Appendix 1.A
LACFCD Background Information

In 1915, the Los Angeles County Flood Control Act established the LACFCD and empowered it to manage flood risk and conserve stormwater for groundwater recharge. In coordination with the United States Army Corps of Engineers the LACFCD developed and constructed a comprehensive system that provides for the regulation and control of flood waters through the use of reservoirs and flood channels. The system also controls debris, collects surface storm water from streets, and replenishes groundwater with storm water and imported and recycled waters. The LACFCD covers the 2,753 square-mile portion of Los Angeles County south of the east-west projection of Avenue S, excluding Catalina Island. It is a special district governed by the County of Los Angeles Board of Supervisors, and its functions are carried out by the Los Angeles County Department of Public Works. The LACFCD service area is shown in **Figure 1.A-1.**

Unlike cities and counties, the LACFCD does not own or operate any municipal sanitary sewer systems, public streets, roads, or highways. The LACFCD operates and maintains storm drains and other appurtenant drainage infrastructure within its service area. The LACFCD has no planning, zoning, development permitting, or other land use authority within its service area. The permittees that have such land use authority are responsible under the Permit for inspecting and controlling pollutants from industrial and commercial facilities, development projects, and development construction sites. (Permit, Part II.E, p. 17.)

The MS4 Permit language clarifies the unique role of the LACFCD in storm water management programs: "[g]iven the LACFCD's limited land use authority, it is appropriate for the LACFCD to have a separate and uniquely-tailored storm water management program. Accordingly, the storm water management program minimum control measures imposed on the LACFCD in Part VI.D of this Order differ in some ways from the minimum control measures imposed on other Permittees. Namely, aside from its own properties and facilities, the LACFCD is not subject to the Industrial/Commercial Facilities Program, the Planning and Land Development Program, and the Development Construction Program. However, as a discharger of storm and non-storm water, the LACFCD remains subject to the Public Information and Participation Program and the Illicit Connections and Illicit Discharges Elimination Program. Further, as the owner and operator of certain properties, facilities and infrastructure, the LACFCD remains subject to requirements of a Public Agency Activities Program." (Permit, Part II.F**,** p. 18.)

Consistent with the role and responsibilities of the LACFCD under the Permit, the EWMPs and CIMPs reflect the opportunities that are available for the LACFCD to collaborate with permittees having land use authority over the subject watershed area. In some instances, the opportunities are minimal, however the LACFCD remains responsible for compliance with certain aspects of the MS4 permit as discussed above.

In some instances, in recognition of the increased efficiency of implementing certain programs regionally, the LACFCD has committed to responsibilities above and beyond its obligations under the 2012 Permit. For example, although under the 2012 Permit the Public Information and Participation Program is a responsibility of each Permittee, the LACFCD is committed to implementing certain regional elements of the PIPP on behalf of all Permittees at no cost to the Permittees. These regional elements include:

- Maintaining a countywide hotline (888-CLEAN-LA) and website (www.888cleanla.com) for public reporting and general stormwater management information at an estimated annual cost of $250,000. Each Permittee can utilize this hotline and website for public reporting within its jurisdiction.

- Broadcasting public service announcements and conducting regional advertising campaigns at an estimated annual cost of $750000.
- Facilitating the dissemination of public education and activity specific stormwater pollution prevention materials at an estimated annual cost of $100,000.
- Maintaining a stormwater website at an estimated annual cost of $10,000.

The LACFCD will implement these elements on behalf of all Permittees starting July 2015 and through the Permit term. With the LACFCD handling these elements regionally, Permittees can better focus on implementing local or watershed-specific programs, including student education and community events, to fully satisfy the PIPP requirements of the 2012 Permit.

Similarly, although water quality monitoring is a responsibility of each Permittee under the 2012 Permit, the LACFCD is committed to implement certain regional elements of the monitoring program. Specifically, the LACFCD will continue to conduct monitoring at the seven existing mass emissions stations required under the previous Permit. The LACFCD will also participate in the Southern California Stormwater Monitoring Coalition's Regional Bioassessment Program on behalf of all Permittees. By taking on these additional responsibilities, the LACFCD wishes to increase the efficiency and effectiveness of these programs.

Figure 1.A-1 Los Angeles County Flood Control District Service Area

Appendix 1.B

San Gabriel River Portion of South El Monte

SUBMITTED TO:

City of South El Monte

PREPARED BY:

Paradigm Environmental
4797 Seminole Drive
San Diego, CA 92115

JUNE 6, 2015

PROJECT CONDUCTED IN COORDINATION WITH:

LARRY WALKER ASSOCIATES

TETRA TECH

PURPOSE

This appendix describes the methodology and results for incorporating the San Gabriel River portion of the City of South El Monte into the Upper Los Angeles River Enhanced Watershed Management Program (ULAR EWMP).

Contents

Figures

Tables

1 OVERVIEW

This3 appendix describes the methodology and results for incorporating the San Gabriel River (SGR) portion of the City of South El Monte into the Upper Los Angeles River Enhanced Watershed Management Program (ULAR EWMP). The details of methodology and results for the SGR portion of South El Monte are placed into this appendix to maintain the focus of the ULAR EWMP on the ULAR. The portion of South El Monte that drains to SGR is just 14% of the city and less than 0.1% of the SGR watershed. The city boundary is presented in Figure 1-1, with the LAR and SGR watershed boundary also shown. For EWMP development, SGR has unique water quality priorities and requirements from total maximum daily loads (TMDLs, see Attachment P of the Permit). In general, the approaches for addressing the SGR portion of South El Monte are consistent with both the ULAR EWMP and the Upper San Gabriel River (USGR EWMP).

There are three primary components of the EWMP analysis for the SGR portion of South El Monte that are unique, as follows:

- **Water Quality Priorities** (Section 2 of this appendix)**:** the Water Quality Priorities for the SGR portion of South El Monte correspond to monitoring and analysis of the mainstem San Gabriel River (Reaches 2 and 3). The Water Quality Priorities from USGR EWMP were used as the basis for the Water Quality Priorities identified for the SGR portion of South El Monte.
- **Reasonable Assurance Analysis (RAA)** (Section 3 of this appendix)**:** while the basic methodology for the RAA for the SGR portion of South El Monte is identical to the ULAR (as described in Section 6 of the main body of the report), some of the elements of the SGR RAA are unique including applicable TMDL milestones. The scheduling and milestones for SGR portion of South El Monte are aligned with the approach of the USGR EWMP.
- **Implementation Cost Estimates** (Section 4 of this appendix)**:** while the basic cost estimation methodology is identical to the LAR portion, the SGR TMDL milestones alter the cost schedule for the SGR portion of South El Monte.

The SGR-specific analyses for South El Monte are described in the sections below.

The resulting EWMP implementation strategy for both the LAR and SGR portions of South El Monte, including scheduling, is shown in the main body of the EWMP and other appendices. Most notably, see Figure 7-22, Appendix 7A (Table 7A-37 and Table 7A-38), Appendix 7B (Figure 7B-16) and Appendix 7C (Table 7C-15).

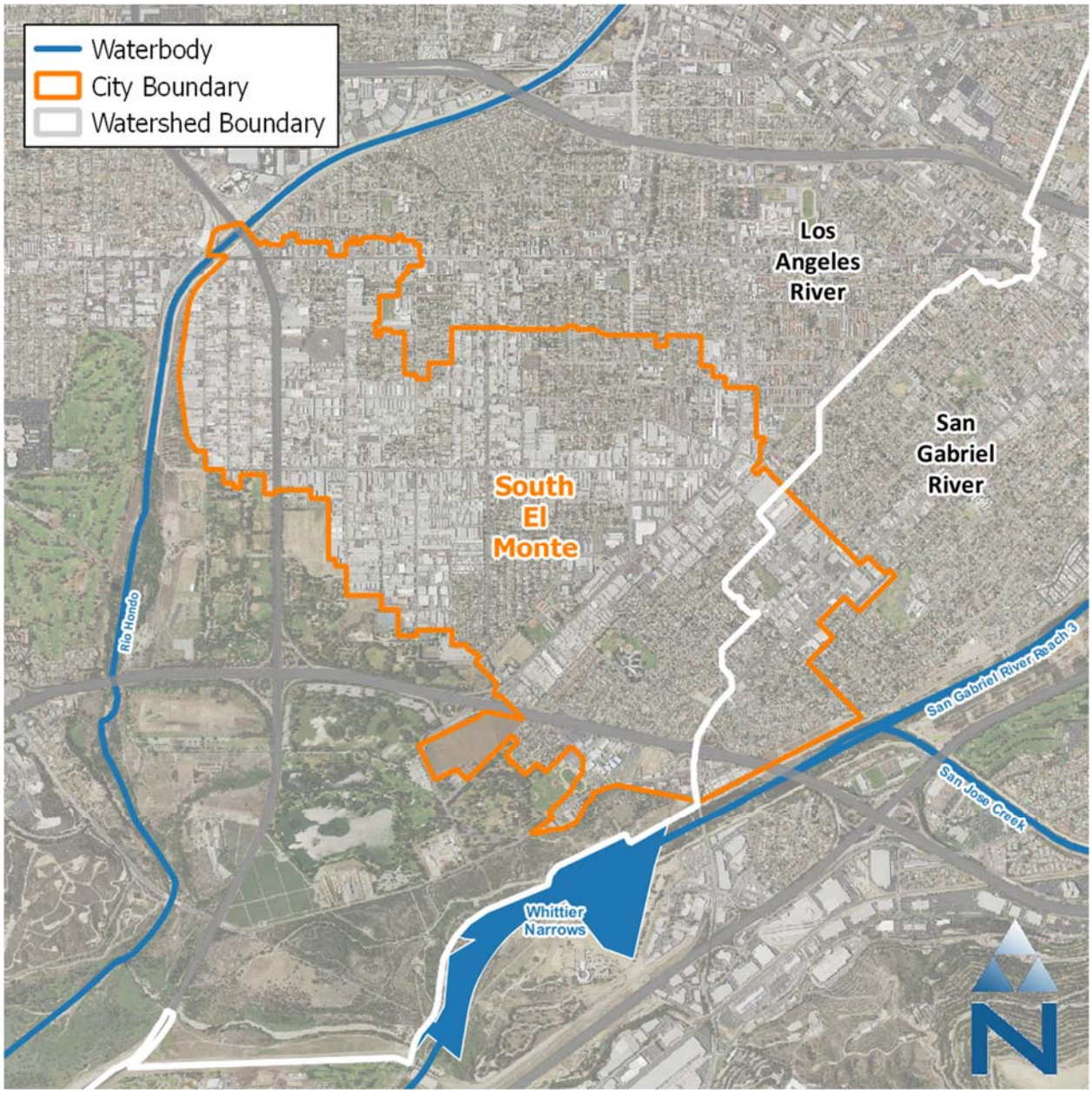

Figure 1-1. City of South El Monte and boundary between LAR and SGR watersheds.

2 WATER QUALITY PRIORITIES

This section identifies water quality priorities for the SGR portion of South El Monte. The approach to identifying water quality priorities for the SGR portion of South El Monte was identical to the approach used for the USGR EWMP. The subsections below are provided to identify the steps, categories and priorities for water quality objectives as established by the Los Angeles County MS4 permit (Permit). See Attachment P of the Permit for the total maximum daily load (TMDL) limitations that are applicable to the San Gabriel River watershed.

2.1 Water Quality Prioritization Process

The process to develop water quality priorities for the SGR portion of South El Monte, which mirrors the process used for USGR EWMP, is presented in this subsection. The pollutants identified as potential water quality issues and the waterbodies where the issues occur are the waterbody-pollutant combinations (WBPCs) considered in the process. The categorization of the WBPC is used to determine water quality priorities. The USGR EWMP water quality prioritization followed a four step process for identifying water quality priorities as required by the Permit, consisting of:

1 A water quality characterization (Part VI.C.5.a.i, p 58) performed with the available monitoring data, Total Maximum Daily Loads (TMDLs), 303(d) lists, and MS4 Permit annual reports.
2 A waterbody-pollutant category (Part VI.C.5.a.ii, p 59), to identify waterbody-pollutant combinations that fall into three Permit defined categories.
3 A source assessment (Part VI.C.5.a.iii, p 59) conducted to identify potential sources for waterbody-pollutant combinations in the three categories.
4 A prioritization (Part VI.C.5.a.iv, p 60) of the waterbody-pollutant combinations.

Based on available information and data analysis, waterbody-pollutant combinations were classified in one of the three Permit categories, as described in Table 2-1. To provide additional resolution on the type and extent of water quality issues, additional subcategories were developed for each of the WBPCs in Category 1, 2, and 3 (described later).

Table 2-1. Waterbody-Pollutant Classification Categories

Category	Waterbody-Pollutant Combinations (WBPCs) Included
1	WBPCs for which TMDL effluent or receiving water limitations are established in Part VI.E and Attachment P of the MS4 Permit.
2	WBPCs for which data indicate water quality impairment in a SGR receiving water according to the State's Listing Policy, regardless of whether the pollutant is currently on the 303(d) List and for which the MS4 discharges may be causing or contributing.
3	WBPCs for which there are insufficient data to indicate impairment in a SGR receiving water according to the State's Listing Policy, but which exceed applicable SGR receiving water limitations contained in the MS4 Permit and for which MS4 discharges may be causing or contributing to the exceedance.

2.2 Water Quality Characterization and Initial Categorization

Per the Permit requirements and the prioritization process outlined in Table 2-1, an initial screening was performed to place pollutants in the three categories of WBPCs outlined in the Permit, including: waterbody-pollutant subject to a TMDL, waterbody-pollutant on the 2010 303(d) list, and WBPCs with observed exceedances of water quality objectives in the receiving water. To perform the initial screening, the following steps were performed:

1 Determining the SGR waterbodies downstream of South El Monte.
2 Gathering of relevant data and information.
3 Conducting a data analysis to identify constituents with exceedances of water quality objectives.
4 Compiling WBPCs with TMDLs from Attachment P of the Permit.
5 Compiling 303(d) Listings from the 2010 303(d) List.
6 Categorizing the WBPCs based on the data analysis into the three categories defined in the Permit.
7 Comparing the data analysis to the State's Listing Policy.
8 Identification of additional priorities from the USGR EWMP Group.

Each step of the analysis is detailed in the following subsections.

2.2.1 Determination of Upper San Gabriel River EWMP Area

The USGR EWMP area is located in the upper portion of the San Gabriel River Valley. Waterbodies within the EWMP area at or downstream of South El Monte. The SGR portion of South El Monte drains to SGR Reach 3, which subsequently flows into SGR Reach 2. As such, the waterbodies relevant to the SGR portion of South El Monte, that will be discussed in this Appendix include:

- San Gabriel River Reach 2
- San Gabriel River Reach 3

2.2.2 Data Gathering

Data were obtained from numerous sources including, but not limited to, 303(d) listings, WQBELs, RWLs, Surface Water Ambient Monitoring Program (SWAMP), annual report exceedances, and established TMDLs. A data request that was submitted to the USGR EWMP Group was used to gather information necessary to meet the water quality characterization and source assessment requirements outlined in Permit section VI.c.a.iii on page 58 and 59 of the Permit. The data requested included:

- TMDL source investigations
- Findings from monitoring programs, including but not limited to TMDL compliance monitoring and receiving water monitoring
- Any other pertinent data, information, or studies related to constituent sources and conditions that contribute to the highest water quality priorities

Monitoring data from SGR stations were received from the following sources, as shown in Figure 2-2:

- Los Angeles County Department of Public Works (LACDPW) provided long-term monitoring data from the San Gabriel River Mass Emission station (S14).
- The Council for Watershed Health provided monitoring data from their monitoring activities throughout the SGR watershed.
- The California Environmental Data Exchange Network (CEDEN).
- Los Angeles County Sanitation Districts (LACSD) provided long-term receiving water monitoring data.

Data received from the Council for Watershed Health and CEDEN largely consisted of short term monitoring activities and many sites from these programs were only used for a single sampling event or had a limited number of constituents tested at the sites. Each of the programs above collected data per SWAMP protocols or under a Regional Board approved monitoring plan. All data were screened to identify potential exceedances of water quality objectives.

2.2.3 Data Analysis

Monitoring data meeting the imposed quality assurance and quality control (QA/QC) criteria were analyzed to determine constituents exceeding water quality objectives. The data were screened to ensure each useable record consisted of, at minimum: waterbody, identifiable site (GPS coordinates), name of constituent, minimum detection level, reporting level, the result (or in cases where the level was below detection level for the analysis, a flag indicating not detected), units of measurement, sample matrix, sample collection, and an indication of dissolved or total where appropriate. The number of available data from all data sources, the number of detected data, and the total number of constituents measured in SGR Reaches 2 and 3 are summarized in **Error! Reference source not found.**. The summary is provided for all available data collected from 2002 to 2012, as well as more recent data within the latest 5 years of the data set.

Table 2-2. Summary of Available Monitoring Data for the SGR Portion of South El Monte

Reach	All Data (2002-2012)			Previous 5 Years (2007-2012)		
	Number of Analyses[1]	Number Detected[2]	Number of Constituents[3]	Number of Analyses[1]	Number Detected[2]	Number of Constituents[3]
San Gabriel River Reach 2	10,692	3,222	251	4,732	1,513	195
San Gabriel River Reach 3	31,332	16,218	254	11,748	6,505	225
Total	**42,024**	**19,440**	**505**	**16,480**	**8,018**	**420**

1 Total number of analyses performed.
2 Number of analyses where the constituent was present in the sample above the minimum detection level.
3 Number of distinct constituents. Total copper and dissolved copper are counted as distinct constituents.
4 Including tributaries to the named waterbody

Impacted waterbodies and constituents identified in the initial screening were individually evaluated based on the frequency, timing, and magnitude of exceedances within the dataset, according to the categories in Table 2-1. Constituents subject to a TMDL underwent data review to determine the status of compliance. Constituents on the 303(d) list for a watershed were reviewed to identify the basis for the listing and the current status of exceedances. Constituents potentially exceeding receiving water limits but not already accounted for in a TMDL or the 303(d) list were analyzed based on frequency, timing and magnitude of exceedances within the data.

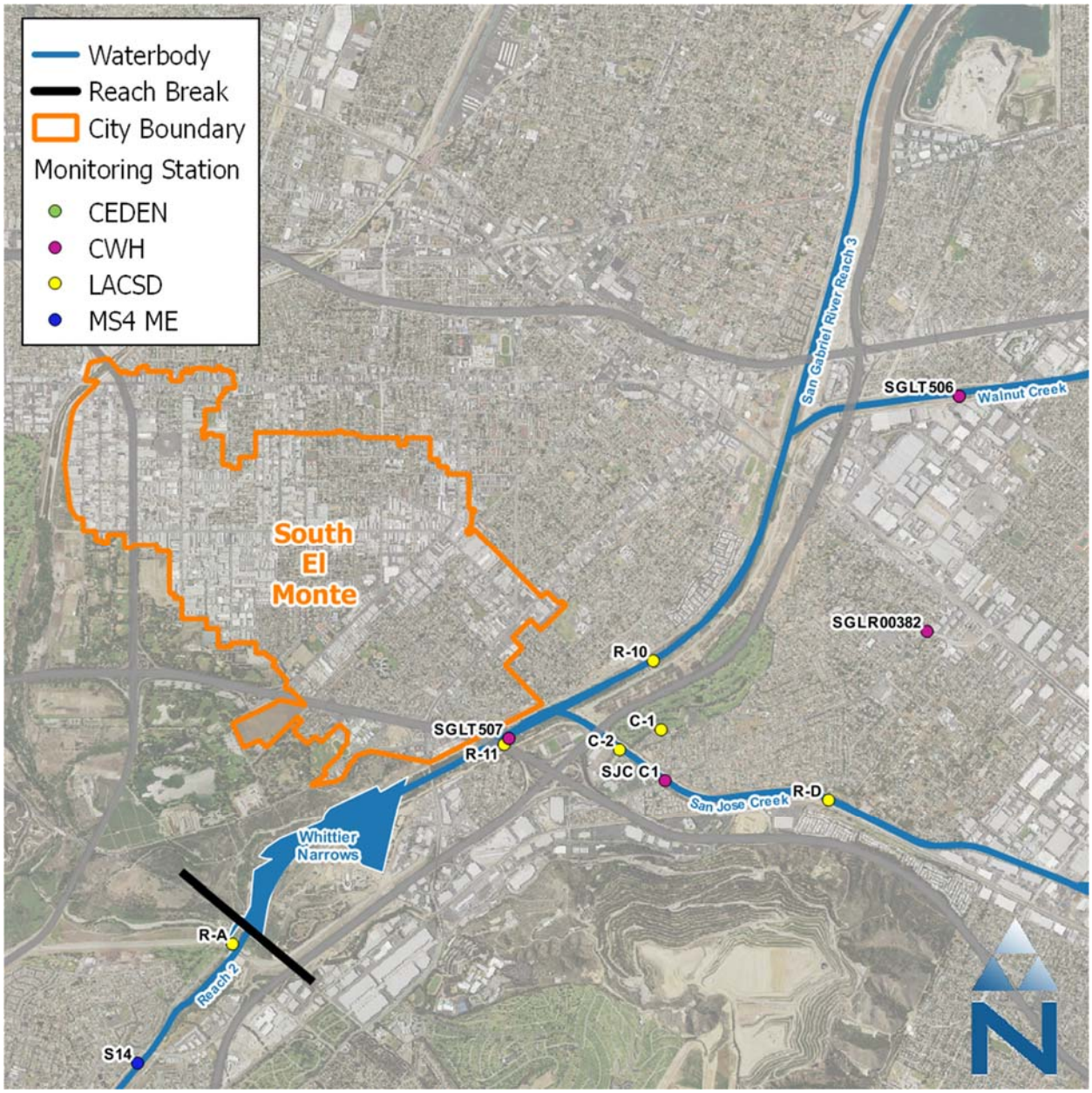

Figure 2-1. Monitoring Locations near South El Monte used for Water Quality Characterization

2.2.4 Initial Categorization

Per the Permit, the initial categorization is whether the WBPC is subject to WQBELs or RWLs, if the WBPC is on the 303(d) List or if there is sufficient data to list the WBPC, and all other WBPCs.

2.2.4.1 Waterbody Pollutant Combinations Subject to TMDLs

Waterbody – pollutant combinations where WQBELs or RWLs are established through TMDLs established in Order R4-2012-0175 were identified using Appendix P in the Permit. TMDLs applicable to the USGR area are listed in Table 2-3. The constituents in Category 1 and reaches where the WQBELs apply are summarized in Table 2-4.

Table 2-3. TMDLs Applicable to the Lower San Gabriel River

Constituents	San Gabriel Estuary	Regional Board Resolution Number
Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants TMDL (Harbors Toxics TMDL)	03/23/2012	2011-008
San Gabriel River Metals TMDL (Metals TMDL)	03/26/2007	None(1) (USEPA TMDL)

1 Regional Board adopted an implementation Plan for the San Gabriel River Metals TMDL as BPA through resolution R13-004 on June 6, 2013.

Table 2-4. Category 1 Waterbody-Pollutant Combination with Waste Load Allocations per Appendix P of Permit

Constituents	San Gabriel River Reach	
	2	3
Lead	E	E

E= Effluent limit established based on a TMDL. The wording of the Permit suggests that WQBELs apply to all upstream reaches and tributaries for wet weather WLAs, but only to the listed reaches during dry weather.

2.2.4.2 Waterbody Pollutant Combinations on 2010 303(d) List

Waterbody – pollutant combinations listed on the State Water Resources Control Board's (SWRCB) 2010 Clean Water Act Section 303(d) List that are not already addressed by a TMDL are listed in Table 2-5. Constituents being addressed by actions other than a TMDL were also listed for priority category consideration. Downstream listings were included to acknowledge that discharges from upstream reaches could impact the listed area, particularly during wet weather.

Table 2-5. Category 2 Waterbody-Pollutants

Constituent	San Gabriel River Reach:	
	2	3
Coliform/Indicator Bacteria	L	L
Cyanide	L	

L = Listed on 2010 303(d) List .

2.2.4.3 Waterbody Pollutant RWL Exceedances

Constituents with potential RWL exceedances were identified in two phases. First, the Permit annual reports were reviewed and constituents identified as having exceedances at the mass emission stations for the watershed are summarized. Second, any other constituents that exceeded water quality objectives in the dataset were identified as part of the data analysis.

The Stormwater Monitoring and Reporting Program is designed to assess compliance with the previous MS4 Permit (Order No. 01-182). The Monitoring Program is additionally used to measure and improve the County's Stormwater Quality Management Program. As part of the core monitoring carried out by the Monitoring Program, mass emission monitoring is conducted to assess the mass emission from the MS4 and determine if the MS4 is contributing to water quality impacts. Mass emission data is compared against applicable water quality objectives (WQOs) as listed in the Water

Quality Control Plan for the Los Angeles Region (Basin Plan), the California Toxics Rule (CTR), and other applicable standards.

As a part of the initial screening of WBPCs, the available County Annual Stormwater Monitoring Reports were reviewed. To understand the compliance with receiving water limits in the SGR, data collected at the S14 mass emission station, located downstream of Reach 3, were evaluated for potential WQO exceedances.

Results from the analysis of the Annual Reports are listed in Table 2-6. The initial screening of available storm water monitoring reports indicated that Indicator Bacteria (fecal coliform, total coliform, etc.) had a high frequency of exceedances in the EWMP area. Metals such as copper, zinc, some salts, and nutrients were also found to have occasional exceedances of WQOs during the period analyzed.

Table 2-6. Receiving Water Limitations-Initial Screening from Annual Reports of San Gabriel River Mass Emission Station S14

Constituent	Los Angeles County Annual Stormwater Monitoring Reports[1,2,3]									Annual Reports with Exceed-ances
	2011 2012	2010 2011	2009 2010	2008 2009	2007 2008	2006 2007	2005 2006	2004 2005	2003 2004	
Fecal Coliform	X	X	X	X	X	X	X	X	X	9
Total Coliform						X	X	X	X	4
Enterococcus						X	X	X	X	4
Dissolved Copper	X									1
Total Copper					X	X		X	X	4
Dissolved Zinc	X		X							2
Total Mercury				X				X		2
Dissolved Lead								X		1
Total Lead								X		1
Cyanide			X					X	X	3
Diazinon[4]								X		1
Nitrite-N								X		1
Ammonia						X				1
Sulfate			X							1
Chloride			X	X				X		3
TDS				X						1
pH		X		X						2

1. Both "Wet" and "Dry" event exceedances are reflected.
2. Early Annual Reports did not make a distinction between non-detection levels and reporting levels.
3. Exceedances are reported based on a prioritization process developed by LACDPW. A certain percentage of samples exceeding water quality objectives were required before being reported in early Annual Reports. Recent reports list exceedances for any exceedance of a water quality objective. Early reports may underrepresent exceedances of constituents.
4. No exceedances since being banned for residential use, therefore Diazinon is not considered a water quality priority.

2.2.4.4 Data Comparison to State Listing Policy

For WBPCs in Category 3, the available data are evaluated with the State Listing Policy to determine if any WBPCs have sufficient exceedances to be included on the 303(d) list, and should be moved to Category 2. All water quality data obtained through the data request were reviewed for potential exceedances of the water quality objectives. The only constituents identified through the data analysis that had not already been identified through the review of TMDLs, 303(d) Listings, and annual monitoring reports were polycyclic aromatic hydrocarbons (PAHs). Four PAHs were observed at levels exceeding the relevant water quality objectives (benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene).

2.2.5 Summary of Constituent Categorizations

The summary of the initial water quality priority categorization process for SGR Reaches 2 and 3, using the process outlined above, is presented in Table 2-7. All TMDLs with WQBELs, RWLs, or WLAs incorporated into the Permit are classified in Category 1 subcategories. WBPCs that are either on the 2010 303(d) List or meet the listing requirements are classified in Category 2 subcategories. WBPCs that have exceeded water quality objectives but do not meet the requirements for listing under the State's Listing Policy are classified in Category 3 subcategories. Those pollutants with measurements exceeding water quality objectives were further evaluated and categorized based on the frequency, timing, and magnitude of exceedances within the data into the Permit categories.

In order to be consistent with the USGR EWMP, additional subcategories were created for Category 1, 2 and 3, mostly to highlight the types of applicable TMDLs and to separate recent data from more historic data (older than 5-years). The subcategories are shown in Table 2-8 and the result of the sub-categorization is shown in Table 2-9.

Table 2-7. Summary of Initial Water Quality Priority Categories

Constituent	Category 1 TMDLs	Category 2 303(d) Listings	Category 3 RWL Exceedances	
			Annual Monitoring Report	Data Analysis
Copper		X		
Lead	X		X	X
Zinc		X	X	X
Indicator Bacteria		X		
Cyanide		X		
TDS			X	X
pH			X	
DO				X
Sulfate			X	X
Chloride			X	X
Lindane				X
PAHs		X		

As water quality monitoring programs progress, source investigations occur, and BMP implementation begins, constituents may change subcategories and the water quality priorities will be updated over the course of the EWMP adaptive management. Constituents for which exceedances decrease over time will be removed from the priority list and moved to the monitoring priority categories; or, dropped from the priority list. If the frequency of constituent exceedances increases to a consistent level, for a constituent that is currently not a priority, then the constituent would be reevaluated using the prioritization procedure, likely increasing the priority of the constituent.

Table 2-8. Details for Waterbody-Pollutant Combination Subcategories

Category	Waterbody-Pollutant Combinations (WBPCs)	Description
1	**Category 1A:** WBPCs with past due or current Permit term TMDL deadlines with exceedances in the past 5 years.	WBPCs with TMDLs with past due or current Permit term interim and/or final limits. These pollutants are the highest priority for the current Permit term.
	Category 1B: WBPCs with TMDL deadlines beyond the Permit term with exceedances in the past 5 years.	The Permit does not require the prioritization of TMDL interim and/or final deadlines outside of the Permit term or USEPA TMDLs, which do not have implementation schedules. To ensure EWMPs consider long term planning requirements and utilize the available compliance mechanisms these WBPCs should be considered during BMP planning and scheduling, and during CIMP development.
	Category 1C: WBPCs addressed in USEPA TMDL without a Regional Board Adopted Implementation Plan.	
	Category 1D: WBPCs with past due or current Permit term TMDL deadlines but have not exceeded in past 5 years.	WBPCs where specific actions may end up not being identified because recent exceedances have not been observed and specific actions may not be necessary. The CIMP should address these WBPCs to support future re-prioritization.
	Category 1E: WBPCs with future Permit term TMDL deadlines but have not exceeded in past 5 years.	
2	**Category 2A:** 303(d) Listed WBPCs or WBPCs that meet 303(d) Listing requirements with exceedances in the past 5 years.	WBPCs with confirmed impairment or exceedances of receiving water limitations. WBPCs in a similar class[1] as those with TMDLs are identified. WBPCs currently on the 303(d) List are differentiated from those that are not to support utilization of EWMP compliance mechanisms.
	Category 2B: 303(d) Listed WBPCs or WBPCs that meet 303(d) Listing requirements that are not a "pollutant"[2] (i.e., toxicity).	WBPCs where specific actions may not be identifiable because the cause of the impairment or exceedances is not resolved. Either routine monitoring or special studies identified in the CIMP should support identification of a "pollutant" linked to the impairment and re-prioritization in the future.
	Category 2C: 303(d) Listed WBPCs or WBPCs that meet 303(d) Listing requirements but have not exceeded in past 5 years.	WBPCs where specific actions for implementation may end up not being identified because recent exceedances have not been observed (and thus specific BMPs may not be necessary.) Pollutants that are in a similar class[1] as those with TMDLs are identified. Either routine monitoring or special studies identified in the CIMP should ensure these WBPCs are addressed to support re-prioritization in the future.
3	**Category 3A:** All other WBPCs with exceedances in the past 5 years.	Pollutants that are in a similar class[1] as those with TMDLs are identified.
	Category 3B: All other WBPCs that are not a "pollutant"[2] (i.e., toxicity).	WBPCs where specific actions may not be identifiable because the cause of the impairment or exceedances is not resolved. Either routine monitoring or special studies identified in the CIMP should support identification of a "pollutant" linked to the impairment and re-prioritization in the future.
	Category 3C: All other WBPCs but have not exceeded in past 5 years.	Pollutants that are in a similar class[1] as those with TMDLs are identified.
	Category 3D: WBPCs identified by the Group Members.	The Group Members may identify other WBPCs for consideration in EWMP planning.

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 EWMP for the TMDL. (Permit pg. 49).
2. While pollutants may be contributing to the impairment, it currently is not possible to identify the *specific* pollutant/stressor.

Table 2-9. Water Quality Priorities for the SGR Portion of South El Monte

Class[1]	Constituent[2]	Waterbodies	
		San Gabriel River Reach 3[3]	San Gabriel River Reach 2
Category 1D: WBPCs with past due or current term deadlines without exceedances in the past 5 years			
Metals	Lead (Wet)[4]	Interim	Interim
Category 1E: WBPCs with TMDL deadlines beyond the current Permit term without exceedances in the past 5 years.			
Metals	Lead (Wet)[4]	Final	Final
Category 2A: 303(d) Listed WBPCs with exceedances in the past 5 years.			
Bacteria	Indicator Organisms	303(d)	303(d)
Metals	Zinc	Wet	
	Copper	X	
Legacy	Polycyclic Aromatic Hydrocarbon (PAH)	X	X
Other	Cyanide	X	303(d)
Category 3A: WBPCs with exceedances in the past 5 years.			
Other	MBAS	Wet	
Salts	Sulfate	Dry	
	Chloride	Dry	
	TDS	Dry	
Category 3B: WBPCs that are not a "pollutant"[5]			
Other	Dissolved oxygen	X	
	pH	X	
Category 3C: WBPCs with historical exceedances but none in the past 5 years.			
Other	Lindane	X	

Interim/Final: denotes where the Permit includes interim and/or final TMDL effluent limitations and/or RWLs.
303(d): denotes WBPC on the 2010 303(d) List where the listing was confirmed during data analysis.

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 EWMP for the TMDL.
2 WBPC listed as Wet or Dry where issue is restricted to a condition. Otherwise, WBPC is both an issue for both Wet and Dry and donated with an X
3 Data from Mass Emission Station S14 are included under San Gabriel River Reach 3 because the station is located just downstream of the reach break. TMDL and 303(d) listings historically applied to Reach 2.
4 Grouped allocation. Compliance in San Gabriel River Reach 2, as measured at the San Gabriel LTA station, is compliance for all tributaries.
5 While pollutants may be contributing to the impairment, it currently is not possible to identify the specific pollutant/stressor.

2.3 Initial Source Assessment

Utilizing existing information, the constituents in Table 2-9 were evaluated to determine if MS4 discharges could be a potential source. Many constituents are typically associated with MS4 discharges and additional investigation is not necessarily required to determine if they are a potential source to the receiving water. For example, metals, nutrients, and bacteria are commonly found in runoff from urban areas. Where historic soil contamination exists, legacy pollutants such as PAHs and OC pesticides may be found in urban stormwater. However, for some constituents MS4 discharges are either not known as significant sources of the constituent or other potential sources are more likely. In the absence of outfall data, it would be inappropriate to directly link any one jurisdiction to specific pollutants.

Findings from the source assessment include the following:

- Salts including chloride, total dissolved solids (TDS), and sulfate could be naturally occurring in the watershed. During storm events, salts are significantly diluted by stormwater runoff. Dry weather is generally the only time exceedances are observed. Further investigation of the source of exceedances is warranted to assess if non-stormwater discharges from MS4 systems are a potential source.
- Cyanide is likely not a water quality issue in the receiving water. Issues with sample preservatives have been found to artificially create/contaminate cyanide in collected samples. This is a laboratory method issue rather than a water quality issue. Furthermore, it is unlikely that cyanide sources in the watershed are contributing cyanide to runoff and causing downstream exceedances.

Additional information compiled during the initial source assessment through review of NPDES permits and TMDL documents, along with other pertinent data, are summarized below.

2.3.1 Other NPDES Dischargers

There are many facilities in the SGR Watershed that have NPDES permits to discharge industrial wastewater. The California Integrated Water Quality System (CIWQS) was used to identify all currently active, or active within the past three years, NPDES permittees within the watershed. There are approximately 69 NPDES dischargers (including major dischargers, minor permits, and dischargers covered under general permits) and 548 dischargers covered under the industrial stormwater permit. The majority of these discharges include non-process wastewater. Following the final water quality prioritization, monitoring data available for these dischargers will be reviewed to identify potential sources of priority pollutants to the MS4 and receiving waters.

2.3.2 San Gabriel River Metals and Selenium TMDL

The TMDL for metals and selenium for the SGR and Impaired Tributaries was established by the United States Environmental Protection Agency (USEPA) in 2007. The source assessment section of the TMDL documentation divides sources into point sources, which includes "discharges for which there are defined outfalls such as wastewater treatment plants, industrial discharges, and storm drain outlets," and nonpoint sources from various land uses and source activities not regulated through NPDES permits (USEPA, *Total Maximum Daily Loads for Metals and Selenium San Gabriel River and Impaired Tributaries*, 2007).

The source assessment section described NPDES permits issued by the Regional Board in the SGR Watershed. These permits cover various types of dischargers including:

Municipal Storm Water
Caltrans Storm Water
Industrial Storm Water
Construction Storm Water
Publicly Owned Treatment Works (POTWs)
Major NPDES Dischargers
Minor NPDES Dischargers
General NPDES Dischargers, including:

- Construction Dewatering
- Petroleum Fuel Cleanup Sites
- VOC Cleanup Sites
- Hydrostatic Test Water
- Non-Process Wastewater
- Potable Water

Major findings that are relevant to SGR Reaches 2 and 3 of the source assessment for point sources included the following (USEPA, 2007). Italicized text indicates direct quote from the document:

Municipal Storm Water:

Individual sources of metals within the watershed, which are collected by MS4s and discharged to the river, include automobile brake pads, vehicle wear, building materials, pesticides, erosion of paint and deposition of air emissions from fuel combustion and industrial facilities.

Caltrans Storm Water:

The storm water discharges from most Caltrans properties and facilities eventually end up in either a city or county storm drain which are then discharged to the river.

Industrial Stormwater:

The potential for metals loading via runoff from general industrial stormwater permittees is high, especially at metal plating, transit, and recycling facilities. Stenstrom et al. (2005) found that although the data collected by the industrial monitoring program were highly variable, the mean values for copper, lead and zinc were greatly exceeding applicable CTR values. However, during dry weather, the potential contribution of metals loading from industrial sites is low, because non-storm water discharges are prohibited or controlled by the permit.

Construction Stormwater:

Sources of metals from construction sites include sediment containing metals, construction materials, and equipment used on construction sites. Raskin et al. (2004) found that building materials and construction waste exposed to storm water can leach metals and contribute metals to waterways. However, during dry weather, the potential contribution of metals loading is low because non-storm water discharges are prohibited or controlled by the permit.

Publicly Owned Treatment Works (POTW):

- Pomona WRP
  - *Discharges tertiary-treated municipal and industrial wastewater to the South Fork of San Jose Creek.*
  - *During dry weather, virtually all of the treated effluent is reclaimed for landscape and crop irrigation, as well as for industrial processes.*
- San Jose Creek WRP
  - *Discharges an average of 100 Million gallons per day (MGD) of tertiary-treated municipal and industrial wastewater via three discharge points.*
  - *Discharge No. 001 to San Gabriel River Reach 1 is the primary discharge outfall for both east and west plants, which is eight miles south of the plant near Firestone Blvd. The river is concrete-lined from the discharge point to the Estuary, about nine miles downstream. A turnout located approximately midway down the pipe is used to divert reclaimed water to spreading grounds.*
  - *Discharge No. 002 to San Jose Creek is used for groundwater recharge at Rio Hondo and the San Gabriel Coastal Spreading Grounds. San Jose Creek is unlined from the discharge point to the San Gabriel River.*
  - *Discharge No. 003 delivers treated effluent to the unlined portion of the San Gabriel River Reach 3 as well as the Rio Hondo and San Gabriel Coastal Spreading Grounds.*
- Whittier Narrows WRP
  - *Discharge No. 001 discharges to the river about 700 feet upstream from the Whittier Narrows Dam.*
  - *The tertiary-treated municipal and industrial wastewater generally flows down the river to the San Gabriel River Spreading Grounds.*

Minor Individual NPDES Permit:

Many of these permits are for episodic discharges rather than continuous flows. Some of these permits contain effluent limits for metals. However, some of these permits were issued prior to the adoption of CTR and there is the potential for these facilities to discharge metals in exceedance of the numeric targets in these TMDLs. There are 11 minor NPDES permits in the San Gabriel River watershed.

General NPDES Permit:

- *Permits covering construction dewatering and non-process wastewater include CTR-based effluent limitations for metals.*
- *Permits for treated groundwater and other wastewaters from petroleum fuel-contaminated sites and treated groundwater from VOC-contaminated sites must demonstrate that treated groundwater does not exceed the CTR-based water quality criteria for metals and must continue to demonstrate compliance for lead.*
- *Permits for potable water supply wells and low threat hydrostatic test water must meet State Water Resources Control Board Division of Drinking Water MCLs. MCLs for metals are generally greater than numeric targets.*

Major findings of the source assessment for nonpoint sources included:

- *Mass loading of metals from atmospheric deposition were estimated for both precipitation directly over river and tributary surface areas and for contributing drainages over the entire watershed to the river and tributaries. Estimates of dry weather direct and indirect deposition were made for the San Gabriel River Watershed. However, the amount of deposited metals available for transport to the river (i.e., not infiltrated) is unknown.*
- *Once metals are deposited on land under the jurisdiction of a stormwater permittee, they are within a permittee's control.*
- *Naturally occurring metals from the Angeles National Forest are another potential loading source. However, estimates are thought to be low during dry weather with one study finding metal concentrations from natural areas to be below CTR criteria and below concentrations found at developed sites.*
- *Natural sources will be assigned load allocations to address any potential loading during dry and wet weather.*

3 REASONABLE ASSURANCE ANALYSIS

The RAA is prescribed by the Permit as a process to demonstrate "that the activities and control measures…will achieve applicable WQBELs and/or RWLs with compliance deadlines during the Permit term" (Permit section C.5.b.iv.(5), page 63). The RAA methods for the SGR portion of South El Monte were generally identical to those for the LAR portion of South El Monte, as detailed in Section 6 of the EWMP main body, which is the primary reference for the South El Monte RAA. The RAA for the SGR portion of the South El Monte is consistent with the USGR EWMP. This section describes RAA metrics and milestones that are specific to the San Gabriel River, as follows:

- **Water Quality Targets** (Section 3.1): targets applicable to the SGR receiving waters
- **Limiting pollutant analysis** (Section 3.1): the Exceedance Volumes for the SGR and justification for limiting pollutants
- **Required reductions:** the interim and final reductions to achieve RWLs in SGR
- **Scheduling for control measures** (Section 3.4)**:** the schedule to achieve SGR TMDL milestones and address SGR water quality priorities

In 2014, the Regional Board issued RAA Guidelines (RWQCB, 2014), which outline expectations for developing RAAs, and those guidelines were followed closely during development of this RAA. It is important to note the baseline model development and calibration of the RAA model for the SGR was completed as a component of RAA for the Upper San Gabriel River EWMP – see Section 4.2.1 of the USGR EWMP and its appendices for the calibration metrics related to the RAA Guidelines.

3.1 Water Quality Targets

The RAA is designed to achieve the RWLs and WQBELs of the MS4 Permit, which are derived from applicable TMDLs (see Attachment P of the Permit) and the Basin Plan (see Receiving Water Limitations, Section V of the Permit). In particular, the RAA addresses the Water Quality Priorities identified in Section 2. The RWLs and WQBELs serve as the "water quality targets", or loads or concentrations to be achieved through implementation of the control measures specified by the EWMP.

The SGR water quality targets for modeled parameters differ in some cases from LAR due to differing TMDLs and receiving water conditions, as follows (see Table 3-1):

- Metals targets for SGR were based on limitations associated with the SGR Metals and TMDL and the hardness used by the SGR Metals TMDL.
- *E. coli* targets for SGR were based on the LAR Bacteria TMDL (which does not differ from the LAR portion of South El Monte). The LAR Bacteria TMDL was used as a template because it is the most recent bacteria TMDL developed for a large watershed by the Regional Board. Similar to the SGR watershed, the Los Angeles River watershed is one of the largest watersheds in the region and has a variety of land uses, ranging from open space in the hills to highly urbanized areas in the downstream valley. At the time of RAA development, the SGR Bacteria TMDL had not been released and it will not be finalized until summer 2015 or effective until 2016. The RAA can be updated during adaptive management, as needed, to reflect the wasteload allocations in the SGR Bacteria TMDL after it is effective.

Table 3-1. Targets for Modeled Water Quality Priorities

Pollutant Class	Pollutant	Target for SGR RAA (units are ug/L except when noted otherwise)			
		Dry Weather	Source	Wet Weather	Source
Metals [1]	Copper	15.05	CTR	23.72	CTR
	Zinc	192.5	CTR	192.5	CTR
	Lead	6.49	CTR	81.34	TMDL
Bacteria [2]	*E. coli*	126 MPN /100mL	Basin Plan	235 MPN/ 100mL	Basin Plan

1 – Based on total metals. When the SGR Metals TMDL specifies a WLA (the WQO source is "TMDL"), the WLA is used as the target. Where the TMDL does not apply (the WQO source is "CTR"), hardness assumed to be 175 mg/L as CaCO3, which is the hardness used to develop SGR WLAs in the SGR Metals TMDL. Dry weather targets were based on chronic WQOs and wet weather targets are based on acute WQOs.

2 – The High Flow Suspension applies to the mainstem San Gabriel River. For the RAA, the targets of the LA River Bacteria TMDL were used – assessment areas that are subject to the HFS receive an additional 10 Allowable Exceedance Days per year. Dry weather target based on 30-day geometric mean WQO while wet weather target is based on single sample maximum WQO.

3.2 Limiting Pollutant Analysis

The RAA Guidelines allow the EWMP to be developed with consideration of a "limiting pollutant", or the pollutant that drives BMP capacity (i.e., control measures that address the limiting pollutant will also address other pollutants).

The limiting pollutants for the SGR portion of South El Monte are the same as the LAR portion – zinc and *E. coli* for wet weather and *E. coli* for dry weather (see Section 6.2.6 of the of the EWMP main body). The SGR-specific justification for the limiting pollutants is presented in Table 3-2. Also the zinc Exceedance Volumes for the mainstem SGR are presented in Table 3-3.

Table 3-2. SGR Limiting Pollutant Selection and Justification for RAA

Pollutant Class	Pollutant	RAA approach to Addressing Pollutant			
		Wet Weather RWLs: Addressed by	Justification for control approach	Dry Weather RWLs: Addressed by	Justification for control approach
Metals [1]	Zinc	Zinc controls	Zinc is one of two wet weather limiting pollutants.	Existing MCMs and BMPs	Exceedances of metals during dry weather are rare. Of 337 samples compiled from receiving water monitoring efforts in San Gabriel River and San Jose Creek during the last five years, a total of six samples exceeded the RWL for total copper. Of 227 samples for total zinc, zero exceeded the RWL. Of 219 samples for total lead, zero exceeded the RWL.
	Copper		A large portion of copper loading is being phased out through brake pad replacement (AB346). The reduction will cause zinc to become limiting.		
	Lead		The volumes of stormwater to be managed for zinc control are greater than volumes for control of these metals.		
Bacteria [2]	*E. coli*	*E. coli* controls	*E. coli* is one of two wet weather limiting pollutants.	*E. coli* controls	*E. coli* is the dry weather limiting pollutant.
Salts	Sulfate	Not applicable – not a Water Quality Priority for wet weather conditions.		*E. coli* controls	Volumes of non-stormwater to be managed for *E.coli* control are greater than volumes for control of these salts.
	Chloride				
	TDS				
Legacy	PAHs	Annual load reduction achieved through zinc controls (and residual source controls, if necessary)			The volumes of stormwater to be managed for zinc control are greater than volumes for legacy pollutant control. Residual source controls will be implemented after zinc control implementation, if needed
	Lindane				

Table 3-3. Exceedance Volume Summary Statistics for Mainstem San Gabriel River

Total Zinc Exceedance Volume (EV) Statistics (units of acre-feet)	Exceedance Volume at mouth of San Gabriel River
Number of rolling, 24-hour periods with an EV in 10-year simulation (out of a total of 87,660 periods)	3,505
Average EV	40.4
10th percentile EV	4.1
25th percentile EV	7.8
Median EV	21.7
75th percentile EV	58.3
90th percentile EV	98.0

Note: The storm that generates the 90th percentile zinc EV is the critical condition for metals. The storm that generates the average zinc EV is the interim critical condition for metals.

3.3 Required Interim and Final Reductions

The RAA Guidelines specify that required pollutant reductions should be determined by comparing baseline/current pollutant loading to the allowable pollutant loading (RWQCB, 2014). The required pollutant reductions for SGR are shown in Table 3-4. The control measures to be implemented by the EWMP are designed to achieve these reductions, and the RAA provides assurance the required reductions will be achieved by the selected control measures.

An important consideration for the RAA and scheduling of control measures is the difference between interim and final requirements. While the critical condition (90th percentile) is used to define the required reductions for final compliance, interim compliance is based on average conditions according to the RAA Guidelines:

> "For interim WQBELs and/or receiving water limitations, the percent reduction based on annual average baseline loading may be used to set targets/goals for BMPs/watershed control measures. A gradual phasing of percent load reduction for interim WQBELs/RWLs to final WQBELs/RWLs shall be applied over the course of the implementation schedule." [page 7]

For the SGR, the gradual phasing is achieved by determining the ratio of loading during average to 90th percentile conditions, as shown in Table 3-3. Zinc loading during the interim/average condition is 42% of the loading that occurs during the final/90th percentile condition.

Table 3-4. Required San Gabriel River Pollutant Reductions for Interim and Final Compliance

Condition and Pollutant Addressed	Reduction Metric	Value for San Gabriel River Assessment Area
Final Compliance with Metals and Other Water Quality Priorities (except *E. coli*)	Required Load Reduction [1]	64%
Interim Compliance with Metals and Other Water Quality Priorities (except *E. coli*)	Loading during average/interim condition (pounds) [2]	124
	Loading during 90th percentile/final condition (pounds) [3]	293
	Ratio used to gradually phase from interim to final required reduction	0.42
Final Compliance with *E. coli*	Runoff volume to be retained	Runoff from critical bacteria storm is retained prior to discharge to receiving water (excluding open space subwatersheds)

1 – Based on control of zinc during storm that generates the 90th percentile zinc Exceedance Volume
2 – Loading of zinc at mouth of watershed from storm that generates the average zinc Exceedance Volume
3 – Loading of zinc at mouth of watershed from storm that generates the 90th percentile zinc Exceedance Volume

3.4 Required Interim and Final Reductions

Scheduling of control measure implementation for the SGR portion of South El Monte is based on the milestones of the SGR Metals TMDL and an additional implementation period to address SGR-wide *E. coli* impairments by 2040, as follows:

- Achieve 10% of the reduction for zinc[1] (2017)
- Achieve 35% of the reduction for zinc (2020)
- Achieve 65% of the reduction for zinc (2023)
- Final compliance with zinc RWLs (2026)
- Final compliance with bacteria WQBELs (2040)[2]

The resulting EWMP implementation strategy for both the LAR and SGR portions of South El Monte, including scheduling, is shown in the main body of the EWMP and other appendices. Most notably, see Figure 7-22, Appendix 7A (Table 7A-37 and Table 7A-38), Appendix 7B (Figure 7B-16) and Appendix 7C (Table 7C-15).

[1] While these milestones are expressed as reduction in zinc, because zinc is a limiting pollutant, achievement of zinc RWLs by these dates assures an even greater reduction in all metals and other Water Quality Priority pollutants (except *E. coli*).
[2] The compliance date of 2040 is selected for attainment of bacteria WQBELs matches the timeline used for the LA River Bacteria TMDL (25 years for wet weather compliance).

4 EWMP IMPLEMENTATION COSTS

The cost of implementation is a top consideration following submittal of the EWMP. The ULAR EWMP developed order-of-magnitude cost estimates for constructing, operating and maintaining the control measures in the EWMP Implementation Strategy. As presented in Section 9 of the EWMP main body, the general approach for cost estimate is based on "cost functions" that describe cost as a function of BMP sizing parameters (volume, depth, area, etc.). The costs for structural BMPs estimated for the EWMP are considered to be planning-level only (order of magnitude), and will be refined as EWMP implementation progresses and a better understanding of actual BMP implementation costs is gained. The cost estimates by the EWMP are for capital and operations/maintenance, they do not include costs for enhanced MCMs and other institutional BMPs.

The methodology for cost estimation for the SGR portion of South El Monte was the same as for the LAR portion. The estimated implementation costs for SGR were not presented in the main body of the EWMP because the TMDL milestones for the SGR portion are different. The scheduling of costs is based on the schedule of the applicable TMDLs, mostly driven by the LAR Metals TMDL (final compliance date in 2028) and the USGR Metals TMDL (final compliance date in 2026). Shown in Table 4-1 are the estimated costs for structural control measure implementation in the LAR portion of South El Monte, and Table 4-2 shows the costs for the SGR portion. The total estimated capital costs for LID, green streets and regional BMPs in LAR is $80.4M through 2037 and $6.4M for SGR through 2040. If additional opportunities for control measures on *public* land can be identified over the course of EWMP implementation, the costs could be reduced substantially (the cost of regional BMPs on private land is over 85% of the estimate capital cost).

Figure 4-1 shows the estimated annual costs through 2040, with annual costs approaching $4M by 2018 and peaking at $11M annually in 2025, as the LAR and SGR Metals TMDLs approach their final compliance date. After construction of the structural control measures (in 2040), the annual O&M costs are estimated to be $2M per year.

Overall, the estimated EWMP implementation costs are substantial and would require an additional source of funding as the general fund could not absorb the costs estimated herein. Section 9.3 of the main body of the EWMP describes options for financial strategies.

Table 4-1. SGR: Estimated South El Monte Capital and O&M Costs for LID, Green Streets and Regional BMPs

BMP Category	Present to 10% Metals TMDL Milestone (2017)		10% Metals TMDL Milestone (2017) to 35% Metals TMDL Milestone (2020)		35% Metals TMDL Milestone (2020) to 65% Metals TMDL Milestone (2023)		65% Metals TMDL Milestone (2023) to Final Compliance with Metals TMDL (2026)		65% Metals TMDL Milestone (2026) to Final Compliance with Bacteria TMDL (2040)		Total at Final (2040)	
	Capital	O&M/yr	Capital	O&M/yr	Capital	O&M/yr	Capital	O&M/yr	Capital	O&M/yr	Capital	O&M/yr
LID	0.00		0.11		0.11		0.11		0.00		0.33	
Green Streets	0.00		0.43		0.42		0.42		0.00		1.27	
Public Regional	0.00	**0.00**	0.16	**0.09**	0.18	**0.18**	0.14	**0.29**	0.00	**0.31**	0.48	**0.31**
Private Regional	0.00		0.00		0.99		2.01		1.28		4.28	
Total	**0.00**		**0.71**		**1.69**		**2.67**		**1.28**		**6.35**	

Table 4-2. LAR: Estimated South El Monte Capital and O&M Costs for LID, Green Streets and Regional BMPs

BMP Category	Present to 31% Metals TMDL Milestone (2017)		31% Metals TMDL Milestone (2017) to 50% Metals TMDL Milestone (2024)		50% Metals TMDL Milestone (2024) to Final Compliance with Metals TMDL (2028)		50% Metals TMDL Milestone (2024) to Final Compliance with Bacteria TMDL (2037)		Total at Final	
	Capital	O&M/yr	Capital	O&M/yr	Capital	O&M/yr	Capital	O&M/yr	Capital	O&M/yr
LID	0.27		0.58		0.41		0.00		1.25	
Green Streets	0.69		1.89		1.27		0.00		3.85	
Public Regional	0.95	**0.22**	0.58	**0.79**	0.00	**1.41**	0.00	**1.77**	1.53	**1.77**
Private Regional	0.00		15.28		31.02		27.51		73.81	
Subtotal	**1.91**		**18.32**		**32.70**		**27.51**		**80.44**	

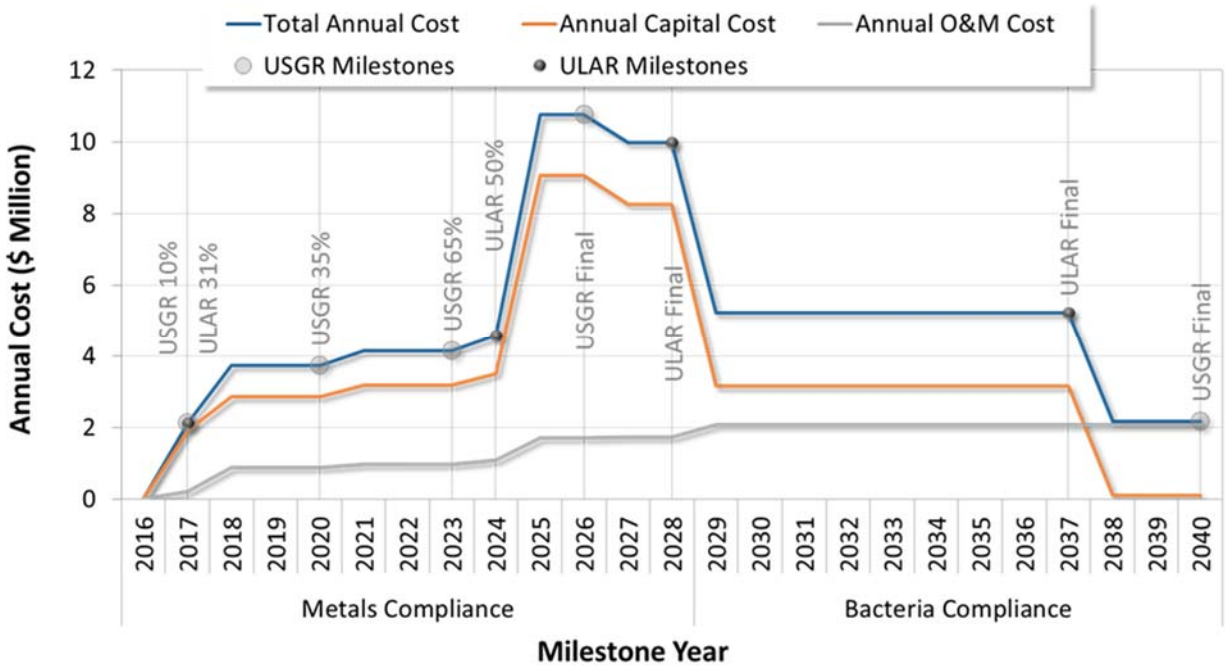

Figure 4-1. Estimated Total Annual Costs for EWMP Implementation for South El Monte

5 REFERENCES

RWQCB, 2014. Guidelines for Conducting Reasonable Assurance Analysis in a Watershed Management Program, Including an Enhanced Watershed Management Program. Los Angeles Regional Water Quality Control Board, Los Angeles, CA.