Revised December 2017

UPPER SANTA CLARA RIVER WATERSHED MANAGEMENT GROUP

Coordinated Integrated Monitoring Program (CIMP)

Submitted by:

CITY OF SANTA CLARITA

COUNTY OF LOS ANGELES

LOS ANGELES COUNTY FLOOD CONTROL DISTRICT

Table of Contents

List of Figures

List of Tables

List of Attachments

List of Acronyms

BMP	Best Management Practice
BPA	Basin Plan Amendment
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFS	Cubic Feet per Second
CIMP	Coordinated Integrated Monitoring Program
CRAM	California Rapid Assessment Method
CWA	Clean Water Act
DDT	Dichloro-diphenyl-trichloroethane
DO	Dissolved Oxygen
EIA	Effective Impervious Area
EO	Executive Officer
GIS	Geographic Information System
HUC	Hydrologic Unit Code
IC/ID	Illicit Connection/Illicit Discharge
IMP	Integrated Monitoring Program
LA	Los Angeles
LACDPW	Los Angeles County Department of Public Works
LACFCD	Los Angeles County Flood Control District
LARWQCB	Los Angeles Regional Water Quality Control Board
LTA	Long Term Assessment
MAL	Municipal Action Level
MRP	Monitoring and Reporting Program
MS4	Municipal Separate Storm Sewer System
NAL	Non-Stormwater Action Level
NPDES	National Pollutant Discharge Elimination System
NSW	Non-Stormwater
OC	Organochlorine
RAA	Reasonable Assurance Analysis
RW	Receiving Water
RWL	Receiving Water Limitation
SCCWRP	Southern California Coastal Water Research Project

SCR	Santa Clara River
SMC	Stormwater Monitoring Coalition
SQO	Sediment Quality Objectives
SSA	Special Study Assessment
SSC	Suspended Sediment Concentration
SW	Stormwater
TDS	Total Dissolved Solids
TIE	Toxicity Identification Evaluation
TKN	Total Kjeldahl Nitrogen
TMDL	Total Maximum Daily Load
TOC	Total Organic Carbon
TSS	Total Suspended Solids
USCRWMG	Upper Santa Clara River Watershed Management Group
USEPA	United States Environmental Protection Agency
WBPC	Water Body-Pollutant Combination
WLA	Waste Load Allocation
WMA	Watershed Management Area
WQBEL	Water Quality Based Effluent Limitation
WQS	Water Quality Standard

Executive Summary

This Coordinated Integrated Monitoring Program (CIMP) document is a part of compliance with the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit Order No. R4-2012-0175 (Permit), which was adopted on November 8, 2012 by the Los Angeles (LA) Regional Water Quality Control Board (Regional Board or LARWQCB) and became effective December 28, 2012. Geographically, the CIMP covers the portion of the Upper Santa Clara River in Los Angeles County and the City of Santa Clarita that is regulated by the Permit (**Figure ES- 1**). This area encompasses approximately 121,423 acres. The entire Santa Clara River watershed is approximately 1,634 square miles that drains into the Santa Clara River, flowing from Los Angeles County, through Ventura County, and terminating at the Pacific Ocean between the cities of Ventura and Oxnard. Nearly ninety percent of the watershed is open space with approximately eighty-eight percent being undeveloped raw land.

Included in the Permit are requirements for a Monitoring and Reporting Program (MRP). The MRP specifications are listed in **Attachment E** to the Permit. The stated Primary Objectives for the MRP are listed in Part II.A.1 of the MRP, as follows:

1. Assess the chemical, physical, and biological impacts of discharges from the MS4 on receiving waters.
2. Assess compliance with receiving water limitations (RWLs) and water quality-based effluent limitations (WQBELs) established to implement Total Maximum Daily Load (TMDL) wet weather and dry weather waste load allocations (WLAs).
3. Characterize pollutant loads in MS4 discharges.
4. Identify sources of pollutants in MS4 discharges.
5. Measure and improve the effectiveness of pollutant controls implemented under the Permit.

Per the Permit, the Permittees have the option to develop a CIMP in lieu of the generic MRP as original written in the Permit. The CIMP offers the option to utilize alternative approaches to meet the Primary Objectives, if sufficient justification is provided. The CIMP will be designed to provide the information necessary to guide management decisions in addition to providing a means to measure compliance with the Permit and is composed of five elements:

1. Receiving Water Monitoring
2. Storm Water (SW) Outfall Monitoring
3. Non-Storm Water (NSW) Outfall Monitoring
4. Optional Special Studies
5. New Development/Redevelopment Effectiveness Tracking
6. Regional Studies

The CIMP provides a detailed discussion of the monitoring approaches for each element. The Attachments to the CIMP describe additional background information and detail specific analytical and monitoring procedures that will be used to comply with the specific MRP requirements. The monitoring program is summarized below and **Table ES- 1**provides an overview of the constituents and monitoring frequency at each monitoring location.

Site Selection:

1. The current mass emission station will be maintained as a receiving water monitoring location (SNTCLR_6_ME) to determine if RWLs are achieved, assess trends in pollutant concentrations over time, and determine whether designated uses are supported. In addition, the mass emission station will be used to meet TMDL monitoring requirements and evaluate attainment of or progress in attaining applicable TMDLs.
2. Two TMDL receiving water monitoring locations (Reach 5 and Reach 7) are also included. TMDL monitoring locations are intended to meet TMDL monitoring requirements and evaluate attainment of or progress in attaining the TMDL. Additionally constituents exceeding RWLs in the applicable reach will also be monitored at these locations.
3. Six stormwater outfall monitoring locations, approximately one per HUC-12, determined to be representative of the land uses and characteristics of the EWMP area.
4. One stormwater outfall monitoring location at Lake Elizabeth to identify whether or not the MS4 contributes to the lake's 303(d) listing for eutrophic conditions.
5. Six non-stormwater (NSW) TMDL outfall monitoring locations for TMDL compliance that correspond with the previously mentioned 6 stormwater outfall monitoring locations.
6. NSW outfall monitoring sites to be determined through the NSW outfall screening and source identification process required by the permit.

Parameters to be Collected:

1. Parameters were determined based on the constituents required in the MRP and the water quality prioritization process specific to each reach.
2. For the mass emission receiving water location, all constituents required to be monitored in the MRP will be collected except those that have not been detected in the past 10 years based on the evaluation conducted during the water quality prioritization.
3. Constituents identified as on the 303(d) list or exceeding water quality objectives during the water quality prioritization process will be monitored at the TMDL receiving water monitoring location in the reach where the listing exists or the exceedances were observed.
4. All constituents identified in a TMDL monitoring requirement will be monitored at the TMDL monitoring locations.

Monitoring Frequency

1. Monitoring frequency of three wet weather events and two dry weather events per year in the receiving waters with corresponding three wet weather events at the stormwater outfall sites and two dry weather events at the NSW outfall sites.
2. For constituents that are being monitored due to identification through the water quality priority process as having observed exceedances in the receiving water, the monitoring will be reduced or eliminated if continued exceedances are not observed within two years. If needed, the monitoring of 303(d) listed constituents may continue to support de-listing.

Other Elements

1. NSW outfall screening, prioritization, and source identification approach.
2. Commitment to participation in the SMC bioassessment monitoring program.
3. Optional special study monitoring to evaluate sources of pyrethroids in Bouquet Canyon and contributions of bacteria from undeveloped open space.
4. New development/redevelopment tracking procedures
5. Reporting and compliance evaluation procedures

In addition, the CIMP outlines an adaptive management process that describes the procedures that will be used to evaluate data gathered through the CIMP and modify the monitoring program in response to the results.

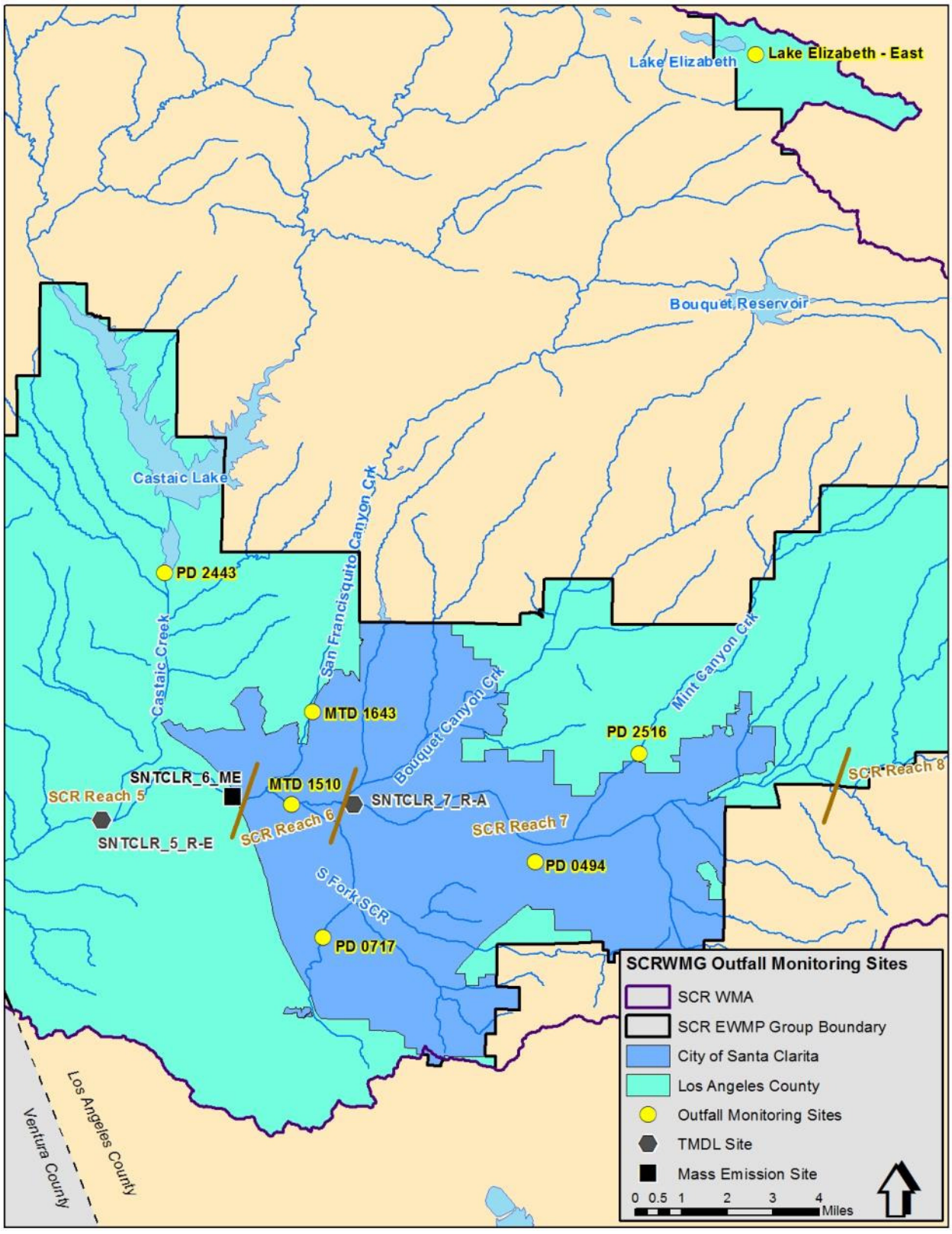

Figure ES- 1. Receiving Water and Outfall Monitoring Sites for USCRWMG

Table ES- 1. Summary of Proposed Monitoring Program for USCRWMG

Constituent	Annual Frequency (number wet events/number dry events)												
	Santa Clara River												Lake Elizabeth
	Reach 5				Reach 6					Reach 7			
	SNTCLR_5_RE [(1)]	Salt Canyon HUC-12 [(1,2)]	Lower Castaic Creek HUC-12[(1,2)]	Significant NSW Outfalls[(3)]	SNCLR_6_ME [(1)]	San Francisquito Canyon HUC-12[(1,2)]	South Fork Santa Clara River HUC-12[(1,2)]	Sand Canyon HUC-12[(1,2)]	Significant NSW Outfalls[(3)]	SNTCLR_7_R-A[(1)]	Mint Canyon HUC-12[(1,2)]	Significant NSW Outfalls[(3)]	Lake Elizabeth East [(10)]
Flow and field parameters[(4)]	3/2	3/2	3/2	2	3/2	3/2	3/2	3/2	2	3/2	3/2	2	3/2
Pollutants identified in Table E-2 of the MRP[(5)]					1[(6)]/1[(6)]								
Aquatic Toxicity[(13)]	[(12)]				2/1					[(12)]			
TSS and Hardness	3/2	3	3	2	3/2	3	3	3	2	3/2	3	2	
Ammonia	3/2	3/2	3/2	2	3/2	3/2	3/2	3/2	2	3	3/2	2	3/2
Nitrate-Nitrogen	3/2	3/2	3/2	2	3/2	3/2	3/2	3/2	2	3	3/2	2	3/2
Nitrite-Nitrogen	3/2	3/2	3/2	2	3/2	3/2	3/2	3/2	2	3	3/2	2	3/2
Chloride	3/2	3/2	3/2	2	3/2	3/2	3/2	3/2	2	3/2	3/2	2	
TDS	3/2	3	3	2									
E. coli (Bacteria TMDL)	3/2[(7)]	3/2	3/2	2	3/2[(7)]	3/2	3/2	3/2	2	3/2[(7)]	3/2[(7)]	2	
Copper	3/2	3	3	2	3/2	3	3	3	2	3/2	3	2	
Iron	3/2	3	3	2	3/2	3	3	3	2				
Mercury	3/2	3	3	2	3/2	3	3	3	2	3/2	3	2	
Selenium					3/2	3	3	3	2				
Zinc					3/2	3	3	3	2				
Total Kjeldahl Nitrogen or Organic Nitrogen													3/2

Constituent	Annual Frequency (number wet events/number dry events)												
	Santa Clara River												Lake Elizabeth
	Reach 5				Reach 6					Reach 7			
	SNTCLR_5_RE [1]	Salt Canyon HUC-12 [1,2]	Lower Castaic Creek HUC-12[1,2]	Significant NSW Outfalls[3]	SNCLR_6_ME [1]	San Francisquito Canyon HUC-12[1,2]	South Fork Santa Clara River HUC-12[1,2]	Sand Canyon HUC-12[1,2]	Significant NSW Outfalls[3]	SNTCLR_7_R-A[1]	Mint Canyon HUC-12[1,2]	Significant NSW Outfalls[3]	Lake Elizabeth East [10]
Orthophosphate-Phosphorus													3/2
Total Phosphorus													3/2
Cyanide[8]					3/2	3	3	3	2	3/2	3	2	
Bis (2-ethylhexyl) Phthalate[9]					1/1[6]								
Chlorpyrifos[11]					1/1[6]								
Diazinon[11]					1/1[6]								

1. Annual frequency listed as 3/2 signifies the number of wet-weather events per year/number of dry-weather events per year.
2. Boxes with a monitoring frequency listed as 3 are for wet weather only.
3. Significant NSW monitoring locations will be determined after outfall screening and source identification. Monitoring frequency shown is for dry weather only.
4. Field parameters are defined as DO, pH, temperature, and specific conductivity.
5. Attachment C lists the parameters from Table E-2 that will be monitored at this site. An analysis has been conducted to determine which Permit Required Pollutants should not be monitored during the first year due to previously collected monitoring results indicating that the Permit Required Pollutant hasn't been detected in any reach in the EWMP area.
6. Monitoring frequency only applies during the first year of monitoring. For pollutants that are not detected at the Method Detection Limit for its respective test method or the result is below the lowest applicable water quality objective, additional monitoring will not be conducted (i.e., the monitoring frequency will become 0/0). For pollutants that are detected above the lowest applicable water quality objective, additional monitoring will be conducted for the condition under which the exceedance occurred (wet or dry), at the frequency specified in the MRP (i.e., the monitoring frequency will become 3 for a wet weather exceedance, 2 for a dry weather exceedance, or 3/2 for exceedances during both event types) beginning the next monitoring year.
7. This will be the initial monitoring frequency for this permit term. The monitoring frequency will change to weekly at a time to be determined during EWMP development to correspond with milestones developed for compliance with the Bacteria TMDL when comparison to the geometric mean is needed.
8. Cyanide is likely to be from POTW discharges, as it is unlikely to have MS4 sources, it may be removed if the MS4 is determined not to be a source.
9. Bis (2-ethylhexyl)Phthalate is not suspected to have MS4 sources. Additionally, no exceedances have been observed in the past 5 years.
10. Lake Elizabeth outfall site will be sampled for one year to identify whether or not the MS4 contributes to the lake's 303(d) listing for eutrophic conditions. The results will then be evaluated to determine whether monitoring shall continue.
11. Sufficient monitoring data is available to support 303(d) delisting of this constituent and no exceedances have occurred in the past 5 years. A summary of the available monitoring data supporting the delisting is presented in Attachment A. If exceedances of this constituent occur during the first year of monitoring at the receiving water site, outfall monitoring will commence during the next monitoring year for sites within Reach 6 for the condition under which the exceedance occurred (wet or dry weather).

12. If the toxicity test results at receiving water site SNCLR_6_ME exceed the toxicity identification evaluation (TIE) thresholds and the results are inconclusive, toxicity testing will commence at the upstream (SNTCLR_7_RA) and downstream (SNCLR_5_RE) receiving water sites for the condition under which the TIE trigger occurred (wet weather or dry weather). Should no toxicity occur at the reach 5 or reach 7 receiving water sites, toxicity testing will cease at both or either location (wherever the TIE threshold was not met). If toxicity at the reach 5 or 7 receiving water sites meets the TIE threshold, a TIE will be conducted and will follow the process outlined in Figure 6 starting with the "Conduct TIE" box in the flow chart.
13. Aquatic toxicity outfall monitoring will follow the process outlined in Section 7.3, additional details may be found in Attachment F.

1 Introduction

This Coordinated Integrated Monitoring Program (CIMP) for the Santa Clara River Watershed Management Group is part of compliance with the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit No. R4-2012-0175 (Permit), which was adopted November 8, 2012 by the Los Angeles Regional Water Quality Control Board (Regional Board) and became effective December 28, 2012. The geographic scope of this monitoring program is the portion of the Upper Santa Clara River in Los Angeles County and the City of Santa Clarita that is regulated by the Permit (**Figure 1**), which is approximately 121,423 acres. This excludes state and federal lands, such as the Angeles National Forest and the state parks lands. The entire Santa Clara River Watershed is 1,634 square miles that drains into the Santa Clara River, one of the last remaining natural rivers in Southern California. Nearly ninety percent of the watershed is open space. At approximately 100 miles long, the Santa Clara River originates in the northern slopes of the San Gabriel Mountains in Los Angeles County, continuing west through Ventura County, and entering the Pacific Ocean between the cities of Ventura and Oxnard.

Flows in Santa Clara River reaches that pass through the CIMP area are predominantly storm water runoff during wet weather months and water reclamation plant effluent discharges in the drier months. In years of significant rainfall, ephemeral springs and year round flows exist in some tributaries and natural upstream areas. Dry season flows tend to percolate into the subsurface in the vicinity of Lang Station Road. The Valencia and Saugus Water Reclamation Plants' effluent tends to seep underground near Castaic Creek. These flows resurface further west near Torrey Road. While effluent volumes remain relatively consistent, their proportional contribution to flow in the river is greater during dry conditions.

Most of the monitoring to date in the Upper Santa Clara River has been done related to impacts of water reclamation plant discharge. Mass emission station monitoring in Reach 6 provided the basis of MS4 monitoring during previous permit cycles. This CIMP greatly expands upon previous efforts to achieve the monitoring goals in the Permit. Additionally, the CIMP fulfills all MS4 monitoring requirements for effective TMDLs within the EWMP area.

The purpose of the Permit is to ensure the MS4s in Los Angeles County are not causing or contributing to exceedances of water quality objectives set to protect the beneficial uses in the receiving waters. Included as **Attachment E** to the Permit are requirements for a Monitoring and Reporting Program (MRP). The stated Primary Objectives for the MRP, listed in Part II.A.1 of the MRP, as follows:

1. Assess the chemical, physical, and biological impacts of discharges from the MS4 on receiving waters.
2. Assess compliance with receiving water limitations (RWL) and water quality-based effluent limitations (WQBELs) established to implement Total Maximum Daily Load (TMDL) wet weather and dry weather wasteload allocations (WLAs).
3. Characterize pollutant loads in MS4 discharges.
4. Identify sources of pollutants in MS4 discharges.
5. Measure and improve the effectiveness of pollutant controls implemented under the Permit.

Extensive default monitoring requirements are specified in the MRP. However, Permittees have the option to develop a Coordinated Integrated Monitoring Program (CIMP) that may be used to specify alternative approaches for meeting the Primary Objectives. The Permittees in the USCR EWMP area have selected to implement a CIMP. This document provides a discussion of the monitoring locations (Section 4), monitoring frequency (Section 5), constituents (Section 1), and general monitoring approach (Section 7). Section 8 details the non-stormwater screening program and Section 9 outlines the other required components of the MRP. Details of the monitoring protocols are included in Attachment F.

2 Upper Santa Clara River Enhanced Watershed Management Plan Area

The City of Santa Clarita, County of Los Angeles and County of Los Angeles Flood Control District comprise the Upper Santa Clara River Watershed Management Group (USCRWMG or Group Members). The USCRWMG is addressing MS4 water quality issues through an Enhanced Watershed Management Plan (EWMP) and CIMP process. The USCRWMG EWMP area is displayed on **Figure 1** along with the named water bodies. Jurisdictional size and land uses are listed in **Table 1**.

Table 1. List of Group Members Participating in the EWMP with Land Use Summaries

		Percent of Jurisdiction[1]			
Jurisdiction	**Area (sq.mi.)**	**Res**	**Com/Ind**	**Ag/Nur**	**Open**
County of Los Angeles	363.7	11%	7%	2%	80%
Santa Clarita	61.7	33%	16%	1%	50%
County of Los Angeles Flood Control District	0	N/A	N/A	N/A	N/A
All Group Members	425.4	14%	8%	2%	76%

1. Land use classifications include: residential (Res), commercial and industrial (Com/Ind), agriculture and nursery (Ag/Nur), and open space (Open). Totals correspond to the percent of the total area considered in the EWMP

Additional background information for the EWMP area is presented in **Attachment A**.

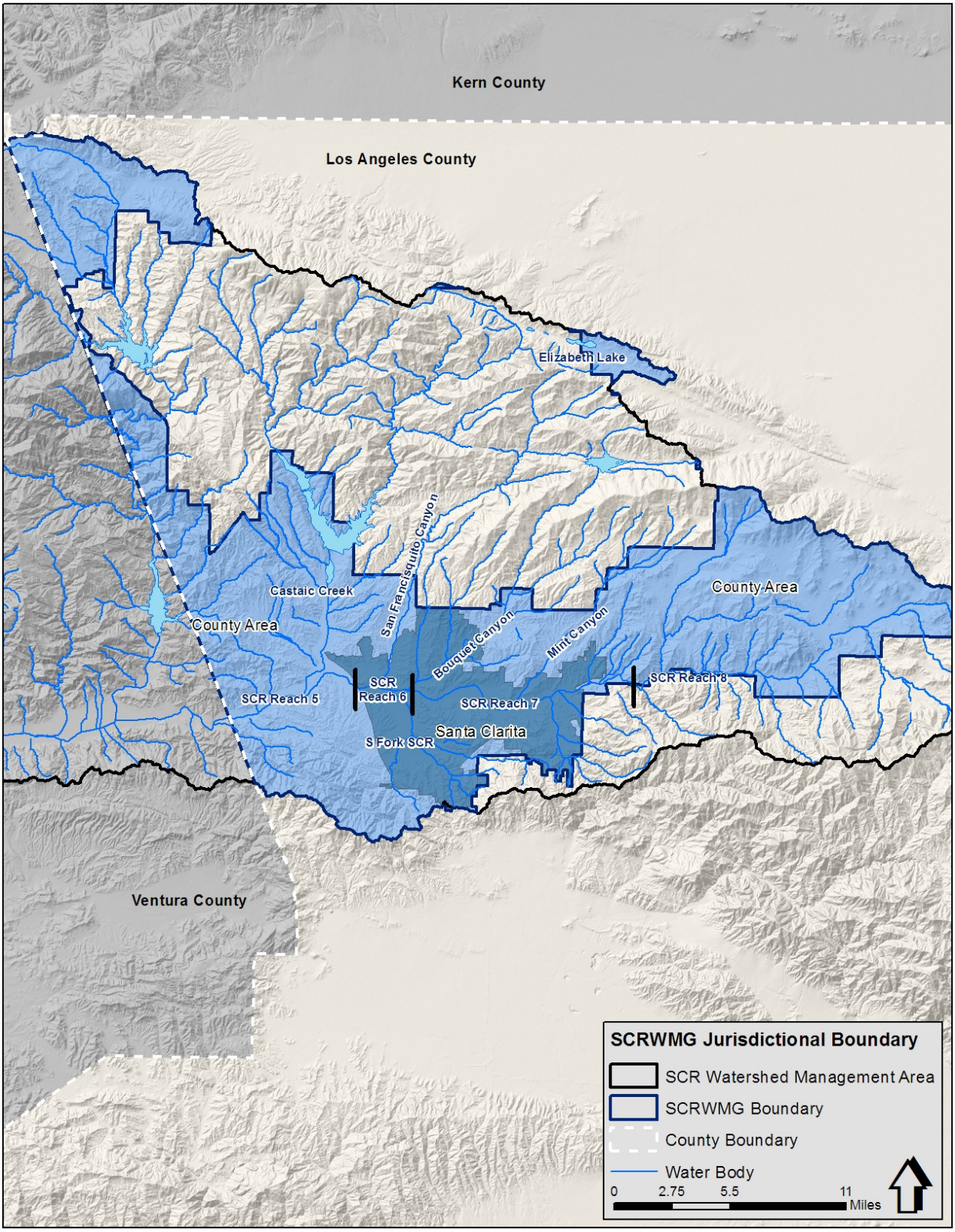

Figure 1. Water Bodies and Geographic Boundary of the USCRWMG

2.1 TMDLS

There are four Total Maximum Daily Loads (TMDLs) currently effective within the EWMP area. **Table 2** lists the schedule and applicable interim and final Water Quality Based Effluent Limitations (WQBELs) and all other final WQBELs and receiving water limitations (RWLs) established by TMDLs and identified in Attachment L of the Permit.

Table 2. Summary of TMDLs for the USCR EWMP

TMDL	Waterbody	Constituent	Weather Condition	Schedule							Final WQBEL
				2012	2013	2014	2015	2016	2023	2029	
Salts	Santa Clara River Reaches 5, 6[2]	Chloride	Dry	Final[1]							100 mg/L
Bacteria	Santa Clara River Reaches 5, 6, 7	E. coli	Dry					Interim[4]	Final		235 MPN/ 100mL daily max, 126 MPN/100mL geo mean WQBEL, 5 exceedance days daily max, 126 geo mean RWL
			Wet					Interim[5]		Final	235 MPN/ 100mL daily max, 126 MPN/100mL geo mean WQBEL, 16 exceedance days daily max, 126 geo mean RWL
Nutrients	Santa Clara River Reaches 5[3]	Ammonia		Final[1]							1-hr average 5.2 mg/L 30 day average 1.75 mg/L
		Nitrate and Nitrite		Final[1]							30 day average 6.8 mg/L
Trash	Lake Elizabeth	Trash		Interim[6]	Interim[6]	Interim[6]	Interim[6]	Final			100% Full Capture

1. Final applicable on Effective Date of Permit.
2. TMDL applies to Reaches 4B, 5, 6, and 7, but permit only includes WQBELs for Reaches 5 and 6.
3. TMDL includes load allocations and monitoring requirements for other reaches, but wasteload allocations and WQBELs only apply to Reach 5.
4. Interim RWL of 17 allowable exceedance days.
5. Interim RWL of 61 allowable exceedance days.
6. Interim limits: 20% full capture in 2012, 40% full capture in 2013, 60% full capture in 2014, 80% full capture in 2015.

2.2 EXISTING WATERSHED MONITORING PROGRAMS

Existing watershed monitoring programs provide historical data and information that can be used to support site selection and identification of constituents for monitoring. There are two existing monitoring programs and two proposed monitoring programs in the watershed that monitor in the main stem of the Santa Clara River. Other discharger specific monitoring programs exist in the watershed, but they do not contain monitoring in the main stem of the Santa Clara River. The existing watershed monitoring programs include:

- MS4 Permit Monitoring (Mass Emission Monitoring)
- County Sanitation Districts of Los Angeles County (LACSD) Monitoring
- Proposed Watershed-wide Monitoring program[1]
- Proposed Comprehensive Water Quality Monitoring Plan[2]
- Proposed Newhall Ranch Specific Plan Water Quality Monitoring Plan

As part of implementation of the CIMP, opportunities to coordinate with the existing or proposed monitoring efforts will be explored. The CIMP is written to outline the monitoring requirements to assess the USCRWMG MS4 requirements. Coordination with other monitoring programs may occur in the future, where data from other programs may be used to fulfill USCRWMG monitoring requirements.

3 Monitoring Program Elements and Objectives

The primary purpose of this CIMP document is to outline the process for collecting data to meet the goals and requirements of the MRP. The CIMP provides information on sample collection and analysis methodologies relevant to both categories of monitoring. The CIMP is designed to provide the EWMP Group the information necessary to guide water quality program management decisions. Additionally, the monitoring will provide a means to measure compliance with the Permit. The CIMP is composed of five elements, including:

1. Receiving Water Monitoring
2. Stormwater Outfall Monitoring
3. Non-Stormwater Outfall Monitoring
4. New Development/Redevelopment Effectiveness Tracking
5. Regional Studies

An overview of each of the monitoring types and their monitoring objectives are described in the following subsections. Specifics regarding each monitoring element including monitoring locations, frequency, parameters, and procedures are provided in the subsequent sections.

[1] The *Santa Clara River Watershed-wide Monitoring Program and Implementation Plan* (SCR Watershed-wide Monitoring Program), dated December 15, 2011 has not yet been implemented.

[2] 2006 Comprehensive Water Quality Monitoring Plan for the Santa Clara River Watershed was initiated in November 2003 by the Ventura County Watershed Protection District (VCWPD)

3.2 RECEIVING WATER MONITORING

The objectives of receiving water monitoring include the following:

- Determine whether the receiving water limitations are being achieved;
- Assess trends in pollutant concentrations over time, or during specified conditions; and
- Determine whether the designated beneficial uses are fully supported as determined by water chemistry, as well as aquatic toxicity and bioassessment monitoring.

The receiving water monitoring approach will provide data to determine whether the RWLs and water quality objectives are being achieved in the Santa Clara River. Over time, the monitoring will allow the assessment of trends in pollutant concentrations. Receiving water monitoring consists of the mass emission receiving water site designed to meet all receiving water permit requirements and additional TMDL monitoring locations necessary to evaluate TMDL requirements and 303(d) listings.

3.3 STORMWATER OUTFALL MONITORING

MS4 stormwater outfall monitoring supports three permit objectives, including:

- Determine the quality of stormwater discharge relative to municipal action levels.
- Determine whether stormwater discharge is in compliance with applicable stormwater WQBELs derived from TMDL WLAs.
- Determine whether the discharge causes or contributes to an exceedance of receiving water limitations.

The stormwater outfall monitoring program is designed to characterize stormwater discharges from MS4s at representative outfall locations within the EWMP area. Six stormwater outfall monitoring locations have been selected for the EWMP area.

3.4 NON-STORMWATER OUTFALL PROGRAM

Objectives of the non-stormwater (NSW) outfall monitoring include the following:

- Determine whether a discharge is in compliance with applicable non-stormwater WQBELs derived from TMDL WLAs.
- Determine whether a discharge exceeds non-stormwater action levels.
- Determine whether a discharge contributes to or causes an exceedance of receiving water limitations.
- Assist in identifying illicit discharges.

The Non-Stormwater Outfall Screening and Monitoring Program is focused on dry weather discharges to receiving waters from major outfalls. The program fills two roles, the first is to provide data to allow determination of whether the non-stormwater constituent load is adversely impacting the receiving water, and the second is to assess the permit requirement to effectively prohibit NSW discharges.

To fulfill these two roles, two elements of the NSW program have been defined. The first is non-stormwater TMDL outfall monitoring at set monitoring locations to assess compliance with non-stormwater WQBELs and the potential for a discharge to contribute to or cause a RWL exceedance. This type of sampling will occur at the stormwater outfall monitoring sites.[3] The second element is the non-stormwater screening program. The non-stormwater screening program is designed to be complimentary to the Illicit Connection/Illicit Discharge (IC/ID) minimum control measure (MCM). As outlined in the screening program included in Section 8, a potential outcome of the screening process is the identification of non-stormwater monitoring locations. If non-stormwater monitoring locations are identified, the sites will be monitored as part of the non-stormwater outfall monitoring program.

3.5 NEW DEVELOPMENT/REDEVELOPMENT EFFECTIVENESS TRACKING

Participating agencies have developed mechanisms for tracking new development/re-development projects that have been conditioned for post-construction BMPs pursuant to MS4 Permit Part VI.D.7. Agencies have also developed mechanisms for tracking the effectiveness of these BMPs pursuant to MS4 Permit Attachment E.X.

3.6 REGIONAL STUDIES

Only one regional study is identified in the MRP: Southern California Stormwater Monitoring Coalition (SMC). The Southern California SMC is a collaborative effort between all of the Phase I MS4 NPDES Permittees and NPDES regulatory agencies in Southern California. The Southern California Coastal Water Research Project (SCCWRP) oversees the SMC. The Los Angeles County Flood Control District will participate in the SMC Regional Program on behalf of the USCRWMG to meet this permit requirement.

3.7 OPTIONAL SPECIAL STUDIES

Two optional special studies have been identified. The special studies will be conducted if needed to answer specific questions. Additional special studies may be conducted if localized water quality concerns are identified through the CIMP and EWMP process, helping the USCRWMG better implement the EWMP.

For each of these optional monitoring elements, the applicable monitoring locations, parameters and monitoring methods are described in **Attachment F**.

4 Monitoring Locations

The CIMP monitoring locations consist of receiving water and outfall monitoring locations. Monitoring locations have been identified to achieve the monitoring objectives.

[3] Non-stormwater TMDL outfall monitoring sites are currently set at the stormwater outfall locations. The USCRWMG may modify these sites based on the NSW screening process if more appropriate site locations are determined.

4.1 RECEIVING WATER MONITORING SITES

The requirements in the MRP include receiving water monitoring sites at previously designated mass emission stations, TMDL receiving water compliance points, and additional receiving water locations representative of the impacts from MS4 discharges. To meet these requirements, two types of monitoring locations are included in the CIMP.

- **Mass Emission Receiving Water** – The mass emission receiving water (ME) monitoring location is intended to determine if RWLs are achieved, assess trends in pollutant concentrations over time, and determine whether designated uses are supported.
- **TMDL Receiving Water**– TMDL receiving water monitoring locations (TMDL) were selected to evaluate attainment of, or progress in attaining the TMDL, and support evaluating the status of 303(d) listings and other RWL exceedances specific to other reaches in the watershed.

While not explicitly established in the MRP, the monitoring types proposed distinguish between the different end goals of monitoring for specific constituents within specific water bodies in the EWMP area. ME monitoring provides a long-term record to understand conditions within the EWMP area, for a robust suite of parameters. TMDL monitoring addresses TMDL related constituents and provide monitoring locations to assess other identified exceedances of RWLs determined through an analysis of existing data.

4.1.1 Mass Emission Receiving Water Site

One of the primary objectives of receiving water monitoring is to assess trends in pollutant concentrations over time, or during specified conditions. As a result, the primary characteristic of an ideal receiving water assessment monitoring site is a robust dataset of previously collected monitoring results so that trends in pollutant concentrations over time, or during specified conditions, can be assessed.

The Santa Clara MS4 Mass Emission Station, S29, will provide representative measurement of the effects of the MS4 discharges on the receiving water for the upper portion of the watershed, which is covered by the EWMP area. The location of the proposed ME monitoring site can be seen on **Figure 2**. Photographs of the ME site and flow monitoring locations for the ME site are included in **Attachment B**.

4.1.2 TMDL Sites

Within the EWMP area, TMDL monitoring sites are required in SCR Reaches 5, 6, and 7 to meet the requirements of the Bacteria TMDL. In addition, Part C of Attachment L to the Permit specifies WQBELs for the County of Los Angeles' discharges to Elizabeth Lake for the trash TMDL. The County of Los Angeles has installed six full capture devices to achieve the final WQBELs as such, per the requirements of the Elizabeth Lake Trash TMDL, a monitoring site within Elizabeth Lake is not required. **Attachment A, Section 3.3**, provides information related to the six full capture devices installed in the Elizabeth Lake watershed and a figure depicting the location of the full capture devices.

Given the Bacteria TMDL has the most stringent monitoring requirements, the in-stream site selection has been centered on meeting the requirements of the Bacteria TMDL. The Bacteria TMDL requires at least one monitoring location per impaired reach. As this CIMP details the

monitoring to be conducted within the USCRWMG EWMP area and not the downstream reaches, Reaches 5, 6, and 7 will each have one monitoring location. **Table 3** lists the TMDL monitoring sites and **Attachment B** provides a summary of the monitoring locations and associated attributes. As the monitoring locations are situated upstream of one another, their drainage areas overlap, so each monitoring location's drainage area includes the drainage areas for all upstream monitoring locations. For example, the drainage area for SNTCLR_6_ME contains the area outlined for that site, plus the drainage areas for SNTCLR_7_R-A. The proposed sites are shown on **Figure 2**. Photographs of the TMDL sites are included in **Attachment B**.

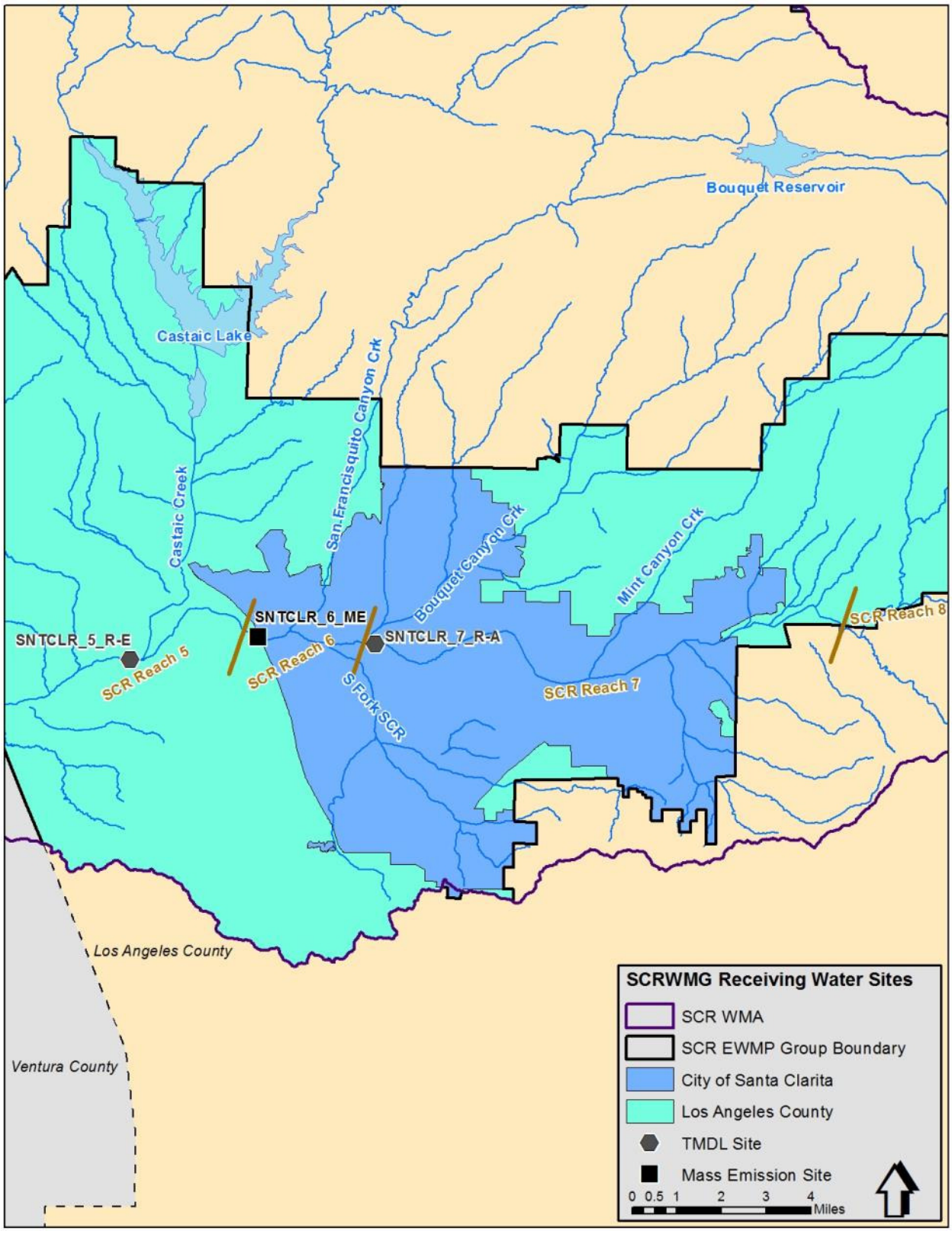

Figure 2. Overview of Receiving Water Monitoring Sites

Table 3. Summary of USCRWMG Receiving Water Monitoring Sites

Site ID	Water Body	Coordinates		Monitoring Type	
		Latitude	Longitude	ME	TMDL
SNTCLR_5_R-E	SCR Reach 5	34.41856	-118.63569		X
SNTCLR_6_ME	SCR Reach 6	34.42611	-118.58583	X	X
SNTCLR_7_R-A	SCR Reach 7	34.42403	-118.53956		X

4.2 STORMWATER OUTFALL MONITORING SITES

The permit requires the identification of monitoring locations for stormwater outfall monitoring. The outfall monitoring locations were selected as representative monitoring locations that discharge to each reach of the Santa Clara River. The primary criteria for the stormwater outfall monitoring program was selecting monitoring sites that are representative of the range of land uses in the permit area and provide accurate data for measuring flows and characterizing pollutant loads.

While the permit includes default requirements for one outfall site per jurisdiction per HUC-12, identification of alternative approaches are allowed as part of the CIMP development. The site selection process was utilized to identify sites that are representative based on land uses and characteristics of the development of the EWMP area.

The analysis was conducted by evaluating one outfall per HUC-12 with catchment land uses that were similar in characteristics to the HUC-12 in which it is located. To best compare the percent land uses within HUC-12 and the MS4 areas, in most cases, vacant land was not included in the calculation. HUC-12 outfall drainage percent land uses were calculated only using open space characterized as golf courses, local parks, and regional parks for site selection (open space).[4] However, for several of the HUC-12s, open space characterized as vacant with limited improvements or no improvements and undeveloped land makes up a significant portion of the total drainage area. As a result, most of the outfall drainages also include a portion of undeveloped land as it was not possible to identify any stormwater outfall sites without a large amount of undeveloped land in some HUC-12s.

Once potential outfalls were identified with representative land uses, the sites were field checked to ensure that it was safe and possible to monitor at the location. Potential sites were evaluated to consider the jurisdiction draining to the site, the ultimate receiving water for the site, and the characteristics of the drainage area (e.g. primarily newer development built to SUSMP standards or primarily pre-SUSMP development). Based on the site selection process, six outfalls were selected as representative of the seven HUC-12s that have major MS4 outfalls for the USCRWMG jurisdictions. Three of the six selected HUC-12 monitoring locations were determined to have similar percentages of the types of land uses. Two of the three outfalls with similar land uses were selected. The two sites were selected based on the fact that one primarily consists of newer development that has occurred since Standard Urban Stormwater Mitigation Program (SUSMP) requirements were implemented, and one representing older development

[4] All land uses were calculated using the 2005 SCAG land use layer.

prior to SUSMP implementation. The site selection approach is an appropriate monitoring approach for the USCR EWMP area due to the similar land uses between the two jurisdictions in the EWMP area. To enhance effectiveness, the City and County have agreed to work together to provide coordination as much as possible. Details of the outfall site selection process are provided in **Attachment D** to justify the selected approach. This site selection process took place during dry weather, field conditions may drastically differ during storm events. If representative samples cannot be collected or conditions are prohibitive of safe sampling at any of the outfall sites, an alternative previously evaluated site, within in the same HUC-12, will be used in subsequent events. The Regional Board will be notified of any monitoring site location changes in the Annual Report for the period when the change took place. Justification and any relevant documentation, such as field photos, will be included.

The seven selected outfall monitoring sites are presented in **Figure 3** and summarized in **Table 4**. Six of the outfall monitoring sites comprise the permit required stormwater outfall monitoring program, the seventh outfall discharging to Lake Elizabeth will be monitored solely for the determination of whether the MS4 contributes to the lake's 303(d) listing for eutrophic condition. Monitoring at the Lake Elizabeth outfall site will discontinue after a year, should the results indicate the MS4 is not contributing to the lake's eutrophic condition. A summary of the land use for each of the sites as compared to the HUC-12 land use is included in **Table 5**. Detailed maps and photographs of each of the stormwater outfall monitoring sites are included in **Attachment B.**

The selected sites are representative of the land uses within each respective HUC-12 as shown in **Table 5**. The data collected at the monitored outfalls will be representative of all MS4 discharge within the EWMP area. The resulting data will be applied to all Group Members represented by the site, regardless of whether a site is located within a particular jurisdiction or received flow from that land area. Compliance for Group Members with WQBELs and RWLs may be based on comingled discharges or data not collected within a given jurisdiction.

Table 4. Summary of Stormwater Outfall monitoring Sites in the USCRWMG's EWMP Area

HUC-12	Reach	Jurisdiction	Drain Name	Size	Shape	Material	Latitude	Longitude
Salt Canyon	Reach 5; Reach 6	City	MTD 1510	84"	Double Box	Reinforced Concrete Box	34.42398	-118.56321
San Francisquito Canyon	Reach 6	City	MTD 1643	78"	Round	Reinforced Conc. Pipe	34.45319	-118.55551
Sand Canyon	Reach 6; Reach 7	City	PD 0494	78"	Round	Reinforced Conc. Pipe	34.40604	-118.47007
S Fork Santa Clara River	Reach 6	City	PD 0717	120"	Square or Rectangle	Reinforced Concrete Box	34.38176	-118.55110
Lower Castaic Creek	Reach 5	County	PD 2443	60"	Square or Rectangle	Reinforced Conc. Box	34.49705	-118.61252
Mint Canyon	Reach 7	County	PD 2516	60"	Round	Corrugated Metal Pipe	34.44048	-118.43074
Lake Elizabeth [1]	N/A	County	Unknown (East)	30"	Round	Reinforced Conc. Pipe	34.66196	-118.38712

1.Lake Elizabeth outfall site will only be sampled to identify whether or not the MS4 contributes to the lake's 303(d) listing for eutrophic condition.

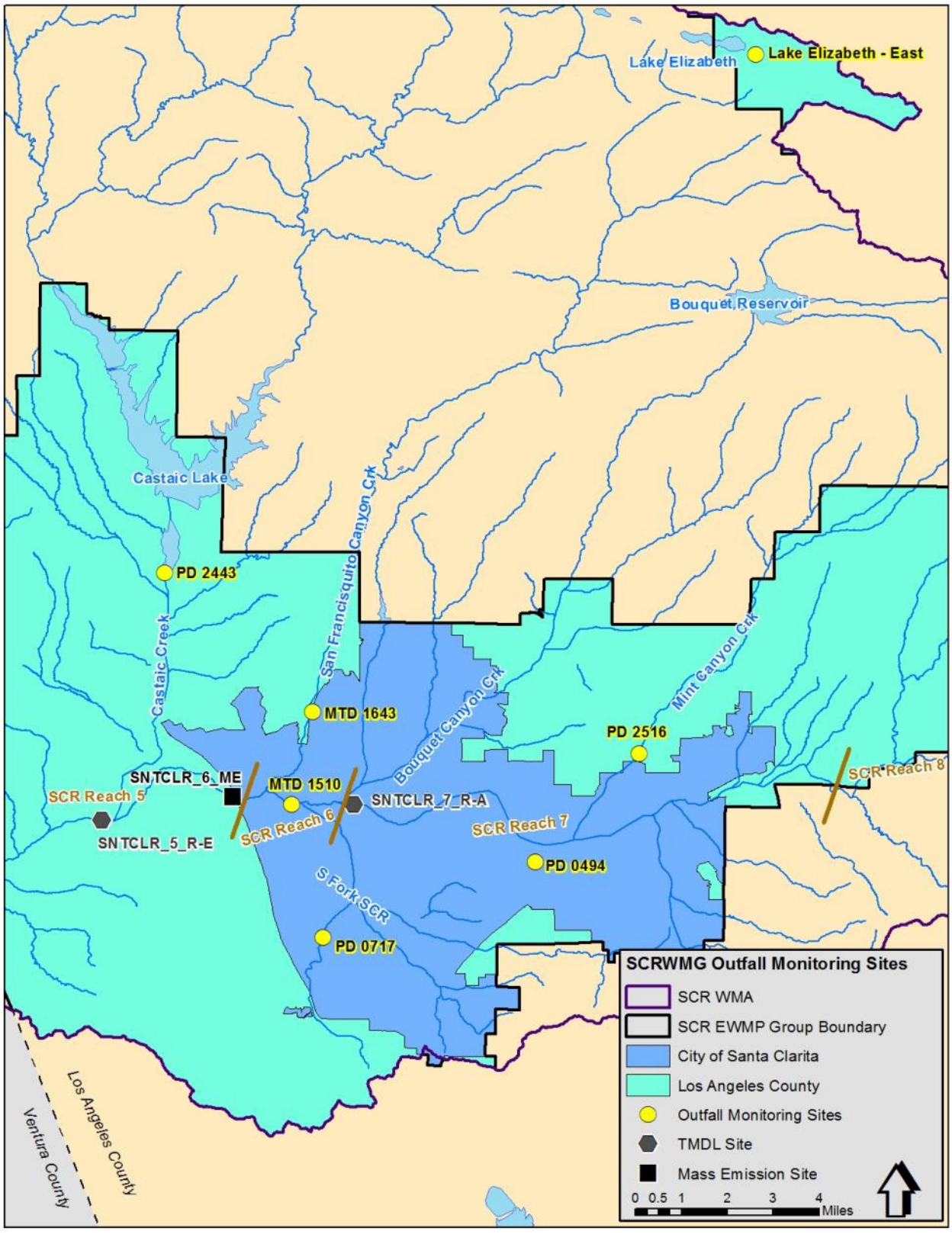

Figure 3. Receiving Water and Stormwater Outfall Monitoring Sites

Table 5. Outfall Monitoring Location Land Use Comparison [1]

	Land Use	Salt Canyon	San Francis-quito Canyon	Sand Canyon	S Fork Santa Clara River	Lower Castaic Creek	Mint Canyon
HUC-12	Residential	24%	82%	75%	58%	44%	78%
	Commercial	68%	13%	20%	35%	34%	21%
	Open	8%	5%	6%	8%	22%	1%
Outfall	Residential	57%	82%	88%	83%	45%	68%
	Commercial	41%	7%	11%	10%	37%	32%
	Open	2%	12%	0%	8%	18%	0%

1. Percentages calculated using only open space characterized as golf courses, local parks, and regional parks and not undeveloped.

4.3 NON-STORMWATER OUTFALL MONITORING SITES

As discussed in Section 3.4, the non-stormwater outfall monitoring serves two purposes. The first is to assess compliance with applicable non-stormwater WQBELs and assess whether the discharge contributes to or causes an exceedance of receiving water limitations. The second is to determine if non-stormwater discharges are being effectively prohibited.

4.3.1 Non-Stormwater TMDL Outfall Sites

The stormwater outfall monitoring sites identified in **Section 4.2** will be used as NSW TMDL outfall compliance monitoring locations.[5] Per the Bacteria TMDL, the outfall monitoring sites shall be "an adequate number of representative outfalls." These sites have been selected to be representative of the types of discharges observed in the EWMP area and to support the identification of control measures. Monitoring at these locations will be conducted to evaluate compliance with non-stormwater WQBELs and assess whether the discharge contributes to or causes an exceedance of receiving water limitations.

4.3.2 Significant Non-Stormwater Outfall Sites

As required by the permit, significant non-stormwater outfall monitoring locations may be identified through the non-stormwater screening program described in Section 8. As discussed in Section 8, after source investigations are conducted, the MRP requires monitoring for certain types of discharges. If significant NSW monitoring locations are identified through the screening process, monitoring will be conducted at those sites to assess whether the discharge

[5] The USCRWMG may modify the site locations for NSW TMDL outfall monitoring based on the results of the NSW screening process, if more appropriate sites are found.

exceeds non-stormwater action levels and whether the discharge contributes to or causes an exceedance of receiving water limitations.

4.4 OPTIONAL SPECIAL STUDY MONITORING LOCATIONS

Two optional special studies are identified in this CIMP. The first is the assessment of pyrethroids in Bouquet Canyon. For this study, two receiving water monitoring sites and one outfall monitoring site have been identified in Bouquet Canyon. The second optional study is the assessment of contributions of bacteria from undeveloped open space in Reach 7 of the Santa Clara River, upstream of the MS4 system. One receiving water monitoring location has been identified for this optional special study.

Monitoring at these locations may be conducted as a special study during the permit term. Monitoring at these locations, during this permit term, is optional and clearly distinct from the required monitoring conducted at the other monitoring locations.

Table 6. Summary of USCRWMG Optional Special Study Monitoring Sites

			Coordinates	
Site ID	**Special Study**	**Water Body**	**Latitude**	**Longitude**
SNTCLR_BC_SWAMP	Pyrethroids	Bouquet Canyon	34.42782	-118.54022
SNTCLR_BC_PARK	Pyrethroids	Bouquet Canyon	34.43267	-118.52596
PD 1256/ PD 1713	Pyrethroids	Lower Bouquet Canyon	34.45648	-118.53596
SNTCLR_7_FLG	Bacteria	SCR Reach 7	34.42972	-118.35444

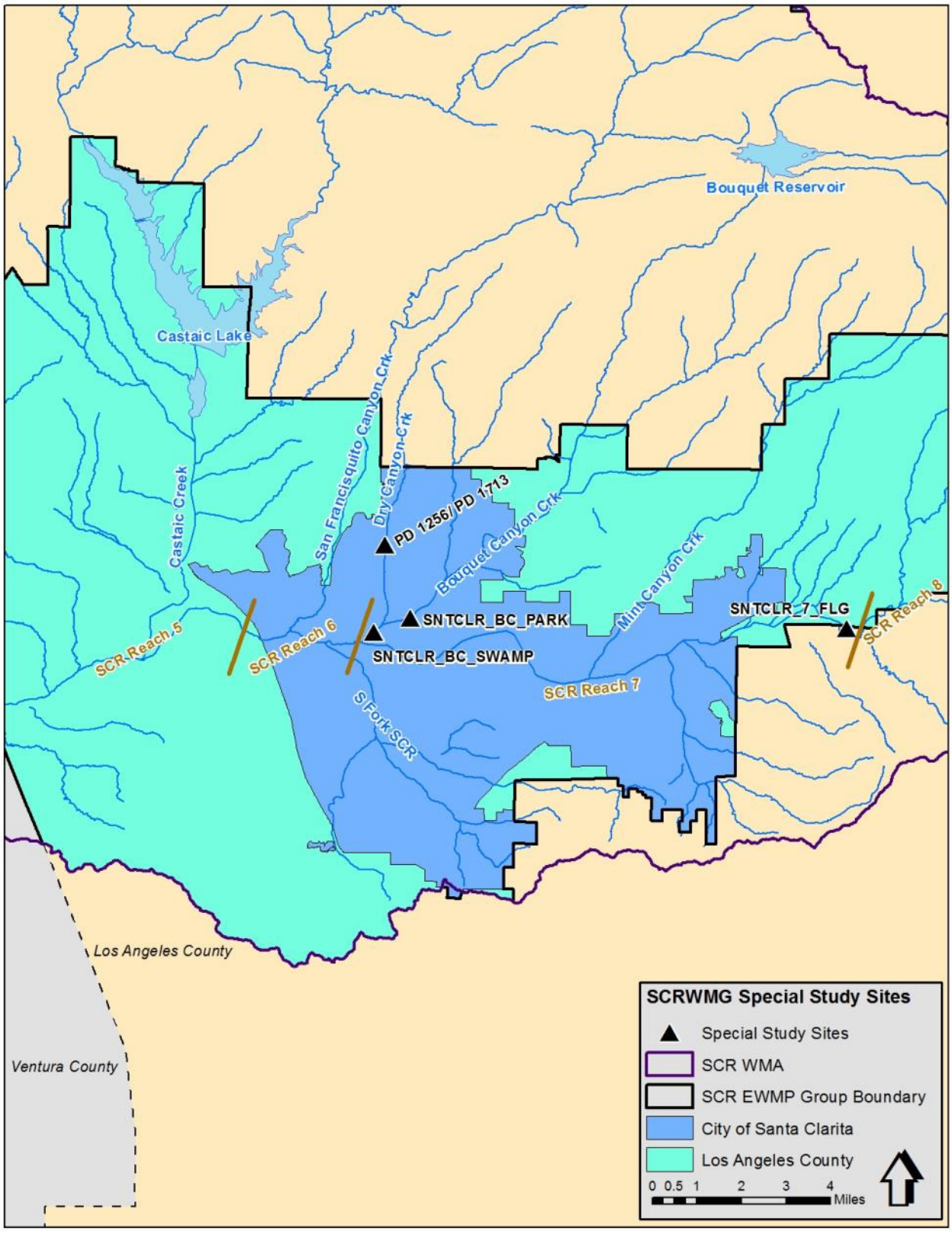

Figure 4. Optional Special Study Monitoring Locations

5 Monitoring Frequency and Schedule

The MRP clearly defines the minimum required frequency, and duration of receiving water and outfall monitoring. This section provides the proposed frequency of monitoring, monitoring schedule, and timing of sample collection for the CIMP.

5.1 MONITORING FREQUENCY

A general summary of the proposed CIMP monitoring frequency for receiving water and outfall monitoring is included in **Table 7**.

Table 7. Monitoring Frequency

Monitoring	Dry Frequency	Wet Frequency
Receiving water	2 [1]	3 [2]
Stormwater outfall		3
Non-stormwater TMDL outfall [4]	2 [3]	
Significant non-stormwater outfall	2 [3]	

1. Chronic toxicity to be monitored once per year during the historically driest month.
2. Acute toxicity to be monitored twice per year during wet weather.
3. The MRP specifies the following monitoring frequency for non-stormwater outfall monitoring as: (1) for outfalls subject to a dry weather TMDL, the monitoring frequency shall be per the approved TMDL monitoring plan or as otherwise specified in the TMDL or as specified in an approved CIMP or (2) for outfalls not subject to dry weather TMDLs, approximately quarterly for first year. The CIMP monitoring frequency will be two times per year to coordinate non-stormwater monitoring with receiving water monitoring. Per MRP section IX.G.5 of the Permit, after one year of monitoring, the Permittees may submit a written request to the EO to reduce or eliminate monitoring, following an evaluation of the data.
4. Not all outfall locations will be sampled during the first two years. Outfall sampling is being implemented using a phased approach with two outfalls monitored during the 1st year, an additional two outfalls the 2nd year, and all outfalls during the 3rd and subsequent year.

Sampling will occur at the monitoring frequency required by the Permit for receiving water and stormwater outfall monitoring. For non-stormwater outfall monitoring, the monitoring frequency will be reduced to two dry weather events per year. Stormwater and non-stormwater outfall monitoring will be conducted concurrently with receiving water monitoring to allow consideration of the potential impacts of the outfall discharges on the receiving waters.

While a monitoring frequency of quarterly is specified in the Permit for non-stormwater outfalls, it is inconsistent with the dry weather receiving water monitoring requirements. The receiving water monitoring requires two dry weather monitoring events per year. Additionally, during the term of the current Permit, outfalls will be screened three times (see Section 8) and those with significant non-stormwater discharges will be subject to a source investigation. As a result, monitoring non-stormwater outfalls twice per year will be sufficient to characterize non-stormwater discharges and will allow better coordination with the receiving water monitoring schedule.

The Bacteria TMDL requires that receiving water monitoring be conducted at a frequency "adequate to assess compliance with the 30-day geometric mean objectives." Since the

geometric mean objectives require a statistically sufficient number of samples [6] for calculation, weekly sampling is needed to meet this TMDL requirement. Since the geometric mean objectives are not required to be met until March 2023 for dry weather and March 2029 for wet weather and there are no interim geometric mean limits, weekly monitoring is not necessary during the initial implementation of the monitoring program. It is likely that the geometric mean objectives will continue to be exceeded during the implementation period and the additional cost of weekly bacteria monitoring would be significant. During the EWMP development, a schedule for weekly bacteria monitoring will be identified to coordinate with the interim milestones developed for bacteria TMDL compliance to ensure the interim milestones can be evaluated.

5.2 MONITORING SCHEDULE

Existing monitoring will continue to be conducted and beginning summer of 2014, the dry weather screening of major outfalls will commence. Implementation of new monitoring programs and modifications to existing monitoring programs will be implemented beginning July 2015 or 90 days after approval of the CIMP, whichever is later. Receiving water and stormwater outfall monitoring will be conducted per the CIMP for the first year. After the first year, modifications to the CIMP may be proposed, as outlined in the adaptive management process (Section 11). The stormwater outfall monitoring will follow a phased approach, with two outfalls being monitored the first year, an additional two outfalls the second year, and finally all outfalls the third year. The outfalls to be monitored the first year are MTD 1510 and MTD 1643, the two additional outfalls to be monitored during the second year are PD 0717 and PD 2443, and the three additional outfalls to be monitored during the third year are PD 0494, PD 2516, and Lake Elizabeth East.

Non-stormwater TMDL outfall monitoring will begin during the first dry weather receiving water monitoring event after July 1, 2015 or 90 days after CIMP approval by the EO, whichever is later. Monitoring at these sites will follow the same phased approach as specified for the stormwater outfall monitoring. NSW TMDL outfall samples will be collected at the same sites as those sampled during the stormwater outfall monitoring during any given monitoring year.

Significant non-stormwater outfalls may be identified through the non-stormwater screening process that will require monitoring. Per the permit, outfall monitoring at these locations should begin within 90 days of completing a source investigation or after the Executive Officer approves the CIMP, whichever is later in time. However, to allow for better coordination of monitoring events and to ensure corresponding receiving water data is available in conjunction with the outfall monitoring results, monitoring at any newly identified significant non-stormwater outfalls will begin during the next scheduled dry weather CIMP monitoring event or within 90 days of the completion of the source identification, whichever is later.

5.3 TIMING OF SAMPLE COLLECTION

The MRP includes specific criteria for the timing of monitoring events. Following is a summary of the specific timing requirements for sample collection based on the MRP requirements.

[6] Statistically sufficient is generally not less than 5 samples equally spaced over a 30-day period per the Water Quality Control Plan: Los Angeles Region. Non-regulatory amendments to Chapter 3, Water Quality Objectives.

Dry weather samples will be collected on a day where there has been no measureable precipitation (<0.1 inches) in the past 72 hours. For dry weather toxicity monitoring, sampling must take place during the historically driest month. As a result, the dry weather monitoring event that includes toxicity monitoring will be conducted in July.

Wet weather sample collection will be triggered by the prediction of a storm of 1 inch or greater with a 70 percent probability of rainfall at least 24 hours prior to the event start time.[7] The permit requires collection of samples during the first storm event of the storm year with a predicted rainfall of at least 0.25 inch at a 70 percent probability of rainfall. However, the permit also states that wet weather is defined as when the flow within the receiving water is at least 20 percent greater than the base flow or an alternative threshold as provided for in an approved CIMP, or as defined by effective TMDLs within the watershed. As described in **Attachment F**, sufficient runoff to elevate the baseflow in the Santa Clara River requires significant amounts of rainfall (or high intensity rainfall). **Figure 5** depicts peak flow data correlated with rainfall at the Old Road Bridge Gaging Station located in Reach 5, which further supports the greater rainfall trigger. The USCR watershed has vast areas of undeveloped land and significant areas of high infiltration rates, which include the channels themselves, as most are natural, sandy-bottomed. As a result, a storm of 0.25 inches is unlikely to elevate the baseflow in the River sufficiently to be defined as a wet weather event. Therefore, a higher predicted rainfall trigger is included to ensure that sampling occurs during an event that generates runoff that makes it to the receiving water. Additionally, 1 inch of rainfall corresponds to the average rainfall depth for the watershed constituting the 85th percentile runoff volume. Wet weather sampling events will be separated by a minimum of three days of dry conditions (<0.1 inch of rain each day).

For significant non-stormwater outfall monitoring events at outfall locations identified through the non-stormwater screening process, samples will not be collected if the discharge is not reaching a receiving water body. These sites are only being sampled to identify potential impacts on receiving waters. As a result, if the discharge is not reaching the receiving water, collection of a sample is not necessary. The field conditions will be documented and photographed to demonstrate that the outfall discharge is not impacting receiving waters.

[7] Because a significant storm event is based on predicted rainfall, it is recognized that this monitoring may be triggered without 1" of rainfall actually occurring. In this case, the monitoring event will still qualify as meeting this requirement provided that sufficient sample volume is collected to do all required laboratory analysis. Documentation will be provided showing the predicted rainfall amount.

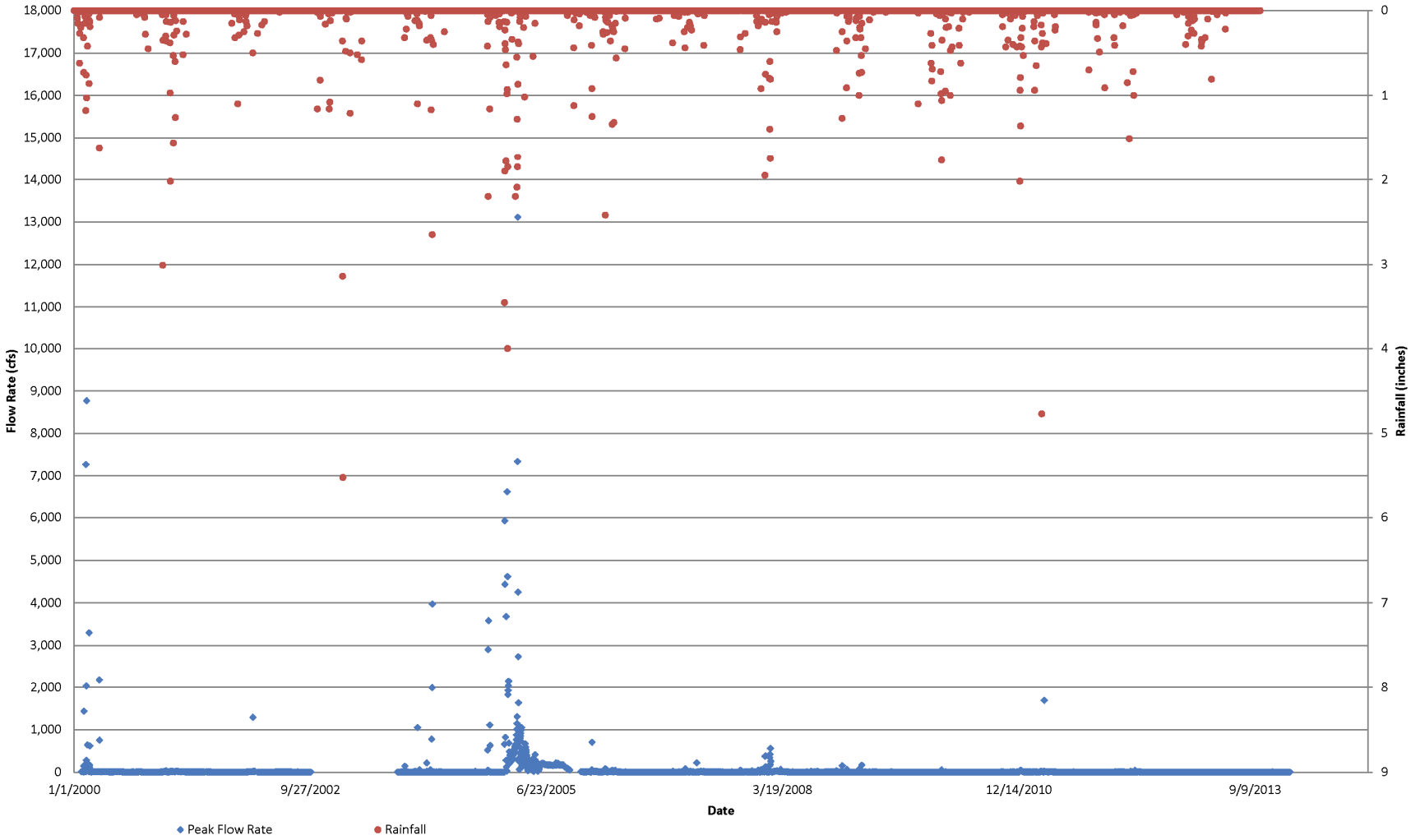

Figure 5. Peak Flow Rate and Rainfall Data for Santa Clara River Reach 5 at the Old Road Bridge[8]

[8] Graph provided by Los Angeles County Department of Public Works.

6 Monitoring Parameters

The parameters outlined in the MRP to be monitored at receiving water and outfall monitoring locations are summarized in **Table 8.** As part of the EWMP, the USCRWMG have conducted a data analysis to determine water quality priorities for the watershed. While the water quality priorities analysis will be finalized as part of the EWMP development, an initial characterization of the water quality priorities has been developed (**Attachment A**). The water quality priorities analysis is utilized in the CIMP to define the parameters that will be monitored at each site. Since the analysis is reach specific, different parameters will be monitored at different monitoring locations. The initial analysis used to develop the parameters to be monitored at each site is shown in **Table 9.**

Table 8. Summary of MS4 Permit Required Monitoring Parameters

Classification Identified in Permit	Receiving Water [1]	Stormwater Outfall [2]	Non-Stormwater TMDL Outfall	Significant Non Stormwater Outfall [2]
Flow	X	X	X	X
Field measurements: DO, pH, temp, specific conductivity	X	X	X	X
Hardness and TSS	X	X		X
Pollutants assigned TMDL WLAs	X	X	X	X
Pollutants identified for 303(d)-listed receiving waters	X	X		X
Aquatic Toxicity	X	X[3]		X[3]
Parameters in Table E-2 of the MRP[5]	X	X[4]		X[4]

1. All parameters will be monitored at SNTCLR_6_ME. The parameters monitored at the other locations will vary based on the water quality priority analysis.
2. The parameters monitored at the outfall locations will be set equal to the constituents to be sampled in the reach to which the outfall discharges for the first year of monitoring. After the first year, receiving water monitoring results, toxicity analysis, and non-stormwater screening results will be used to define the constituents to be monitored as outlined in Section 10.
3. Toxicity monitoring is only required when triggered by recent receiving water toxicity monitoring where a toxicity identification evaluation (TIE) on the observed receiving water toxicity test was inconclusive.
4. Parameters in Table E-2 are only monitored at outfall locations if they are identified as exceeding applicable water quality objectives.
5. Parameters in Table E-2 that are listed in Attachment C will be monitored during the first year and any found to be exceeding objectives would continue to be monitored.

All constituents that were identified as a water quality priority will be included in the monitoring program.[9] Based on the water quality priorities analysis, a number of constituents were identified as having not been detected in the past ten years of monitoring. As a result, parameters in Table E-2 of the MRP will not be monitored during the first year if they have not been detected at any monitoring location in the past ten years of monitoring. **Attachment C** lists the constituents that will be monitored during the first year. The constituents in **Attachment C** that are not water

[9] Category 2B and 2D contain 303(d) listings for Eutrophic and Fish Kills. Dissolved oxygen will be monitored and considered to be a representative constituent for evaluating those conditions.

quality priorities will be assessed with applicable water quality objectives after the first year of ME monitoring. If the constituents are not detected during the first year at levels above applicable objectives, monitoring for those constituents will cease. Additionally, the monitoring parameters may be modified throughout the monitoring process as outlined in the adaptive management process (Section 11).

A summary of the monitoring frequencies and parameters for each monitoring site are shown in **Table 10**.

Table 9. Summary of Initial Water Quality Priority Characterization

Class[1]	Constituent	Santa Clara River Reach				Bouquet Canyon	Lake Elizabeth	Mint Canyon	Piru Creek	Munz Lake	Lake Hughes	Castaic Lake	Pyramid Lake	Los Angeles River
		4B	5	6	7									
Category 1A: WBPCs with past due or current term TMDL deadlines with exceedances in the past 5 years.														
Bacteria	E. Coli (dry)	I	I		I									
Salts	Chloride	F	F	F	F									
Category 1B: WBPCs with TMDL deadlines beyond the current Permit term and with exceedances in the past 5 years.														
Bacteria	E. Coli (wet and dry)	F	F		F									
Category 1D: WBPCs with past due or current term deadlines without exceedances in the past 5 years.														
Nutrients	Ammonia	F	F	F	F									
	Nitrate and Nitrite	F	F	F	F									
Trash	Trash						F							
Bacteria	E. Coli (wet and dry)			I/F										
Category 1E: WBPCs with TMDLs for which MS4 discharges are not causing or contributing														
Trash	Trash									TMDL	TMDL			F
Nutrients	Ammonia													F
Nutrients	Nitrate and Nitrite							TMDL[3]						F
Bacteria	E. Coli													I
Metals	Cadmium													I
Metals	Copper													I
Metals	Lead													I
Metals	Selenium													I
Metals	Zinc													I

Class[(1)]	Constituent	Santa Clara River Reach				Bouquet Canyon	Lake Elizabeth	Mint Canyon	Piru Creek	Munz Lake	Lake Hughes	Castaic Lake	Pyramid Lake	Los Angeles River
		4B	5	6	7									
Category 2A: 303(d) Listed WBPCs with exceedances in the past 5 years.														
Metals	Copper			303 (d)										
	Iron		D	303 (d)										
TBD	Cyanide			L										
Category 2B: 303(d) Listed WBPCs that are not a "pollutant"[3] (i.e., toxicity).														
TBD	Aquatic Toxicity			303 (d)										
TBD	pH				L		303(d)							
TBD	Eutrophic						303(d)							
TBD	Organic Enrichment/ Low DO						303(d)							
Category 2C: 303(d) Listed WBPCs without exceedances in past 5 years.														
Pesticides	Chlorpyrifos			D										
Pesticides	Diazinon			D										
Category 2D: 303(d) Listed WBPCs for which MS4 discharges are not causing or contributing														
Metals	Mercury											303(d)	303(d)	
TBD	Eutrophic									303(d)	303(d)			
TBD	Fish Kills										303(d)			
TBD	Odor										303(d)			
TBD	Algae										303(d)			
TBD	pH								303(d)					
Salts	Chloride								303(d)					

Class[1]	Constituent	Santa Clara River Reach				Bouquet Canyon	Lake Elizabeth	Mint Canyon	Piru Creek	Munz Lake	Lake Hughes	Castaic Lake	Pyramid Lake	Los Angeles River
		4B	5	6	7									
Category 3A: WBPCs with exceedances in the past 5 years.														
Metals	Copper		X		X									
	Mercury		X	X	X									
	Selenium			X										
	Zinc			X										
TBD	Cyanide				X									
Salts	TDS		X											
Category 3C: WBPCs without exceedances in past 5 years.														
TBD	Bis-2 Ethylhexyl phthalate			X										
Category 3D: Other EWMP Priorities														
Pesticides	Pyrethroids					X								

1. Pollutants are considered in a similar class if they have similar fate and transport mechanisms, can be addressed via the same types of control measures, and within the same timeline already contemplated as part of the Watershed Management Program for the TMDL.

2. Interim limits for dry E. Coli during permit term, interim limits for wet E. Coli past permit term, final limits for dry and wet past permit term.

3. The Nitrogen TMDL addresses Mint Canyon; however there are no MS4 WLAs that apply.

I=Interim TMDL Effluent or Receiving Water Limit

F=Final TMDL Effluent or receiving water limit

D=303(d) listing that could now be delisted and has no exceedances in last 5 years

303(d)=Confirmed 303(d) Listing

L=WBPC that meets the listing criteria

TMDL=TMDL that does not contain MS4 allocations for the reach

TBD=To be determined– used for conditions (pH and dissolved oxygen) that are not pollutants, per se, or constituents where the linkage to another type of constituent will be further investigated during EWMP development.

Table 10. Summary of Proposed Monitoring Program for USCRWMG

Constituent	Annual Frequency (number wet events/number dry events)												
	Santa Clara River												Lake Elizabeth
	Reach 5				Reach 6					Reach 7			
	SNTCLR_5_RE [(1)]	Salt Canyon HUC-12 [(1,2)]	Lower Castaic Creek HUC-12[(1,2)]	Significant NSW Outfalls[(3)]	SNCLR_6_ME [(1)]	San Francisquito Canyon HUC-12[(1,2)]	South Fork Santa Clara River HUC-12[(1,2)]	Sand Canyon HUC-12[(1,2)]	Significant NSW Outfalls[(3)]	SNTCLR_7_R-A[(1)]	Mint Canyon HUC-12[(1,2)]	Significant NSW Outfalls[(3)]	Lake Elizabeth East [(10)]
Flow and field parameters[(4)]	3/2	3/2	3/2	2	3/2	3/2	3/2	3/2	2	3/2	3/2	2	3/2
Pollutants identified in Table E-2 of the MRP[(5)]					1[(6)]/1[(6)]								
Aquatic Toxicity[(13)]	[(12)]				2/1					[(12)]			
TSS and Hardness	3/2	3	3	2	3/2	3	3	3	2	3/2	3	2	
Ammonia	3/2	3/2	3/2	2	3/2	3/2	3/2	3/2	2	3	3/2	2	3/2
Nitrate-Nitrogen	3/2	3/2	3/2	2	3/2	3/2	3/2	3/2	2	3	3/2	2	3/2
Nitrite-Nitrogen	3/2	3/2	3/2	2	3/2	3/2	3/2	3/2	2	3	3/2	2	3/2
Chloride	3/2	3/2	3/2	2	3/2	3/2	3/2	3/2	2	3/2	3/2	2	
TDS	3/2	3	3	2									
E. coli (Bacteria TMDL)	3/2[(7)]	3/2	3/2	2	3/2[(7)]	3/2	3/2	3/2	2	3/2[(7)]	3/2[(7)]	2	
Copper	3/2	3	3	2	3/2	3	3	3	2	3/2	3	2	
Iron	3/2	3	3	2	3/2	3	3	3	2				
Mercury	3/2	3	3	2	3/2	3	3	3	2	3/2	3	2	
Selenium					3/2	3	3	3	2				
Zinc					3/2	3	3	3	2				
Total Kjeldahl Nitrogen or Organic Nitrogen													3/2

Constituent	Annual Frequency (number wet events/number dry events)												
	Santa Clara River												Lake Elizabeth
	Reach 5				Reach 6					Reach 7			
	SNTCLR_5_RE [1]	Salt Canyon HUC-12 [1,2]	Lower Castaic Creek HUC-12 [1,2]	Significant NSW Outfalls [3]	SNCLR_6_ME [1]	San Francisquito Canyon HUC-12 [1,2]	South Fork Santa Clara River HUC-12 [1,2]	Sand Canyon HUC-12 [1,2]	Significant NSW Outfalls [3]	SNTCLR_7_R-A [1]	Mint Canyon HUC-12 [1,2]	Significant NSW Outfalls [3]	Lake Elizabeth East [10]
Orthophosphate-Phosphorus													3/2
Total Phosphorus													3/2
Cyanide [8]					3/2	3	3	3	2	3/2	3	2	
Bis (2-ethylhexyl) Phthalate [9]					1/1 [6]								
Chlorpyrifos [11]					1/1 [6]								
Diazinon [11]					1/1 [6]								

1. Annual frequency listed as 3/2 signifies the number of wet-weather events per year/number of dry-weather events per year.
2. Boxes with a monitoring frequency listed as 3 are for wet weather only.
3. Significant NSW monitoring locations will be determined after outfall screening and source identification. Monitoring frequency shown is for dry weather only.
4. Field parameters are defined as DO, pH, temperature, and specific conductivity.
5. Attachment C lists the parameters from Table E-2 that will be monitored at this site. An analysis has been conducted to determine which Permit Required Pollutants should not be monitored during the first year due to previously collected results indicating that the Permit Required Pollutant has never been detected in any reach in the EWMP area.
6. Monitoring frequency only applies during the first year of monitoring. For pollutants that are not detected at the Method Detection Limit for its respective test method or the result is below the lowest applicable water quality objective, additional monitoring will not be conducted (i.e., the monitoring frequency will become 0/0). For pollutants that are detected above the lowest applicable water quality objective, additional monitoring will be conducted for the condition under which the exceedance occurred (wet or dry), at the frequency specified in the MRP (i.e., the monitoring frequency will become 3 for a wet weather exceedance, 2 for a dry weather exceedance, or 3/2 for exceedances during both event types) beginning the next monitoring year.
7. This will be the initial monitoring frequency for this permit term. The monitoring frequency will change to weekly at a time to be determined during EWMP development to correspond with milestones developed for compliance with the Bacteria TMDL when comparison to the geometric mean is needed.
8. Cyanide is likely to be from POTW discharges, as it is unlikely to have MS4 sources, it may be removed if the MS4 is determined not to be a source.
9. Bis (2-ethylhexyl)Phthalate is not suspected to have MS4 sources. Additionally, no exceedances have been observed in the past 5 years.
10. Lake Elizabeth outfall site will be sampled for one year to identify whether or not the MS4 contributes to the lake's 303(d) listing for eutrophic conditions. The results will then be evaluated to determine whether monitoring shall continue.
11. Sufficient monitoring data is available to support 303(d) delisting of this constituent and no exceedances have occurred in the past 5 years. A summary of the available monitoring data supporting the delisting is presented in Attachment A. If exceedances of this constituent occur during the first year of monitoring at the receiving water site, outfall monitoring will comments during the next monitoring year for sites within Reach 6 for the condition under which the exceedance occurred (wet or dry weather).

12. If the toxicity test results at receiving water site SNCLR_6_ME exceed the toxicity identification evaluation (TIE) thresholds and the results are inconclusive, toxicity testing will commence at the upstream (SNTCLR_7_RA) and downstream (SNCLR_5_RE) receiving water sites for the condition under which the TIE trigger occurred (wet weather or dry weather). Should no toxicity occur at the reach 5 or reach 7 receiving water sites, toxicity testing will cease at both or either location (wherever the TIE threshold was not met). If toxicity at the reach 5 or 7 receiving water sites meets the TIE threshold, a TIE will be conducted and will follow the process outlined in Figure 6 starting with the "Conduct TIE" box in the flow chart.
13. Aquatic toxicity outfall monitoring will follow the process outlined in Section 7.3, additional details may be found in Attachment F.

7 Monitoring Procedures Overview

Detailed monitoring procedures are outlined in **Attachment F**. This section provides an overview of the content of **Attachment F** and highlights key elements of the monitoring procedures.

7.1 SAMPLING METHODS

The MRP requires the following sampling methods:

- Grab samples shall be taken for constituents that are required to be collected as such; in instances where grab samples are generally expected to be sufficient to characterize water quality conditions (primarily dry weather); and where the sample location limits Permittees' ability to install an automated sampler.
- Flow-weighted composite samples shall be taken for stormwater outfall samples and non-stormwater outfall samples.

For implementation of this USCR CIMP, grab samples will be collected at all monitoring locations except the mass emission site (SNTCR_6_ME) where 3-hour time-weighted grab sample composites will be collected, consistent with the protocols established during the previous permit term. Grab samples will be collected for both wet and dry weather. Grabs samples are justified for this watershed as most of the receiving water limitation exceedances occur during dry weather. Additionally, the chloride and nutrient TMDLs are only of concern during dry weather when grabs can be considered representative and bacteria samples are collected as grab samples. Therefore all TMDL sampling is appropriately characterized by grab samples. Additionally, most areas of the USCRWMG consist of soft bottom, meandering channel(s), which would make installation of composite sampling equipment difficult to locate and ensure flows were collected. Predicting flow patterns is also difficult in this watershed as the river and tributaries remain dry for the majority of the year. Manual composites are prohibitive due to the staffing, cost, and geographic spread of the monitoring sites that would need to be visited multiple times within a single monitoring event and would not provide more accurate water quality characterization. Samples will be collected at all applicable outfall and receiving water monitoring during a given event to the extent feasible to allow comparison between outfall and receiving water data.

Receiving water and outfall monitoring will be coordinated to effectively assess MS4 contributions to the receiving water. A phased approach to sampling will be conducted for the CIMP, and will allow for additional field reconnaissance to ensure that all sites are appropriate and accessible. Should any of the selected sites be deemed infeasible, the reasons for the site change and details regarding the replacement site will be provided in a CIMP update. During the first year, two outfall monitoring locations will be sampled along with all receiving water locations. During the second year, monitoring will be conducted at the two initial outfall locations, plus two more. In the third year, all outfall locations will be monitored. The phasing will allow the evaluation of the outfall monitoring locations and help evaluate the need for composite sampling at the outfall locations. Due to the nature of the watershed, some of the selected outfalls have small drainage areas because the entire HUC-12 is located in a canyon. Additionally, the watershed is primarily undeveloped and therefore most of the outfall locations contain contributions from undeveloped land. Finally, six outfall sites have been selected to

represent two jurisdictions in one EWMP area draining to three river reaches. Phasing in outfall sampling will allow evaluation of the sites to determine if any need to be changed due to significant contributions from non-MS4 sources or other reasons such that sampling is not feasible at a site and to evaluate whether any of the sites are duplicative.

As part of the CIMP revision process, the need to conduct composite sampling at the outfall monitoring sites will be evaluated. At that point, the best method for collecting composite samples will be decided (manual or automated). If warranted, a gradual implementation of composite sampling at the stormwater outfall monitoring locations will be implemented. The Regional Board will be notified in writing if composite sampling is implemented.

For both types of non-stormwater outfall monitoring, grab samples will be collected and an evaluation of the need for composite samples will be based on the actions needed to address the outfall.

For significant NSW outfalls identified through the non-stormwater outfall screening process, samples will only be collected if the discharge could reach the receiving water. If the receiving water is not flowing or if it is not possible for the discharge to reach the receiving water, then the non-stormwater discharge will not impact the receiving water and does not need to be monitored.

The sampling methods in **Attachment F** include protocols for sample collection using grab and composite sampling methods, flow measurement procedures, sample volume, time of sample collection and other procedures required in the MRP to encompass any methods that may be used during CIMP monitoring.

7.2 ANALYTICAL AND QA/QC PROCEDURES

Attachment F also includes detailed analytical and Quality Assurance/Quality Control procedures, consistent with 40 CFR Part 136 for the analysis of pollutants.[10]

Once laboratories have been selected for the monitoring program, standard operating procedures and QA/QC protocols specific to the laboratory will be incorporated as appendices to **Attachment F**.

7.3 TOXICITY MONITORING AND TOXICITY INVESTIGATION EVALUATIONS

Detailed procedures for toxicity monitoring are outlined in **Attachment F**. This section provides an overview of the process that will be used to evaluate receiving water toxicity data, conduct toxicity identification evaluations (TIEs) if triggered, and initiate additional outfall monitoring if needed.

Toxicity monitoring will be conducted using *Ceriodaphnia dubia* (water flea) (refer to **Attachment F** Section 1.4.1 Sensitive Species Selection). Toxicity samples will be collected at receiving water locations at the frequency outlined in **Table 7** and according to **Table 10**. The procedure outlined in **Figure 6** will be used to evaluate the results of the sample, determine if a TIE is necessary, and utilize the results of a TIE (if conducted) to adapt the monitoring program.

[10] Unless another test procedure is required under 40 CFR subchapters N or O or is otherwise specified in this Order for such pollutants [40 CFR sections 122.41(j)(4) and 122.44(i)(1)(iv)].

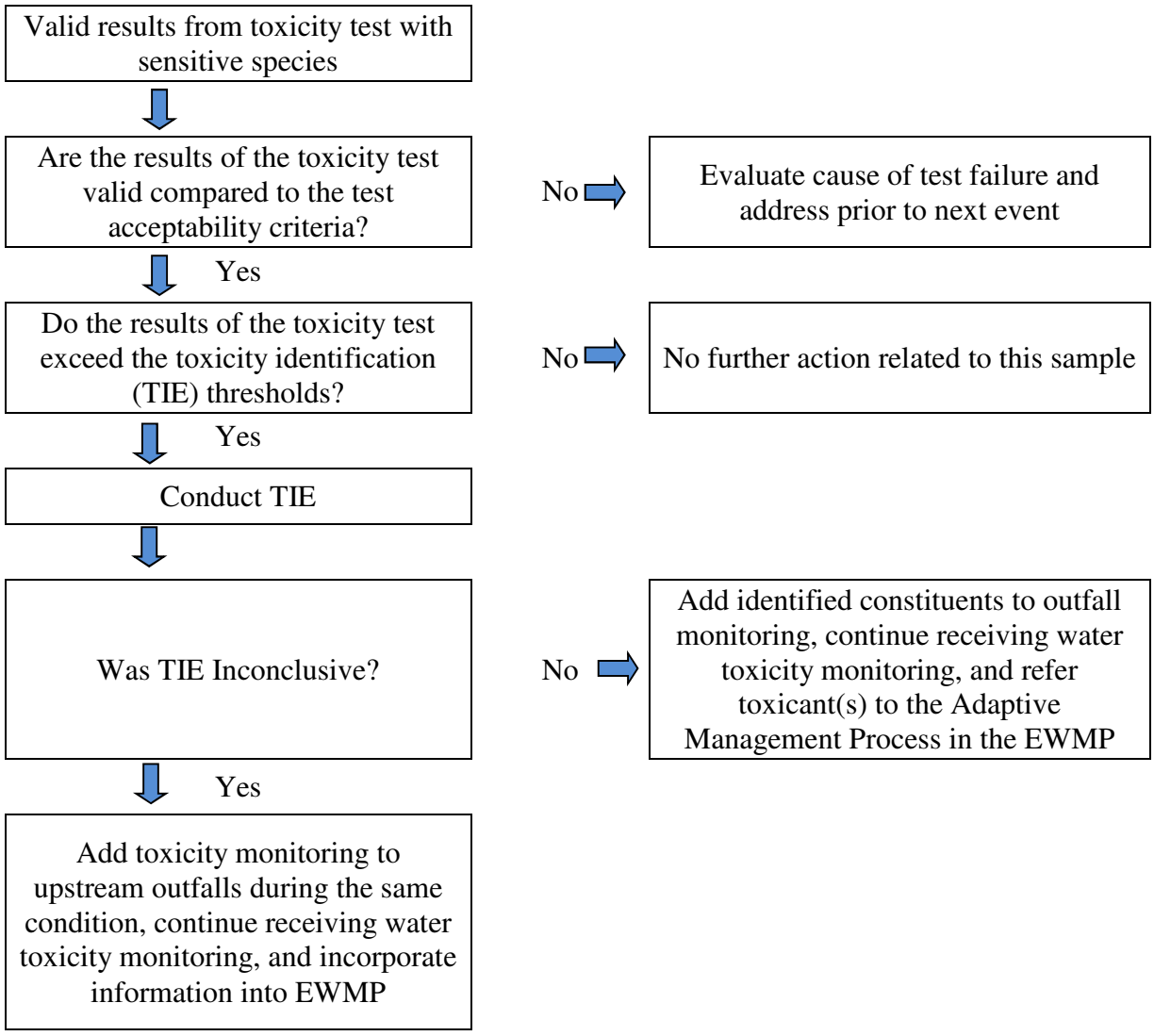

Figure 6. Aquatic Toxicity Assessment Process

8 Non-Stormwater Screening Program

The Non-Stormwater Outfall Screening Program is a multi-step process to identify and address non-stormwater discharges to the receiving waters. The outfall screening and monitoring process is intended to meet the following objectives (Part IX.A of the MRP):

1. Develop criteria or other means to ensure that all outfalls with significant non-stormwater discharges are identified and assessed during the term of the Permit.
2. For outfalls determined to have significant non-stormwater flow, determine whether flows are the result of IC/IDs, authorized or conditionally exempt non-stormwater flows, natural flows, or from unknown sources.
3. Refer information related to identified IC/IDs to the IC/ID Elimination Program (Part VI.D.10 of the Permit) for appropriate action.
4. Based on existing screening or monitoring data or other institutional knowledge, assess the impact of non-stormwater discharges (other than identified IC/IDs) on the receiving water.
5. Prioritize monitoring of outfalls considering the potential threat to the receiving water and applicable TMDL compliance schedules.
6. Conduct monitoring or assess existing monitoring data to determine the impact of non-stormwater discharges on the receiving water.
7. Conduct monitoring or other investigations to identify the source of pollutants in non-stormwater discharges.
8. Use results of the screening process to evaluate the conditionally exempt non-stormwater discharges identified in Parts III.A.2 and III.A.3 of the Permit and take appropriate actions pursuant to Part III.A.4.d of the Permit for those discharges that have been found to be a source of pollutants. Any future reclassification shall occur per the conditions in Parts III.A.2 or III.A.6 of the Permit.
9. Maximize the use of resources by integrating the screening and monitoring process into existing or planned IMP and/or CIMP efforts.

The non-stormwater screening process consists of the steps outlined in **Table 11**.

Table 11. Non-Stormwater Outfall Screening and Monitoring Program Summary

Element	Description
Develop MS4 outfall database	Develop a database of all major outfalls with descriptive information, linked to GIS.
Outfall screening	A screening process will be implemented to collect data for determining which outfalls exhibit significant NSW discharges.
Identification of outfalls with NSW discharge	Based on data collected during the Outfall Screening process, identify outfalls with NSW discharges.
Inventory of outfalls with significant NSW discharge	Develop an inventory of major MS4 outfalls with known significant NSW discharges and those requiring no further assessment.
Prioritize source investigation	Use the data collected during the screening process to prioritize significant outfalls for source investigations.
Identify sources of significant discharges	For outfalls exhibiting significant NSW discharges, perform source investigations per the prioritization schedule. If not exempt or unknown, determine abatement process.
Monitor discharges exceeding criteria	Monitor outfalls that have been determined to convey significant NSW discharges comprised of either unknown or non-essential conditionally exempt discharges, or continuing discharges attributed to illicit discharges must be monitored.

Each of these steps is discussed in more detail in the following subsections and a flow chart of the process is shown in **Figure 7**.

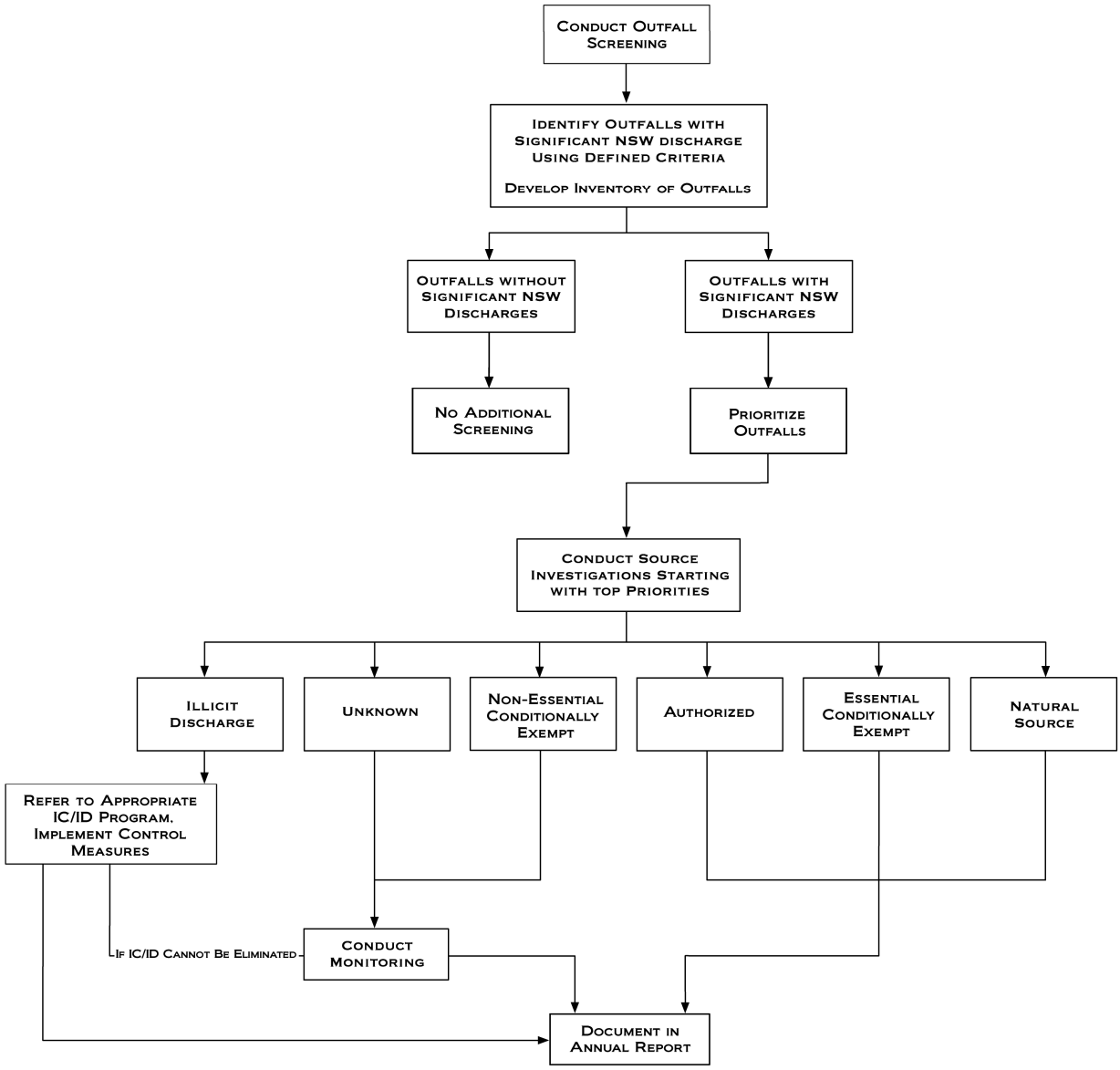

Figure 7. Non-Stormwater Outfall Screening Program

8.1 OUTFALL DATABASE

The non stormwater outfall screening program requires the development of an MS4 outfall database by the time that the CIMP is submitted. GIS outfall database files are being submitted in conjunction with this CIMP. The objective of the MS4 database is to geographically link the characteristics of the outfalls within the EWMP area with watershed characteristics including: subwatershed, waterbody, land use, and effective impervious area. The database must contain the elements described in **Table 12**. The information will be compiled into geographic information systems (GIS) layers.

Table 12. MS4 Database Elements

Database Element	Submitted	Part of CIMP Implementation[1]
Surface water bodies within the Group Member jurisdictions.	X	
Sub-watershed (HUC-12) boundaries.	X	
Land use overlay.	X	
Effective Impervious Area (EIA) overlay (if available).	[2]	
Jurisdictional boundaries.	X	
The location and length of all open channel and underground pipes 18 inches in diameter or greater (with the exception of catch basin connector pipes).	X	
The location of all dry weather diversions.	X	
The location of all major MS4 outfalls within the Permittee's jurisdictional boundary. Each major outfall shall be assigned an alphanumeric identifier, which must be noted on the map.	X[3]	
Notation of outfalls with significant non-stormwater discharges (to be updated annually).		X[4]
Storm drain outfall catchment areas for each major outfall within the Permittee(s) jurisdiction.	X[5]	
Each mapped MS4 outfall shall be linked to a database containing descriptive and monitoring data associated with the outfall. The data shall include:		
Ownership	X	
Coordinates	X	
Physical description	X	
Photographs of the outfall, where possible, to provide baseline information to track operation and maintenance needs over time		X[6]
Determination of whether the outfall conveys significant non-stormwater discharges.		X[4]
Stormwater and non-stormwater monitoring data		X[6]

1. All information gathered as part of CIMP implementation will be submitted annually as part of the annual reports.
2. The submitted WMMS catchments have land use and runoff information that can be used to approximate EIA and the City has a database with Assessor Parcel Numbers (APNs) and runoff factors that is available if needed for this layer.
3. All outfalls greater than 36 inches have been defined. Outfalls that are considered "major" for other reasons as identified in the Permit (see Permit Attachment A page A-11 for complete definition of major outfalls) have not been defined at this time. The database will be updated as information is developed.
4. The determination of significant will be made after the initial screening process outlined in the CIMP is completed using the criteria presented in Section 8.3.
5. The WMMS drainage areas have been included in the database at this time as a representation of larger drainage areas for several outfalls and an approximate delineation of the catchment area for the stormwater outfall monitoring locations has been defined. Further refinement for the catchments will be done in prioritized order based on the non-stormwater screening process.
6. This data will be gathered as part of the screening and monitoring program and will be added to the database as it is gathered.

As shown in the table, not all information was available at this time for submittal as part of the CIMP. Most items currently not available will be collected through implementation of the Non-Stormwater Outfall Screening Program as noted in the table footnotes. As the data becomes available, it will be entered into the database. Each year, the storm drains, channels, outfalls, and associated database will be updated to incorporate the most recent characterization data for outfalls with significant non-stormwater discharge. The updates will be included as part of the annual reporting to the Regional Water Board.

8.2 INITIAL NSW OUTFALL SCREENING PROCESS

The NSW outfall screening program will begin with a field check of all major outfalls as defined in the permit[11] in the database to gather the necessary field information to populate the database. During the initial field screening, outfalls will be observed during dry weather, at least 72 hours after a rain event of 0.1 inches or greater. During the initial field screening, the following information will be gathered using the field inspection form in **Attachment F** or equivalent:

a. Date, Time, Weather
b. Photos of outfall and receiving water using a GPS-enabled camera
c. Coordinates of outfall
d. Physical descriptions of outfall, site condition, and accessibility
e. Discharge characteristics, such as odor and color
f. Presence of flow
g. Receiving water characteristics

After the initial event, NSW outfalls where flow greater than a trickle was observed during the initial screening event will be revisited for two more events. During the second and third screening events, all of the information listed above will be gathered. In addition, visual field estimates of flow will be gathered.

8.3 IDENTIFICATION OF OUTFALLS WITH SIGNIFICANT NON-STORMWATER DISCHARGES

The three initial outfall screening events will be used to define the outfalls that require no further assessment and outfalls with significant non-stormwater discharges. Outfalls will be noted as requiring "No Further Assessment" in the outfall database if:

a. No flow is observed from the outfall.
b. The source is confirmed to be from NPDES permitted, categorically exempt essential flow or natural flow, or
c. Flow is categorized as not significant.

The MRP (Part IX.C.1) states that one or more of the following characteristics may determine significant non-stormwater discharges:

- Discharges from major outfalls subject to dry weather TMDLs.
- Discharges for which monitoring data exceeds non-stormwater action levels (NALs).
- Discharges that have caused or may cause overtopping of downstream diversions.
- Discharges exceeding a proposed threshold discharge rate as determined by the Group Members.
- Other characteristics as determined by the EWMP Group and incorporated within the screening program.

The data collected during the outfall screening process, along with other information about the outfall catchment area, will be utilized to determine which outfalls observed to be flowing during

[11] Major outfalls defined as 36" or greater (or equivalent with drainage area of more than 50 acres) or 12" or greater (or equivalent with drainage area of 2 acres or more) that drain areas zoned as industrial.

the screening process will be categorized as having "significant discharge." Many factors will be taken into consideration when determining significant outfall discharges and will include the following criteria:

- Proximity of the outfall to the main stem of the Santa Clara River where TMDLs apply.
- Outfall has persistent flows, meaning flow was observed on two or more of the three screenings at a rate "greater than a garden hose".[12]
    - Flow will be categorized as follows:
        - No Flow/Wet (0 gpm)
        - Trickle (<2 gpm)
        - Garden Hose (2-10 gpm)
        - Greater than Garden Hose (>10 gpm)
- Characteristics of the catchment area, including but not limited to, presence of permitted discharges in the area, land use characteristics, and previous IC/ID results.

Outfalls with significant non-stormwater discharge will also be designated in an inventory to be included in the MS4 outfall database.

8.4 INVENTORY OF MS4 OUTFALLS WITH SIGNIFICANT NON-STORMWATER DISCHARGES

An inventory of MS4 outfalls must be developed identifying those outfalls with known significant non-stormwater discharges and those requiring no further assessment (Part IX.D of the MRP). If the MS4 outfall requires no further assessment, the inventory must include the rationale for the determination of no further action required. The inventory will be included in the outfall database. Each year, the inventory will be updated to incorporate the most recent characterization data for outfalls with significant non-stormwater discharges.

The following physical attributes of outfalls with significant non-stormwater discharges must be included in the inventory. These characteristics will be collected as part of the screening process:

a. Date and time of last visual observation or inspection
b. Outfall alpha-numeric identifier
c. Description of outfall structure including size (e.g., diameter and shape)
d. Description of receiving water at the point of discharge (e.g., natural, soft-bottom with armored sides, trapezoidal, concrete channel)
e. Latitude/longitude coordinates
f. Nearest street address
g. Parking, access, and safety considerations
h. Photographs of outfall condition
i. Photographs of significant NSW discharge or indicators of discharge unless safety considerations preclude obtaining photographs
j. Estimation of discharge rate
k. All diversions either upstream or downstream of the outfall

[12] Inaccessible outfalls observed to have persistent flows "greater than garden hose" at the nearest downstream receiving water or nearest upstream manhole will also be considered significant.

l. Observations regarding discharge characteristics such as odor, color, presence of debris, floatables, or characteristics that could aid in pollutant source identification.

8.5 PRIORITIZED SOURCE IDENTIFICATION

Once the major outfalls exhibiting significant non-stormwater discharges have been identified through the screening process and incorporated in the inventory, Part IX.E of the MRP requires that the USCRWMG prioritize the outfalls for further source investigations. The MRP identifies the following prioritization criteria for outfalls with significant non-stormwater discharges:

- Outfalls discharging directly to receiving waters with WQBELs or receiving water limitations in the TMDL provisions for which final compliance deadlines have passed.
- All major outfalls and other outfalls that discharge to a receiving water subject to a TMDL shall be prioritized according to TMDL compliance schedules.
- Outfalls for which monitoring data exist and indicate recurring exceedances of one or more of the Action Levels identified in Attachment G of the Permit.
- All other major outfalls identified to have significant non-stormwater discharges.

In addition to the permit requirements, the following criteria will be considered when developing the prioritization schedule:

- Rate of discharge based on visual flow observations
- Size of outfall
- Odor, color and clarity of discharge
- Results of the field measurements of pH, temperature, DO, and EC
- Presence of flow in the receiving water

Once the prioritization is complete, a source identification schedule will be developed. The scheduling will focus on the outfalls with the highest priorities first. Unless the results of the field screening justify a modification to the schedule in the MRP, the schedule will ensure that source investigations are completed on no less than 25% of the outfalls with significant non-stormwater discharges by December 28, 2015 and 100% by December 28, 2017.

8.6 SIGNIFICANT NON-STORMWATER DISCHARGE SOURCE IDENTIFICATION

The screening and source identification component of the program is used to identify the source(s) and point(s) of origin of the non-stormwater discharge. Based on the prioritized list of major outfalls with significant non-stormwater discharges, investigations will be conducted to identify the source(s) or potential source(s) of non-stormwater flows.

Part IX.A.2 of the MRP requires Permittees to classify the source investigation results into one of four endpoints outlined as follows and summarized in **Table 13**:

A. Illicit connections or illicit discharges (IC/IDs): If the source is determined to be an illicit discharge, the Permittee must implement procedures to eliminate the discharge consistent with IC/ID requirements (Permit Part VI.D.10) and document actions.
B. Non-essential Conditionally Exempt: If the source is determined to be a non-essential conditionally exempt discharge, the Group Member must conduct monitoring consistent with Part IX.G of the MRP to determine whether the discharge should remain conditionally exempt or be prohibited.

C. Essential Conditionally Exempt: If the source is determined to be a conditionally exempt essential discharge, the Group Members must document the source.
D. Authorized: If the source is determined to be an NPDES permitted discharge, a discharge subject to Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Group Members must document the source.
E. Natural flows: If the source is determined to be natural flows, the Permittee must document the source.
F. Unknown sources: If the source is unknown, the Permittee must conduct monitoring consistent with Part IX.G of the MRP.

Table 13. Summary of Endpoints for Source Identification

Endpoint	Follow-up	Action Required by Permit
A. Illicit Discharge or Connection	Refer to IC/ID program	Implement control measures and report in annual report. Monitor if cannot be eliminated.
B. Authorized or Conditionally Exempt Discharges[1,2]	Document and identify if essential or non-essential	Monitor non-essential discharges[3]
C. Natural Flows	End investigation	Document and report in annual report
D. Unknown	Refer to IC/ID program	Monitor

1. Discharges authorized by a separate NPDES permit, a discharge subject to a Record of Decision approved by USEPA pursuant to section 121 of CERCLA, or is a conditionally exempt NSW discharge addressed by other requirements. Conditionally exempt NSW discharges addressed by other requirements are described in detail in Part III.A. Prohibitions – Non-Stormwater Discharges of the Permit.
2. Per Section III.A.4 of the permit, if the Permittee determines that an authorized or conditionally exempt essential non-storm water discharge is a source of pollutants that causes or contributes to an exceedance of applicable RWL and/or water quality-based effluent limitations, the Regional Water Board will be notified within 30 days.
3. If monitoring data demonstrates that conditionally exempt non-storm water discharges are a source of pollutants that causes or contributes to an exceedance of applicable RWL and/or water quality-based effluent limitations, the findings will be reported to the RWQCB in the annual report. Additionally, per Section III.A.4 of the permit, the Permittee will either effectively prohibit the NSW discharge; impose conditions in addition to those in Table 8 of the permit, subject to approval by the EO, such that the NSW discharge will not be a source of pollutants; require diversion of the NSW discharge to the sanitary sewer; or require treatment of the NSW discharge prior to discharge to the receiving water.

Source investigations will be conducted using site-specific procedures based on the characteristics of the NSW discharge. Investigations could include:

- Identifying permitted discharges within the catchment area.
- Identifying if the flow is from a channelized stream or creek.
- Following dry weather flows from the location where they are first observed in an upstream direction along the conveyance system.
- Compiling and reviewing available resources including past monitoring and investigation data, land use/MS4 maps, aerial photography, and property ownership information.
- Gathering field measurements to characterize the discharge.

Based on the results of the source assessment, outfalls may be reclassified as requiring no further assessment and the inventory will be updated to reflect the information and justification for the reclassification.

Where investigations determine the non-stormwater source to be authorized, natural, or essential conditionally exempt flows, the EWMP Group will conclude the investigation, categorize the outfall as requiring no further assessment in the inventory, and move to the next highest priority outfall for investigation. Where investigations determine that the source of the discharge is non-essential conditionally exempt, an illicit discharge, or is unknown – further investigation may be conducted to eliminate the discharge or demonstrate that it is not causing or contributing to receiving water problems. In some cases, source investigations may ultimately lead to prioritized programmatic or structural BMPs. Where Permittees determine that they will address the non-stormwater discharge through modifications to programs or by structural BMP implementation, the EWMP Group will incorporate the approach into the implementation schedule developed for the EWMP Group and the outfall can be lowered in priority for investigation, such that the next highest priority outfall can be addressed.

8.7 NON-STORMWATER DISCHARGE MONITORING

As identified in **Table 13**, outfalls that have been determined to convey significant non-stormwater discharges where the source investigations concluded that the source is attributable to a continued illicit discharge (Endpoint A), non-essential conditionally exempt (Endpoint B), or unknown (Endpoint D) must be monitored. Constituents to be monitored, monitoring frequency, and monitoring procedures are outlined in Sections 4, 5, and 7 respectively.

Monitoring for non-stormwater discharges will be more dynamic than either the receiving water or stormwater outfall monitoring. As non-stormwater discharges are addressed, monitoring at the outfall will cease. Additionally, if monitoring demonstrates that discharges do not exceed any WQBELs, non-stormwater action levels, or water quality standards for pollutants identified on the 303(d) list, monitoring will cease at an outfall after the first year. Thus, the number and location of outfalls monitored has the potential to change on an annual basis. The process for adapting monitoring locations and frequency is presented in **Section 11**.

9 Other CIMP Components

9.1 OPTIONAL SPECIAL STUDIES

In addition to the permit required CIMP monitoring, optional special studies and applicable monitoring locations are included in the CIMP. The first set of optional locations are included to support characterization of receiving water quality and identification of sources for a USCRWMG identified water quality priority (pyrethroids in Bouquet Canyon). Additionally, an optional monitoring location is proposed for Reach 7 upstream of the USCRWMG EWMP area to assess potential bacteria contributions from natural areas consistent with optional special studies outlined in the Bacteria TMDL. The monitoring discussed in this section is optional and will be conducted at the discretion of the USCRWMG. Not all members of the USCRWMG may choose to participate in any optional monitoring that is identified in this CIMP.

Pyrethroid pesticides were identified in Bouquet Canyon as a WBPC that could warrant consideration in the EWMP process during the initial evaluation of water quality priorities. To gather additional information on this WBPC to determine if/how it should be considered during the EWMP process, a special study may be conducted. If undertaken, the monitoring conducted during this special study would be clearly distinct from the permit required monitoring discussed in the rest of the CIMP. In lieu of or in addition to the potential optional study, members of the

USCRWMG may initiate other actions through the EWMP to address pyrethroids that would potentially modify or reduce the need to conduct the optional special study. However, the information on sampling methods, analytical methods, quality assurance/quality control, and monitoring locations are included in the CIMP to ensure high quality data are collected if the monitoring is conducted.

If conducted, the special study would consist of receiving water monitoring and one outfall monitoring location. Outfall monitoring will focus on identifying sources to inform the implementation of control measures. Additionally, NSW outfall screening and monitoring conducted in this reach could consider the inclusion of pyrethroids or source investigations for these constituents if appropriate.

Optional monitoring locations to be considered for the optional special studies are included in **Table 14**.

Table 14. Optional Special Study Monitoring Locations

Receiving Water Monitoring Sites				
			Coordinates	
Site ID		Water Body	Latitude	Longitude
SNTCLR_7_FLG		SCR Reach 7	34.42972	-118.35444
SNTCLR_BC_SWAMP		Bouquet Canyon	34.42782	-118.54022
SNTCLR_BC_PARK		Bouquet Canyon	34.43267	-118.52596
Outfall Monitoring Site				
HUC-12	**Jurisdiction**	**Drain Name**	**Latitude**	**Longitude**
Lower Bouquet Canyon	City	PD 1256/ PD 1713	34.45648	-118.53596

Monitoring would occur at the same frequency as the required monitoring (3 wet and 2 dry) for one year. Additional monitoring would be conducted if needed based on the results of the first year of monitoring.

Separate from the pyrethroids special study, site SNTCLR_7_FLG may be considered as a special study receiving water site location to assess bacteria concentrations from upstream open space areas. In addition to the monitoring identified above, microbial source tracking monitoring for *Bacteroidales* for universal, human, and dog markers could be considered during implementation of the CIMP. Microbial source tracking could be conducted at any of the CIMP sites to assist with prioritization and identification of human sources, which represent increased human health risks (e.g., identifying leaking sewer lines).

9.2 NEW DEVELOPMENT/RE-DEVELOPMENT EFFECTIVENESS TRACKING

Participating agencies have developed mechanisms for tracking new development/re-developoment projects that have been conditioned for post-construction BMPs pursuant to MS4 Permit Part VI.D7. Agencies also have developed mechanisms for tracking the effectiveness of these BMPs pursuant to MS4 Permit Attachment E.X.

9.2.1 Existing New Development/Re-development Tracking Procedures

The Standard Urban Stormwater Mitigation Program (SUSMP) requirements implemented under the previous MS4 Permit (Order R4-01-182) laid the foundation for the MCMs contained in Part VI.D.7 of the current Permit. With implementation of the SUSMP, Permittees required post construction BMPs on applicable projects, developed standard requirements for project submittals, and began to track related data. The Permittees will build on the existing procedures for land development to ensure that all required project data is captured.

Although the data requirements are clear, the procedures for reviewing projects, tracking data, and reporting are different for each jurisdiction and may even be different across departments within the same jurisdiction. Due to the complexity of land development processes across jurisdictions, data management and tracking procedures will vary by jurisdiction.

To meet the requirements of the permit, internal procedures and data protocols will be developed that clearly define departmental roles and responsibilities pertaining to data collection, data management, and tracking. These procedures will include points in the process where data is generated and tracked, who is responsible for tracking the data, and how the data will be managed.

When developing data management protocols and internal procedures, USCRWMG Members will also consider the land development data tracking requirements contained in Part VI.D.7.d.iv.(1)(a). These requirements are distinct from those listed in the MRP but will likely be addressed similarly. Data requirements under Part VI.D are contained in **Table 15**.

Table 15. Required Data to Track for New and Redevelopment Projects per Part VI.D.7.d.iv.(1)(a)

New Development and Redevelopment Data, Per Part VI.D.7.d.iv.(1)(a)	
✓ Municipal Project ID	✓ Maintenance Records
✓ State Waste Discharge Identification Number	✓ Inspection Date(s)
✓ Project Acreage	✓ Inspection Summary(ies)
✓ BMP Type and Description	✓ Corrective Action(s)
✓ BMP Location (coordinates)	✓ Date Certificate of Occupancy Issued
✓ Date of Acceptance	✓ Replacement or Repair Date
✓ Date of Maintenance Agreement	

9.2.2 Reporting

Reporting requirements pertaining to new development and redevelopment are prescribed in Part VI.D.7 and in the MRP. The Permittees may identify and collect additional data as necessary through the land development process to facilitate annual reporting. Annual reporting requirements include:

- A summary of total offsite project funds raised to date and a description (including location, general design concept, volume of water expected to be retained, and total estimated budget) of all pending public offsite projects. [Part VI.D.7.c.iii.(5)(f)]
- A list of mitigation project descriptions and estimated pollutant and flow reduction analyses. [Part VI.D.7.c.vi]
- A comparison of the expected aggregate results of alternative compliance projects to the results that would otherwise have been achieved by retaining on site the stormwater quality design volume. (within four years of Order adoption) [Part VI.D.7.c.vi]
- Estimated cumulative change in percent effective impervious area (EIA) since the effective date of the Order and, if possible, the estimated change in stormwater runoff volume during the 85th percentile storm event. [Attachment E.XVIII.A.1.a]
- Summary of the new development and redevelopment projects constructed within the Permittee's jurisdictional area during the reporting year. [Attachment E.XVIII.A.1.b]
- Summary of retrofit projects that reduced or disconnected impervious area from the MS4 during the reporting year. [Attachment E.XVIII.A.1.c]
- Summary of other projects designed to intercept stormwater runoff prior to discharge to the MS4 during the reporting year. [Attachment E.XVIII.A.1.d]
- Provide an estimate of the total runoff volume retained onsite by the implemented projects (new and redevelopment, retrofits, and others). [Attachment E.XVIII.A.1.e]
- Summary of riparian buffer/wetland restoration projects completed during the reporting year. For riparian buffers include width, length, and vegetation type; for wetland include acres restored, enhanced, or created. [Attachment E.XVIII.A.1.g]
- Where control measures were designed to reduce impervious cover or stormwater peak flow and flow duration, provide hydrographs or flow data of pre- and post-control activity for the 85th percentile, 24-hour rain event, if available. [Attachment E.XVIII.A.2.c]

9.2.3 Information Sharing

Data consistency within a jurisdiction and across jurisdictions within the watershed is critical to facilitate compilation, assessment, and reporting of data and findings. A data template has been developed with defined data entry fields to facilitate consistent data collection. The data template has been reviewed and refined by the watershed Permittees and will be implemented in each jurisdiction as appropriate. Where possible, data fields that are added to software programs in use within departments will adhere to these protocols. At a minimum, when data is compiled for a jurisdiction prior to reporting, the data will be collected according to these specified formats. Standardized data collection will facilitate analysis and reporting between jurisdictions (i.e., at the watershed scale). Specific data fields and formats are provided in **Table 16**.

Table 16. Standard Data Formats

Data (Units)	Standard Format
Name of the Project (None)	Text Field (1-100 characters)
Name of the Developer (None)	Text Field (1-100 characters)
Project location and map (None)	APN (XXX-XXX-XX-XX) Street Address (Text Field 1-100 Characters) Jurisdiction (Pomona, La Verne, San Dimas, Claremont)
Date of Certificate of Occupancy (None)	MM/DD/YYYY
85th percentile storm event for the project design (inches per 24 hours)	Numeric (0.01 – 5)
95th percentile storm event for projects draining to natural water bodies (inches per 24 hours)	Numeric (0.01 – 5)
Other design criteria required to meet hydromodification requirements for drainages to natural water bodies (none)	Text Field (1-100 characters)
Project design storm (inches per 24 hours)	Numeric (0.01 – 5)
Project design storm volume (gallons[(1)] or MGD)	Numeric (0.1 – 1,000,000,000)
Percent of design storm volume to be retained onsite (percent)	Numeric (0 – 100)
Design volume for water quality mitigation treatment BMPs (gallons[(1)] or MGD)	Numeric (0.1 – 1,000,000,000)
One year, one hour storm intensity for flow-through treatment BMPs (inches per hour)	Numeric (0.01 – 20)
Percent of design storm volume to be infiltrated at an offsite mitigation or groundwater replenishment site (percent)	Numeric (0 – 100)
Percent of design storm volume to be retained or treated with biofiltration at an offsite retrofit project (percent)	Numeric (0 – 100)
Location and maps of offsite mitigation, groundwater replenishment, or retrofit sites (none)	APN (XXX-XXX-XX-XX) Street Address (Text Field 1-100 Characters) Jurisdiction (Pomona, La Verne, San Dimas, Claremont)
Documentation of issuance of requirements to the developer (none)	MM/DD/YYYY

1. Permit specifies gallons or million gallons per day (MGD), recommend cubic feet

9.3 REGIONAL STUDIES

Only one regional study is identified in the MRP: Southern California SMC. The Southern California SMC is a collaborative effort between all of the Phase I MS4 NPDES Permittees and NPDES regulatory agencies in Southern California. The Southern California Coastal Water Research Project (SCCWRP) oversees the SMC.

9.3.1 Program Objectives

The goal of the SMC is to develop technical information necessary to better understand stormwater mechanisms and impacts, and develop tools to effectively and efficiently improve stormwater decision-making. The bioassessments are structured to occur in cycles of five years.

Sampling under the latest cycle concluded in 2013. The next five-year cycle is scheduled to begin in 2015, with additional special study monitoring scheduled to occur in 2014.

9.3.2 Regional Study Participation

The LACFCD will continue to participate in the Regional Watershed Monitoring Program (Bioassessment Program) being managed by the Southern California Stormwater Monitoring Coalition (SMC). The LACFCD will contribute necessary resources to implement the bioassessment monitoring requirement of the MS4 Permit on behalf of all permittees in Los Angeles County during the current permit cycle. Initiated in 2008, the SMC's Regional Bioassessment Program is designed to run over a five-year cycle. Monitoring under the first cycle concluded in 2013, with reporting of findings and additional special studies planned to occur in 2014. SMC, including LACFCD, is currently working on designing the bioassessment monitoring program for the next five-year cycle, which is scheduled to run from 2015 to 2019.

9.4 NON-CIMP MONITORING DATA

Water quality data collected through other monitoring programs (e.g., NPDES POTW) in the watershed will be incorporated to the extent practicable. The extent practicable will be dictated by the cost of gathering and compiling information from outside programs. Data reported by these entities will be evaluated for suitability for inclusion in the CIMP database. If the data are deemed to be suitable it will be included in the database described in the following element.

10 Reporting and Compliance Evaluation

Attachment E outlines the monitoring and reporting requirements from the MRP. Annual monitoring reports are required to be submitted by December 15 of every year. The annual reports will cover the monitoring period of July 1 through June 30. Additionally, the MRP specifies semi-annual, electronic submittal of receiving water and outfall monitoring data. To fulfill this requirement the monitoring year will be split as follows:

Table 17. Receiving Water and Outfall Monitoring Electronic Data Submittal Schedule

Monitoring Period	Data Submittal
July 1 through December 31	By June 15th of the following year
January 1 through June 30	By December 15th, included with the Annual Monitoring Report

The annual monitoring reports must include:

- Event summaries
- Analytical results
- Assessment of effectiveness of control measures
- Compliance report
- Adaptive management strategies and proposed modifications to the CIMP

The compliance evaluation will be conducted as outlined in **Attachment E**. However, the analysis will also take into consideration the relationship between the types of monitoring and the pathways for determining compliance outlined in the permit. As a result, while the Mass

Emission station will serve to help evaluate the receiving water objectives and support an understanding of potential impacts associated with MS4 discharges, an exceedance of a receiving water limitation at a receiving water site does not on its own represent an exceedance of a receiving water limitation that was caused by or contributed to by MS4 discharges as these sites also receive runoff from non-MS4 sources, including open space and other permitted discharges. Additionally, an exceedance at an outfall location when the corresponding downstream receiving water location is in compliance with the water quality objectives and RWLs does not constitute an exceedance of a WQBEL. Finally, reporting of compliance will be accomplished by evaluating the data per permit condition VI.E.2.b. The Permittees will be considered in compliance if any of the following conditions are met:

1. There are no violations of the final water quality-based effluent limitation for the specific pollutant at the Permittee's applicable MS4 outfall(s);
2. There are no exceedances of applicable receiving water limitation for the specific pollutant in the receiving water(s) at, or downstream of, the Permittee's outfall(s);
3. There is no direct or indirect discharge from the Permittee's MS4 to the receiving water during the time period subject to the water quality-based effluent limitation and/or receiving water limitation for the pollutant(s) associated with a specific TMDL; or
4. In drainage areas where Permittees are implementing an EWMP, (i) all non-storm water and (ii) all storm water runoff up to and including the volume equivalent to the 85th percentile, 24-hour event is retained for the drainage area tributary to the applicable receiving water.

In addition, evaluation of compliance will consider the requirements in the Bacteria TMDL, as follows. Responsible jurisdictions and agencies shall assess compliance at the outfall monitoring sites identified in the implementation plan (included as stormwater/NSW TMDL outfall sites in the CIMP). Compliance shall be based on the allowable number of exceedance days, except in wet-weather, compliance can alternatively be based on an allowable load. Responsible jurisdictions and agencies must also assess compliance at in-stream monitoring sites. If the number of exceedance days is greater than the allowable number of exceedance days, then the responsible jurisdictions and agencies shall conduct additional outfall monitoring, beyond the routine outfall monitoring proposed in the implementation plan. If the collective outfall monitoring shows attainment of WLAs, then MS4 discharges shall not be held responsible for in-stream exceedances for this time period.

Section 11 includes procedures for conducting additional outfall monitoring if needed per the Bacteria TMDL.

11 Adaptive Management

The adaptive management process will be utilized on an annual basis to evaluate the CIMP and update the monitoring requirements as necessary. As noted in the CIMP, several monitoring elements are dynamic and may require modifications to the monitoring sites, schedule, frequency or parameters. In particular, the non-stormwater screening program and the toxicity monitoring will likely generate changes that need to be incorporated. This section lays out a range of possible modifications to the CIMP and the process for CIMP revision and update.

11.1 INTEGRATED MONITORING AND ASSESSMENT PROGRAM

The monitoring specified in the CIMP is in part dynamic. The specified monitoring program is based on analysis of existing data and the MRP requirements. As CIMP monitoring occurs, more information will be gathered that will require modifications to the procedures outlined in the CIMP. Every year, an evaluation of the CIMP will be conducted to identify potential modifications resulting from the following:

- Monitoring data demonstrates that water quality objectives are not being exceeded in the receiving waters.
- Source investigations determine that MS4 discharges are not a source of a constituent.
- Toxicity Identification Evaluations (TIEs) result in the identification of additional constituents that need to be monitored.
- Additional monitoring is necessary to characterize sources of a receiving water limitation exceedance, including evaluation of upstream receiving water monitoring, if needed.
- Additional outfall monitoring is needed in response to a bacteria receiving water limitation exceedance.
- Additional non-stormwater outfall sites need to be included.
- Monitoring data demonstrates that water quality objectives are not being exceeded in the receiving waters.

The results from the monitoring are meant to tie into the EWMP as feedback for the water quality changes resulting from control measures implemented by the Group Members. So additional changes may be considered during the evaluation based on the control measure implementation needs.

Should an exceedance of a receiving water limitation for E. coli be observed after the effective date of the final limitations (2021 for dry weather and 2029 for wet weather), additional outfall monitoring will be conducted per the requirements in the Bacteria TMDL. Because implementation of the non-stormwater screening program will be ongoing and numerous outfall locations may be monitored as a result of this program, additional outfall monitoring specific to the Bacteria TMDL requirements may not be needed. Should the USCRWMG decide additional monitoring is needed (for example during wet weather), the identification of additional outfalls will be decided during the CIMP revision process, when appropriate. Monitoring will be conducted in outfalls that drain to the reach where the exceedances occurred under the same conditions (i.e. wet or dry) for up to two events to determine whether the MS4 discharges are causing or contributing to the exceedances.

11.2 CIMP REVISION PROCESS

The CIMP identifies a number of procedures that will likely result in required changes to the monitoring program. However, since many of those potential changes are identified in the CIMP, it should not be necessary to get Regional Water Board approval of modifications already considered in the CIMP to ensure timely implementation of appropriate modifications to monitoring. These changes are outlined in this section. Changes identified in this section will be discussed in the annual report and implemented starting no later than the first CIMP event of the next monitoring year (i.e. the first event after July 1 of the year following the annual report submittal).

1. Adding constituents, increasing monitoring frequency, or adding sites as a result of any requirements in the MRP (e.g. TIE results or significant NSW outfall monitoring), procedures outlined in the CIMP or to further support meeting the monitoring objectives.
2. Discontinuing monitoring for Table E-2 constituents that are not identified as a water quality priority and are not detected at levels above relevant water quality objectives in the first year of monitoring.
3. Continue monitoring for any Table E-2 constituents that have exceedances during the first year at the frequency of 3 wet and 2 dry events, annually, as specified in **Table 10**. This change would begin immediately following the first monitoring year.
4. Discontinuing monitoring of any non-TMDL constituent at a specified site if:
    a. data collected are sufficient to support 303(d) delisting.
    b. there are two years with no exceedances of non-303(d) listed constituents observed for the same condition (i.e., wet or dry weather).
5. Changing the monitoring procedure from grabs to manual composite or automated sampling.
6. Modifying methods for consistency with EPA method requirements or to achieve lower detection limits.
7. Changing analytical laboratories.
8. Relocating any outfall monitoring locations determined to be not representative of MS4 discharges in the EWMP area (for reasons other than the observed water quality) or because monitoring at the site is not feasible.
9. Implementing the changes associated with conducting at least one re-assessment of the NSW Outfall Program during the Permit term.
10. Modifications to sampling protocols resulting from coordination with other watershed monitoring programs.

Should additional modifications be identified that are not specified in this section that would be major changes to the approach (e.g. moving or removing a receiving water location), the modifications will be proposed in the annual report and in a separate letter to the Regional Water Board requesting Executive Officer approval of the change. Upon receipt of written approval from the Executive Officer, this CIMP will be updated and a revised CIMP will be provided to the Regional Board.

12 Schedule

A summary of the schedule for implementing the requirements of the CIMP, as proposed, is included in **Table 18**. Existing monitoring will continue to be conducted and beginning summer of 2014, dry weather screening of major outfalls will commence. Implementation of new monitoring programs and modifications to existing monitoring programs will be implemented beginning July 2015 or 90 days after the approval of the CIMP, whichever is later.

Table 18. CIMP Implementation Schedule

Monitoring Element	Schedule
Receiving Water Monitoring	July 2015 or 90 days after approval of CIMP by Executive Officer, whichever is later
First set of two stormwater/NSW TMDL outfall locations	July 2015 or 90 days after approval of CIMP by Executive Officer, whichever is later
Second set of two stormwater/NSW TMDL outfall locations	Within 1 year of initiation of CIMP monitoring
Third set of two stormwater/NSW TMDL outfall locations	Within 2 years of initiation of CIMP monitoring
Outfall screening	Screening process will begin summer 2014
NSW source investigation	Source investigations will be conducted for at least 25% of the significant NSW discharges by December 28, 2015 and 100% by December 20, 2017
Significant NSW outfall monitoring, if needed	Monitoring will begin the latest of the next dry weather CIMP monitoring event after completing a source investigation, within 90 days after completing the source investigation, or after the CIMP has been approved by the EO.