hydromodification.
   (b) Establish protocols for ongoing monitoring to assess the effects of hydromodification.
   (c) Develop dynamic models to assess the effects of hydromodification on stream condition.
   (d) Develop a series of tools that managers can easily apply to make recommendations or set requirements relative to hydromodification for new development and redevelopment.

2. The Principal Permittee may satisfy this requirement by participating in the 'Development of Tools for Hydromodification Assessment and Management' Project undertaken by the SMC and coordinated by the SCCWRP.

3. The Principal Permittee shall continue to partner with the SMC and collect data or sponsor its collection for the Ventura County sites to reduce statistical uncertainty and/ or improve model predictability.

4. The Principal Permittee shall submit a letter to the Regional Water Board Executive Officer stating how they will satisfy this requirement, no later than (2 months after Order adoption date).

G. Low Impact Development

1. The Principal Permittee shall conduct or participate in a special study to assess the effectiveness of low impact development techniques in semi-arid climate regimes such as in Southern California.

2. The Principal Permittee may satisfy this requirement by participating in the SMC project titled "Quantifying the Effectiveness of Site Design/ Low Impact Development Best Management Practice in Southern California".

3. The Principal Permittee shall submit a letter to the Regional Water Board Executive Officer stating how they are satisfying this requirement, no later than 2 months after deciding to either conduct or participate in special study.

H. Southern California Bight Project

1. The Principal Permittee and Permittees shall participate with other government organizations regulating discharges in southern California in the collaboration to conduct a regional monitoring survey (Southern California Bight Project (SCBP)) anticipated to be held in 2008. The survey's primary objective is to assess the spatial extent and magnitude of ecological disturbances on the mainland continental shelf of the SCB and to describe relative conditions among different regions of the SCBP.

2. The Principal Permittee shall participate on the Steering Committee for the bight-wide monitoring project, and complete the estuary and nearshore sampling effort requirement of the proposed monitoring project for Ventura County as defined in the SCBP plan.

I. Volunteer Monitoring Programs

1. The Permittees shall participate in the development and implementation of volunteer monitoring programs in the Ventura watersheds. These include, but are not limited to the following:
   (a) Ventura River - (Ventura Stream Team).
   (b) Santa Clara River - (Santa Clara River Stream Team).
   (c) Calleguas Creek - (Calleguas Creek Watershed Quality Monitoring Program).
   (d) Malibu Creek - (Malibu Creek Watershed Quality Monitoring Program).

J. Standard Monitoring Provisions

I. All monitoring activities shall meet the following requirements.

1. Monitoring and Records [40 CFR 122.41(j)(1)]
   (a) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

2. Monitoring and Records [40 CFR 122.41(j)(2)] [CWC §13383(a)]
   (a) The Principal Permittee and Permittees shall retain records of all monitoring information, including all calibration and maintenance of monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the Report of Waste Discharge (ROWD) and application for this Order, for a period of at least five (5) years from the date of the sample, measurement, report, or application. This period may be extended by request of the Regional Water Board or U.S. EPA at any time and shall be extended during the course of any unresolved litigation regarding this discharge.

3. Monitoring and Records [40 CFR 122.21(j)(3)]
   (a) Records of monitoring information shall include:
      (1) The date, time of sampling or measurements; exact place, weather conditions, and rain fall amount.
      (2) The individual(s) who performed the sampling or measurements.
      (3) The date(s) analyses were performed.
      (4) The individual(s) who performed the analyses.
      (5) The analytical techniques or methods used.
      (6) The results of such analyses.
      (7) The data sheets showing toxicity test results.

4. Monitoring and Records [40 CFR 122.21(j)(4)]
   (a) All sampling, sample preservation, and analyses must be conducted according to test procedures under 40 CFR Part 136, unless other test procedures have been specified in this Order. If a particular Minimum Level (ML) is not attainable in accordance with procedures set forth in 40 CFR 136, the lowest quantifiable concentration of the lowest calibration standard analyzed by a specific analytical procedure may be used instead.

5. Monitoring and Records [40 CFR 122.21(j)(5)]
   (a)The CWA 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 2 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.

6. All chemical, bacteriological, and toxicity analyses shall be conducted at a laboratory:
   (a) Certified for such analyses by an appropriate governmental regulatory agency.
   (b) Participated in 'Intercalibration Studies' for storm water pollutant analysis conducted by the SMC. [4]

[4] The 'Intercalibration Studies' are conducted periodically by the SMC to establish a consensus based approach for achieving minimal levels of comparability among different testing laboratories for storm water samples to minimize analytical procedure bias. Stormwater Monitoring Coalition Laboratory Document, Technical Report 420 (2004) and subsequent revisions and augmentations.

7. For priority toxic pollutants that are identified in the CTR (65 *Fed. Reg*. 31682), the MLs published in Appendix 4 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays and Estuaries of California* (SIP) shall be used for all analyses, unless otherwise specified. The MLs from the SIP are incorporated into Attachment "G".

8. The Monitoring Report shall specify the analytical method used, the Method Detection Level (MDL) and the ML for each pollutant. For the purpose of reporting compliance with numerical limitations, performance goals, and receiving water limitations, analytical data shall be reported with 1 of the following methods, as appropriate:
   (a) An actual numerical value for sample results greater than or equal to the ML.
   (b) "Not-detected (ND)" for sample results less than the laboratory's MDL with the MDL indicated for the analytical method used.
   (c) "Detected, but Not Quantified (DNQ)" if results are greater than or equal to the laboratory's MDL but less than the ML. The estimated chemical concentration of the sample shall also be reported. This is the concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

9. For priority toxic pollutants, if the Permittee can demonstrate that a particular ML is not attainable, in accordance with procedures set forth in 40 CFR 136, the lowest quantifiable concentration of the lowest calibration standard analyzed by a specific analytical procedure (assuming that all the method specified sample weights, volumes, and processing steps have been followed) may be used instead of the ML listed in Appendix 4 of the SIP. The Principal Permittee must submit documentation from the laboratory to the Regional Water Board Executive Officer for approval prior to raising the ML for any constituent.

10. Monitoring Reports [40 CFR 122.41(I)(4)(ii)]
    (a) If the Principal Permittee monitors any pollutant more frequently than required by the Order using test procedures approved under 40 CFR part 136, unless otherwise specified in the Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Annual Monitoring Reports.

11. Monitoring Reports [40 CFR 122.41(I)(4)(iii)]
    (a) Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order.

12. If no flow occurred during the reporting period, then the Monitoring Report shall, so state.

13. The Regional Water Board Executive Officer or the Regional Board, consistent with 40 CFR 122.41, may approve changes to the Monitoring Program, after providing the opportunity for public comment, either:
    (a) By petition of the Principal Permittee or by petition of interested parties after submittal of the Monitoring Report. Such petition shall be filed not later than 60 days after the Monitoring Report submittal date, or
    (b) As deemed necessary by the Regional Water Board Executive Officer following notice to the Principal Permittee.

Ordered by:

Deborah J. Smith
Interim Executive Officer
Date: Xxxxxxx xx, 2007