WATERSHED MANAGEMENT PROGRAM

City of El Monte, California

June 2015

City of El Monte

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ACRONYMS AND ABBREVIATIONS

Basin Plan	Water Quality Control Plan for the Coastal Watersheds of Los Angeles and Ventura Counties
BMP	Best Management Practices
CCR	California Code of Regulations
CEDEN	California Environmental Data Exchange Network
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
City	City of El Monte
CTR	California Toxics Rule
CWA	Clean Water Act
CWC	California Water Code
Discharger	Los Angeles County MS4 Permittee
DMR	Discharge Monitoring Report
DNQ	Detected But Not Quantified
ELAP	California Department of Public Health Environmental Laboratory Accreditation Program
EWMP	Enhanced Watershed Management Program
GIS	Geographical Information System
gpd	gallons per day
HUC	Hydrologic Unit Code
IC/ID	Illicit Connection and Illicit Discharge Elimination
LA	Load Allocations
LACDPW	Los Angeles County Department of Public Works
LID	Low Impact Development
µg/L	micrograms per Liter
MCM	Minimum Control Measure
mg/L	milligrams per Liter
MDEL	Maximum Daily Effluent Limitation
MRP	Monitoring and Reporting Program
MS4	Municipal Separate Storm Sewer System
ND	Not Detected

NPDES	National Pollutant Discharge Elimination System
NTR	National Toxics Rule
Ocean Plan	Water Quality Control Plan for Ocean Waters of California
Order	Order R4-2012-0175 (“the Los Angeles County MS4 Permit”)
Permittee	Agency named in Order as being responsible for permit conditions within its jurisdiction
PIPP	Public Information and Participation Program
POTW	Publicly Owned Treatment Works
QA	Quality Assurance
QA/QC	Quality Assurance/Quality Control
RAA	Reasonable Assurance Analysis
Regional Water Board	California Regional Water Quality Control Board, Los Angeles Region
SIC	Standard Industrial Classification
State Water Board	California State Water Resources Control Board
SWQDv	Storm Water Quality Design Volume
TAC	Technical Advisory Committee
TMDL	Total Maximum Daily Load
TOC	Total Organic Carbon
TSS	Total Suspended Solids
USEPA	United States Environmental Protection Agency
WDR	Waste Discharge Requirements
WDID	Waste Discharge Identification
WLA	Waste Load Allocations
WMA	Watershed Management Area
WMMS	Watershed Management Modeling System
WMP	Watershed Management Program
WQBELs	Water Quality-Based Effluent Limitations
WQO	Water Quality Objective
WQS	Water Quality Standards

EXECUTIVE SUMMARY

The National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Order R4-2012-0175 (Order) became effective on December 28, 2012. The Order ensures that the MS4s are not causing or contributing to exceedances of water quality objectives (WQOs) and that the beneficial uses of receiving waters are supported. The Order gives Permittees some flexibility on how to meet the requirements of the Order and its accompanying Monitoring and Reporting Program (MRP).

The City is located in two watersheds which are the Los Angeles River Watershed and the San Gabriel River Watershed. Water quality in these two watersheds has been identified as impaired by:

- Bacteria
- Copper
- Lead
- Zinc
- Cadmium
- Cyanide
- Trash
- Nitrogen Compounds
- Nutrients
- Diazinon

The City of El Monte (City) has chosen to exercise the option of developing a Watershed Management Program (WMP) and accompanying Integrated Monitoring Program (IMP) to meet the requirements of the Order. This WMP outlines the process for complying with the requirements of the Order for each of the City's Watershed Management Areas (WMA) and includes the following:

- Identification of water quality priorities
- Water quality characterization
- Pollutant classification
- Source assessment
- Prioritization and sequencing of control efforts based on impairments
- Selection of watershed control measures

- Reasonable Assurance Analysis (RAA) including pollutant modeling and load reduction

The WMP also includes details of the following:

- Implementation schedules for structural and nonstructural BMPs
- Integrated watershed monitoring and assessment
- Stakeholder involvement
- Adaptive management process and elements

The program set forth in the WMP will be implemented over time. Adaptive management processes will be implemented as part of the WMP to evaluate the success of the WMP in achieving its objectives, and based on the outcome of the evaluations, the WMP will be adjusted.

The near-term critical elements of the WMP include the requirements for the City to address the pollutants with Total Daily Maximum Loads (TMDLs) and State listed impairments as well as other exceedances. The long-term requirements of the City will be to monitor receiving waters and outfalls to receiving waters to ensure that it is not causing or contributing to exceedances of WQOs or affecting beneficial uses. The modeled results indicate that the City is in compliance with metals and nitrogen compounds TMDLs but will need to implement BMPs to achieve reductions for nutrients and trash. A Load Reduction Strategy will be developed to address the bacteria TMDL.

As part of the early actions and consistent with the Order, the City drafted a Low Impact Development (LID) Ordinance and Green Streets policy. The LID Ordinance outlines strategies for the incorporation of infiltration devices as a shift from storm water treatment to the use of devices and policies that promote the capture, re-use, and infiltration of stormwater. The draft LID Ordinance was reviewed by Board staff and all staff comments (including those comments issued in a Memo to all Permittees on April 16, 2014) were incorporated into the LID Ordinance which was then adopted by the El Monte City Council on June 10, 2014. Board comments were also incorporated into the City's final Green Streets Policy and the policy has been put into effect. New Development and Redevelopment Projects are being conditioned by the LID Ordinance and Green Street elements are being incorporated into applicable municipal and private projects. A certified copy of the LID Ordinance and a copy of the Green Streets Policy are included in Appendix A

The City is dedicated to informing their citizens, municipal staff, and developers of the importance or water quality as evidenced by the City's continued distribution of educational materials at community activities and special events and distribution of free devices to encourage recycling of used oil and waste products. The City has provided every citizen and business with a DVD of information entitled "Green Street Scene" to further inform residents and businesses regarding water use and water quality. The City is also active with local stakeholder groups to improve water quality through education and the modification of areas within the City (parks, trails, etc.) in order to promote storm water infiltration, capture, and re-use.

SECTION 1 - WATERSHED MANAGEMENT PROGRAM DEVELOPMENT

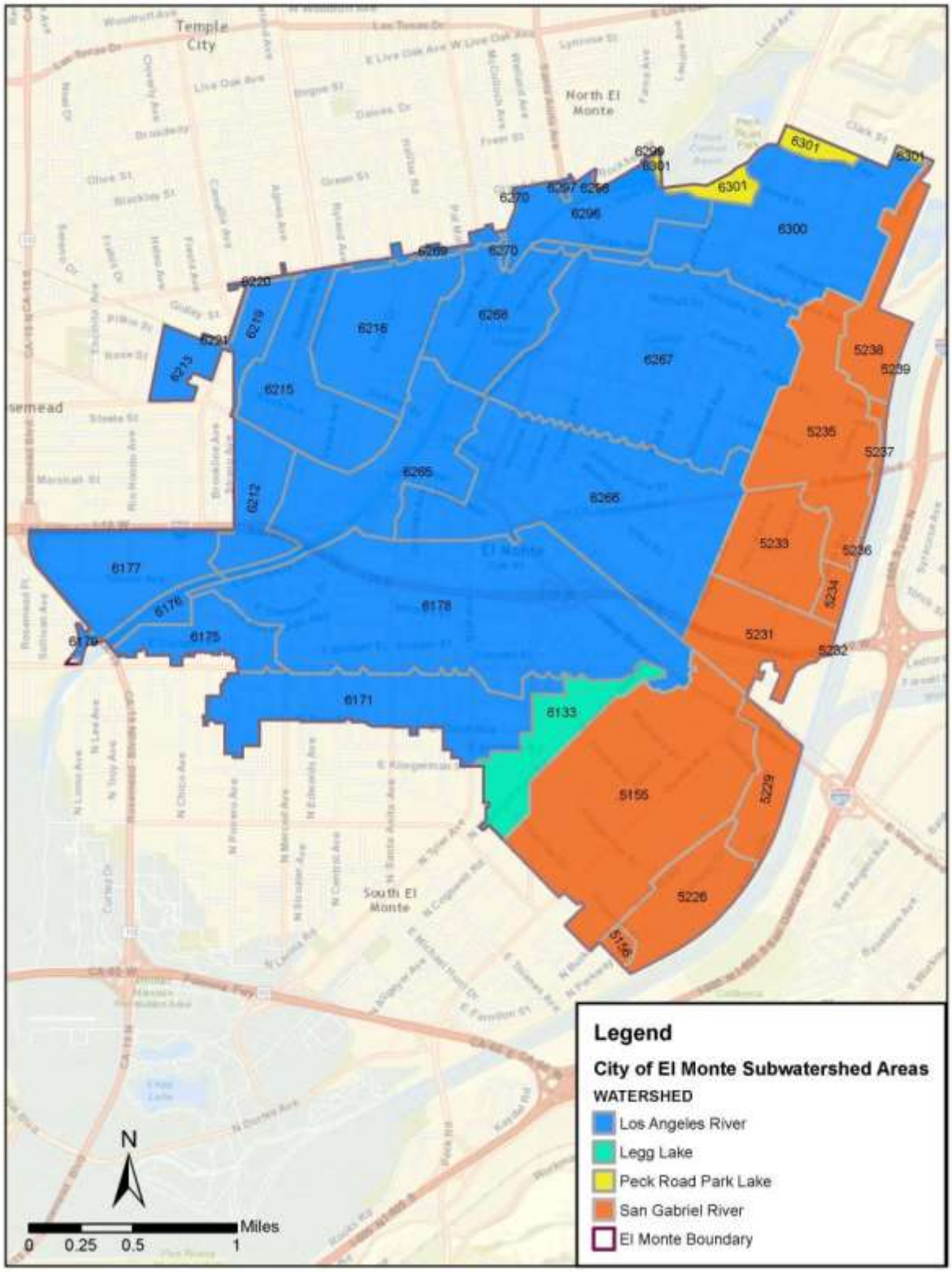
Storm water and non-storm water discharges within the Coastal Watersheds of Los Angeles County consist of surface runoff from various land uses. This runoff enters the Municipal Separate Storm Sewer System (MS4), commonly referred to as the storm drain system, which then conveys the discharges to receiving waters throughout the region. Discharges of storm water and non-storm water can carry pollutants which can have a damaging effect on both human and aquatic health. The Clean Water Act established the National Pollutant Discharge Elimination System (NPDES) Program to regulate MS4 discharges. The Los Angeles Regional Water Quality Control Board (Regional Water Board) issued Order Number R4-2012-0175 to address MS4 discharges within the Coastal Watershed of Los Angeles County. The Order was adopted by the Regional Water Board on November 8, 2012 and became effective December 28, 2012. The Order allows Permittees the flexibility to develop a Watershed Management Program (WMP) to implement the requirements of the Order through customized strategies, control measure, and Best Management Practices (BMPs). This document describes the steps, processes, implementation, and timelines associated with the City of El Monte's Watershed Management Program (WMP).

1.1. IDENTIFICATION OF WATER QUALITY PRIORITIES

The Order requires Permittees to identify water quality priorities within each Watershed Management Area (WMA). The Order redefines WMAs consistent with the delineations used in the Regional Water Board's Watershed Management Initiative. A map depicting El Monte's WMAs is shown in Figure 1-1. The subwatersheds and drainage areas to each WMA (Los Angeles River or San Gabriel River) are shown in Figure 1-2 and Table 1-1. The process for identifying the water quality priorities within each WMA is broken into Water Quality Characterization, Water Body Pollutant Classification, Source Assessment, and Prioritization. Each category is explained in detail in the sections below.

Figure 1-1: Watershed Management Areas

Figure 1-2: Subwatersheds



The four digit number represents the identification number for the particular subwatershed.

Table 1-1: List of Subwatersheds within City of El Monte

Subwatershed ID	Area (ac)	Water Body
5155	584.99	San Gabriel River
5156	8.91	San Gabriel River
5226	150.69	San Gabriel River
5229	91.05	San Gabriel River
5231	155.87	San Gabriel River
5233	150.81	San Gabriel River
5234	24.97	San Gabriel River
5235	283.21	San Gabriel River
5236	2.66	San Gabriel River
5237	16.3	San Gabriel River
5238	112.38	San Gabriel River
5239	0.33	San Gabriel River
6133	129.58	Legg Lake
6171	287.93	Los Angeles River
6174	0.16	Los Angeles River
6175	101.04	Los Angeles River
6176	34.88	Los Angeles River
6177	208.19	Los Angeles River
6178	778.58	Los Angeles River
6179	5.82	Los Angeles River
6212	111.43	Los Angeles River
6213	51.23	Los Angeles River
6215	215.27	Los Angeles River
6216	231.36	Los Angeles River
6219	52.71	Los Angeles River
6220	3.51	Los Angeles River
6221	1.3	Los Angeles River
6265	277.08	Los Angeles River
6266	579.69	Los Angeles River
6267	655.75	Los Angeles River
6268	197.11	Los Angeles River
6269	15.81	Los Angeles River
6270	1.65	Los Angeles River
6296	170.88	Los Angeles River
6297	1.47	Los Angeles River
6299	0.23	Los Angeles River
6300	397.06	Los Angeles River

The total acreage for the subwatersheds within the City's jurisdiction is approximately 6,131 acres.

1.2. RECEIVING WATER QUALITY CHARACTERIZATION

In order to support identification and prioritization of management actions, the Order requires Permittees to provide an evaluation of existing water quality conditions within each WMA. Monitoring data for sites within the Los Angeles River and San Gabriel River WMAs were reviewed. The sources of the data researched included monitoring data from:

- Council for Watershed Health (CWH)
- California Environmental Data Exchange Network (CEDEN)
- Los Angeles County Sanitation District (LACSD)
- Los Angeles County Department of Public Works (LACDPW) Annual StormWater Monitoring Reports (2008-2014)
- LACDPW Stormwater Monitoring Reports (2002-2003, 2003-2004)

The CWH monitoring had limited data for sites within the Los Angeles and San Gabriel River WMAs. A search of CEDEN revealed no monitoring data within the two WMAs. The 2012-2013 LACDPW Annual Stormwater Monitoring Report provided the most recent and relevant data for the receiving water conditions in both WMAs. Also reviewed were the 2010 303(d) Listing, the State's Listing Policy, and documents for TMDLs for which the City is listed as a responsible party.

The pollutants detected in the various monitoring programs and databases were used to characterize the receiving waters within each WMA.

Monitoring data for each receiving water is summarized in the following subsections:

1.2.1 LOS ANGELES RIVER

Mass Emissions Site S10 monitoring summary (2012-2013 LACDPW Annual Stormwater Monitoring Report): E.coli concentrations were above the water quality objective (WQO) of 235 MPN/100ml during all seven storm events monitored for bacteria. E.coli concentrations ranged from 8,310 to 57,300 MPN/100mL. pH was not within the WQO range of 6.5- 8.5 pH units for one of the eight wet weather

samples. Dissolved copper concentrations were above the hardness-based WQO for all eight wet weather samples collected. Dissolved copper concentrations ranged from 19.4 to 77.2 ug/L. Hardness values ranged from 40 to 200 mg/L. Dissolved lead was above the hardness-based WQO for one of the eight wet weather samples collected. Dissolved lead concentrations ranged from 7.75 to 70.0 ug/L. Dissolved zinc concentrations were above the hardness-based WQO for all but one of the samples collected. Dissolved zinc concentrations ranged from 117 to 665 ug/L. E.coli did not meet the applicable WQO for one of the two monitored dry weather events. E.coli concentrations ranged from 46 to 959 MPN/100mL. Cyanide was above the WQO of 0.022mg/L during one of the two dry weather events. Cyanide concentrations ranged from 0.015 to 0.026 mg/L. PH was not within the QWO range of 6.5-8.5 pH units during one of the two dry weather events[1].

Tributary Monitoring Site TS06 (Rio Hondo) summary: During wet weather (2002-2003), total coliform, fecal coliform, and fecal enterococcus exceeded the public health criteria for the Basin Plan for each storm 100% of the time. Diazinon was exceeded in 40% of the samples. Total zinc exceeded the Ocean Plan water quality standard. Samples exceeded the California Toxic Rule (CTR) water quality standard 100% of the time for dissolved copper and 40% of the time for dissolved lead. No exceedances were identified during dry weather (2002-2003). Similar results were observed during wet weather (2003-2004) with total coliform, fecal coliform, and fecal enterococcus exceeding the public health criteria for the Basin Plan for each storm 100% of the time. Diazinon was exceeded in 25% of the samples. Total copper and total lead samples exceeded the Ocean Plan water quality standard. During dry weather (2003-2004), the ratio of fecal coliform to total coliform Basin Plan water quality standard was exceeded 50% of the time. Cyanide and total copper exceeded the Ocean Plan water quality standard in 100% of the samples and zinc exceedances were observed in 50% of the samples. Dissolved copper exceeded the CTR water quality standard in 50% of the samples.

The pollutants of concern for the Los Angeles River are:

- E.coli, total coliform, fecal coliform, and fecal enterococcus
- Copper
- Lead
- Zinc

[1] (Source: Los Angeles County Department of Public Works (LACDPW) Annual Stormwater Monitoring Report, 2012-2013)

- Cyanide
- Trash
- Diazinon
- Cadmium
- Nitrogen Compounds

1.2.2 SAN GABRIEL RIVER

Mass Emissions Site S14 monitoring summary: E.coli concentrations were above the water quality objective (WQO) of 235 MPN/100ml during all five storm events monitored for bacteria. E.coli concentrations ranged from 1,842 to 127,400 MPN/100mL. pH was not within the WQO range of 6.5-8.5 pH units for one of the five wet weather samples. Dissolved copper concentrations were above the hardness-based WQO for two of the five wet weather samples collected. Dissolved copper concentrations ranged from 8.53 to 32.7 ug/L. Hardness values ranged from 90 to 210 mg/L. Dissolved zinc concentrations were above the hardness-based WQO for one of the five samples collected. Dissolved zinc concentrations ranged from 69.9 to 286 ug/L. Cyanide was above the WQO of 0.022mg/L for one storm event. Cyanide concentrations ranged from non-detect to 0.031 mg/L. No dry weather samples were collected due to dry conditions (no flow).

The pollutants of concern for the San Gabriel River are:

- E.coli
- Copper
- Zinc
- Cyanide
- Lead

1.2.3 LEGG LAKE

Legg Lake data summary: according to the 2010 303(d) list, Legg Lake is impaired for Ammonia, Copper, Lead, Odor, pH, and Trash. There is also a Nutrient TMDL for Legg Lake. According to the TMDL document, there was one ammonia exceedance in 50 samples. Therefore, Legg Lake meets ammonia water quality standards and the USEPA concludes that preparing a TMDL for ammonia is unwarranted at this time. The U.S. EPA recommends that Legg Lake not be identified as impaired for ammonia in

California's next 303 (d) listing[2]. In addition to the impairments listed on the 303(d) list, Legg Lake also has a trash TMDL and a nutrient TMDL (Los Angeles Area Lakes TMDL).

The pollutants of concern for Legg Lake are:

- Ammonia
- Copper
- Lead
- Nutrients (Nitrogen and Phosphorus)
- Trash

1.2.4 PECK ROAD PARK LAKE

Peck Road Park Lake data summary: The Peck Road Park Lake Chlordane impairment is primarily due to historical loading and storing within the lake sediments, with some ongoing contribution by watershed wet weather loads. Elevated fish tissue concentrations of Chlordane is primarily due to the storage of historic loads of Chlordane in the lake sediments. Watershed loads of Chlordane may arise from past pesticide applications, improper disposal, and atmospheric deposition (and possible erosion of Chlordane contaminated soils). There is no definitive information on specific sources within the watershed at this time. Chlordane is no longer in use and fish tissue concentrations are likely to decline. Total Chlordane concentrations in water flowing into Peck Road Park Lake are below detection limits, and most Chlordane load is expected to move in association with sediment[3].

The Dichlorodiphenyltrichloroethane (DDT) impairment present in Peck Road Park Lake is primarily due to historical loading and storing within the lake sediments, with some ongoing contribution by watershed wet weather loads. Watershed loads of DDT may arise from past pesticide applications, improper disposal, and atmospheric deposition. There is no definitive information on specific sources of elevated DDT within the watershed at this time. Incoming loads of DDT will mainly be absorbed to sediment particles conveyed by stormwater runoff (eroded from legacy contaminations sites or from atmospheric conditions). DDT in water flowing into Peck Road Park Lake are below detection limits, and most DDT load is expected to move in association with sediment. The legacy DDT stored in lake sediment is the major cause of exposure to aquatic organisms and sport fish. DDT, like PCBs and

[2] Source: U.S. EPA Los Angeles Area Lakes TMDLs, March 2012.
[3] Source: U.S. EPA, Los Angeles Area Lakes TMDLs, March 2012.

Chlordane is an organochlorine compound that is strongly sorbed to sediments and lipids and is no longer in production[4].

Dieldrin in Peck Road Park Lake is primarily due to historical loading and storage within the lake sediments, with some ongoing contribution by watershed wet weather loads. There is no definitive information on specific sources of Dieldrin within the watershed at this time. Dieldrin is a chlorinated insecticide originally developed as an alternative to DDT and was in use from the 1950s to the 1970s. Dieldrin in the environment arises from the use of the insecticide Aldrin. The use of both Dieldrin and Aldrin was discontinued in the 1970s. Dieldrin, like PCBs, Chlordane and DDT is an organochlorine compound that is strongly sorbed to sediments and lipids (fats) and is no longer in production. Most Dieldrin load is expected to move in association with sediment. Stormwater loads from the watershed could not be directly estimated because all sediment and water sample results were below detection limits. The manufacture and use of Dieldrin is currently banned[5].

Trash is an impairment at Peck Road Park Lake and is comprised of plastic bags, plastic pieces, paper items, plastic and glass bottles, Styrofoam, bottle caps, and cigarette butts. Uncovered trash cans at the lake can be a source of trash and the trash can be transported by wind and animals. The largest accumulations of trash were observed near picnic areas, near industrial facilities, and near the ends of storm drain outfalls discharging to the lake. The major source of trash in Peck Road Park Lake is due to littering, either intentional or accidental.

The pollutants of concern for Peck Road Park Lake are:

- Nutrients (Nitrogen and Phosphorus)
- PCBs
- DDT
- Dieldrin
- Trash

[4] Source: U.S. EPA, Los Angeles Area Lakes TMDLs, March 2012
[5] Source: U.S. EPA, Los Angeles Area Lakes TMDLs, March 2012

1.3. DISCHARGE WATER QUALITY CHARACTERIZATION

Two outfalls in the City were selected for characterizing discharge water quality from the City. The two outfalls were sampled during dry weather in December 2013 and again during a rain event (wet weather) in February 2014. The results of these two sampling events provide information on the current characteristics of dry weather and wet weather discharges from the City's jurisdiction.

A map showing the locations of the two outfalls and their corresponding drainage areas and corresponding land use are shown in Figures 1-3 and 1-4, respectively. A drainage area land use comparison is shown in Table 1-2. Analytical results are provided in Tables 1-3 and 1-4. Copies of the Chain of Custody Records and Laboratory Reports for the discharge characterization sampling are included in Appendix B.

Figure 1-3: Dry and Wet Weather Outfall Monitoring Locations

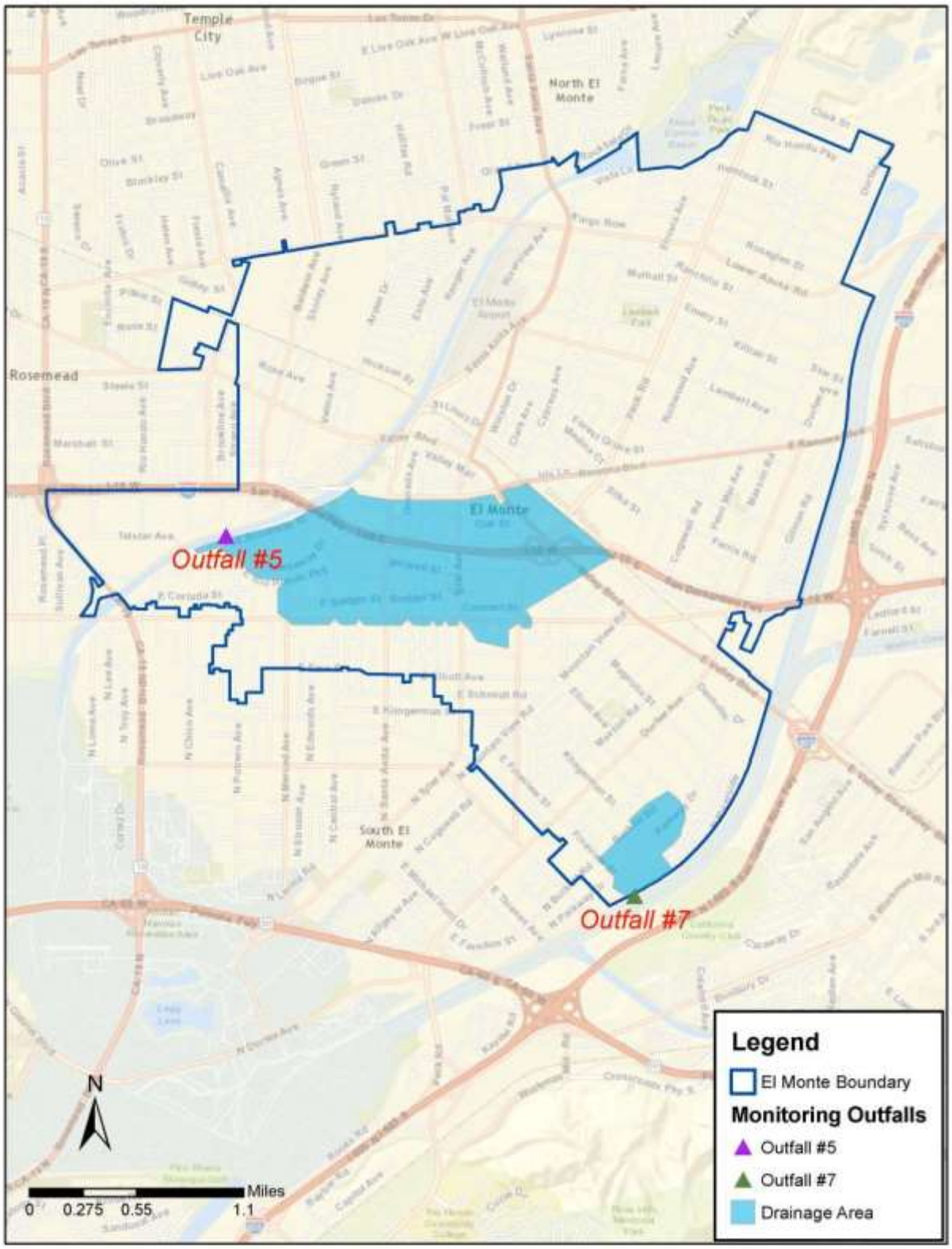


Figure 1-4: Dry and Wet Weather Outfall Drainage Area Land Use

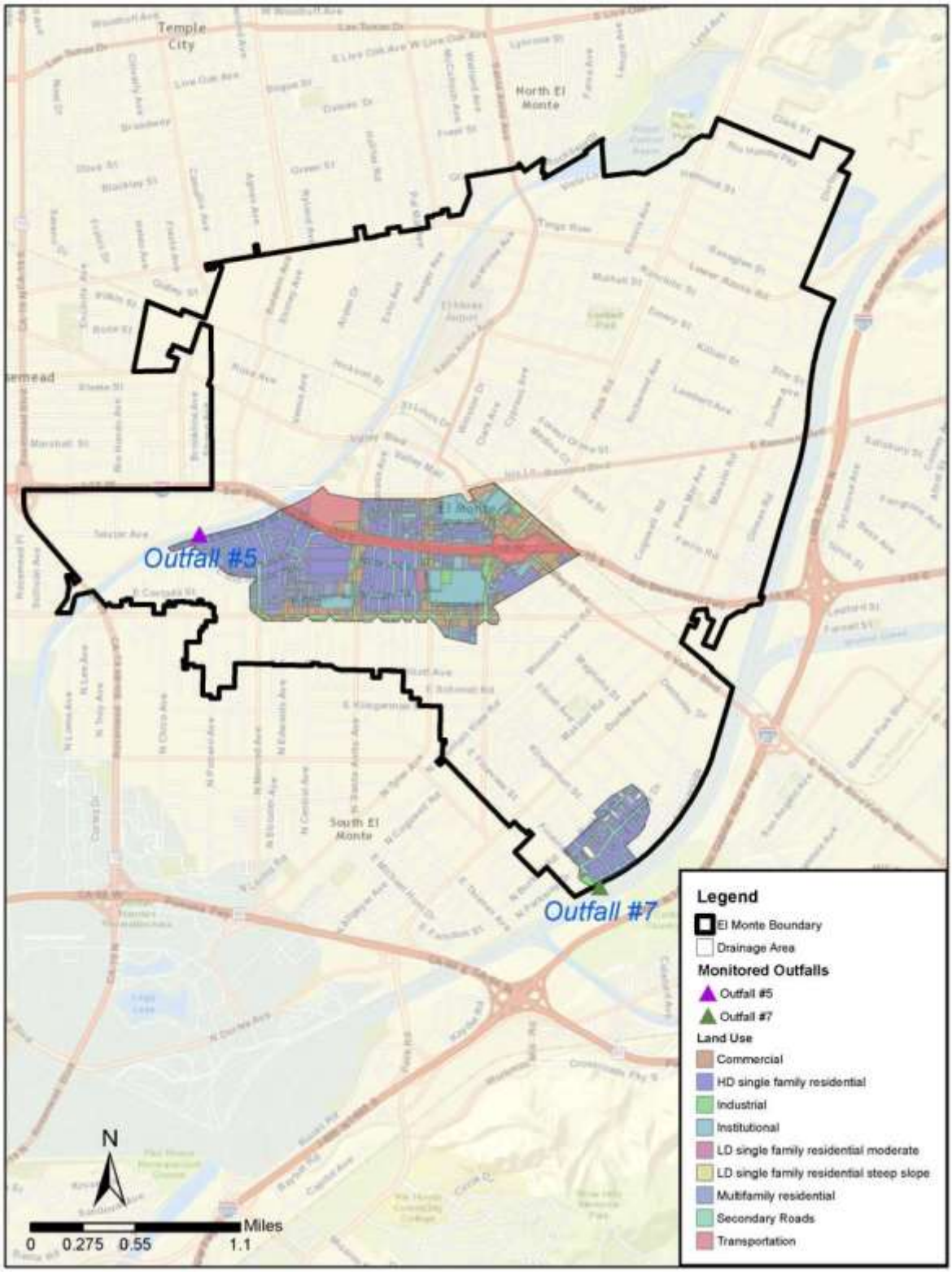


Table 1-2: Drainage Area Land Use Comparison

Land Use Type	Land Use within drainage area to Outfall 5	Land Use within drainage area to Outfall 7	City Land Use
Residential	41%	71%	58%
Industrial/Commercial/Retail	15.1%	2.3%	10%
Office	11%	0%	7%
Other Amenities	32.9%	26.7%	14%

The land use within the drainage area for Outfall 5 more closely resembles that of the entire city. The land use within the drainage area of Outfall 7 more closely resembles the residential sections of the city. The data from samples collected from Outfall 5 provide information on the types and concentrations of pollutants being discharged from a mixed residential/commercial/other amenities area while data from Outfall 7 provides information on the types and concentration of pollutants being discharged from predominately residential areas. The outfall data collected from the two types of land use provide useful information for identifying the types of pollutants associated with each land use.

Table 1-3: Outfall No. 5 - Dry and Wet Weather Sampling Results

Outfall #	Constituent	Dry Weather Results	Wet Weather Results	Outfall Receiving Water Body
5	Oil & Grease	ND	ND	Rio Hondo
5	TKN	0.32 mg/L	0.91 mg/L	Rio Hondo
5	NO2 +NO3 as N	180 ug/L	590 ug/L	Rio Hondo
5	Total Phosphorus as P	0.052 mg/L	0.076 mg/L	Rio Hondo
5	Total Dissolved Solids	180 mg/L	190 mg/L	Rio Hondo
5	Total Suspended Solids	ND	ND	Rio Hondo
5	Total Nitrogen	0.50 mg/L	1.50 mg/L	Rio Hondo
5	Total Copper	0.010 mg/L	0.016 mg/L	Rio Hondo
5	Total Lead	ND	ND	Rio Hondo
5	Total Selenium	ND	ND	Rio Hondo
5	Total Zinc	ND	ND	Rio Hondo
5	Total Coliform	20 MPN/100 ml	10,000 MPN/100 ml	Rio Hondo
5	Fecal Coliform	1,700 MPN/100 ml	260 MPN/100 ml	Rio Hondo
5	E. coli	20 MPN/100 ml	260 MPN/100 ml	Rio Hondo
5	1-Methylnaphthalene	ND	ND	Rio Hondo
5	2-Methylnaphthalene	ND	ND	Rio Hondo
5	Acenaphthene	ND	ND	Rio Hondo
5	Acenaphthyene	ND	ND	Rio Hondo
5	Anthracene	ND	ND	Rio Hondo
5	Benzo (a) anthracene	ND	ND	Rio Hondo
5	Benzo (b) pyrene	ND	ND	Rio Hondo
5	Benzo (b) fluoranthene	ND	ND	Rio Hondo
5	Benzo (g, h, i) perylene	ND	ND	Rio Hondo
5	Benzo (k) fluoranthene	ND	ND	Rio Hondo
5	Chrysene	ND	ND	Rio Hondo
5	Dibenzo (a, h) anthracene	ND	ND	Rio Hondo
5	Fluoranthene	ND	ND	Rio Hondo
5	Fluorene	ND	ND	Rio Hondo
5	Indeno (1,2,3-cd) pyrene	ND	ND	Rio Hondo
5	Naphthalene	ND	ND	Rio Hondo
5	Phenanthrene	ND	ND	Rio Hondo
5	Pyrene	ND	ND	Rio Hondo

Table 1-4: Outfall No. 7 - Dry and Wet Weather Sampling Results

Outfall #	Constituent	Dry Weather Results	Wet Weather Results	Outfall Receiving Water Body:
7	Oil & Grease	ND	ND	San Gabriel River
7	TKN	2.6 mg/L	4.6 mg/L	San Gabriel River
7	NO2 +NO3 as N	4,000 ug/L	2,000 ug/L	San Gabriel River
7	Total Phosphorus as P	0.63 mg/L	1.2 mg/L	San Gabriel River
7	Total Dissolved Solids	460 mg/L	130 mg/L	San Gabriel River
7	Total Suspended Solids	21 mg/L	230 mg/L	San Gabriel River
7	Total Nitrogen	6.6 mg/L	6.6 mg/L	San Gabriel River
7	Total Copper	0.034 mg/L	0.72 mg/L	San Gabriel River
7	Total Lead	0.0056 mg/L	0.32 mg/L	San Gabriel River
7	Total Selenium	ND	ND	San Gabriel River
7	Total Zinc	0.084 mg/L	0.29 mg/L	San Gabriel River
7	Total Coliform	14,000 MPN/100 ml	28,000 MPN/100 ml	San Gabriel River
7	Fecal Coliform	90,000 MPN/100 ml	1,400 MPN/100 ml	San Gabriel River
7	E. coli	14,000 MPN/100 ml	1,400 MPN/100 ml	San Gabriel River
7	1-Methylnaphthalene	ND	ND	San Gabriel River
7	2-Methylnaphthalene	ND	ND	San Gabriel River
7	Acenaphthene	ND	ND	San Gabriel River
7	Acenaphthyene	ND	ND	San Gabriel River
7	Anthracene	ND	ND	San Gabriel River
7	Benzo (a) anthracene	ND	ND	San Gabriel River
7	Benzo (b) pyrene	ND	ND	San Gabriel River
7	Benzo (b) fluoranthene	ND	ND	San Gabriel River
7	Benzo (g, h, i) perylene	ND	ND	San Gabriel River
7	Benzo (k) fluoranthene	ND	ND	San Gabriel River
7	Chrysene	ND	0.14 ug/L	San Gabriel River
7	Dibenzo (a, h) anthracene	ND	ND	San Gabriel River
7	Fluoranthene	ND	0.19 ug/L	San Gabriel River
7	Fluorene	ND	ND	San Gabriel River
7	Indeno (1,2,3-cd) pyrene	ND	ND	San Gabriel River
7	Naphthalene	ND	ND	San Gabriel River
7	Phenanthrene	ND	0.12 ug/L	San Gabriel River
7	Pyrene	ND	0.15 ug/L	San Gabriel River

In summary, the discharge water quality characterization supports:

- Pollutant identification
- Modeled pollutant concentration correlation

1.4. WATERSHED CHARACTERISTICS

The City discharges primarily into two major watersheds, the San Gabriel River Watershed on the East and the Los Angeles River Watershed on the West. A small section (approximately 130 acres) in the south part of the City drains to Legg Lake.

1.4.1 GEOGRAPHIC SETTING

Located approximately 12 miles east of downtown Los Angeles, El Monte has a population of approximately 120,000. The City, located below the mountains, is relatively flat, and is between two majors drainage features, the San Gabriel River and the Rio Hondo. The Rio Hondo is a tributary of the Los Angeles River. The Rio Hondo also links the double watersheds of the Los Angeles and San Gabriel Rivers. Although it is now a major tributary of the Los Angeles River, the Rio Hondo once formed the main bed of the San Gabriel River. The six major tributaries of the Rio Hondo are the Alhambra, Rubio, Eaton, Arcadia, Santa Anita, and Sawpit Washes. (Source: "Rio Hondo Watershed Management Plan") http://www.rmc.ca.gov/plans/rio_hondo/Rio%20Hondo%20Water%20Management%20Plan_small.pdf

The San Gabriel River watershed is divided into three sections: upper watershed, lower watershed, and mainstem. The watershed drains into the San Gabriel River from the San Gabriel Mountains flowing 58 miles south until its confluence with the Pacific Ocean. Major tributaries to the San Gabriel River include Walnut Creek, San Jose Creek, Coyote Creek, and numerous storm drains entering from the 19 cities along the San Gabriel River. Channel flows pass through different sections in the San Gabriel River, diverting from the riverbed into four different spreading grounds, held behind several rubber dams for controlled flow and ground water recharge and controlled through 10 miles of concrete channel bottom from below Whittier Narrows Dam to past Coyote Creek. (Source: LA Department of Public Works – San Gabriel Watershed http://ladpw.org/wmd/watershed/sg/

Peck Road Park Lake is located north of the City. Although Attachment K of the Order lists the City as a responsible party to the Peck Road Park Lake TMDLs, research does not identify any direct or indirect storm water discharge originating from the City to the lake. A review of LACFCD maps and City records

plus a field investigation supports this conclusion. Discharges from a residential area west of the lake drain into a spillway into the Rio Hondo downstream of the lake. Below is a map showing the City of El Monte and the County of Los Angeles' drainage system. Additional field investigations verified that the City of El Monte does not discharge into Peck Road Park Lake.

Legg Lake is south of the City and receives runoff from a small portion of the City (approximately 130 acres).

Figure 1-5: City of El Monte GIS Shape File – MS4 Catch Basins and Drainage System

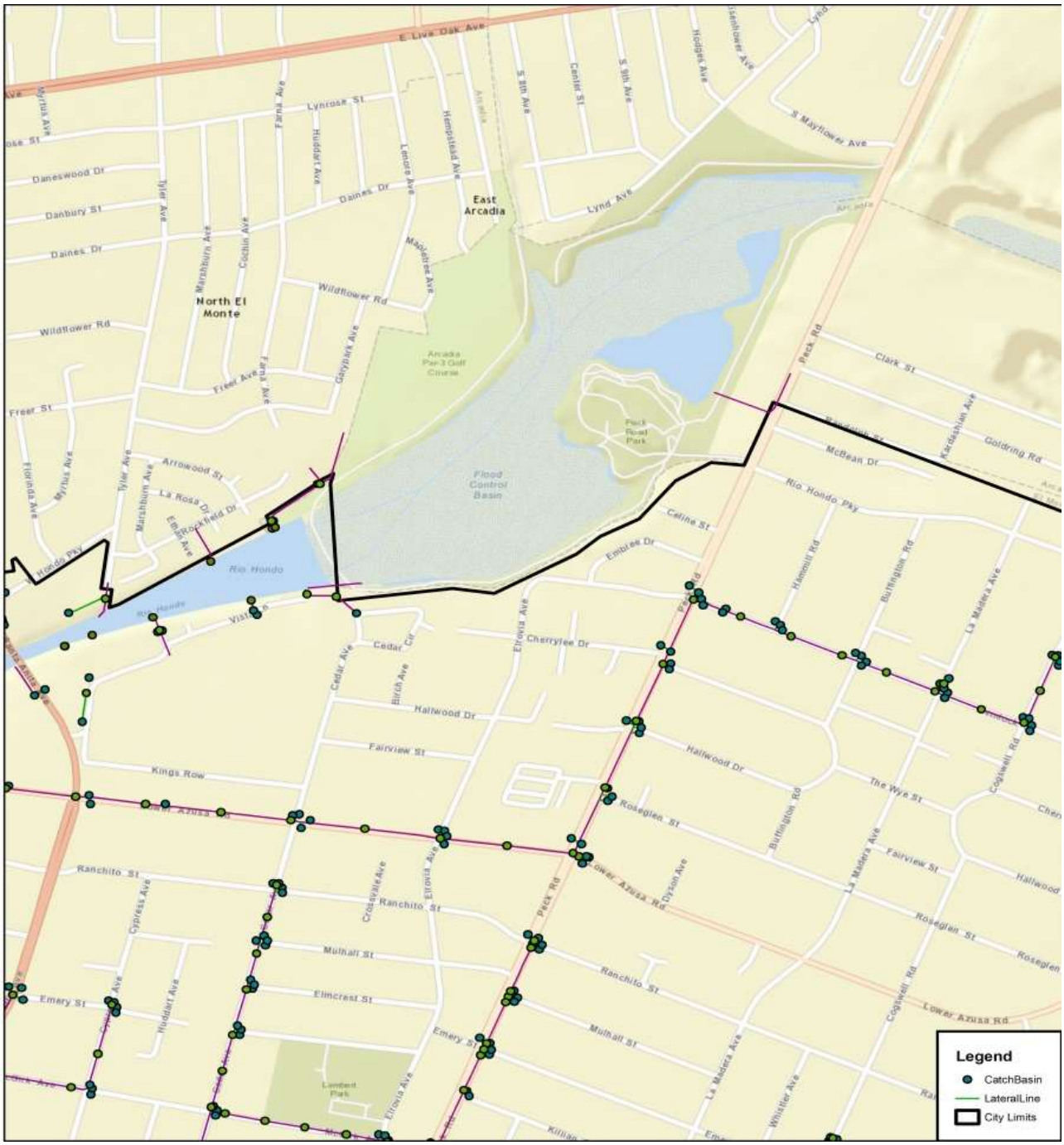
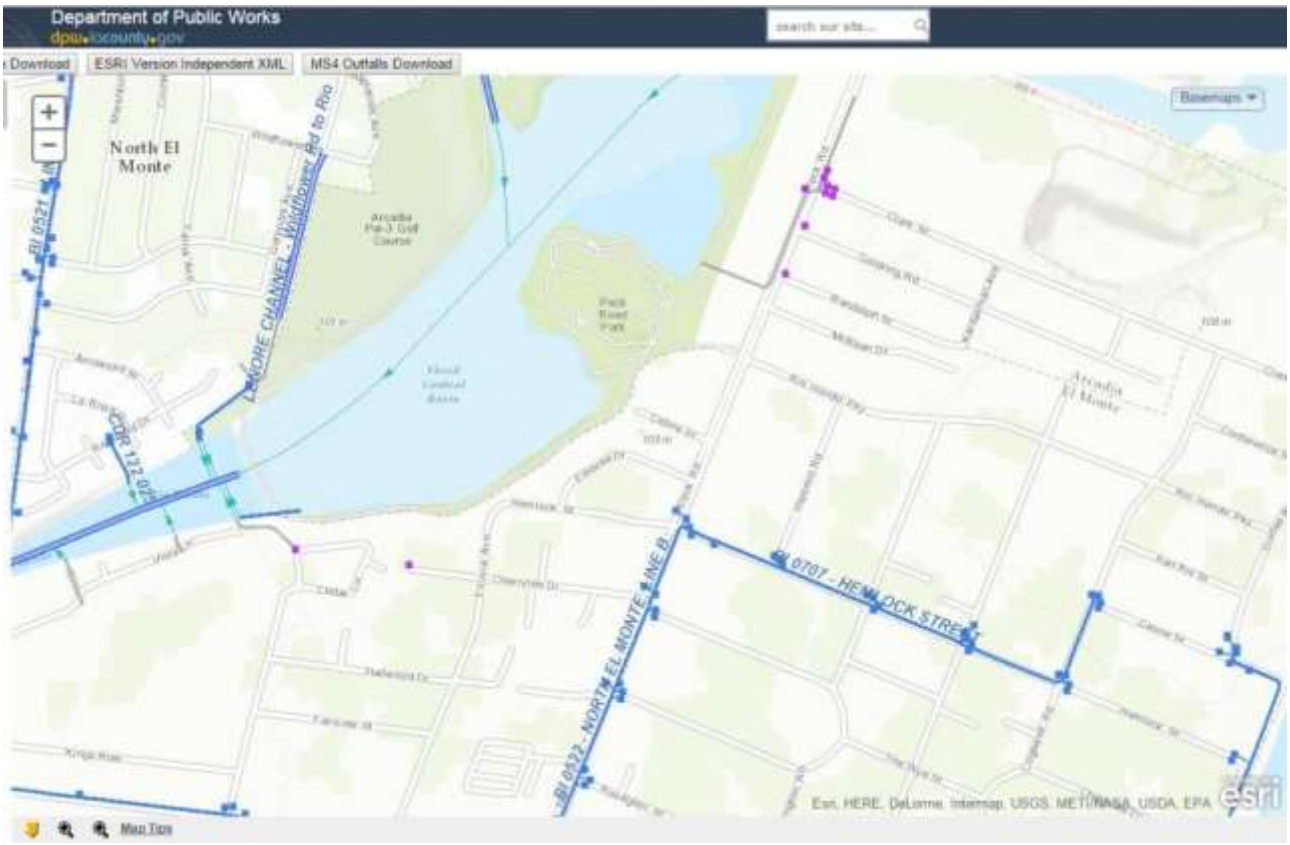


Figure 1-6: LA County Dept of Public Works GIS Shape File – MS4 Catch Basins and Drainage System



1.4.2 GEOLOGIC SETTING

In the northwestern half of the City, subsurface and surficial deposits tend to consist of varying amounts of sand, gravel, and silt layers that are incorporated within large, composite alluvial fans associated with the Alhambra, Rubio, Eaton, Arcadia, Santa Anita, and Sawpit washes. In the southeastern part of the City, flood plain and overbank deposits associated with the San Gabriel River make up most of the subsurface and surficial deposits.

1.4.3 CLIMATE

The El Monte climate is warm during summer when temperatures tend to be in the 70's and cool during winter when temperatures tend to be in the 50's. The warmest month of the year is August with an average maximum temperature of 90.20 degrees Fahrenheit, while the coldest month of the year is December with an average minimum temperature of 41.90 degrees Fahrenheit. Temperature variations between night and day tend to be moderate during summer with a difference that can

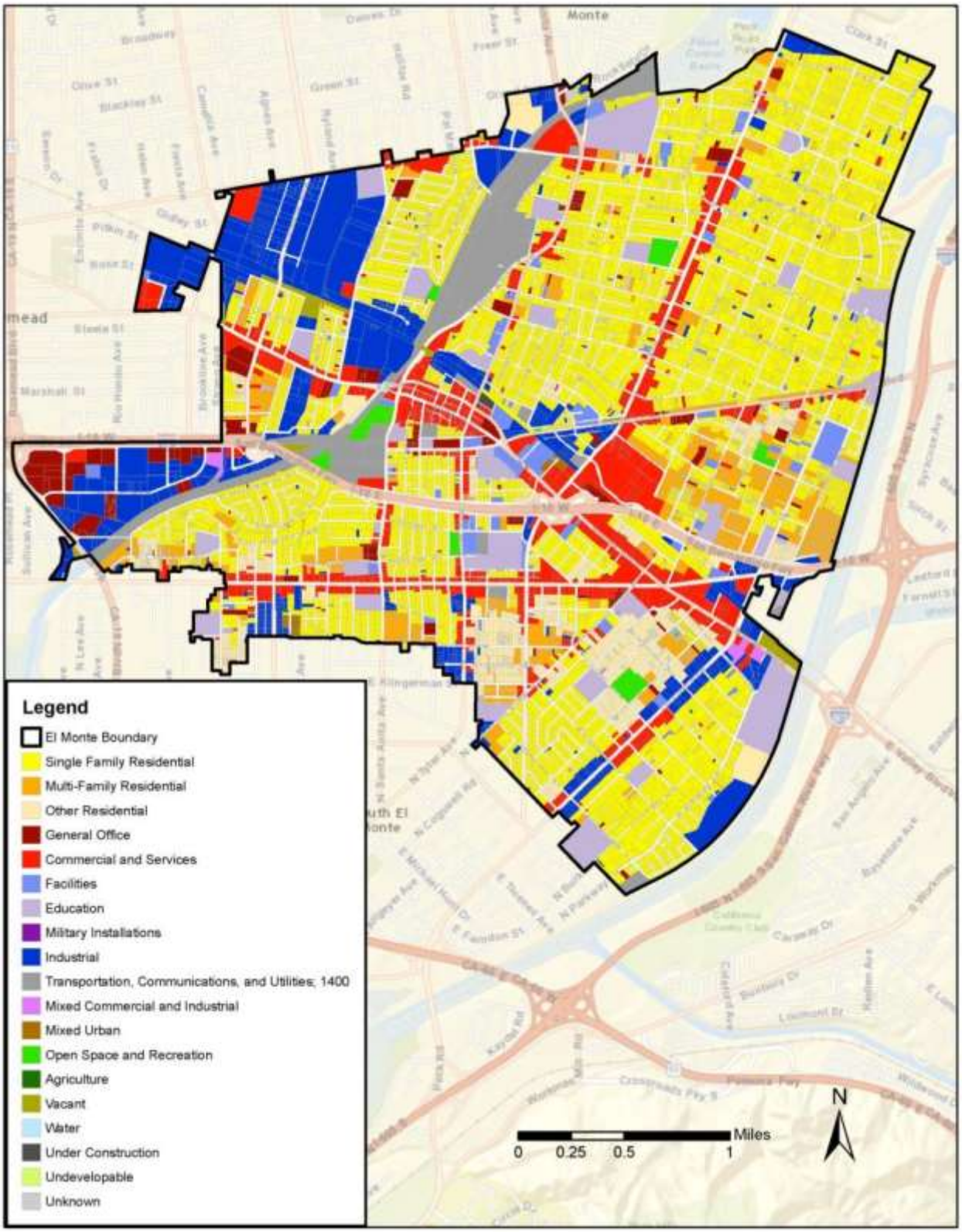
reach 27 degrees Fahrenheit, and moderate during winter with an average difference of 27 degrees Fahrenheit. The annual average precipitation at El Monte is 18.56 Inches. Winter months tend to be wetter than summer months. The wettest month of the year is February with an average rainfall of 4.66 Inches. (Source: www.idcide.com/**weather/ca/el-monte**.htm)

1.4.4 LAND USE

The land uses within the City's approximate 10 square mile area are comprised of 58 percent residential, 11 percent retail, 10 percent industrial, 7 percent office/retail, and 14 percent other of amenities[6]. See Figure 1-7 for a map of land use.

[6] Source: City of El Monte website- General Description.

Figure 1-7: Land Use Map



1.5. WATER BODY POLLUTANT CLASSIFICATION

On the basis of the evaluation of existing water quality conditions, Water Body-Pollutant Combinations (WBPCs) will be classified into one of the following three categories:

- Category 1 (Highest Priority) Pollutants for which water quality-based effluent limitations and/or receiving water limitations are established in Part VI.E TMDL Provisions and Attachments L through R of the MS4 Permit.

- Category 2 (High Priority) Pollutants for which data indicate water quality impairment in the receiving water according to the State Board's Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) List (State's Listing Policy) and for which MS4 discharges may be causing or contributing to the impairment.

- Category 3 (Medium Priority) Pollutants for which there are insufficient data to indicate water quality impairment in the receiving water according to the State's Listing Policy, but which exceed applicable receiving water limitations contained in this Order and for which MS4 discharges may be causing or contributing to the exceedance.

1.6. POLLUTANT SOURCE ASSESSMENT

In order to identify potential stormwater and non-storm water pollutant sources in discharges to the MS4 in each WMA, the City reviewed data from the following:

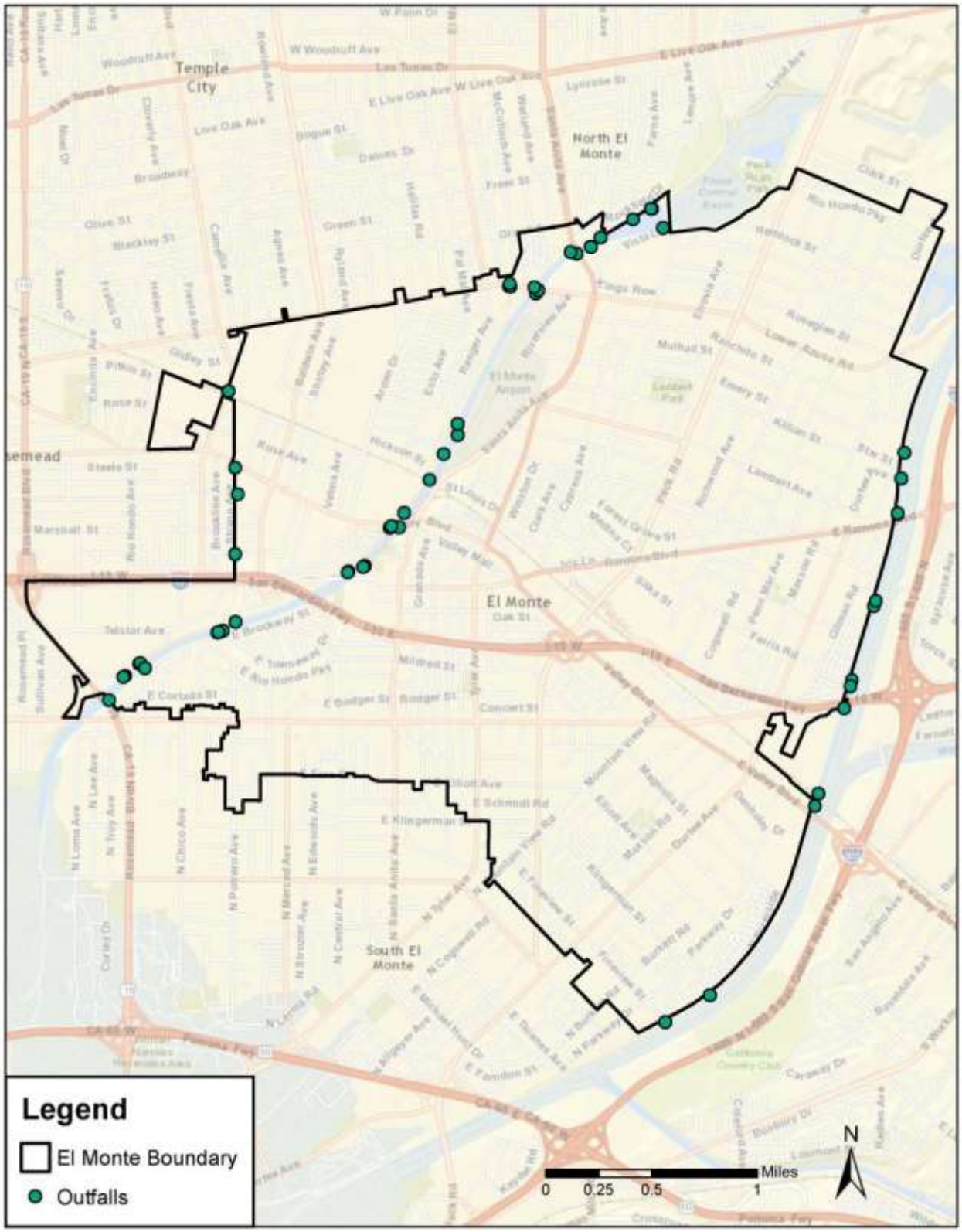
- Findings from the IC/ID Elimination Program
- Findings from the Industrial/Commercial Facilities Inspections Program
- Findings from the Development Construction Program
- Findings from the Public Activities Program
- Findings from US EPA TMDL Documentation
- Watershed Model Results and Regional Monitoring Programs Results
- Findings from exceedances from facilities with coverage under the Industrial General Permit (from SMARTS)
- Results from review of Los Angeles River Metals TMDL Coordinated Monitoring Plan
- Los Angeles Area Lakes TMDLs document

- San Gabriel River and Impaired Tributaries TMDL document
- Findings from review of the State's Listing Policy (potential exceedances of WQ objectives)
- Results from dry weather and wet weather outfall sampling conducted by the City

The pollutants associated with the above findings are prioritized in Section 1.7. Not all sources produced pollutant data for El Monte. The IC/ID Elimination Program review indicated discharges but did not identify the pollutant(s). The 303 (d) list and the Los Angeles County Monitoring Reports and Tributary Monitoring Reports provided the most recent and extensive data on impairments and exceedances.

The major outfalls from the City are shown in Figure 1-8.

Figure 1-8: Major Outfalls



1.7. PRIORITIZATION

Based on findings of the source assessment, the water quality issues will be prioritized and sequenced in the same order as the Pollutant Classification.

- Category 1 will be WBPCs with TMDLs
- Category 2 will be WBPCs listed on the 303(d) list
- Category 3 will be WBPCs with other exceedances.

1.7.1 WBPCS WITH TMDLS

WBPCs with TMDLs from Attachments O and P of the Order are summarized in Table 1-5.

Table 1-5: WBPCs with TMDLs (Category 1)

TMDL Pollutant	Water Body
Nutrients	Legg Lake
Trash	Legg Lake
Ammonia*	Legg Lake
Odor	Legg Lake
pH	Legg Lake and Los Angeles River
Cadmium, Copper, Zinc, Lead	Los Angeles River
E. coli (Bacteria)	Los Angeles River
Nitrogen Compounds	Los Angeles River
Trash	Los Angeles River
Lead	San Gabriel River

* Recommended for removal by EPA due to lack of sample results testing positive for ammonia.

1.7.2 WBPCS FROM 303(D) LISTED WATER BODIES

Table 1-6 contains the pollutants and water bodies as listed on the 2010 303(d) list impairment or exceedances of RWLs.

Table 1-6: WBPCs on 2010 303(d) List (Category 2)

Impairment	Water Body	Receiving Water Limitations
Copper	Legg Lake	12 ug/L
Trash	Legg Lake	0 trash by 3/6/2016
Cyanide	Los Angeles River and San Gabriel Rivers	0.2 mg/L
Toxicity	Los Angeles River (Rio Hondo)	TBD
Indicator Bacteria	San Gabriel River (Reach 3)	400 MPN/100 ml

1.7.3 WBPCS WITH EXCEEDANCES OF WATER QUALITY OBJECTIVES

Data from Annual Reports, IC/ID reports, SWAMP, Industrial/ Commercial Facility baseline exceedances information from SMARTS, Mass Emissions Stations sampling, Tributary Monitoring sampling (Site TS06, Rio Hondo) and dry weather and wet weather outfall sampling conducted by the City indicated exceedances for the pollutants listed in Table1-7. Cyanide results from Site TS06 exceeded the Ocean Plan water quality standard in 100% of the samples during the 2003-2004 dry weather sampling. Diazinon was exceeded in 40% of the samples collected during wet weather in 2002-2003 and in 25% of the samples collected in 2003-2004. Copper concentrations were above the Water Quality Objective (WQO) for two of the five samples collected at Mass Emissions Site S14 during g the 2012-2013 season while, etc. Zinc concentrations were above the WQO for one of five samples collected during the same season. Possible sources of Cyanide are electroplating and metal mining processes, metal cleaning, certain pesticide applications, and some pharmaceutical industries. Diazinon sources include pesticide use in residential, commercial, and gardening/farming areas. Possible sources of Copper and Zinc include automobiles, bridges, industrial areas, corroding metal surfaces, and atmospheric deposition.

Table 1-7: WBPCs with exceedances (Category 3)

Constituent	Water Body	Receiving Water Limitations
Cyanide	Los Angeles River (Rio Hondo)	0.2 mg/L
Diazinon	Los Angeles River (Rio Hondo)	0.05 mg/L
Copper	San Gabriel River	12 ug/L
Zinc	San Gabriel River	80 ug/L

1.8. SELECTION OF WATERSHED CONTROL MEASURES

The City will identify strategies, control measures, and BMPs to implement through storm water management programs and on a watershed scale (for both WMAs) with the goal of creating an efficient program to focus individual/collective resources on watershed priorities.

The objectives of the Watershed Control Measures are:

- To implement pollutant controls necessary to achieve all applicable interim and final WQBELs and /or RWLs pursuant to compliance schedules.
- To ensure that discharges from the MS4 do not cause or contribute to exceedances of RWLs.
- To prevent or eliminate non-stormwater discharges to MS4 that are a source of pollutants form the MS4 to receiving waters.

The Watershed Control Measures will include combinations of:

- Structural and/or non-structural controls and operation and maintenance of procedures designed to achieve applicable WQBELs and/or RWLs;
- Retrofitting areas of existing development known or suspected to contribute to the highest water quality priorities with regional controls or management measures; and
- Stream and/or habitat rehabilitation or restoration projects where necessary.

The City will implement Watershed Control Measures based on the results of its watershed modeling and the necessary pollutant reductions.

1.8.1 MINIMUM CONTROL MEASURES (MCMS)

Until the WMP is approved, the City will continue to implement their existing storm water management programs , including those actions within each of the minimum control measures consistent with 40 CFR 122.26(d)(2)(iv)(A)-(D). The MCMs are listed below, with a sub bullet emphasizing the major

- Development Construction Program
- Industrial Commercial Program
- IC/ID Detection and Elimination Program
- Public Agency Activities Program
    - Install trash excluders in catch basins (to comply with WQBEL of zero trash by September 30, 2016)

    - Develop an inventory of facilities and BMPs for retrofitting opportunities
- Public Information and Participation Program
- Planning and Land Development Program
    - Low Impact Development Strategies (LID Ordinance adopted June 10, 2014)
    - New Development/Redevelopment Effectiveness Tracking

The City will assess the MCMs to identify opportunities for focusing on high priority issues and identify potential modifications for each of the MCMs. Currently, the City does not anticipate customizing any of the MCMs. If the City elects to eliminate a control measure because that specific control measure is not applicable to the City, the City will provide justification for its elimination. The City understands that the Planning and Land Development Program is not eligible for elimination.

1.8.2 NON-STORM WATER DISCHARGE CONTROL MEASURES

Where the City identifies non-storm water discharges from the MS4 as a source of pollutants that cause or contribute to exceedances of RWLs, drainage area control measures, and /or BMPs will be implemented to effectively eliminate the source of pollutants. These measures may include prohibiting additional non-storm water discharges to the MS4, adding BMPs to reduce the pollutants, and/or diversion of the runoff to a sanitary sewer.

The dry weather screening of outfalls to the Rio Hondo and San Gabriel River three times per year will identify possible dry weather flows that can be eliminated. The training of City Public Works staff and Code Enforcement staff in the recognition and reporting of non-stormwater discharges is an important step in eliminating non-stormwater discharges. Public information and education regarding water conservation and irrigation reduction will results in less runoff.

1.8.3 TMDL CONTROL MEASURES

The City will implement control measures that have been identified in TMDLs and corresponding implementation plans. The City will also evaluate and identify control measures as follows:

- Where necessary, TMDL measures shall include control measure to address both storm water and non-storm water discharges from the MS4.
- TMDL control measures may include baseline or customized activities covered under the general MCM categories as well as BMPs and control measures covered under non-storm water discharge provisions.

- The WMP includes actions that will be implemented during the permit term to achieve interim and/or final WQBELs and/or RWLs with compliance deadlines within the permit term.

Los Angeles River

A total of 57 catch basins have been retrofitted to exclude trash and other debris. Filter Basket Inserts (FBIs) account for 20 of the retrofitted catch basins and the remaining are Automatic Retractable Screens (ARSs). Two Modular Wetland Systems have also been installed and three additional modular Wetland Systems are planned for a housing and retail development currently being constructed. The Los Angeles River Trash TMDL compliance strategies include installation of full capture devices, or partial capture devices with institutional controls. Implementation measures include Daily Generation Rate studies.

A map showing the location of catch basins and drain lines within the City's jurisdiction is shown in Figure 1-9. The existing and planned control measures are shown in Figure 1-10.

TMDL control measures for Cadmium, Copper, Lead, and Zinc for both wet weather and dry weather will include a robust Industrial/Commercial Facilities Inspection Program. The program will emphasize the proper implementation of source control BMPs at facilities that have the potential to discharge metals to the MS4. Facilities with known exposure or a history of discharge will be inspected at twice the frequency of other facilities. The Los Angeles River and Tributaries TMDL for Metals recommendations for non-structural controls include more frequent and appropriately timed catch basin cleaning, enhanced street sweeping, and source reduction through increased detection methods resulting in elimination of illicit discharges and dry weather flows. Structural control recommendations include infiltration or filter devices specifically designed to reduce metals or diversion to treatment facilities.

TMDL control measures for Nutrients in wet weather will be largely associated with implementation of the LID Ordinance and Green Street Policy. Control measures for both wet and dry weather will include implentation of enhanced street sweeping, irrigation reduction/water conservation ordinances, and capture and use/infiltration control measures.

TMDL control measures for Diazinon for both wet weather and dry weather will include identifying facilities within any sampled drainage area that show an elevated level of pesticides and then inspecting

them specifically for use of and the presence of known pesticides and if warranted, the city may elect to sample discharges from that facility and subject the facility to enforcement actions.

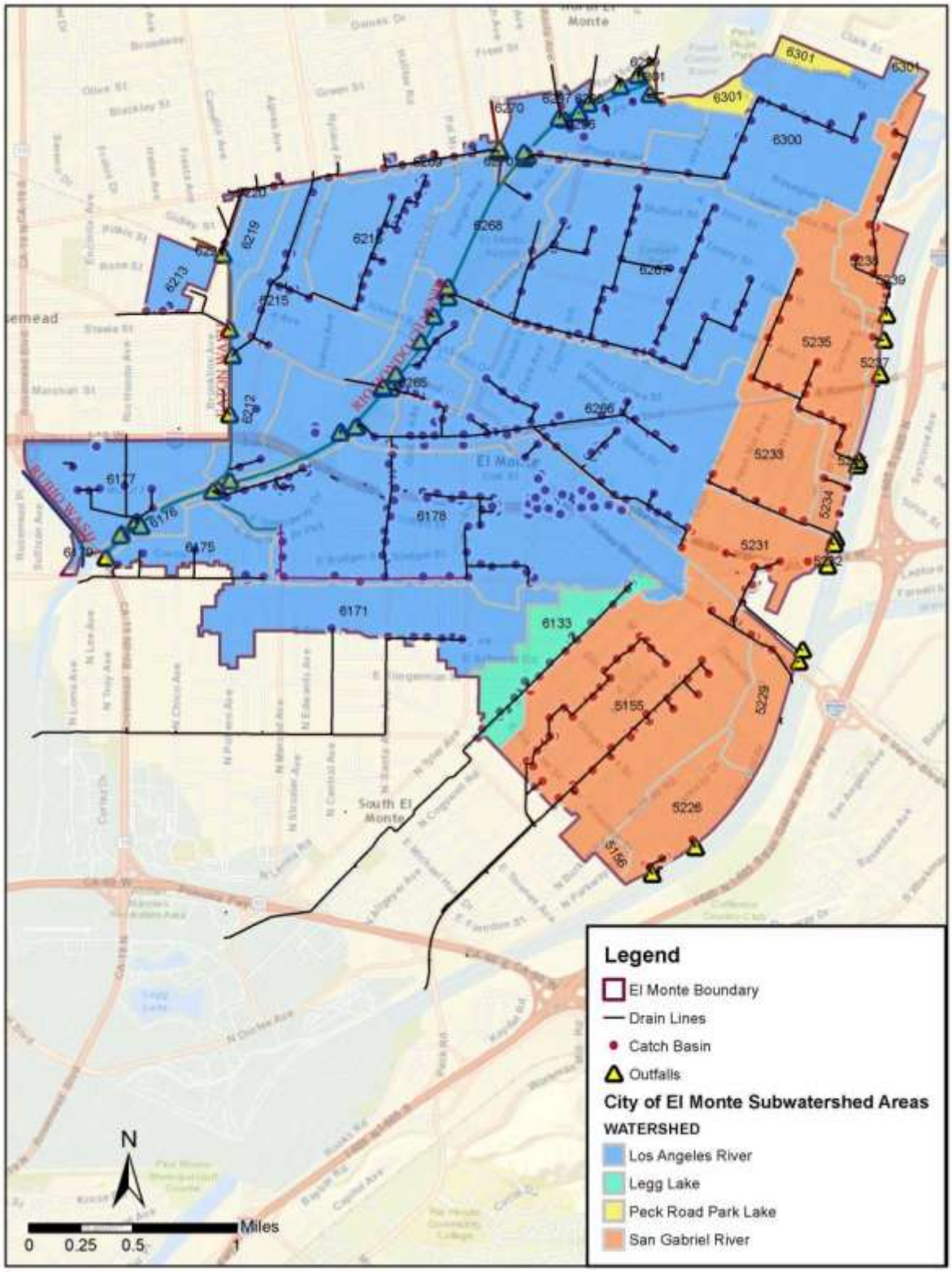
San Gabriel River

TMDL control measures for Lead for wet weather will include a robust Industrial/Commercial Facilities Inspection Program. The program will emphasize the proper implementation of source control BMPs at facilities that have the potential to discharge metals to the MS4. Facilities with known exposure or a history of discharge will be inspected at twice the frequency of other facilities. Control measures for dry weather bacteria will include source reduction through increased detection methods resulting in elimination of illicit discharges and dry weather flows, irrigation reduction/water conservation ordinances, and capture and use/infiltration control measures.

Watershed control measures for Category 1, 2, and 3 pollutants include:

The City will develop protocols for investigating and following up on all non stormwater discharges (regardless of receiving water) discovered by City or County staff or reported through the County Hotline. An enhanced enforcement policy will be developed to ensure the elimination of all illicit discharges.

Figure 1-9: Catch Basins and Drain Lines



Legg Lake

El Monte's point source area for the Trash TMDL is approximately 0.10 square miles. LACFCD storm drain line BI 0529-Line B drains catch basins within that approximate 0.10 square mile portion of the City. The catch basins feeding the storm drain line are along Mountain View Road from approximately Garvey Avenue to the city limit boundary on south near Weaver Avenue. The storm drain line has a single outlet at North Lake. Six catch basins along Mtn. View Road have been retrofitted with trash exclusion devices. The devices consist of a combination of ARSs and FBIs at the highest traffic areas along this route. In order to address the required pollutant reductions for Legg Lake, six catch basins along Mountain View Road will be retrofitted with Modular Wetland Systems to remove both trash and nutrients.

The City is committed to trash reduction to the Legg Lake system and plans to retrofit more catch basins with trash excluders along this route as funding becomes available. The City will also explore increased frequency of sweeping along Mountain View Road, sweeping of alleyways, and increased frequency of sweeping of public parking lots. The discharge of trash from storm drains draining to Legg Lake will largely be controlled/reduced by the implementation of the trash excluders described above but additional measures for eliminating the trash impairment to Legg Lake (as described in the Trash TMDL for Legg Lake) will include placement of additional trash receptacles along Mountain View Road, Public Education regarding the Lake impairments, and Community Involvement to further promote water quality at the lake.

Peck Road Park Lake

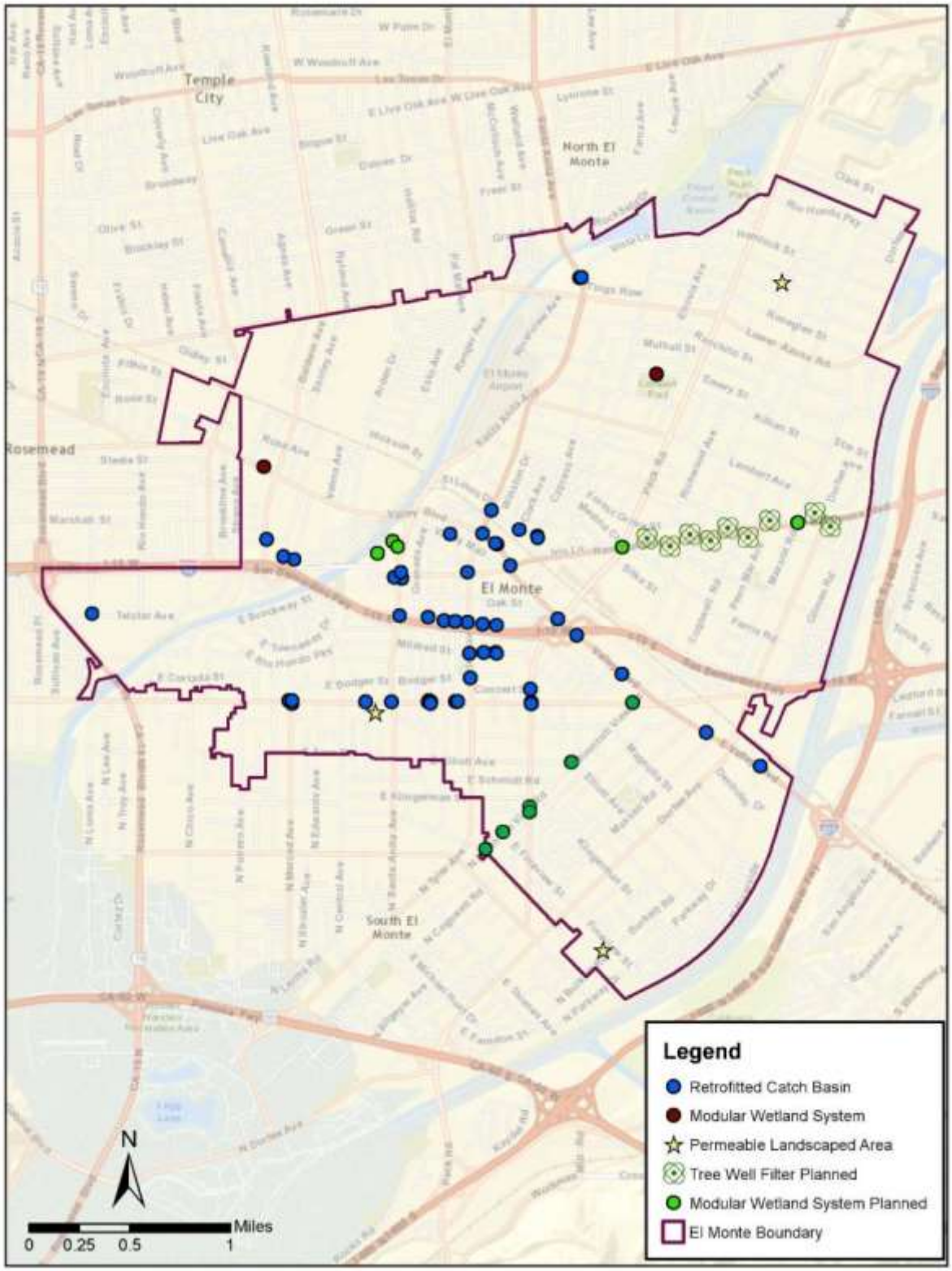
Peck Road Park Lake is located north of the City. Although Attachment K of the Order lists the City as a responsible party to the Peck Road Park Lake TMDLs, research does not identify any direct or indirect storm water discharge originating from the City to the lake. A review of LACFCD maps and City records plus a field investigation supports this conclusion. Discharges from a residential area west of the lake drain into a spillway into the Rio Hondo downstream of the lake. See Figure 1-6.

1.8.4 EXISTING AND PLANNED STRUCTURAL CONTROL MEASURES

There are approximately 300 catch basins in the City's jurisdiction. Of the 300, a total of 57 catch basins have been retrofitted to exclude trash and other debris. Filter Basket Inserts account for 20 of the

retrofitted catch basins and the remaining are Automatic Retractable Screens. Two Modular Wetland Systems have also been installed and three additional Modular Wetland Systems are planned for a housing and retail development currently being constructed. Permeable landscaped areas have been installed at three schools and two additional Modular Wetland Systems plus nine Tree Well Filters are planned for the Ramona Boulevard Improvement Project. The locations of the devices are shown on Figure 1-10.

Figure 1-10: Existing and Planned Control Measures



1.9. REASONABLE ASSURANCE ANALYSIS (RAA)

Permittees electing to develop a watershed management program (WMP) or enhanced watershed management program (EWMP) are required to submit a Reasonable Assurance Analysis (RAA) as part of their draft WMP to demonstrate that applicable water quality based effluent limitations and receiving water limitations shall be achieved through implementation of the watershed control measures proposed in WMP. The City will conduct a RAA for each Water Body pollutant combination (WBPC) addressed by its WMP. The RAA will be quantitative and performed using a peer-reviewed model in the public domain. The RAA will commence with assembly of all available, relevant subwatershed data collected within the last 10 years, including land use and pollutant loading data, establishment of QA/QC criteria, QA/QC checks of the data, and identification of the data set meeting the criteria for use in the analysis. Data shall only be drawn from peer-reviewed sources and statistically analyzed to determine the best estimate for the performance and confidence limits on that estimate for the pollutants to be evaluated. The Regional Board has prepared a guidance document to provide information and guidance to assist permittees in development of the RAA. The document provides clarification of the regulatory requirements of the RAA along with recommended criteria for the permittees to follow to prepare an appropriate RAA for Regional Board approval.

The objective of the RAA shall be to demonstrate the ability of the WMP to ensure that Permittees MS4 discharges achieve applicable WQBELS and do not cause or contribute to exceedances of RWLs.

1.9.1 MODELING REQUIREMENTS FOR RAA

The WMMS meets the model requirements of the Reasonable Assurance Guidelines and is appropriate for conducting the required RAA.

Model input files: the model input/output files will be uploaded with this WMP.

The City has chosen to use the Watershed Management Modeling System (WMMS) to support/demonstrate/conduct the RAA. The WMMS was developed by the Los Angeles County Flood Control District and the U.S. EPA. The WMMS meets the requirements of Section G. of the RAA Guidelines and is appropriate for conducting the required Reasonable Assurance Analysis. WMMS

modeled 38 subwatersheds within City's jurisdiction. GIS "intersect" methods were used to include those portions of subwatersheds within the City's jurisdiction.

This RAA (using WMMS) and the associated IMP uses the Los Angeles County's HUC-12 equivalent boundaries. The City has verified with neighboring groups and cities that there are no gaps in the geographic areas addressed in the RAA or IMP.

Calibration

Since the original development of the WMMS LSPC model, Los Angeles County personnel have independently updated the model with meteorological data through 2012. The calibration of WMMS was fully documented, and is consistent with methods used in LSPC modeling efforts previously performed by the EPA to support TMDL development (Tetra Tech 2010). There is limited or insufficient storm flow and water quality data currently available near El Monte to facilitate additional calibration of modeling parameters. This lack of data was confirmed by Los Angeles County Department of Public Works employees that were involved in the development of the WMMS model. As the City collects monitoring data from both outfall and receiving water monitoring, the collected data will be used to further calibrate the model as part of the Adaptive Management Process.

Rain Data

The RAA is based on recorded rainfall depth metrics obtained for historical wet season data, classified as October 1st to April 30th, for the years 1986 to 2012. This wet season time period is referred to in the RAA as a "Wet Year", and was utilized to represent the evaluated critical condition, allowing for the modeling to capture variability of rainfall storm depths. Recorded rainfall depths were obtained from LA County Department of Public Works Rain Gauge D108 data, located at El Monte Fire Station on Santa Anita Ave, between Valley Mall and Ramona Blvd. The wet year minimum, maximum and total annual rainfall depths are summarized in Table 1-8 below for only the last ten years of data, per the RAA Guidelines [1]). Based on the data from these last ten years, the 90th percentile rainfall value is 26.66 inches, which most closely corresponds to the 2004-2005 wet year. Therefore, the wet year for 2004-2005 was determined to be the representative year for the 90th percentile wet year.

Table 1-8: 90th Percentile Wet Year Selection

Wet Year Start	Wet Year End	Average Wet Year Rainfall (in/yr)	Minimum Size Storm Depth per Wet Year (in/event)	Maximum Size Storm Depth Per Wet Year (in/event)
2001	2002	19.47	0.01	1.8
2002	2003	9.09	0.01	1.11
2003	2004	9.09	0.01	1.11
2004	**2005**	**27.22**	**0.01**	**2**
2005	2006	12.86	0.01	1.9
2006	2007	4.07	0.01	1.84
2007	2008	14.44	0.04	0.72
2008	2009	11.01	0.04	0.51
2009	2010	28.04	0.04	0.51
2010	2011	21.3	0.03	0.51
	90th Percentile Year			

The WMMS model estimates sediment (TSS), Copper, Lead, Zinc, Total Nitrogen, Total Phosphorus, and fecal coliform. Cadmium and trash are not modeled by WMMS. Although Cadmium is not directly modeled by WMMS, the BMPs implemented to remove other heavy metals will remove Cadmium. Additionally, a review of Los Angeles County monitoring data for five sampling events during the 2002-2003 wet season showed no hits for dissolved or total Cadmium for the Rio Hondo Channel. Similarly for four sampling events during the 2003-2004 wet season and two sampling event in the dry season, again Cadmium was not detected in the Rio Hondo.

1.9.2 MODELED POLLUTANT LOADING, ALLOWABLE LIMITS, AND REQUIRED PERCENT REDUCTION

The modeled (estimated) pollutant loadings, allowable limit, and percent reduction required to meet effluent limits are shown in tables and graphs in the subsections below.

1.9.2.1 LA River and Tributaries Metals TMDL

Table 1-9: Formula used for Metals Effluent Limit Calculation from Order R4-2012-0175

Constituent	Effluent Limitation Daily Maximum (kg/day)
Cadmium	$WER^1 \times 2.8 \times 10^{-9} \times$ daily volume (L) – 1.8
Copper	$WER^1 \times 1.5 \times 10^{-8} \times$ daily volume (L) – 9.5
Lead	$WER^1 \times 5.6 \times 10^{-8} \times$ daily volume (L) – 3.85
Zinc	$WER^1 \times 1.4 \times 10^{-7} \times$ daily volume (L) – 83

Table 1-10: LA River Copper, Lead and Zinc

Wet Days*	Flow from Wardlow gauge (cf/sec)	L/day	Copper Daily Limit (kg/day)	Copper From Model	Percent Reduction Required	Lead Daily Limit (kg/day)	Lead From Model	Percent Reduction Required	Zinc Daily Limit (kg/day)	Zinc From Model	Percent Reduction Required
10/17/2004	1700	4,159,178,435	0.63	1.90	66.60%	2.75	1.54	N/A	5.99	19.03	68.5%
10/20/2004	12900	31,560,824,595	5.57	0.00	N/A	21.16	0.00	N/A	52.03	0.00	N/A
10/26/2004	2690	6,581,288,230	1.07	0.06	N/A	4.38	0.05	N/A	10.06	0.58	N/A
10/27/2004	4860	11,890,357,173	2.03	0.00	N/A	7.94	0.00	N/A	18.98	0.00	N/A
11/21/2004	910	2,226,383,751	0.29	0.00	N/A	1.45	0.00	N/A	2.74	0.00	N/A
12/5/2004	1020	2,495,507,061	0.34	0.00	N/A	1.63	0.00	N/A	3.20	0.00	N/A
12/27/2004	531	1,299,131,617	0.12	0.00	N/A	0.83	0.00	N/A	1.19	0.00	N/A
12/28/2004	16800	41,102,469,240	7.28	0.03	N/A	27.57	0.03	N/A	68.06	0.31	N/A
12/29/2004	12100	29,603,564,155	5.21	0.03	N/A	19.85	0.02	N/A	48.74	0.26	N/A
1/1/2005	602	1,472,838,481	0.15	0.02	N/A	0.94	0.02	N/A	1.48	0.24	N/A
1/2/2005	1150	2,813,561,883	0.39	0.00	N/A	1.84	0.00	N/A	3.73	0.02	N/A
1/3/2005	8950	21,896,851,173	3.83	0.00	N/A	14.67	0.00	N/A	35.79	0.00	N/A
1/4/2005	1290	3,156,082,460	0.45	0.00	N/A	2.07	0.00	N/A	4.31	0.02	N/A
1/6/2005	557	1,362,742,581	0.13	0.00	N/A	0.87	0.00	N/A	1.29	0.00	N/A
1/7/2005	7470	18,275,919,359	3.18	0.80	N/A	12.24	0.06	N/A	29.71	0.63	N/A
1/8/2005	10100	24,710,413,055	4.33	0.00	N/A	16.56	0.00	N/A	40.52	0.00	N/A
1/9/2005	44900	109,851,242,195	19.66	0.05	N/A	73.77	0.04	N/A	183.55	0.53	N/A
1/10/2005	41800	102,266,857,990	18.29	0.00	N/A	68.68	0.00	N/A	170.81	0.00	N/A
1/11/2005	31400	76,822,472,270	13.71	0.00	N/A	51.58	0.00	N/A	128.07	0.00	N/A
1/12/2005	10500	25,689,043,275	4.51	0.00	N/A	17.22	0.00	N/A	42.16	0.00	N/A
1/13/2005	6000	14,679,453,300	2.53	0.00	N/A	9.82	0.00	N/A	23.67	0.00	N/A
1/14/2005	4580	11,205,316,019	1.90	0.00	N/A	7.48	0.00	N/A	17.83	0.00	N/A
1/15/2005	2630	6,434,493,697	1.04	0.00	N/A	4.28	0.00	N/A	9.81	0.00	N/A

1/16/2005	2180	5,333,534,699	0.85	0.00	N/A	3.54	0.00	N/A	7.96	0.00	N/A
1/17/2005	1300	3,180,548,215	0.46	0.00	N/A	2.09	0.00	N/A	4.35	0.00	N/A
1/18/2005	927	2,267,975,535	0.29	0.00	N/A	1.48	0.00	N/A	2.81	0.00	N/A
1/19/2005	651	1,592,720,683	0.17	0.00	N/A	1.02	0.00	N/A	1.68	0.00	N/A
1/20/2005	562	1,374,975,459	0.13	0.00	N/A	0.88	0.00	N/A	1.31	0.00	N/A
1/22/2005	502	1,228,180,926	0.11	0.00	N/A	0.78	0.00	N/A	1.07	0.00	N/A
1/28/2005	1030	2,519,972,817	0.34	0.00	N/A	1.65	0.00	N/A	3.24	0.00	N/A
2/11/2005	9840	24,074,303,412	4.22	0.00	N/A	16.13	0.00	N/A	39.45	0.00	N/A
2/12/2005	3010	7,364,192,406	1.21	0.00	N/A	4.90	0.00	N/A	11.38	0.00	N/A
2/18/2005	5490	13,431,699,770	2.30	0.00	N/A	8.98	0.00	N/A	21.57	0.00	N/A
2/19/2005	23300	57,005,210,315	10.15	0.00	N/A	38.26	0.00	N/A	94.77	0.00	N/A
2/20/2005	18200	44,527,675,010	7.90	0.00	N/A	29.88	0.00	N/A	73.81	0.00	N/A
2/21/2005	38000	92,969,870,900	16.62	0.00	N/A	62.43	0.00	N/A	155.19	0.00	N/A
2/22/2005	18100	44,283,017,455	7.86	0.00	N/A	29.71	0.00	N/A	73.40	0.00	N/A
2/23/2005	12600	30,826,851,930	5.43	0.00	N/A	20.67	0.00	N/A	50.79	0.00	N/A
2/24/2005	5390	13,187,042,215	2.26	0.00	N/A	8.82	0.00	N/A	21.16	0.00	N/A
2/25/2005	3970	9,712,904,934	1.63	0.00	N/A	6.48	0.00	N/A	15.32	0.00	N/A
2/26/2005	2620	6,410,027,941	1.04	0.00	N/A	4.26	0.00	N/A	9.77	0.00	N/A
2/27/2005	2270	5,553,726,499	0.89	0.00	N/A	3.69	0.00	N/A	8.33	0.00	N/A
2/28/2005	1570	3,841,123,614	0.58	0.00	N/A	2.54	0.00	N/A	5.46	0.01	N/A
3/1/2005	649	1,587,827,532	0.17	0.00	N/A	1.02	0.00	N/A	1.67	0.00	N/A
3/2/2005	688	1,683,243,978	0.19	0.31	39.04%	1.08	0.26	N/A	1.83	3.05	39.9%
3/3/2005	945	2,312,013,895	0.30	0.01	N/A	1.51	0.01	N/A	2.89	0.06	N/A
3/4/2005	2270	5,553,726,499	0.89	0.00	N/A	3.69	0.00	N/A	8.33	0.00	N/A
3/5/2005	983	2,404,983,766	0.32	0.00	N/A	1.57	0.00	N/A	3.04	0.00	N/A
3/6/2005	910	2,226,383,751	0.29	0.00	N/A	1.45	0.00	N/A	2.74	0.00	N/A
3/7/2005	895	2,189,685,117	0.28	0.00	N/A	1.43	0.00	N/A	2.68	0.00	N/A
3/8/2005	935	2,287,548,139	0.30	0.00	N/A	1.49	0.00	N/A	2.85	0.00	N/A
3/9/2005	1040	2,544,438,572	0.34	0.00	N/A	1.66	0.00	N/A	3.28	0.00	N/A

3/10/2005	920	2,250,849,506	0.29	0.00	N/A	1.47	0.00	N/A	2.79	0.00	N/A
3/11/2005	574	1,404,334,366	0.14	0.00	N/A	0.90	0.00	N/A	1.36	0.00	N/A
3/12/2005	646	1,580,487,805	0.17	0.00	N/A	1.02	0.00	N/A	1.66	0.00	N/A
3/13/2005	652	1,595,167,259	0.17	0.00	N/A	1.03	0.00	N/A	1.68	0.00	N/A
3/14/2005	680	1,663,671,374	0.19	0.00	N/A	1.07	0.00	N/A	1.80	0.00	N/A
3/15/2005	811	1,984,172,771	0.24	0.00	N/A	1.29	0.00	N/A	2.34	0.00	N/A
3/16/2005	999	2,444,128,974	0.33	0.00	N/A	1.60	0.00	N/A	3.11	0.01	N/A
3/17/2005	869	2,126,074,153	0.27	0.00	N/A	1.38	0.00	N/A	2.58	0.00	N/A
3/18/2005	880	2,152,986,484	0.27	0.00	N/A	1.40	0.00	N/A	2.62	0.00	N/A
3/19/2005	1270	3,107,150,949	0.45	0.00	N/A	2.04	0.00	N/A	4.22	0.00	N/A
3/20/2005	1100	2,691,233,105	0.37	1.17	68.34%	1.76	0.95	N/A	3.53	11.70	69.9%
3/21/2005	596	1,458,159,028	0.15	0.00	N/A	0.93	0.00	N/A	1.45	0.00	N/A
3/22/2005	4880	11,939,288,684	2.04	0.00	N/A	7.98	0.00	N/A	19.06	0.00	N/A
3/23/2005	2340	5,724,986,787	0.92	0.00	N/A	3.80	0.00	N/A	8.62	0.00	N/A
4/28/2005	3760	9,199,124,068	1.54	0.00	N/A	6.14	0.00	N/A	14.46	0.00	N/A
5/6/2005	505	1,235,520,653	0.11	0.00	N/A	0.78	0.00	N/A	1.08	0.00	N/A
9/20/2005	540	1,321,150,797	0.12	0.00	N/A	0.84	0.00	N/A	1.22	0.00	N/A

*Wet weather is defined as any day when the maximum daily flow in the LA River is equal to or greater than 500 cfs measured at the Wardlow gauge station (Appendix O-5, R4-2012-0175)

Scatter plots for Copper and Zinc are shown in Figures 1-11 and 1-12, respectively.

Figure 1-11: Scatter Plot for LA River Copper

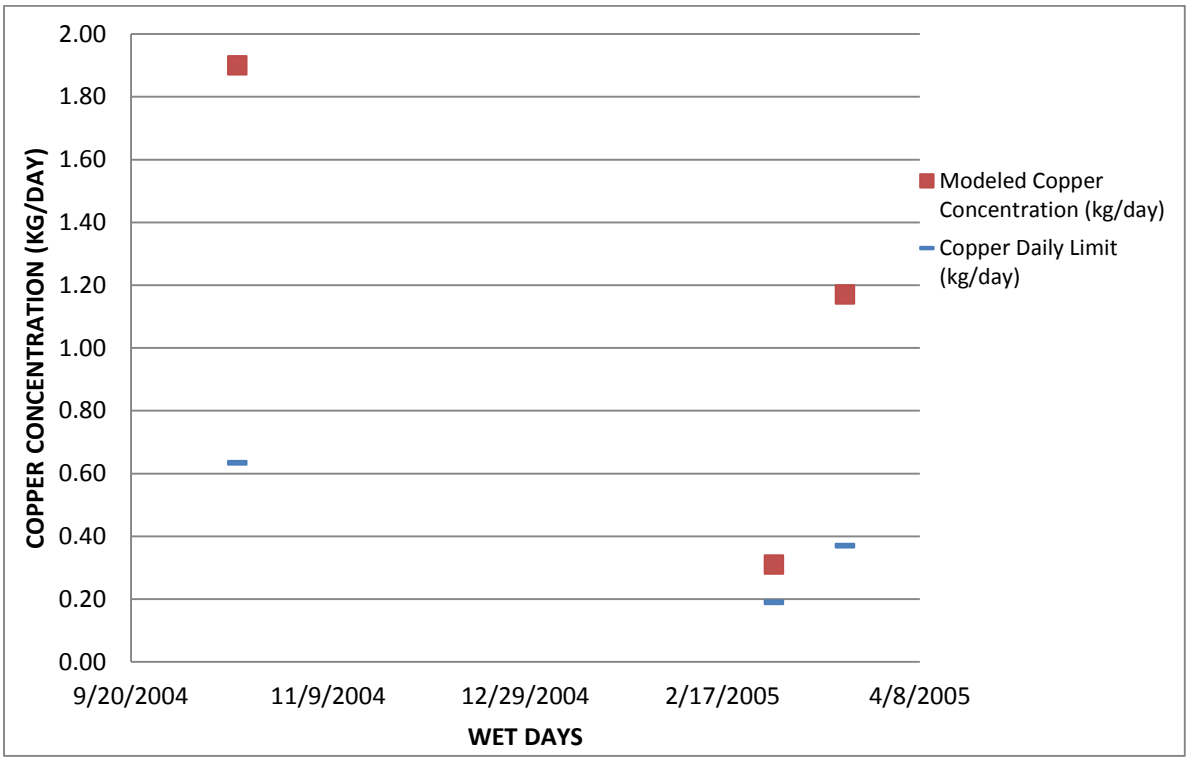
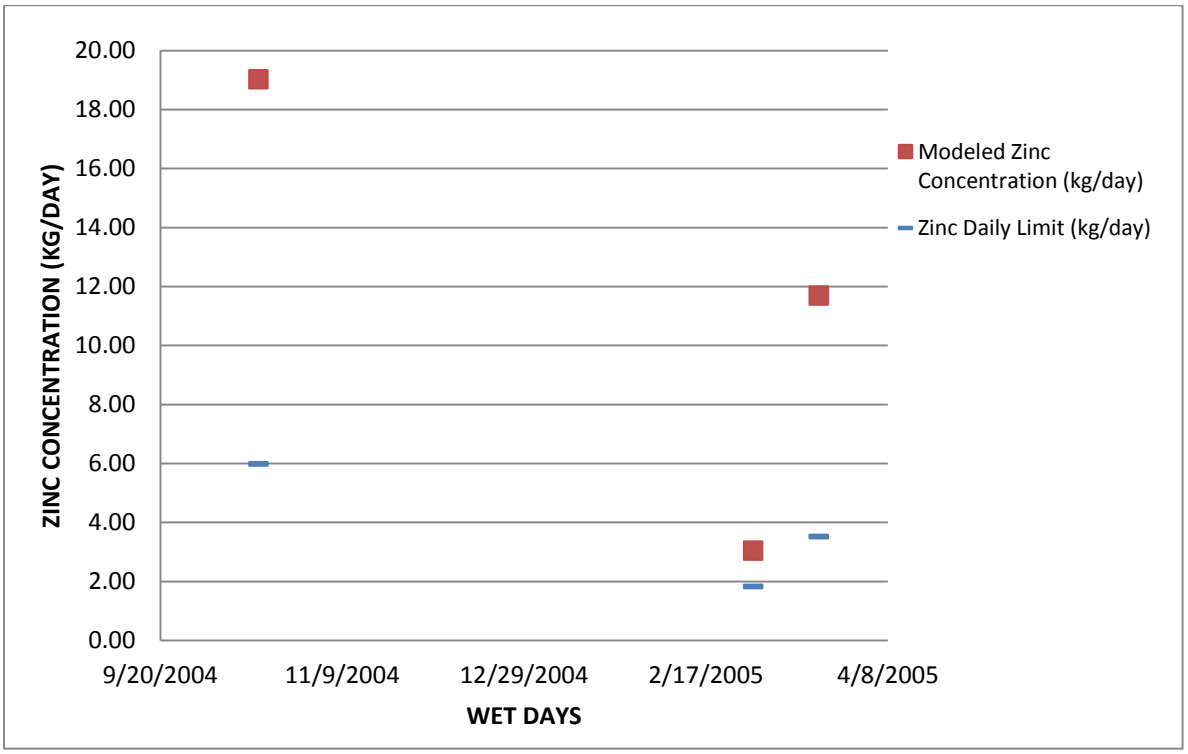


Figure 1-12: Scatter Plot for LA River Zinc



A 68% pollutant reduction is required for Copper and a 70% reduction is required for Zinc by January 11, 2028. To achieve these reductions, the City will implement a combination of nonstructural BMPs and structural BMPs including infiltration and/or flow-through BMPs to achieve a 45%-46% flow reduction. Figures 1-13 and 1-14 show the relationship between the required pollutant reduction and the associated flow reduction. The US EPA National Stormwater Calculator was used to estimate the necessary BMPs to achieve the required flow reduction (by infiltration). The City makes the following assumptions with regards to the proposed BMPs:

- Enhanced Street Sweeping: 3%
- Retrofit of Catch Basins with Full Capture Devices: 2%
- Low Impact Development Ordinance and Green Streets Policy Implementation: 1%

Using an estimated 6% reduction for the above listed nonstructural BMPs, the remaining pollutant reductions would be achieved by implementation of the structural BMPs as listed below.

- Installation of Porous Pavement (Porous Gutter/Porous sidewalk): 23% of the impervious area.
- Tree Well Filters, Biofilters, and Street Planter Infiltration areas (Permeable Landscaping): 9% of the impervious area.

Figure 1-15 illustrates that the structural BMPs would provide enough infiltration to achieve the required flow (runoff) reductions. The City will focus BMP implementation first on those subwatersheds with the highest density of Industrial /Commercial areas in order to reduce the largest amount of potential metals pollutants. To provide additional runoff reduction, the City will also encourage residents and business owners to install rain harvesting and infiltration BMPs (rain gardens, rain barrels, porous pavers, etc.) on their properties.

The City will evaluate if additional structural BMPs are needed based on the results of the monitoring conducted during implementation of the Integrated Monitoring Program (IMP).

The modeled Lead pollutant concentration was below the effluent limit.

Figure 1-13: LA River - Copper Reduction versus Flow Reduction

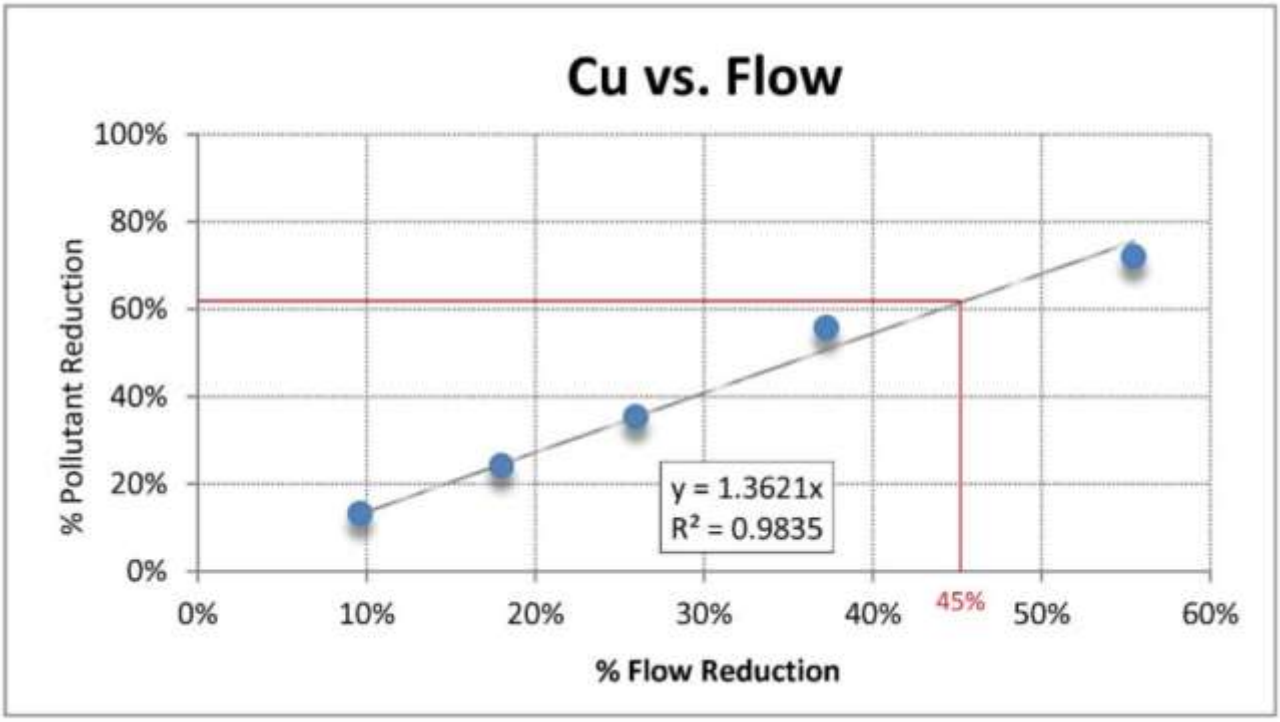


Figure 1-14: LA River - Zinc Reduction versus Flow Reduction

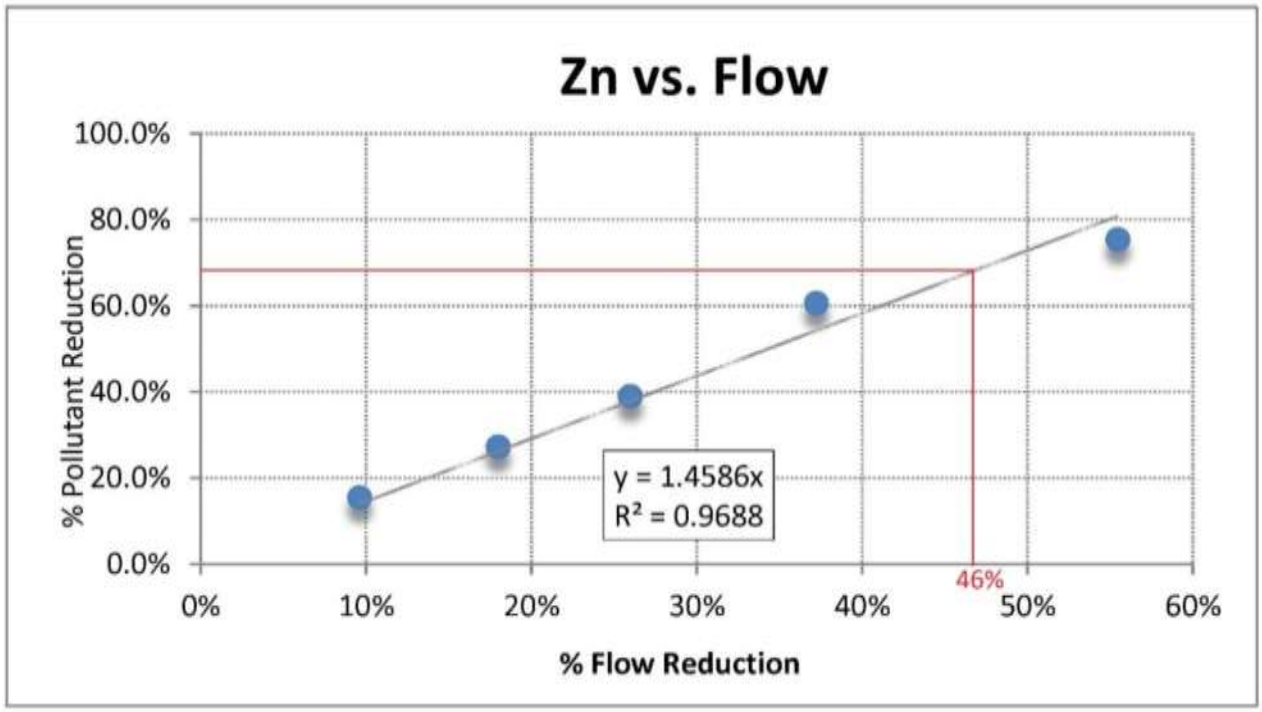


Figure 1-15: Copper and Zinc - National Stormwater Calculator Report for Subwatershed 6177 – LA River

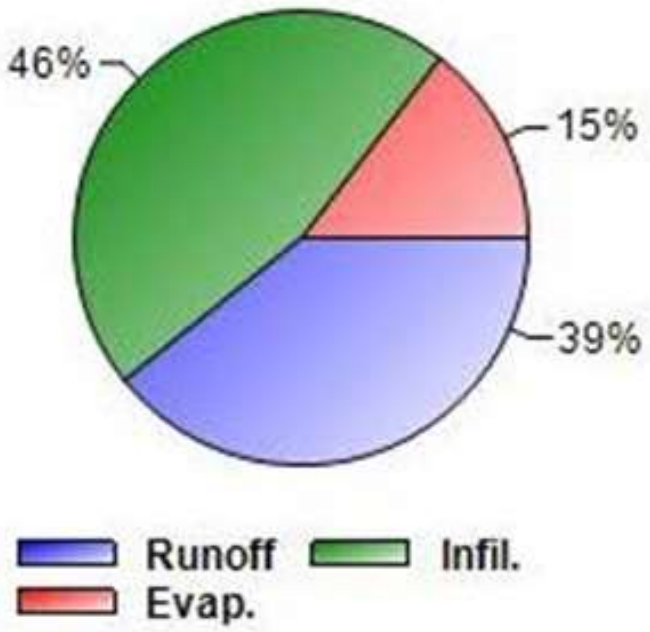
Parameter	Current Scenario	Baseline Scenario
Site Area (acres)	208.19	
Hydrologic Soil Group	C	
Hydraulic Conductivity (in/hr)	0.04	
Surface Slope (%)	5	
Precip. Data Source	WHITTIER NARROWS D...	
Evap. Data Source	MONTEBELLO	
Climate Change Scenario	Median/Near Term	
% Forest	0	
% Meadow	0	
% Lawn	14	
% Desert	0	
% Impervious	86	
Years Analyzed	20	
Ignore Consecutive Wet Days	False	
Wet Day Threshold (inches)	0.10	

LID Control	Current Scenario	Baseline Scenario
Disconnection	0	
Rain Harvesting	0	
Rain Gardens	0	
Green Roofs	0	
Street Planters	40 / 9	
Infiltration Basins	0	
Porous Pavement	35 / 23	

% of impervious area treated / % of treated area used for LID

Figure 1-15 cont.: Copper and Zinc - National Stormwater Calculator Report for subwatershed 6177 – LA River

Statistic	Current Scenario	Baseline Scenario
Average Annual Rainfall (inches)	14.92	
Average Annual Runoff (inches)	5.87	
Days per Year With Rainfall	21.39	
Days per Year with Runoff	10.29	
Percent of Wet Days Retained	51.87	
Smallest Rainfall w/ Runoff (inches)	0.16	
Largest Rainfall w/o Runoff (inches)	0.54	
Max. Rainfall Retained (inches)	1.53	



1.9.2.2 LA River Nitrogen Compounds and Related Effects TMDL

Table 1-11: Nitrogen Compounds Effluent Limits from Order R4-2012-0175

Water Body	NH_3-N (mg/L)		NO_3-N (mg/L)	NO_2-N (mg/L)	NO_3-N+NO_2-N (mg/L)
	One-hour Average	Thirty-day Average	Thirty-day Average	Thirty-day Average	Thirty-day Average
Los Angeles River above Los Angeles-Glendale WRP (LAG)	4.7	1.6	8.0	1.0	8.0
Los Angeles River below LAG	8.7	2.4	8.0	1.0	8.0
Los Angeles Tributaries	10.1	2.3	8.0	1.0	8.0

Table 1-12: LA River Nitrogen Compounds

Subwatershed	Month	Nitrogen Concentration (mg/l)	Effluent Limit (mg/l)	Reduction Required
6177	10/31/2004	0.44	8.00	N/A
6177	11/30/2004	0.20	8.00	N/A
6177	12/31/2004	0.58	8.00	N/A
6177	1/31/2005	0.81	8.00	N/A
6177	2/28/2005	0.37	8.00	N/A
6177	3/31/2005	0.44	8.00	N/A
6177	4/30/2005	0.13	8.00	N/A
6177	5/31/2005	0.13	8.00	N/A
6177	6/30/2005	0.00	8.00	N/A
6177	7/31/2005	0.00	8.00	N/A
6177	8/31/2005	0.00	8.00	N/A
6177	9/30/2005	0.19	8.00	N/A

All modeled Nitrogen concentrations were below the effluent limit therefore no pollutant reduction was required.

1.9.2.3 LA River Watershed Bacteria TMDL

The table below includes the modeled concentrations for fecal coliform.

Table 1-13: LA River Bacteria

Wet Days*	Modeled Fecal coliform Concentration(#/100ml)	Fecal coliform Limit (#/100ml)	Percent Reduction Required
10/17/2004	12,400	400	96.8%
10/20/2004	93	400	N/A
10/26/2004	12,200	400	96.7%
10/27/2004	764	400	47.6%
11/21/2004	0	400	N/A
12/5/2004	10,900	400	96.3%
12/27/2004	12,100	400	96.7%
12/28/2004	11,900	400	96.6%
12/29/2004	12,300	400	96.7%
1/1/2005	10,800	400	96.3%
1/2/2005	9,380	400	95.7%
1/3/2005	731	400	45.3%
1/4/2005	10,200	400	96.1%
1/6/2005	11,800	400	96.6%
1/7/2005	11,800	400	96.6%
1/8/2005	11,600	400	96.6%
1/9/2005	11,400	400	96.5%
1/10/2005	1,360	400	70.6%
1/11/2005	1,130	400	64.6%
1/12/2005	916	400	56.3%
1/13/2005	724	400	44.8%
1/14/2005	564	400	29.1%
1/15/2005	430	400	7.0%
1/16/2005	320	400	N/A
1/17/2005	231	400	N/A
1/18/2005	162	400	N/A
1/19/2005	112	400	N/A
1/20/2005	75	400	N/A
1/22/2005	32	400	N/A
1/28/2005	38	400	N/A
2/11/2005	176	400	N/A
2/12/2005	131	400	N/A

2/18/2005	120	400	N/A
2/19/2005	84	400	N/A
2/20/2005	64	400	N/A
2/21/2005	33	400	N/A
2/22/2005	25	400	N/A
2/23/2005	13	400	N/A
2/24/2005	9	400	N/A
2/25/2005	6	400	N/A
2/26/2005	5	400	N/A
2/27/2005	3	400	N/A
2/28/2005	11,900	400	96.6%
3/1/2005	10,500	400	96.2%
3/2/2005	12,400	400	96.8%
3/3/2005	11,600	400	96.6%
3/4/2005	113	400	N/A
3/5/2005	82	400	N/A
3/6/2005	56	400	N/A
3/7/2005	38	400	N/A
3/8/2005	27	400	N/A
3/9/2005	18	400	N/A
3/10/2005	12	400	N/A
3/11/2005	8	400	N/A
3/12/2005	6	400	N/A
3/13/2005	3	400	N/A
3/14/2005	0	400	N/A
3/15/2005	0	400	N/A
3/16/2005	12,000	400	96.7%
3/17/2005	0	400	N/A
3/18/2005	0	400	N/A
3/19/2005	0	400	N/A
3/20/2005	12,400	400	96.8%
3/21/2005	12,100	400	96.7%
3/22/2005	9,330	400	95.7%
3/23/2005	260	400	N/A
4/28/2005	11	400	N/A
5/6/2005	38	400	N/A
9/20/2005	0	400	N/A

*Utilized fecal coliform as surrogate pollutant for E. coli in all modeling performed.

The present reductions needed to meet the fecal coliform limit range between 7% and 97%. To reduce bacteria concentrations, the City proposes to create curb cuts to existing and planned landscaped areas

and retrofit street side parking areas with permeable pavement and other infiltration features. The City has joined a group of cities to have a Load Reduction Strategy (LRS) prepared to address the dry weather portion of the LA River Bacteria TMDL.

1.9.2.4 Legg Lake Nutrients TMDLs

Table 1-14: Annual mass-based allocations from Order R4-2012-0175

Subwatershed	Permittee	Flow (ac-ft/yr)	Total Phosphorus (lb-P/yr)	Total Nitrogen (lb-N/yr)
Northwestern	County of Los Angeles	33.5	53.6	148.7
Northwestern	South El Monte	308	526.3	1,500.6
Northeastern	El Monte	122	226.6	590.3
Northeastern	County of Los Angeles	8.18	12.8	39.2
Northeastern	South El Monte	287	498.7	1,394.8

Table 1-15: Legg Lake Modeled Nutrients Reduction Required

Subwatershed ID	Pollutants	Modeled (lb/yr)	Limits (lb/yr)	Percent Reduction
6133	Nitrogen	678.4	590.3	13%
	Phosphorous	594.7	226.6	62%

Table 1-16: Legg Lake - Nutrient Flow, Volume & Loading

Sub-water-shed ID	Land Use	Total Phos-phorus	lb/yr	Nitrogen	lb/yr	Flow	in-acre/yr
6133	HD_SF_RESIDENTIAL	PO_TP	61.24	PO_TN	64.45	SURO	142.20
6133	LD_SF_RES_MODERATE	PO_TP	0.00	PO_TN	0.00	SURO	0.00
6133	LD_SF_RES_STEEP	PO_TP	0.00	PO_TN	0.00	SURO	0.00
6133	MF_RES	PO_TP	524.81	PO_TN	552.36	SURO	1218.72
6133	COMMERCIAL	PO_TP	170.46	PO_TN	113.63	SURO	250.72
6133	INSTITUTIONAL	PO_TP	53.89	PO_TN	85.51	SURO	188.68
6133	INDUSTRIAL	PO_TP	1.13	PO_TN	1.79	SURO	3.95
6133	TRANSPORTATION	PO_TP	0.00	PO_TN	0.00	SURO	0.00
6133	SECONDARY_ROADS	PO_TP	101.29	PO_TN	202.51	SURO	446.83
6133	URBAN_GRASS_IRRIGATED	PO_TP	25.55	PO_TN	47.32	SURO	59.67
6133	URBAN_GRASS_NONIRRIGATED	PO_TP	4.01	PO_TN	7.43	SURO	9.00
6133	AGRICULTURE_MODERATE_B	PO_TP	0.00	PO_TN	0.00	SURO	0.00
6133	AGRICULTURE_MODERATE_D	PO_TP	0.00	PO_TN	0.00	SURO	0.00
6133	VACANT _MODERATE_B	PO_TP	0.00	PO_TN	0.00	SURO	0.00
6133	VACANT _MODERATE_D	PO_TP	0.00	PO_TN	0.00	SURO	0.00
6133	VACANT_STEEP_A	PO_TP	0.00	PO_TN	0.00	SURO	0.00
6133	VACANT_STEEP_B	PO_TP	0.00	PO_TN	0.00	SURO	0.00
6133	VACANT_STEEP_C	PO_TP	0.00	PO_TN	0.00	SURO	0.00
6133	VACANT_STEEP_D	PO_TP	0.00	PO_TN	0.00	SURO	0.00
6133	WATER	PO_TP	0.00	PO_TN	0.00	SURO	0.00
6133	WATER_REUSE	PO_TP	0.00	PO_TN	0.00	SURO	0.00
Totals			942.37		1075.00		2319.77
Flow in ac-ft/yr							193.31
Volume in L/yr							238,449,261.2

A 13% reduction is required for Total Nitrogen and a 62% reduction is required for Total Phosphorus. To achieve this, the City will implement a combination of nonstructural BMPs and infiltration and/or flow-through BMPs to achieve a 7%-44% flow reduction. Figures 1-16 and 1-17 show the relationship between the required pollutant reduction and the associated flow reduction. The US EPA National

Stormwater Calculator was used to estimate the necessary BMPs to achieve the required flow reduction (by infiltration). The City makes the following assumptions with regards to the proposed BMPs:

- Enhanced Street Sweeping: 2%
- Retrofit of Catch Basins with Full Capture Devices: 1%
- Low Impact Development Ordinance and Green Streets Policy Implementation: 1%

Using an estimated 4% reduction for the above listed nonstructural BMPs, the remaining pollutant reduction would be achieved by implementation of the structural BMPs as listed below.

- Installation of Porous Pavement (Porous Gutter/Porous sidewalk) : 22%
- Tree Well Filters, Biofilters, and Street Planter Infiltration areas (Permeable Landscaping): 8%
- Modular Wetland Systems: 1%

Figure 1-18 illustrates that the structural BMPs would provide enough infiltration to achieve the required flow reductions. The City will focus BMP implementation in the Industrial/Commercial area along Mountain View Road and then in the surrounding mixed commercial/residential areas. To provide additional runoff reduction, the City will also encourage residents and business owners to install rain harvesting and infiltration BMPs (rain gardens, rain barrels, porous pavers, etc.) on their properties.

The City will evaluate if additional structural BMPs are needed based on the results of the monitoring conducted during implementation of the Integrated Monitoring Program (IMP).

Figure 1-16: Legg Lake – Total Nitrogen Reduction versus Flow Reduction

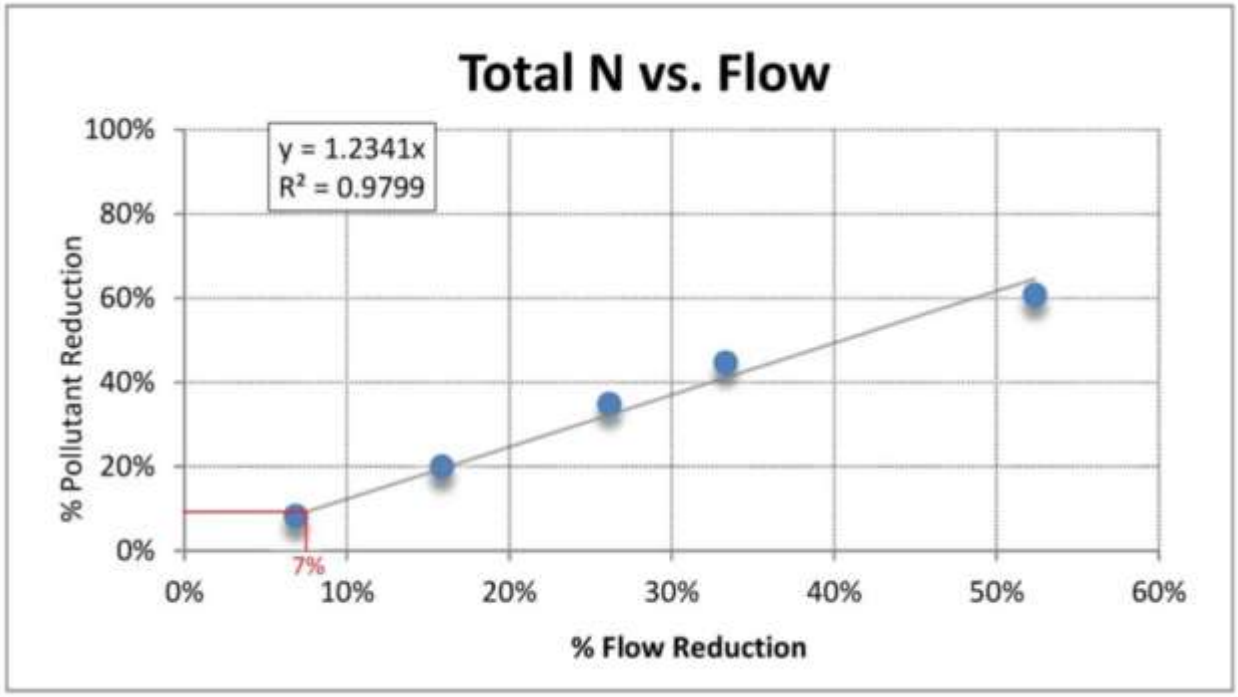


Figure 1-17: Legg Lake – Total Phosphorus Reduction versus Flow Reduction

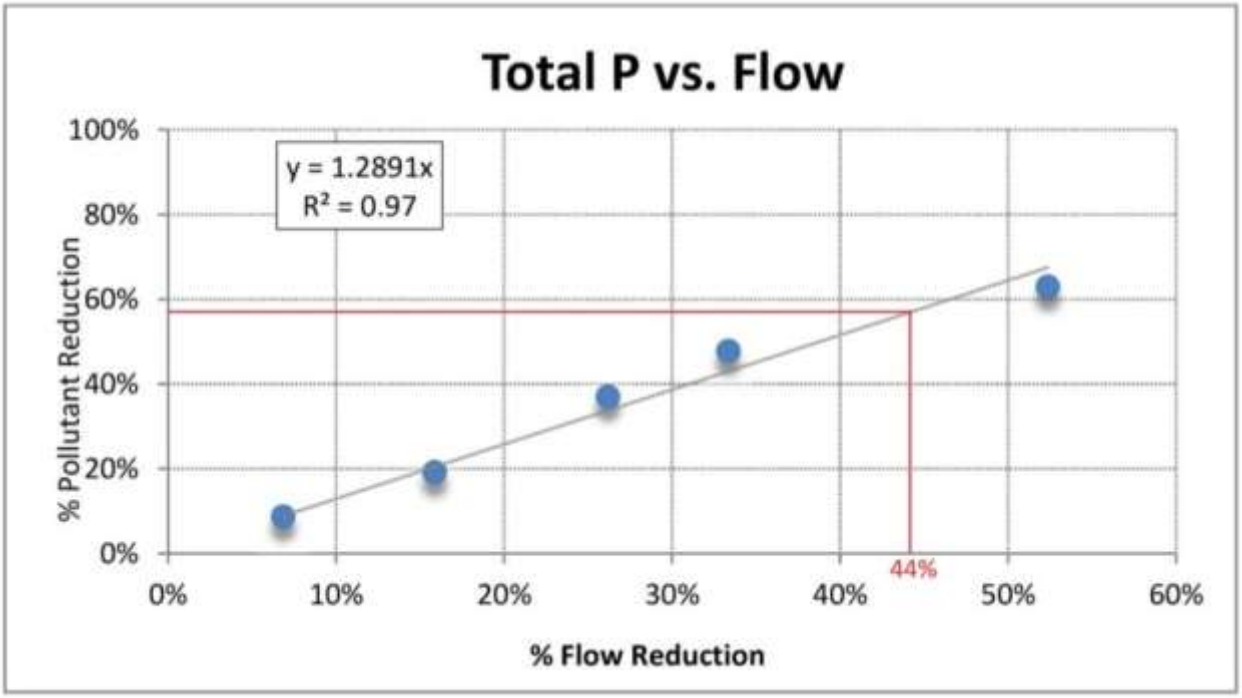


Figure 1-18: Total N and P - National Stormwater Calculator Report for subwatershed 6133 – Legg Lake

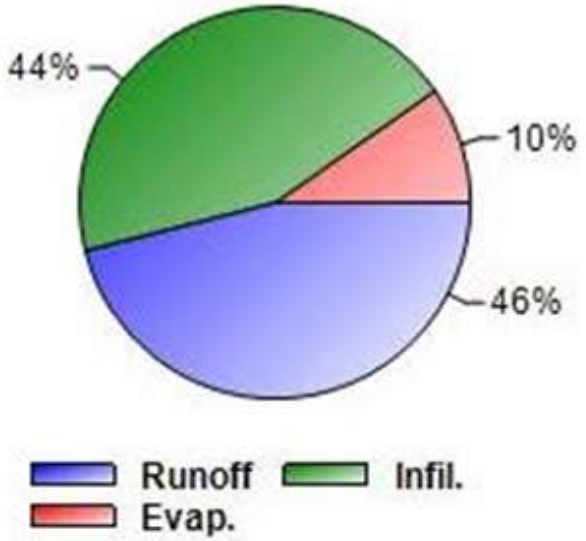
Parameter	Current Scenario	Baseline Scenario
Site Area (acres)	129.58	
Hydrologic Soil Group	C	
Hydraulic Conductivity (in/hr)	0.08	
Surface Slope (%)	5	
Precip. Data Source	WHITTIER NARROWS D...	
Evap. Data Source	MONTEBELLO	
Climate Change Scenario	Median/Near Term	
% Forest	0	
% Meadow	0	
% Lawn	25	
% Desert	0	
% Impervious	75	
Years Analyzed	20	
Ignore Consecutive Wet Days	False	
Wet Day Threshold (inches)	0.10	

LID Control	Current Scenario	Baseline Scenario
Disconnection	0	
Rain Harvesting	0	
Rain Gardens	0	
Green Roofs	0	
Street Planters	28 / 8	
Infiltration Basins	0	
Porous Pavement	19 / 22	

% of impervious area treated / % of treated area used for LID

Percent Reduction Required 1-18 cont.: Total N and P - National Stormwater Calculator Report for Subwatershed 6133 – Legg Lake

Statistic	Current Scenario	Baseline Scenario
Average Annual Rainfall (inches)	14.92	
Average Annual Runoff (inches)	6.88	
Days per Year With Rainfall	21.39	
Days per Year with Runoff	14.04	
Percent of Wet Days Retained	34.35	
Smallest Rainfall w/ Runoff (inches)	0.16	
Largest Rainfall w/o Runoff (inches)	0.33	
Max. Rainfall Retained (inches)	1.38	



1.9.2.5 San Gabriel River and Impaired Tributaries Metals and Selenium TMDLs

Table 1-17: Waste Load Allocation from Order R4-2012-0175

Water Body	WLA Daily Maximum (kg/day)		
	Copper	Lead	Zinc
San Gabriel Reach 2	---	81.34 µg/L x daily storm volume (L)	---
Coyote Creek	24.71 µg/L x daily storm volume (L)	96.99 µg/L x daily storm volume (L)	144.57 µg/L x daily storm volume (L)

Table 1-18: San Gabriel River Lead

Wet Days*	USGS Station 11085000 (cf/s)	L/Day	Lead Daily Limit (kg/day)	Lead from model (kg/day)	Percent Reduction Required
1/8/2005	2,940	7,192,932,117	5.32	0.03	N/A
1/9/2005	10,900	26,667,673,495	19.74	0.01	N/A
1/10/2005	14,700	35,964,660,585	26.62	0.00	N/A
1/23/2005	635	1,553,575,474	1.15	0.00	N/A
1/24/2005	617	1,509,537,114	1.12	0.00	N/A
1/26/2005	610	1,492,411,086	1.10	0.00	N/A
2/10/2005	618	1,511,983,690	1.12	0.07	N/A
2/11/2005	608	1,487,517,934	1.10	0.00	N/A
2/12/2005	848	2,074,696,066	1.54	0.00	N/A
2/16/2005	609	1,489,964,510	1.10	0.00	N/A
2/18/2005	746	1,825,145,360	1.35	0.00	N/A
2/19/2005	1,980	4,844,219,589	3.59	0.00	N/A
3/2/2005	270	660,575,399	0.49	0.00	N/A
3/3/2005	351	858,748,018	0.64	0.00	N/A
3/4/2005	339	829,389,111	0.61	0.00	N/A

*In SGR Reach 2, wet weather TMDLs apply when the maximum daily flow of the river is equal to or greater than 260 cfs as measure at USGS station 11085000. (Appendix P-1, R4-2012-0175)

All modeled Lead concentrations were below the daily limit therefore no pollutant reduction was required.

1.9.2.6 San Gabriel River, Estuary and Tributaries Indicator Bacteria TMDL (Pending[7])

The table below includes the modeled concentrations for fecal coliform.

Table 1-19: San Gabriel River Bacteria

Wet Days**	Modeled Fecal coliform Concentration(#/100ml)*	Fecal coliform Limit (MNP/100ml)	Percent Reduction Required
1/8/2005	5,850	400	93.2%
1/9/2005	5,830	400	93.1%
1/10/2005	5,500	400	92.7%
1/23/2005	1,260	400	68.3%
1/24/2005	150	400	NA
1/26/2005	791	400	49.4%
2/10/2005	6,800	400	94.1%
2/11/2005	6,050	400	93.4%
2/12/2005	4,730	400	91.5%
2/16/2005	672	400	40.5%
2/18/2005	6,280	400	93.6%
2/19/2005	5,660	400	92.9%
3/2/2005	652	400	38.7%
3/3/2005	3,980	400	89.9%
3/4/2005	2,110	400	81.0%

*Utilized fecal coliform as surrogate pollutant for E. coli in all modeling performed.

**In SGR Reach 2, wet weather TMDLs apply when the maximum daily flow of the river is equal to or greater than 260 cfs as measure at USGS station 11085000. (Appendix P-1, R4-2012-0175)

The present reductions needed to meet the fecal coliform limit range between 41% and 94%. To reduce bacteria concentrations, the City proposes to create curb cuts to existing and planned landscaped areas and retrofit street side parking areas with permeable pavement and other infiltration features.

[7] Pending Basin Plan Amendment Approval.

1.9.3 POLLUTANT REDUCTION PLAN

Compliance Determination

- Compliance points are located at the compliance points required in the TMDLs that are within the area covered by the WMP.

- Compliance points for MS4 discharges from the area covered by the WMP to the Receiving Waters of the Los Angeles River (via the Rio Hondo) and the San Gabriel River will be at the outfall(s) (or immediately upstream of the outfalls if safety concerns preclude sampling at the outfalls.

- The compliance point for the Legg Lake system of lakes will be the last catch basin (manhole) on Mountain View Road nearest the City's southernmost jurisdictional boundary. This point corresponds to a point on the single storm drain line from the City to the North Lake at the City's jurisdictional boundary.

- The compliance point for the Peck Road Park Lake has not been fully determined at this point. A review of City and LACFCD records show no direct discharge from the City to the lake. LACFCD maps show catch basins within the residential area discharging to the concrete spillway downstream of the lake. Subwatershed 6301 also does not appear to have a direct connection to the lake.

1.9.4 TMDL SUMMARY AND ACTION REQUIRED

Table 1-20: TMDL Summary and Action Required

TMDL	Water Body	Action Required
Los Angeles River Watershed Trash TMDL	LA River	Retrofit catch basins with trash excluders for zero trash by Sept. 30, 2016
Los Angeles River Nitrogen Compounds and Related Effects TMDL	LA River	None; Modeled concentration below limit
Los Angeles River and Tributaries Metals TMDL	LA River	Install BMPs to achieve required percent reduction
Los Angeles River Watershed Bacteria TMDL	LA River	Wet – Implement/install BMPs to address pollutant
		Dry – Develop Load Reduction Strategy for Bacteria by March 23, 2016
Los Angeles Area Lakes TMDL (Peck Road Park Lake)	Peck Road Park Lake	None; no discharge to lake
Legg Lake Trash TMDL	LA River	Retrofit catch basins with trash excluders for zero trash by March 6, 2016
Los Angeles Area Lakes TMDL (Legg Lake Nutrients)	Legg Lake	Retrofit catch basins with BMPs to remove nutrients to comply with WLAs
Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants TMDL	LA River	Collaborate with Lower Los Angeles River Watershed Group on TMDL monitoring (yearly)
Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants TMDL	San Gabriel River	Collaborate with Lower San Gabriel River Watershed Management Group on TMDL monitoring (yearly)
San Gabriel River and Impaired Tributaries Metals and Selenium TMDL	San Gabriel River	Install BMPs to achieve required percent reduction
San Gabriel River Bacteria TMDL (Pending)	San Gabriel River	Implement/install BMPs to address pollutant

1.10. COMPLIANCE AND BMP IMPLEMENTATION SCHEDULES

The City will implement the following BMPs per the schedules shown in order to be in compliance with TMDLs in the Los Angeles River, Legg Lake and San Gabriel River.

Table 1-21: Los Angeles River Trash TMDL BMP Implementation Schedule

Subwatershed ID	Area (ac)	Approx. Catch Basins*	Existing Retrofitted Catch Basins	Planned Catch Basin Retrofits	BMP Type	Schedule	
6178	778.6	101	30	71	ARS**	30 retrofitted by 2015	41 retrofitted by 2016
6267	655.8	70	0	70	ARS	35 retrofitted by 2015	35 retrofitted by 2016
6266	579.7	50	11	39	ARS	20 retrofitted by 2015	19 retrofitted by 2016
6300	397.1	40	0	40	ARS	20 retrofitted by 2015	20 retrofitted by 2016
6216	231.4	25	0	25	ARS	12 retrofitted by 2015	13 retrofitted by 2016

*Catch basins that City of El Monte is responsible for.

**ARS: Automatic Retractable Screen.

Table 1-22: Legg Lake Trash and Nutrients TMDL BMP Implementation Schedule

Subwatershed ID	Drainage Area (ac)	Predominant Land Use	Pollutant of Concern	BMP Type	Schedule**	
6133 (Legg Lake)	129.6	Commercial/High Density Residential	Nutrients & Trash	MWS*	80% of drainage area by March 6, 2015	100% of drainage area by March 6, 2016

*MWS: Modular Wetland System or additional equivalent BMPs

**Schedule from Legg Lake Trash TMDL

Table 1-23: Bacteria TMDL Milestones for Los Angeles River

TMDL	Constituent	Compliance Goal	Dry/ Wet	Compliance Milestone	
				Phase 1	Phase 2
LA River Bacteria	Fecal Coliform	Meet WQBELs	Dry	Submit LRS for Segment B tributary by March 23, 2016.	Submit New LRS by September 23, 2024.
				Complete Implementation of LRS by March 23, 2020.	Complete Implementation of LRS by March 23, 2028.
				Achieve interim (or final) WQBELs and submit report to Regional Water Board by Sept. 23, 2023.	Achieve final WQBELs or demonstrate that non-compliance is due to upstream contributions and submit report to Regional Water Board by March 23, 2030.
			Wet	Meet WQBELs by March 23, 2037.	

Table 1-24: TMDL Milestones for Los Angeles River

TMDL	Constituents	Compliance Goal	Dry/Wet	Compliance Milestone					
				2012	2020	2024	2028	2032	2037
LAR Nutrients	Nitrogen Compounds	Meet WQBELs	All	Final Pre2012					
LAR Metals	Copper, Lead, Zinc, Cadmium	% of MS4 Area/Meet WQBELs	Wet	25%		50%	100%		
				1/11		1/11	1/11		
	Copper, Lead	% of MS4 Area/Meet WQBELs	Dry	50%	75%	100%			
				1/11	1/11	1/11			
Dominguez Channel/Harbor Toxics	DDTs, PCBs, Copper, Lead, Zinc, PAHs	Meet WQBELs	All	Interim				Final	
				12/28				3/23	

Table 1-25: Interim and Final WQBELs for Metals for LA River

Deadline	Total Drainage Area Served by the MS4 required to meet the water quality-based effluent limitations
	Wet Weather
January 11, 2020	25%
January 11, 2024	50%
January 11, 2028	100%

Table 1-26: TMDL Milestones for San Gabriel River

TMDL	Constituents	Compliance Goal	Dry/ Wet	Compliance Milestone					
				2012	2013	2014	2015	2016	2032
SGR Metals	Lead	Meet WQBELs	Wet						
Dominguez Channel/Harbor Toxics	DDTs, PCBs, Copper, Lead, Zinc, PAHs	Meet WQBELs	All	Interim 12/28					Final 3/23

Table 1-27: TMDL Milestones for San Gabriel River Metals

Date	Dry/Wet	To Achieve WLAs Requirement (Resolution No. R13-004)
September 30, 2017	Dry	30% of total drainage area to SGR is effectively meeting WLAs.
	Wet	10% of total drainage area to SGR is effectively meeting WLAs.
September 30, 2020	Dry	70% of total drainage area to SGR is effectively meeting WLAs.
	Wet	35% of total drainage area to SGR is effectively meeting WLAs.
September 30, 2023	Dry	100% of total drainage area to SGR is effectively meeting WLAs.
	Wet	60% of total drainage area to SGR is effectively meeting WLAs.
September 30, 2026	All	100% of total drainage area to SGR is effectively meeting WLAs.

1.11. STAKEHOLDER INVOLVEMENT

The City is committed to identifying and involving stakeholders in the development and implementation of the Watershed Management Program. The City has and continues to inform and seek input from stakeholders and incorporate that feedback throughout the development and implementation of the Watershed Management Programs. The City has posted water quality information on the City website. The Watershed Management Program and Monitoring and Reporting Program was also explained to the City Council and public with a formal presentation during the open session portion of a council meeting.

City representatives attended all scheduled Technical Advisor Meetings (TAC) meetings and have sought Regional Board staff input regarding the review of the City's draft LID Ordinance and Green Streets Policy.

Stakeholders associated with the City of El Monte WMP are:

- Amigos de Rios
- San Gabriel Valley Conservation Corps
- City departments that may be involved with portions of WMP implentation (plus LID, GS)
    - Public Works:
        - Engineering
        - Environmental Services
        - Building
        - PW Maintenance
        - Transportation
    - Economic Development:
        - Planning
        - Neighborhood Services
    - Parks & Recreation

1.11.1 CITY AND STAKEHOLDER PROJECTS IN PROGRESS

The City, in partnership with the San Gabriel Valley Conservation Corps (SGVCC), is completing a project in Lambert Park. The name of the project is the Rio Hondo/San Gabriel River Watershed Enhancement Project/ Lambert Park. The project is being funded by Proposition 84 funding obtained by the SGVCC for

watershed rehabilitation projects. The project will convert a portion of the park's impervious area into a woodland garden and a watershed garden, both of which will allow for infiltration of stormwater runoff. Other City/SGVCC partnership projects that have promoted soil conservation and watershed improvements include:

- City of El Monte, CA – Tree Planting – Maintenance Services
- Madrid Middle School, El Monte, CA.- Tree Planting
- Cogswell Elementary, El Monte, CA School Garden & Tree Planting
- Emerald Necklace, El Monte, CA – Tree Planting & Erosion Control
- Baldwin Mini Park, El Monte, CA – Beautifications Projects
- Centennial Liberty Garden, El Monte, CA – Tree Planting and Shrubs Planting

Rio Hondo/San Gabriel River Watershed Enhancement Project at Lambert Park

Porous pavers and tree well at Lambert Park

Mulched infiltration swale at Lambert Park

Mulched infiltration swale at Lambert Park

The City has provided every citizen and business with a DVD of information entitled “Green Street Scene” to further inform residents and businesses regarding water use and water quality. Active stakeholder groups around and within El Monte that work with the City to improve water quality through education and the modification of areas within the City (parks, trails, etc.) in order to promote storm water infiltration, capture, and re-use.

“Green Street Scene” DVD provided to citizens

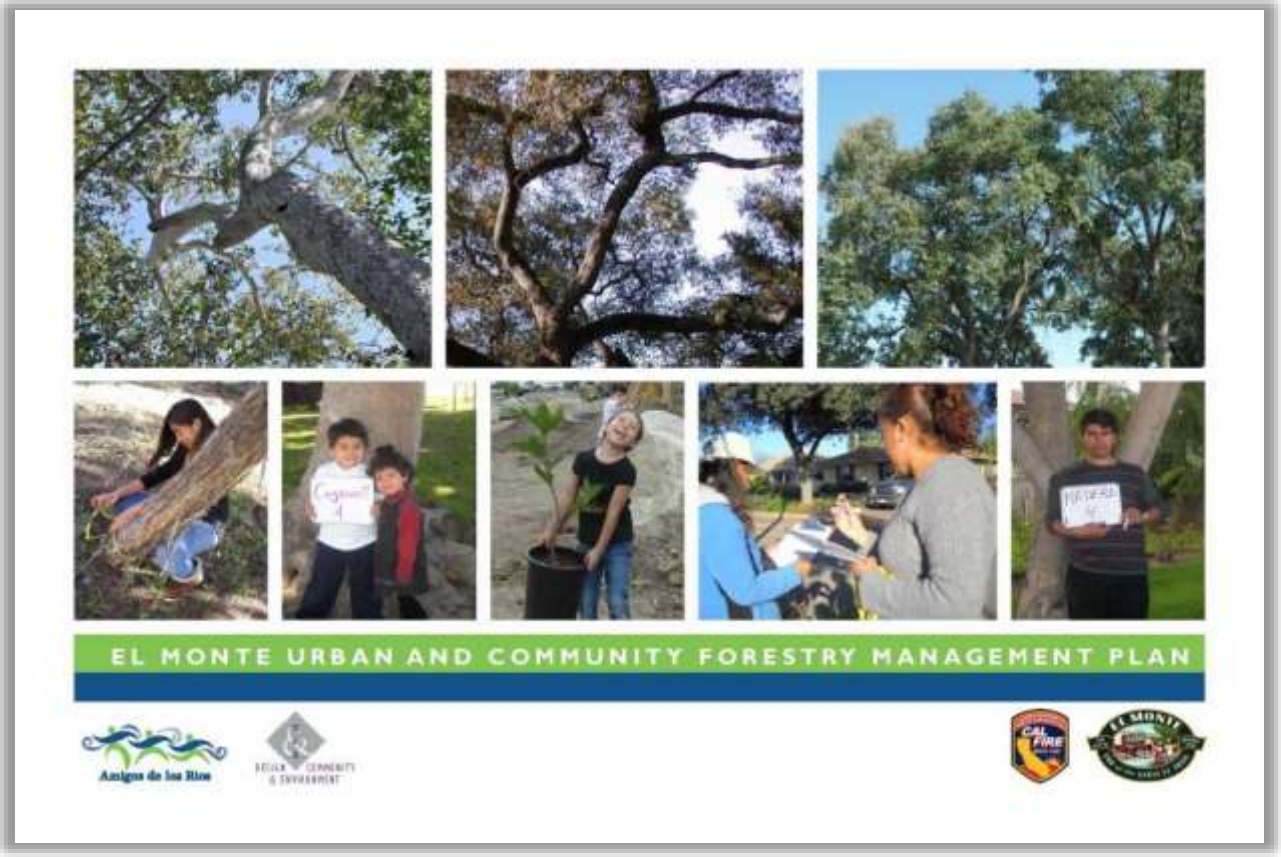
1.11.2 CITY AND RESIDENTS WORK TOGETHER TO RECYLE AND ILIMINATE POLLUTION

The City promotes cleaner water by providing free oil drain containers to all City residents as well as free paper shredding/recycling and free electronic waste collection during the 2014 Earth Day celebration at Arceo Park in El Monte. The City is dedicated to informing their citizens, municipal staff, and developers of the importance or water quality as evidenced by the City's continued distribution of educational materials at community activities and special events.

City of El Monte Environmental Program at Arceo Park

The City also has active and dedicated Public Works and Economic Development Departments as evidenced by their Urban and Community Forestry Management Plan Manual.

City of El Monte Urban and Community Forestry Management Plan Manual



Both Departments use the manual to promote the following benefits:

- Connection with Nature – Support Habitat. Trees provide shelter and food for birds and other small animals. A varied tree population supports a wide diversity of animals. In addition to being beneficial on a regional and global level, local habitat diversity creates a dynamic, educational, and enjoyable environment for humans.

- Improved Public Health. Nearly all of the benefits provided by trees contribute to health. While clean air and water directly benefit physical health, the provision of shade and aesthetically pleasing streets encourages walking and physical activity. Research has also demonstrated that trees and other vegetation soothe nerves, helping to accelerate healing processes and reduce

behavioral problems in children.

- Improved Air Quality. Trees can play several roles in improving air quality. The most direct way that trees help to improve air quality is by absorbing and filtering air pollutants. In addition, trees reduce air pollution by creating cool microclimates and by reducing the demand for air conditioning in buildings. When trees shade buildings and reduce the need for air conditioning, they also indirectly improve air quality. Air pollution increases with higher temperatures, so maintaining cool microclimates can actually improve air quality.

- Stormwater Management. Trees improve the quality of stormwater by reducing the amount of stormwater runoff that enters storm drains. The leaves of a tree capture rain and other precipitation. This slows the rate of rainfall, reduces runoff volume, and increases water infiltration directly into the soil, which filters the water. Roots and duff (fallen leaf layer on top of the soil) hold soil in place during storm events and allow more time for water to infiltrate into the soil[8].

[8] Source: El Monte Urban and Community Forestry Management Plan Manual, 2010.

SECTION 2 - IMPLEMENTATION

The City will begin implementing the WMP immediately upon approval of the plan by the Regional Water Board or the Executive Officer. It is understood that the City may request an extension of deadlines for achievement of interim milestones only.

As the City was preparing its WMP and IMP, the following items were completed or in progress:

- The LID Ordinance was reviewed by Board staff and adopted by the City on June 10, 2014
- The Greens Streets Policy was reviewed by Board staff and implemented on June 10,2014
- The MCMs were reviewed and modifications were considered
- The City attended the Catch Basin Retrofit Workshop hosted by LACDPW
- The Development Tracking Program was implemented
- The list of Industrial Commercial facilities for inspection was determined and inspections began

SECTION 3 - INTEGRATED WATERSHED MONITORING AND ASSESSMENT

The City has developed an Integrated Monitoring Program (IMP) as set forth in Part IV of the MRP (Attachment E of Order R4-2012-0175). The IMP assesses progress toward achieving the WQBELs and/or RWLs per the compliance schedules and progress toward addressing the water quality priorities of each WMA. The IMP will be subject to approval by the Executive Officer following a public comment period. To increase the cost effectiveness and efficiency of the monitoring program, the City of El Monte has collaborated with several groups on Receiving Water and TMDL monitoring. The IMP includes and addresses the following monitoring program elements:

- Receiving Water Monitoring
- Storm Water Outfall Monitoring
- Non-storm Water Outfall Monitoring
- New Development/Redevelopment Effectiveness Tracking
- Regional Studies

Please refer to the IMP for the details of the Monitoring and Reporting Program (MRP) (as an accompanying document) submitted with this Watershed Management Program.

SECTION 4 - ADAPTIVE MANAGEMENT PROCESS

4.1. WMP ADAPTIVE MANAGEMENT ELEMENTS

Every two years, from the date of program approval, the City of El Monte will implement an adaptive management process for each WMA, adapting the WMP to become more effective, based on, but not limited to the following:

- Progress toward achieving interim and/or final WQBELs and/or RWLs;
- Progress toward achieving improved water quality in MS4 discharges and achieving RWLs through implementation of the watershed control measures based on an elevation of outfall-based monitoring and RW monitoring data;

- Achievement of interim milestones;
- Re-evaluation of the water quality priorities identified for the WMA based on more recent water quality data for discharges from the MS4 and the RWs and a reassessment of sources of pollutants in MS4 discharges;

- Availability of new information and data from sources other than the City's monitoring program(s) within the WMAs that forms the effectiveness of the actions implemented by the City;

- Regional Board recommendations; and
- Recommendations for modifications to the Watershed Management Program solicited through a public participation process.

4.2. MODIFICATIONS MADE TO IMPROVE WMP

Based on results of the adaptive management process, the City will report any modification, including where appropriate new compliance deadlines and interim milestones (with the exception of those compliance deadlines established in a TMDL, necessary to improve the effectiveness of the WMP in the Annual Report (as required by the MRP and as part of the ROWD required pursuant to Part II.B of Attachment D).

The adaptive management process fulfills the requirements of Part V.A.4 to address continuing exceedances of RWLs.

4.3. SCHEDULE FOR IMPLEMENTATION MODIFICATIONS

The City will implement any modifications to the WMP upon approval by the Regional Board or within 60 days of submittal (if no objections from the Regional Board).

SECTION 5 - REFERENCES

GUIDELINES FOR CONDUCTING REASONABLE ASSURANCE ANALYSIS IN A WATERSHED MANAGEMENT PROGRAM, INCLUDING AN ENHANCED WATERSHED MANAGEMENT PROGRAM, Prepared by Thanhloan Nguyen, Dr. C. P. Lai, Ivar Ridgeway, Dr. Jun Zhu, Los Angeles Regional Water Quality Control Board, March 25, 2014.

Los Angeles County Department of Public Works (LACDPW) Annual Storm Water Monitoring Reports, 2008-2009, 2009-2010, 2010-2011, 2011-2012, 2012-2013, 2013-2014

Los Angeles County Stormwater Monitoring Reports (Tributary Monitoring), 2002-2003, 2003-2004

Los Angeles Area Lakes TMDLs, U.S. EPA, March 2012

Tetra Tech 2010. Los Angeles County Watershed Model Configuration and Calibration—Part II: Water Quality. Prepared for Los Angeles County Department of Public Works

Total Maximum Daily Loads for Metals and Selenium, San Gabriel River and Impaired Tributaries, U.S. EPA, March 2007

Total Maximum Daily Loads for Metals, Los Angeles River and Tributaries, June 2, 2005

Trash Total Maximum Daily Load for Legg Lake, California Regional Water Quality Control Board, Los Angeles Region, July 11, 2007

Trash Total Maximum Daily Loads for Los Angeles River, California Regional Water Quality Control Board, Los Angeles Region, July 27, 2007

California Environmental Data Exchange Network (CEDEN)

www.idcide.com/**weather/ca/el-monte**.htm) - City of El Monte, CA Weather

2010 303(d) listing website

Water Quality Policy for Developing California's Clean Water Act Section 303(d) List, State of California State Water Resources Control Board, September, 2004

http://dpw.lacounty.gov/wmd/wmms/ - LA County Department of Public Works BMP Selection Tool

http://water.epa.gov/infrastructure/greeninfrastructure/gi_modelingtools.cfm- EPA National Stormwater Calculator

APPENDIX A

LID Ordinance

Green Streets Policy

Legal Authority Letter

APPENDIX B

Chain of Custody Records and laboratory reports from outfall monitoring

APPENDIX A

LID Ordinance

Green Streets Policy

Legal Authority Letter

STATE OF CALIFORNIA)
COUNTY OF LOS ANGELES) SS
CITY OF EL MONTE)

I, M. Helen Mireles, Chief Deputy City Clerk, do hereby certify this to be a true and correct copy of City Council Agenda Item No. 13.3, Urgency Ordinance No. 2840, An Urgency Ordinance of the El Monte City Council Amending Section 13.20 Storm water and Urban Runoff Pollution Control to Expand the Applicability of the Existing Section 13.20.150 – Post Construction Pollution Reduction Requirements by Imposing Low Impact Development (LID) Strategies on Projects that Require Building Permits and/or Encroachment Permits. Approved and adopted at the regular agenda meeting, of the City of El Monte, held on Tuesday, June 10, 2014.

M. Helen Mireles, Chief Deputy City Clerk
El Monte California

URGENCY ORDINANCE NO. 2840

AN URGENCY ORDINANCE OF THE EL MONTE CITY COUNCIL AMENDING SECTION 13.20 STORMWATER AND URBAN RUNOFF POLLUTION CONTROL TO EXPAND THE APPLICABILITY OF THE EXISTING SECTION 13.20.150 – POST-CONSTRUCTION POLLUTION REDUCTION REQUIREMENTS BY IMPOSING LOW IMPACT DEVELOPMENT (LID) STRATEGIES ON PROJECTS THAT REQUIRE BUILDING PERMITS AND/OR ENCROACHMENT PERMITS

WHEREAS, The City of El Monte ("City") is authorized by Article XI, §5 and §7 of the State of California Constitution to exercise the police power of the State by adopting regulations to promote public health, public safety and general prosperity; and

WHEREAS, The City has authority under the California Water Code to adopt and enforce ordinances imposing conditions, restrictions and limitations with respect to any activity which might degrade the State's water quality; and

WHEREAS, The City is a permittee under the "Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles County, Except those Discharges Originating from the City of Long Beach MS4," issued by the California Regional Water Quality Control Board--Los Angeles Region," (Order No. R4-2012-0175) which also serves as an NPDES Permit under the Federal Clean Water Act (NPDES No. CAS004001), as well as Waste Discharge Requirements under California law (the "Municipal NPDES permit"). In order to participate in a Watershed Management Program and/or Enhanced Watershed Management Program, the Municipal NPDES permit requires permittees to develop and implement a LID Ordinance; and

WHEREAS, The City has applied an integrated approach to incorporate wastewater, stormwater runoff, and recycled water management into a single strategy through its Integrated Resources Plan; and

WHEREAS, The City is committed to a stormwater management program that protects water quality and water supply by employing watershed-based approaches that balance environmental, social, conservation, and economic considerations; and

WHEREAS, Urbanization has led to increased impervious surface areas resulting in increased water runoff causing the transport of pollutants to downstream receiving waters; and

WHEREAS, The City needs to take an alternate approach to managing rainwater and urban runoff while mitigating the undesirable impacts of development and urbanization; and

WHEREAS, LID is widely recognized as a sensible approach to managing the quantity and quality of stormwater and non-stormwater runoff. It sets standards and practices that maintain, improve or restore the natural hydrological contours of the site, reduce runoff, improve water quality, and provide groundwater recharge; and

WHEREAS, It is the intent of the City to replace the existing Standard Urban Stormwater Mitigation Plan (SUSMP) requirements by providing stormwater and rainwater LID strategies for Development and Redevelopment projects as defined under "Applicability." Where there are conflicts between this Ordinance and previously adopted SUSMP or LID Manuals, the standards in this Ordinance shall prevail.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF EL MONTE DOES FIND AND ORDAIN AS FOLLOWS:

SECTION 1. The facts set forth in the recitals above are true and correct and are incorporated by reference as though fully set forth herein.

SECTION 2. Section 13.20 Stormwater and Urban Runoff Pollution Control of the El Monte Municipal Code ("EMMC") to expand the applicability of the existing Section 13.20.150 is modified in its entirety to read per Exhibit "**A**":

SECTION 3. Inconsistent Provisions. Any provision of the El Monte Municipal Code or appendices thereto that conflicts with the provisions of this Ordinance, to the extent of such conflict and no further, is hereby repealed or modified to the extent necessary to affect the provisions of this Ordinance.

SECTION 4. Severability. If any section, subsection, subdivision, paragraph, sentence, clause or phrase of this Ordinance, or any part thereof is for any reason held to be invalid or unconstitutional by a decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this Ordinance or any part thereof. The City Council hereby declares that it would have passed each section, subsection, subdivision, paragraph, sentence, clause or phrase thereof, irrespective of the fact that any one or more section, subsection, subdivision, paragraph, sentence, clause or phrase would be subsequently declared invalid or unconstitutional.

SECTION 5. Publication. The Mayor shall sign and the City Clerk shall attest to the passage of this Ordinance. The City Clerk shall cause the same to be published once in the official newspaper within fifteen (15) days after its adoption. This Ordinance shall become effective thirty (30) days after adoption.

PASSED, APPROVED AND ADOPTED by the City Council of the City of El Monte at the regular meeting of this 10 day of June, 2014.

Andre Quintero, Mayor

ATTEST:

Jonathan Hawes, City Clerk

STATE OF CALIFORNIA)
COUNTY OF LOS ANGELES) SS:
CITY OF EL MONTE)

I, Jonathan Hawes, City Clerk of the City of EL Monte, hereby certify that the foregoing Ordinance No. 2840 was passed and adopted by the City Council of the City of El Monte, signed by the Mayor and attested by the City Clerk at a regular meeting of said Council held on the 10 day of June, 2014 and that said Resolution was adopted by the following vote, to-wit:

AYES: Mayor Quintero, Mayor Pro Tem Patel, Councilmembers Gomez, Macias and Martinez

NOES: None

ABSTAIN: None

ABSENT: None

Jonathan Hawes

Jonathan Hawes, City Clerk

EXHIBIT A

EXHIBIT A

Low Impact Development Ordinance

Urgency ORDINANCE NO. 2840

An ordinance amending MUNICIPAL CODE Chapter 13.20 of the City of El Monte Municipal Code to expand the applicability of the existing Stormwater and Urban Runoff Pollution Control Section 13.20.150 – Post-Construction Pollution reduction requirements by imposing Low Impact Development (LID) strategies on projects that require building permits and/or encroachment permits.

Findings.

A. The City of El Monte ("City") is authorized by Article XI, §5 and §7 of the State of California Constitution to exercise the police power of the State by adopting regulations to promote public health, public safety and general prosperity.

B. The City has authority under the California Water Code to adopt and enforce ordinances imposing conditions, restrictions and limitations with respect to any activity which might degrade the State's water quality.

C. The City is a permittee under the "Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles County, Except those Discharges Originating from the City of Long Beach MS4," issued by the California Regional Water Quality Control Board--Los Angeles Region." (Order No. R4-2012-0175) which also serves as an NPDES Permit under the Federal Clean Water Act (NPDES No. CAS004001), as well as Waste Discharge Requirements under California law (the "Municipal NPDES permit"). In order to participate in a Watershed Management Program and/or Enhanced Watershed Management Program, the Municipal NPDES permit requires permittees to develop and implement a LID Ordinance consistent with the Planning and Land Development Program requirements contained within the Permit.

D. The City has applied an integrated approach to incorporate wastewater, stormwater runoff, and recycled water management into a single strategy through its Integrated Resources Plan.

E. The City is committed to a stormwater management program that protects water quality and water supply by employing watershed-based approaches that balance environmental, social, conservation, and economic considerations.

F. Urbanization has led to increased impervious surface areas resulting in increased water runoff causing the transport of pollutants to downstream receiving waters.

G. The City needs to take an alternate approach to managing rainwater and urban runoff while mitigating the undesirable impacts of development and urbanization.

H. LID is widely recognized as a sensible approach to managing the quantity and quality of stormwater and non-stormwater runoff. It sets standards and practices that maintain, improve or restore the natural hydrological contours of the site, reduce runoff, improve water quality, and provide groundwater recharge.

Municipal Code Chapter 13.20 of the City of El Monte Municipal Code is amended in its entirety to read as follows:

13.20.010 Definitions.

Except as specifically provided herein, any term used in this Section13.20 shall be defined as that term in the current Municipal NPDES permit, or if it is not specifically defined in either the Municipal NPDES permit, then as such term is defined in the Federal Clean Water Act, as amended, and/or the regulations promulgated thereunder. If the definition of any term contained in this chapter conflicts with the definition of the same term in the current Municipal NPDES permit in effect at the City at the time of development application, then the definition contained in the Municipal NPDES permit shall govern. The following words and phrases shall have the following meanings when used in this chapter:

Automotive Service Facility means a facility that is categorized in any one of the following Standard Industrial Classification (SIC) and North American Industry Classification System (NAICS) codes. For inspection purposes, City need not inspect facilities with SIC codes 5013, 5014, 5541, 5511, provided that these facilities have no outside activities or materials that may be exposed to stormwater.

Basin Plan means the Water Quality Control Plan, Los Angeles Region Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties, adopted by the Regional Water Board on June 13, 1994 and subsequent amendments.

Best Management Practice (BMP) means practices or physical devices or systems designed to prevent or reduce pollutant loading from stormwater or non-stormwater discharges to receiving waters, or designed to reduce the volume of stormwater or non-stormwater discharged to the receiving water.

Biofiltration means a LID BMP that reduces stormwater pollutant discharges by intercepting rainfall on vegetative canopy, and through incidental infiltration and/or evapotranspiration, and filtration. Therefore, the term "biofiltration" as used in this Ordinance is defined to include only systems designed to facilitate incidental infiltration or achieve the equivalent pollutant reduction as biofiltration BMPs with an underdrain (subject to approval by the Regional Board's Executive Officer). Biofiltration BMPs include bioretention systems with an underdrain and bioswales.

Bioretention means a LID BMP that reduces stormwater runoff by intercepting rainfall on vegetative canopy, and through evapotranspiration and infiltration. The bioretention system typically includes a minimum 2-foot top layer of a specified soil and compost mixture underlain by a gravel-filled temporary storage pit dug into the in-situ soil. As defined in the Municipal NPDES permit, a bioretention BMP may be designed with an overflow drain, but may not include an underdrain. When a bioretention BMP is designed or constructed with an underdrain it is regulated by the Municipal NPDES permit as biofiltration.

Bioswale means a LID BMP consisting of a shallow channel lined with grass or other dense, low-growing vegetation. Bioswales are designed to collect stormwater runoff and to achieve a uniform sheet flow through the dense vegetation for a period of several minutes.

City means the City of El Monte.

Clean Water Act (CWA) means the Federal Water Pollution Control Act enacted in 1972, by Public Law 92-500, and amended by the Water Quality Act of 1987. The Clean Water Act prohibits the discharge of pollutants to Waters of the United States unless the discharge is in accordance with an NPDES permit.

Commercial Malls means any development on private land comprised of one or more buildings forming a complex of stores which sells various merchandise, with interconnecting walkways enabling visitors to easily walk from store to store, along with parking area(s). A commercial mall includes, but is not limited to: mini-malls, strip malls, other retail complexes, and enclosed shopping malls or shopping centers.

Construction Activity means any construction or demolition activity, clearing, grading, grubbing, or excavation or any other activity that results in land disturbance. Construction activity also covers any activity that requires coverage under the State General Construction Permit by the State of California General Permit for Storm Water Discharges Associated with Industrial Activities or for Stormwater Discharges Associated with Construction Activities.

Control means to minimize, reduce or eliminate by technological, legal, contractual, or other means, the discharge of pollutants from an activity or activities.

Development means construction, rehabilitation, redevelopment or reconstruction of any public or private residential project (whether single-family, multi-unit or planned unit development); industrial, commercial, retail, and other non-residential projects, including public agency projects; or mass grading for future construction. It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility, nor does it include emergency construction activities required to immediately protect public health and safety.

Directly Adjacent means situated within 200 feet of the contiguous zone required for the continued maintenance, function, and structural stability of the environmentally sensitive area.

Discharge means any release, spill, leak, pump, flow, escape, dumping, or disposal of any liquid, semi-solid, or solid substance.

Disturbed Area means an area that is altered as a result of clearing, grading, and/or excavation.

Flow-through BMPs means modular, vault type "high flow biotreatment" devices contained within an impervious vault with an underdrain or designed with an impervious liner and an underdrain.

General Construction Activities Storm Water Permit (GCASP) means the general NPDES permit adopted by the State Board which authorizes the discharge of stormwater from construction activities under certain conditions.

General Industrial Activities Storm Water Permit (GIASP) means the general NPDES permit adopted by the State Board which authorizes the discharge of stormwater from certain industrial activities under certain conditions.

Green Roof means a LID BMP using planter boxes and vegetation to intercept rainfall on the roof surface. Rainfall is intercepted by vegetation leaves and through evapotranspiration. Green roofs may be designed as either a bioretention BMP or as a biofiltration BMP. To receive credit as a bioretention BMP, the green roof system planting medium shall be of sufficient depth to provide capacity within the pore space volume to contain the design storm depth and may not be designed or constructed with an underdrain.

Hazardous Material(s) means any material(s) defined as hazardous by Division 20, Chapter 6.95 of the California Health and Safety Code.

Hillside means a property located in an area with known erosive soil conditions, where the development contemplates grading on any natural slope that is 25% or greater and where grading contemplates cut or fill slopes.

Hydromodification means the alteration of the hydrologic characteristics of coastal and non- coastal waters, which in turn could cause degradation of water resources. Hydromodification can cause excessive erosion and/or sedimentation rates, causing excessive turbidity, channel aggradation and/or degradation. (Source: GCASP)

Impervious Surface means any man-made or modified surface that prevents or significantly reduces the entry of water into the underlying soil, resulting in runoff from the surface in greater quantities and/or at an increased rate, when compared to natural conditions prior to development. Examples of places that commonly exhibit impervious surfaces include parking lots, driveways, roadways, storage areas, and rooftops.

Industrial Park means land development that is set aside for industrial development. Industrial parks are usually located close to transport facilities, especially where more than one transport modalities coincide: highways, railroads, airports, and navigable rivers. It includes office parks, which have offices and light industry.

Infiltration BMP means a LID BMP that reduces stormwater runoff by capturing and infiltrating the runoff into in-situ soils or amended onsite soils. Examples of infiltration BMPs include infiltration basins, dry wells, and pervious pavement.

LID means Low Impact Development. LID consists of building and landscape features designed to retain or filter stormwater runoff.

MS4 means Municipal Separate Storm Sewer System (MS4). The MS4 is a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains):

i. Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States;

ii. Designed or used for collecting or conveying stormwater;

iii. Which is not a combined sewer; and

iv. Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR§122.2.(40 CFR § 122.26(b)(8))

National Pollutant Discharge Elimination System (NPDES) means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under CWA §307, 402, 318, and 405. The term includes an "approved program".

Natural Drainage System means a drainage system that has not been improved (e.g., channelized or armored). The clearing or dredging of a natural drainage system does not cause the system to be classified as an improved drainage system.

New Development means land disturbing activities; structural development, including construction or installation of a building or structure, creation of impervious surfaces; and land subdivision.

Non-Stormwater Discharge means any discharge to a municipal storm drain system that is not composed entirely of stormwater.

Parking Lot means land area or facility for the parking or storage of motor vehicles used for businesses, commerce, industry, or personal use, with a lot size of 5,000 square feet or more of surface area, or with 25 or more parking spaces.

Person means any individual, partnership, co-partnership, firm, company, corporation, association, joint stock company, trust, state, governmental entity or any other legal entity, or their legal representatives, agents or assigns. The masculine gender shall include the feminine and the singular shall include the plural where indicated by the context.

Planning Priority Projects means development projects subject to City conditioning and approval for the design and implementation of post-construction controls to mitigate stormwater pollution, prior to completion of the project.

Pollutant means any "pollutant" defined in Section 502(6) of the Federal Clean Water Act or incorporated into the California Water Code Sec. 13373. Pollutants may include, but are not limited to the following:

(1) Commercial and industrial waste (such as fuels, solvents, detergents, plastic pellets, hazardous substances, fertilizers, pesticides, slag, ash, and sludge).

(2) Metals (such as cadmium, lead, zinc, copper, silver, nickel, chromium, and non- metals such as phosphorus and arsenic).

(3) Petroleum hydrocarbons (such as fuels, lubricants, surfactants, waste oils, solvents, coolants, and grease).

(4) Excessive eroded soil, sediment, and particulate materials in amounts that may adversely affect the beneficial use of the receiving waters, flora, or fauna of the State.

(5) Animal wastes (such as discharge from confinement facilities, kennels, pens, recreational facilities, stables, and show facilities).

(6) Substances having characteristics such as pH less than 6 or greater than 9, or unusual coloration or turbidity, or excessive levels of fecal coliform, or fecal streptococcus, or enterococcus.

Project means all development, redevelopment, and land disturbing activities. The term is not limited to "Project" as defined under CEQA (Pub. Resources Code §21065).

Rainfall Harvest and Use means a LID BMP system designed to capture runoff, typically from a roof but can also include runoff capture from elsewhere within the site, and to provide for temporary storage until the harvested water can be used for irrigation or non-potable uses. The harvested water may also be used for potable water uses if the system includes disinfection treatment and is approved for such use by the local building department.

Receiving Water means "water of the United States" into which waste and/or pollutants are or may be discharged.

Redevelopment means land-disturbing activity that results in the creation, addition, or replacement of 5,000 square feet or more of impervious surface area on an already developed site. Redevelopment includes, but is not limited to: the expansion of a building footprint; addition or replacement of a structure; replacement of impervious surface area that is not part of routine maintenance activity; and land disturbing activity related to structural or impervious surfaces. It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility, nor does it include emergency construction activities required to immediately protect public health and safety.

Regional Board means the California Regional Water Quality Control Board, Los Angeles Region.

Restaurant means a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC Code 5812).

Retail Gasoline Outlet means any retail gasoline outlet per SIC 5541.

Routine Maintenance
Routine maintenance projects include, but are not limited to projects conducted to:

1. Maintain the original line and grade, hydraulic capacity, or original purpose of the facility.
2. Perform as needed restoration work to preserve the original design grade, integrity and hydraulic capacity of flood control facilities.
3. Includes road shoulder work, regrading dirt or gravel roadways and shoulders and performing ditch cleanouts.
4. Update existing lines* and facilities to comply with applicable codes, standards, and regulations regardless if such projects result in increased capacity.
5. Repair leaks.

Routine maintenance does not include construction of new** lines or facilities resulting from compliance with applicable codes, standards and regulations.

* Update existing lines includes replacing existing lines with new materials or pipes.

** New lines are those that are not associated with existing facilities and are not part of a project to update or replace existing lines.

Significant Ecological Areas (SEAs) means an area that is determined to possess an example of biotic resources that cumulatively represent biological diversity, for the purposes of protecting biotic diversity, as part of the Los Angeles County General Plan. Areas are designated as SEAs, if they possess one or more of the following criteria:

1. The habitat of rare, endangered, and threatened plant and animal species.
2. Biotic communities, vegetative associations, and habitat of plant and animal species that are either one of a kind, or are restricted in distribution on a regional basis.
3. Biotic communities, vegetative associations, and habitat of plant and animal species that are either one of a kind or are restricted in distribution in Los Angeles County.
4. Habitat that at some point in the life cycle of a species or group of species, serves as a concentrated breeding, feeding, resting, migrating grounds and is limited in availability either regionally or within Los Angeles County.
5. Biotic resources that are of scientific interest because they are either an extreme in physical/geographical limitations, or represent an unusual variation in a population or community.
6. Areas important as game species habitat or as fisheries.

7. Areas that would provide for the preservation of relatively undisturbed examples of natural biotic communities in Los Angeles County.
8. Special areas.

Site means land or water area where any "facility or activity" is physically located or conducted, including adjacent land used in connection with the facility or activity.

Storm Drain System means any facilities or any part of those facilities, including streets, gutters, conduits, natural or artificial drains, channels, and watercourses that are used for the purpose of collecting, storing, transporting or disposing of stormwater and are located within the City of El Monte.

Storm Water or Stormwater means water that originates from atmospheric moisture (rain or snow) and that falls onto land, water, or other surfaces. Without any change in its meaning, this term may be spelled or written as one word or two separate words.

Stormwater Runoff means that part of precipitation (rainfall or snowmelt) which travels across a surface to the storm drain system or receiving waters.

SUSMP means the Los Angeles Countywide Standard Urban Stormwater Mitigation Plan. The SUSMP was required as part of the previous Municipal NPDES Permit (Order No. 01-182, NPDES No. CAS004001) and required plans that designate best management practices (BMPs) that must be used in specified categories of development project.

Urban Runoff means surface water flow produced by storm and non-storm events. Non-storm events include flow from residential, commercial, or industrial activities involving the use of potable and non-potable water.

13.20.020. SHORT TITLE

(A) The ordinance codified in this chapter shall be known as the "Low Impact Development (LID) Ordinance of the City of El Monte" and may be so cited.

13.20.020. STORMWATER POLLUTION CONTROL MEASURES FOR DEVELOPMENT PLANNING AND CONSTRUCTION ACTIVITIES

(A) **Objective**. The provisions of this section contain requirements for site design and post-construction BMP operation and maintenance of Development and Redevelopment projects to comply with the City of El Monte's Municipal NPDES permit (Permit) currently in effect at the time of development application submittal, to lessen the water quality impacts of development by using smart growth practices, and integrate LID design principles to mimic predevelopment hydrology through infiltration, evapotranspiration and rainfall harvest and use.

(B) **Scope.** This Section contains requirements for stormwater pollution control measures in Development and Redevelopment projects and authorizes the City of El Monte to further define and adopt stormwater pollution control measures, to develop LID principles and requirements, including but not limited to the objectives and specifications for integration

of LID strategies, and to grant alternative compliance for technical infeasibility, as allowed by the Municipal NPDES Permit currently in effect at the time of development application, and collect fees from projects granted exceptions. Except as otherwise provided herein, the City of El Monte shall administer, implement and enforce the provisions of this Section. Any guidance documents supporting implementation of the Municipal NPDES permit requirements, currently in effect at the time of development application submittal, meeting application in this Ordinance, are hereby incorporated by reference.

(C) Applicability. This Section is applicable to projects as defined below:

1) All Development and Redevelopment projects, termed "Planning Priority Projects," as defined in the Municipal NPDES Permit currently in effect at the time of the development application, shall comply with subsection E of Section 13.20.020.

2) Street and Road Construction projects of ten thousand (10,000) square feet or more of impervious surface, in addition to complying with all other applicable provisions of Section 13.20.020, shall follow USEPA guidance regarding "Managing West Weather with Green Infrastructure: Green Streets" (December 2008, EPA-833-F-08-009) to the maximum extent practicable. This subsection applies to standalone streets, roads, highways, and freeway projects, and also applies to streets within larger projects, including Capital Improvement Projects (CIPs).

3) Single Family Hillside Homes (as defined in City Code 13.20.010 Part C), in addition to complying with all other applicable provisions of Section 13.20.020, shall implement the following measures:

   i. Conserve natural areas

   ii. Protect slopes and channels

   iii. Provide storm drain stenciling and signage

   iv. Divert roof runoff to vegetated areas before discharge unless the diversion would results in slope instability

   v. Direct surface flow to vegetated areas before discharge unless the diversion would result in slope instability.

4) Any other project, as deemed appropriate by the Department, submitted for complete discretionary or non-discretionary permit application filed with the Department after December 31, 2012.

(D) Effective Date. The Planning and Land Development requirements contained in this Ordinance shall become effective 30 Days from the adoption of this Ordinance. This includes all applicable projects listed in subsection C of Section 13.20.020 that are discretionary permit projects or project phases that have not been deemed complete for processing, or discretionary permit projects without vesting tentative maps that have not requested and received an extension of previously granted approvals within 30 days of adoption of this Ordinance. Projects that have been deemed complete within 30 days of adoption of this Ordinance are not subject to the requirements of this Chapter.

(E) Stormwater Pollution Control Requirements. All applicable projects listed in subsection C of Section 13.20.020 shall be designed to control pollutants, pollutant loads, and runoff volumes to the maximum extent feasible by minimizing impervious

surface area and controlling runoff from impervious surfaces through infiltration, evapotranspiration, bioretention and/or rainfall harvest and use. All applicable projects shall prepare a LID Plan that is submitted to and approved by the Department. All LID plans shall comply with the following:

a. Low Impact Development Standards and BMP Implementation hierarchy: All project Applicants shall:

    i. Properly select, design and maintain LID and Hydromodification Control BMPs to address pollutants that are likely to be generated, reduce changes to pre-development hydrology, assure long-term function and avoid breeding of vectors.

    ii. Prioritize the selection of BMPs to remove Stormwater pollutants, reduce Stormwater runoff volume, and beneficially use Stormwater to support an integrated approach to protecting water quality and managing water resources in the following order:

        1. On-site infiltration, bioretention and/or rainfall harvest and use; then

        2. On-site biofiltration, offsite groundwater replenishment, and/or off-site retrofit.

            a. If using biofiltration due to demonstrated technical infeasibility, then the volume to be biofiltrated shall be calculated using the following equation:

            $B_V = 1.5 * [SWQD_V - R_V$

            Where:

            B_V = biofiltration volume

            $SWQD_V$ = the storm water runoff from a 0.75 inch, 24-hour storm or the 85^{th} percentile storm, whichever is greater

            R_V = volume reliably retained on-site

b. Retain onsite the Stormwater Quality Design Volume (SWQDv) as required per the Permit currently in effect at the time of development application submittal.

c. When 100 percent onsite retention of the SWQDv is technically infeasible, partially or fully, the infeasibility shall be demonstrated in the submitted LID Plan and approved by the Department. Technical infeasibility may result from conditions that may include, but are not limited to:

    i. The infiltration rate of saturated in-situ soils is less than 0.3 inch per hour and it is not technically feasible to amend the in-situ soils to attain an infiltration rate necessary to achieve reliable performance of infiltration or bioretention BMPs in retaining the SWQDv onsite

    ii. Locations where seasonal high groundwater is within ten feet of surface grade

iii. Locations within 100 feet of a groundwater well used for drinking water

iv. Brownfield development sites or other locations where pollutant mobilization is a documented concern

v. Locations with potential geotechnical hazards

vi. Smart growth and infill or redevelopment locations where the density and/or nature of the project would create significant difficulty for compliance with the onsite volume retention requirement.

d. Projects that have successfully demonstrated technical infeasibility for full retention of the SWQDv to the Department, shall implement alternate compliance measures (alternate mitigation options) as designated in the Permit currently in effect at the time of development application submittal.

e. Additional alternative compliance options, such as offsite infiltration, may be available to the project. The project applicant should contact the Department to determine eligibility. Alternative compliance options are as further specified in the Permit currently in effect at the time of development application submittal.

f. A Multi-Phased Project shall comply with the standards and requirements of this section for all of its phases by:

i. Designing a system acceptable to the Department to satisfy these standards and requirements for the entire Site during the first phase; and/or

ii. Implementing these standards and requirements for each phase of Development or Redevelopment of the project during the first phase or prior to commencement of construction of a later phase, to the extent necessary to treat the stormwater from such later phase.

iii. For purposes of this subsection, "Multi-Phased Project" shall mean any Planning Priority Project implemented over more than one phase and the site of a Multi-Phased Project shall include any land and water area designed and used to store, treat or manage stormwater runoff in connection with the Development or Redevelopment, including any tracts, lots, or parcels of real property, whether Developed or not, associated with, functionally connected to, or under common ownership or control with such Development or Redevelopment.

g. Minimize hydromodification impacts by maintaining the project's pre-development storm water runoff volumes, flow rates, and durations by maintaining the Erosion Potential (EP) in streams at 1, or implementing hydromodification control BMPs and/or LID strategies, or other restoration measures to meet Hydromodification Control Criteria as designated in the Permit currently in effect at the time of development application submittal.

h. Department may exempt certain applicable projects listed in subsection C of Section 13.20.020 from hydromodification control requirements where assessments of downstream channel conditions and proposed discharge hydrology indicate that adverse hydromodification effects to beneficial uses of natural drainage systems are unlikely:

i. The replacement, maintenance or repair of existing, publicly-maintained flood control facilities, storm drains, or transportation networks.

ii. Redevelopment of a previously developed site in an urbanized area that does not increase the effective impervious area or decrease the infiltration capacity of pervious areas compared to the pre-project conditions.

iii. Projects that have any increased discharge directly or via a storm drain to a sump, lake, area under tidal influence, into a waterway that has an estimated 100-year peak flow of 25,000 cubic feet per second or more, or other receiving water that is not susceptible to hydromodification impacts.

iv. Projects that discharge directly or through a storm drain into concrete or other engineered (not natural) channels (e.g. channelized or armored rip rap, shotcrete, etc.) which, in turn, discharge into receiving water that is not susceptible to hydromodification impacts.

v. Single family homes that incorporate LID BMPs.

(F) LID Plan Review. The applicant for any development project shall submit a LID plan to the Department for review and approval that provides a comprehensive, technical discussion of how the development project will comply with this Section 13.20.020. A deposit and fee to recover associated review costs shall be required. Timing for obtaining LID plan approval shall be as follows:

a. For subdivisions, the LID Plan shall be approved prior to the tentative map.

b. For any development project requiring a Conditional Use Permit (CUP) or other discretionary entitlement required under (City Code 16.38.010 General Purposes), the LID plan shall be approved prior to the issuance of any such CUP or other discretionary entitlement.

c. For all development projects, the LID plan shall be approved prior to issuance of a grading permit for the development project, or when no grading permit is required, prior to the issuance of a building permit. When no grading or building permit is required, LID plan approval shall be prior to the commencement of any development activity or as otherwise indicated in the non-discretionary land use approval.

(G) Ongoing Maintenance.

a. All project's LID and hydromodification control features shall be maintained and shall remain operable at all times and shall not be removed from the project unless and until such features have been replaced with other LID and/or hydromodification control features in accordance with this Section.

b. Unless excused by the Department, all LID plans shall include an operation and maintenance plan and monitoring plan for all LID practices, LID BMPs and hydromodification control features incorporated into the project.

c. The owner of the subject development project site shall record a covenant or agreement, approved by the Department, in the office of the Los Angeles County Registrar-Recorder/County Clerk indicating that the owner of the subject development project site is aware of and agrees to the requirements in this

subsection. The covenant or agreement shall also include a diagram of the development project site indicating the location and type of each LID and hydromodification control feature incorporated into the development project. The time to record such convenient or agreement shall be as follows:

i. For any subdivision, prior to final map approval.

ii. For any other development project, prior to issuance of a grading plan approval for the development project, and when no grading plan approval is required, prior to issuance of building plan approval for the development project.

(H) Other Agencies of the City of El Monte. All City of El Monte departments, offices, entities and agencies, shall establish administrative procedures necessary to implement the provisions of this Ordinance on all applicable projects, as listed in subsection C of Section 13.20.020, and report their activities annually to the Department.

(I) Validity. If any provision of this Ordinance is found to be unconstitutional or otherwise invalid by any court of competent jurisdiction, such invalidity shall not affect remaining provisions of this Ordinance that are declared to be severable.

(J) Certification. The City Clerk shall certify to the passage of this ordinance and have it published in accordance with Council policy.

I hereby certify that this ordinance was passed by the Council of the City of El Monte, at its meeting of June 10, 2014.

Jonathan Hawes, City Clerk

By _____
Deputy

Approved June 10, 2014

Andre Quintero, Mayor

Approved as to Form ~~and Legality~~
~~Rick Olivarez, City Attorney~~

By _____
Richard Padilla
Asst. ~~Deputy~~ City Attorney

REVIEWED TO TO FORM ONLY

Date June 10, 2014

File No. _____

City of El Monte Green Streets Policy

Purpose

The City of El Monte (City) Department of Public Works (Department) shall implement Green Streets' Best Management Practices (BMPs) for the addition of new streets, redevelopment projects, and roadway improvement projects, including Capital Improvement Projects (CIPs), as described in Section A below.

Green Streets provide many benefits including water quality improvements, groundwater replenishment, and attractive streetscapes by optimizing public space to integrate green techniques into transportation design. Green Streets is defined as public right-of-way areas that incorporate infiltration, biofiltration, and/or storage and use BMPs to collect, retain, or detain stormwater runoff.

Policy

A. Application:

Department shall require all new developments, redevelopment projects, roadway construction projects, and CIP projects conducted within the public right-of-way, hereafter referred to as "roadway projects," to incorporate Green Streets' BMPs to the maximum extent practicable (MEP). For the purposes of this policy, MEP determination shall be on a project-by-project basis and at the discretion of the Public Works Director. Roadway projects requiring Green Street's BMPs shall meet one of the following criteria:

1. Street and road construction of 10,000 square feet or more of impervious surface area, including:
    a. Standalone street and road projects
    b. Standalone highway and freeway projects
    c. Streets within larger projects
2. Street and road developments resulting in the creation or addition or replacement of 5,000 square feet or more of impervious surface on an already developed site. Redevelopment does not include routine maintenance activities that are conducted to maintain original line and grade, hydraulic capacity, original purpose of facility or emergency redevelopment activity required to protect public health and safety. Impervious surface replacement, such as the reconstruction of parking lots and roadways which does not disturb additional area and maintains the original grade and alignment, is considered a routine maintenance activity. Redevelopment does not include the repaving of existing roads to maintain original line and grade.

3. Street and road improvements with a cost of $500,000 or more.

B. Criteria and Constraints:

Project characteristics or constraints may reduce the ability to incorporate Green Streets' BMPs. When planning for incorporation of BMPs and/or techniques into a roadway project, consideration should be given to the following:

- Right-of-way availability
- Adjacent agency owned land where BMPs, such as bioretention and infiltration basins, may be incorporated into the project.
- Existing utilities – availability of stormdrains or confliction with existing utility locations
- Soil type and elevated groundwater.
- Safety concerns – siting limitations or potential maintenance access concerns

C. Feasibility and Implementation:

Implementation of BMPs within roadway projects requires that drainage patterns be considered such that drainage may be routed to the BMPs prior to entering the storm drain system or exiting the project area. Design of BMPs shall utilize available topography in order to utilize gravity for conveyance to and through each BMP designed into the project. Flow paths of higher flows must be considered when designing BMPs to ensure flooding or ponding does not occur in peak flow situations. See also Section D.4 of this policy regarding peak flow considerations.

All roadway projects shall incorporate the following techniques and/or BMPs into the project design to the MEP standard:

- Conservation of natural areas to the extent feasible
- Use of landscaping that minimizes irrigation and runoff, and promotes surface infiltration
- Street trees to increase the canopy cover of a street
- Planter boxes/tree boxes to the extent feasible, and in compliance with City codes

The extent to which BMPs may be incorporated into a project depends on the project type and project-specific feasibility. Feasibility of implementing BMPs may be affected by regulatory requirements, site-specific characteristics, and infrastructure and project-specific characteristics. Therefore, each roadway project shall also evaluate the feasibility of incorporating the following BMPs into their project design to the MEP standard. This is in addition to those techniques and BMPs listed above:

- Vegetated curb extensions
- Bioswales
- Permeable pavers
- Alternative street widths
- Infiltration basins, if City owned land is project adjacent and infiltration is determined to be feasible for the site

D. Infiltration Infeasibility:

Use of any BMP relying solely on infiltration for drainage, such as permeable pavement without underdrains, shall confirm that project soils are appropriate for infiltration to ensure no standing water within the BMPs after 72 hours. A complete geotechnical or soils report should be performed to determine existing ground water depth, site soil types, and field measured infiltration rates. Projects whose underlying soils are determined to infiltrate at a measured rate lower than 0.3"/hr are determined to be technically infeasible for use of any BMP relying solely on infiltration for drainage.

E. Target Sizing Criteria:

The larger of the 0.75", 24-hour rain event, or the 85th percentile, 24-hour rain event, as determined from the Los Angeles County 85th percentile isohyetal map, should be utilized to size all proposed BMPs in roadway projects. Using available soils information, topography, and in compliance with City codes and ordinances, identify the appropriate BMPs for incorporation into the roadway project. Implementation of several BMP types in succession may also be utilized and is commonly referred to as a *BMP treatment train*. The following steps should be followed for all roadway projects:

1. Determine overall tributary area to each proposed BMP location and compute imperviousness.
2. Using a published BMP design standard, determine the appropriate BMP sizing method and calculate the target sizing criteria.
3. Design BMPs into the roadway project to capture the target sizing criteria.
4. If determination is made that a proposed BMP, or a BMP treatment train, cannot adequately capture the target sizing criteria, then provide capture for the greatest portion of the target sizing criteria that can be reasonably achieved.

   If BMPs are undersized for their overall tributary area, the BMP must have the inlet, outlet and any energy dissipation device properly designed for the entire tributary area's peak flows. Consideration must be given for bypass of peak flows

to ensure that all BMPs are not eroded, scoured and/or overwhelmed in larger storm events.

Documentation of any infeasibility and/or project-specific constraints should be placed in the Project development file.

F. Amenities:

Department shall consider opportunities to replenish groundwater, create attractive streetscapes, create parks and wildlife habitats, and provide pedestrian and bicycle accessibility through new development and redevelopment of streets and roadway construction projects and CIPs.

G. Guidance Documents:

Department shall use USEPA's *Managing Wet Weather with Green Infrastructure Municipal Handbook: Green Streets*[1] or develop an equivalent guidance for use in public and private developments. Any Department developed guidance shall be reviewed by the Department every two years and updated accordingly.

H. Retrofit Scope:

Department shall use the City's Watershed Management Program to identify opportunities for Green Streets' BMP retrofits. Final decisions regarding implementation will be determined by the Director of Public Works, or designee, based on the availability of adequate funding.

I. Training:

Department shall incorporate aspects of Green Streets' BMPs into internal annual staff trainings.

[1] US Environmental Protection Agency, EPA-833-F-08-009, December 2008.

CITY OF EL MONTE

OFFICE OF THE CITY ATTORNEY

January 13, 2015

Via Federal Express

Samuel Unger, P.E.
Executive Officer
Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Re: Statement of Legal Authority to Implement and Enforcement Requirements of 40 CFR 122.26(d)(2)(i)(A-F) and National Pollutant Discharge Elimination System Municipal Separate Store Sewer System Permit Order No. R4-2012-0175

Dear Mr. Unger:

The City of El Monte (the "City") hereby submits this Statement of Legal Authority pursuant to Section VI (A)(2) of Order No. R4-2012-0175, NPDES Permit No. CAS004001, issued by the California Regional Water Quality Contract Board ("RWQCB"), Los Angeles Region on November 8, 2012 and titled "Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles County, except those discharges originating from the City of Long Beach MS4" (the "Permit").

The undersigned Assistant City Attorney for the City hereby states that the City has implemented legal authority to necessary comply with a majority of the legal requirements imposed upon the City by Order No. R4-2012-0175 (the "Order"), consistent with the requirements set forth under 40 CFR Section 122.26(d)(2)(i)(A-F), to the extent permitted by State and Federal law, but subject to the limitations on municipal actions under the California and the United States Constitutions. In so far as certain, legal requirements are not yet in place, the City is actively working to approve ordinances and enter into interagency arrangements that will help the City meet all of the requirements indicated. Parenthetically, nothing herein is intended nor shall be construed as waived by the City of any right to challenge the Permit or to seek cost recovery for complying with any unfunded State mandate. The City reserves all rights, and does not waive any remedy available by law or in equity.

The following is a listing of the requirements of 40 CFR Section 122.26(d)(2)(i)(A-F) as set forth under Section VI (A)(2) of the Order along with reference to the corresponding legal authority of the City to implement the requirement:

1. **Control the contribution of pollutants to its MS4 from storm water discharges associated with industrial and construction activity and control the quality of storm water discharged from industrial and construction sites. This requirement applies both to industrial and construction sites with coverage under an NPDES permit as well as to those sites that do not have coverage under an NPDES permit.**

   See: *Chapter 13.16 (Stormwater Management and Discharge Control) of the El Monte Municipal Code:*

   Section 13.16.100 – Reduction of pollutants from stormwater

   Chapter 13.20 (Stormwater and Urban Runoff Pollution Control) of the El Monte Municipal Code:

   Section 13.20.050(B) – Regulatory compliance
   Section 13.20.110 – Control of pollutants from industrial activities
   Section 13.20.120(B) – Control of pollutants from demolition and/or construction activities
   Section 13.20.130 – Control of pollutants from other construction activities.

2. **Prohibit all non-stormwater discharges through the MS4 to receiving waters not otherwise authorized or conditionally exempt pursuant to Part III.A.**

   See: *Chapter 13.16 (Stormwater Management and Discharge Control) of the El Monte Municipal Code:*

   Section 13.16.020 – Purpose and Intent (of Chapter 13.16 which includes elimination of non-stormwater discharges)
   Section 13.16.100(e) – Illicit discharge and illicit connections
   Section 13.16.110(C),(E)(2), and (F) - Authority to Inspect
   Section 13.16.200 (B)(1) – Administrative Enforcement Powers
   Section 13.16.250 – Coordination with hazardous materials inventory and response program

   Chapter 13.20 (Stormwater and Urban Runoff Pollution Control) of the El Monte Municipal Code:

   Section 3.20.060 – Illicit discharge and non-stormwater discharge

3. **Prohibit and eliminate illicit discharges and illicit connections to the MS4.**

   See: *Chapter 13.16 (Stormwater Management and Discharge Control) of the El Monte Municipal Code:*

   Section 13.16.090 – Illicit Discharge and illicit connections
   Section 13.16.100(e) – Illicit discharge and illicit connections
   Section 13.16.110(C) and (F) – Authority to Inspect
   Section 13.16.250 – Coordination with hazardous material inventory and response program

   Chapter 13.20 (Stormwater and Urban Runoff Pollution Control) of the El Monte Municipal Code:

   Section 3.20.060 – Illicit discharge and non-stormwater discharge

4. **Control the discharge of spills, dumping, or disposal of materials other than storm water to its MS4.**

   See: *Chapter 13.16 (Stormwater Management and Discharge Control) of the El Monte Municipal Code:*

   Section 13.16.110(E)(1)-(2) – Authority to Inspect

   Chapter 13.20 (Stormwater and Urban Runoff Pollution Control) of the El Monte Municipal Code:

   Section 13.20.020(A)(2) – Purpose and Intent (including control of discharges into municipal storm drains caused by spills or dumping
   Section 13.20.070 – Illegal disposal/dumping
   Section 13.20.150(A)(1)-(2) – Post-construction pollution reduction.

5. **Require compliance with conditions in Permittee ordinances, permits, contracts or orders (i.e., hold dischargers to its MS4 accountable for their contributions of pollutants and flows).**

   See: *Chapter 13.16 (Stormwater Management and Discharge Control) of the El Monte Municipal Code:*

   Section 13.16.070(B) – Discharge of pollutants
   Section 13.16.100 – Reduction of pollutants in stormwater

Section 13.16.120 (A) – Regulatory Compliance

Chapter 13.20 (Stormwater and Urban Runoff Pollution Control) of the El Monte Municipal Code:

Section 13.20.050 (A) –Regulatory compliance
Section 13.20.110(A)-(B) – Authority to Inspect
Section 13.20.140 – Control of pollutants from new development
Section 13.20.170(A) – Plan review and approval (for building and grading permits)
Section 13.20.190(D), (E) – Installation and maintenance (as relates to structural and treatment control BMP's in general and residential properties in particular)
Section 13.20.210 – Inspections

6. **Utilize enforcement mechanisms to require compliance with applicable ordinances, permits, contracts, or orders.**

See: *Chapter 13.16 (Stormwater Management and Discharge Control) of the El Monte Municipal Code:*

Section 13.16.170 - Violations deemed a public nuisance
Section 13.16.130 – Penalty for Violation
Section 13.16.190 – Civil Actions
Section 13.16.200 – Administrative enforcement powers
Section 13.16.220 – Remedies not exclusive

Chapter 13.20 (Stormwater and Urban Runoff Pollution Control) of the El Monte Municipal Code:

Section 13.20.220 – Violation
Section 13.20.230 – Nuisance
Section 13.20.240 – Remedies not exclusive
Section 13.20.250 - Inspections, searches.

7. **Control the contribution of pollutants from one portion of the shared MS4 to another portion of the MS4 through interagency agreements among Co-permittees.**

The City of El Monte is not currently a party to an "interagency agreement" with other permittees. Nevertheless, the City's draft Integrated Monitoring Program sets as one of the City's goals, the execution of collaborative receiving water monitoring and cost sharing agreements with other public agencies including the Upper San Gabriel Valley

Municipal Water District, the Rio Hondo/San Gabriel Water Quality Group, the Lower San Gabriel River Watershed Management Group and the Lower Los Angeles River Watershed Group.

8. **Control of the contribution of pollutants from one portion of the shared MS4 to another portion of the MS4 through interagency agreements with other owners of the MS4 such as the State of California Department of Transportation.**

   The City of El Monte is not currently a party to an "interagency agreement" with other permittees. Nevertheless, the City's draft Integrated Monitoring Program sets as one of the City's goals, the execution of collaborative receiving water monitoring and cost sharing agreements with other public agencies including the Upper San Gabriel Valley Municipal Water District, the Rio Hondo/San Gabriel Water Quality Group, the Lower San Gabriel River Watershed Management Group and the Lower Los Angeles River Watershed Group.

9. **Carry out all inspections, surveillance, and monitoring procedures necessary to determine compliance and noncompliance with applicable municipal ordinances, permits, contracts and orders, and with the provisions of this Order, including the prohibition of non-storm water discharges into the MS4 and receiving waters. This means the Permittee must have authority to enter, monitor, inspect, take measurements, review and copy records, and require regular reports from entities discharging into its MS4.**

   See: *Chapter 13.16 (Stormwater Management and Discharge Control) of the El Monte Municipal Code:*

   See Article III of Chapter 13.16 - Inspection and Enforcement

   Chapter 13.20 (Stormwater and Urban Runoff Pollution Control) of the El Monte Municipal Code:

   Section 13.20.050(C) – Regulatory compliance
   Section 13.20.210 – Inspections

10. **Require the use of control measures to prevent or reduce the discharge of pollutants to achieve water quality standards/receiving water limitations.**

    See: *Chapter 13.20 (Stormwater and Urban Runoff Pollution Control) of the El Monte Municipal Code:*

Section 13.20.120(C) – Control of pollutants from demolition and/or construction activities
Section 13.20.150(F)(4) – Post construction pollution reduction

Chapter 13.10 (Fats, Oils and Grease Control Program)

11. Require that structural BMPs are properly operated and maintained.

See: *Chapter 13.20 (Stormwater and Urban Runoff Pollution Control) of the El Monte Municipal Code:*

Section 13.20.040 – Standards, guidelines and criteria
Section 13.20.100 – Control of pollutants from commercial facilities
Section 13.20.130 – Control of pollutants from other construction activities
Section 13.20.140 – Control of pollutants from new developments
Section 13.20.150(A),(F), (G) and (H) – Post-construction pollution reduction
Section 13.20.210 (D) - Inspections

12. Require documentation on the operation and maintenance of structural BMPs and their effectiveness in reducing the discharge of pollutants to the MS4.

See: *Chapter 13.16 (Stormwater Management and Discharge Control) of the El Monte Municipal Code:*

Section 13.16.110(F) – Authority to inspection (which includes imposition of duty to undertake monitoring activities and analysis and furnish reports)

Chapter 13.20 (Stormwater and Urban Runoff Pollution Control) of the El Monte Municipal Code:

Section 13.20.050(A) – Regulatory compliance (including production of proof of compliance with all stormwater discharge requirements of the United States Environmental Protection Agency, the California State Water Resources Control Board and the California Regional Water Quality Control Board, Los Angeles Region)
Section 13.20.190(D) Installation and maintenance (including imposition of condition on certain property transfers that require successor property owner or lessee to conduct maintenance inspections of all

structural or treatment control BMP's at least once a year and retain proof of inspection)

Section 13.20.210(D) – Inspections (including inspections of records relating to BMP inspections conducted by owner, contractor, developer or occupant)

The City's enforcement authority is set forth under Article III (Inspection and Enforcement) of Chapter 13.16 (Stormwater Management and Discharge Control) of the El Monte Municipal Code and under Sections 13.20.220, 13.20.230, 13.20.240 and 13.20.250 of Chapter 13.20 (Stormwater and Urban Runoff Pollution Control) of El Monte Municipal Code. Violations are punishable as misdemeanors under the foregoing authority. The City may also enforce certain provisions by civil judicial action which includes remedies such as temporary or permanent injunctions, assessments for the recovery of costs of enforcement and costs incurred by the City in removing, correcting or terminating the adverse effects of any violation. (See Section 13.16.190(A)-(D)).

The City may also avail itself of an administrative enforcement process involving the issuance cease and desist orders. (See Sections 13.16.160 and 13.16.200(A)). The City's administrative enforcement tools also include the ability to issue "Notices to Clean" to owners or occupants of parcels that are the source certain pollutants that have entered or at risk of entering the municipal separate store sewer system. (Section 13.16.200(B)). Violations of Chapters 13.16 and 13.20 may also constitute public nuisances and may be abated as such (See Sections 13.16.170 and 13.20.030).

It should also be observed that in addition to general criminal, civil and administrative code enforcement remedies set forth in the City's Municipal Code, the City also has the ability to avail itself of State and Federal law remedies, e.g., remedies that may be available under the Federal Resource Conservation and Recovery Act (RCRA – 42 USC Section 6901 et seq.) and the Federal Clean Water Act (33 U.S.C. Section 1251 et seq.).

The City's efforts to enhance and improve its ability to enforce the Permit are ongoing. On June 10, 2014, the City adopted a low impact development ("LID") ordinance. The City has also:

- Implemented a green streets policy which, among other things, strives to reduce excess stormwater runoff;
- Prepared a draft Watershed Management Program and draft Integrated Monitoring Program which it has submitted to the State Regional Water Quality Control Board following feedback provided by the Los Angeles Regional Water Quality Control Board in its correspondence of October 22, 2014;
- Completed a first round of Commercial/Industrial inspections;
- Completed initial municipal employee training;

- Completed implementation a post-construction BMP tracking system;
- Commenced, and is continuing with, the implementation of a Minimum Control Measures program; and
- Implemented ordinance amendments to implement fines of up to $500 for the wasteful water practices, including cleaning impervious surfaces with potable water which, in turn, enters municipal storm drains.

Please do not hesitate to contact the undersigned should you have any questions or need any additional information with respect to any of the above, and thank you for your consideration of these matters.

Sincerely,

Richard Padilla
Assistant City Attorney

APPENDIX B

Chain of Custody Records and laboratory reports from outfall monitoring

CHAIN OF CUSTODY RECORD

3L26030

Weck Laboratories, Inc.
Analytical Laboratory Services - Since 1964
14859 East Clark Avenue : Industry : CA 91745
Tel 626-336-2139 ♦ Fax 626-336-2634 ♦ www.wecklabs.com

CLIENT NAME: AEI-CASC CONSULTING

PROJECT: EL MONTE DRY WEATHER OUTFALLS

ADDRESS: 2740 W. MAGNOLIA BLVD SUITE 102 BURBANK, CA 91505

PHONE: 310-291-1150

FAX:

Email: e-suher@AEI-CASC.COM

PO#:

PROJECT MANAGER: ED SUHER

Sampler: CM/LZ/ES

Special Handling

- ☐ Same Day Rush 150%
- ☐ 24 Hour Rush 100%
- ☐ 4-5 Day Rush 75%
- ☐ Rush Extraction 50%
- ☒ 10-15 Business Days
- ☐ QA/QC Package

Charges will apply for weekends and holidays

Method of Shipment

COMMENTS

ID# (For lab Use Only)	DATE SAMPLED	TIME SAMPLED	SMPL TYPE	SAMPLE IDENTIFICATION/SITE LOCATION	# OF CONT.	OIL + GREASE 1664A	TOTAL P 365.3	TOTAL N BY CALC	TSS SM 2540 D	TDS SM 2540 C	POLYNUCLEAR AROMATICS 625	TOTAL COLIFORM 9221B	FECAL COLIFORM 9221E	E. COLI 9221F	CU, PB, ZN, SE 200.7
	12-26-13	1310	RW	RH-DWO-05	8	X	X	X	X	X	X	X	X	X	X
	12-26-13	1500	RW	SG-DWO-07	8	X	X	X	X	X	X	X	X	X	X

RELINQUISHED BY		DATE / TIME	RECEIVED BY		DATE / TIME
SIGNATURE: E.J. Suher	PRINT NAME: EDMOND G. SUHER	12-26-13 / 1610	SIGNATURE:	PRINT NAME: Adrian Talaba	122613 16:10
SIGNATURE	PRINT NAME		SIGNATURE	PRINT NAME	
SIGNATURE	PRINT NAME		SIGNATURE	PRINT NAME	

SAMPLE CONDITION:

Actual Temperature: 1.9°C

Received On Ice	(Y) / N
Preserved	(Y) / N
Evidence Seals Present	Y / (N)
Container Attacked	Y / (N)
Preserved at Lab	Y / (N)

SAMPLE TYPE CODE:
AQ=Aqueous
NA= Non Aqueous
SL = Sludge
DW = Drinking Water
WW = Waste Water
RW = Rain Water
GW = Ground Water
SO = Soil
SW = Solid Waste
OL = Oil
OT = Other Matrix

PRESCHEDULED RUSH ANALYSES WILL TAKE PRIORITY OVER UNSCHEDULED RUSH REQUESTS. CLIENT AGREES TO TERMS AND CONDITIONS (SEE BACK OF THIS FORM).

SPECIAL REQUIREMENTS / BILLING INFORMATION

DISTRIBUTION: WHITE & CANARY - For Laboratory PINK - For Client

CERTIFICATE OF ANALYSIS

Client: AEI-CASC Consulting
2740 W. Magnolia Blvd., Ste.102
Burbank CA, 91505

Attention: Ed Suher

Phone: (818) 841-9004

Fax: (818) 841-8013

Work Order(s): 3L26030

Report Date: 01/23/14 16:00

Received Date: 12/26/13 16:10

Turn Around: Normal

Client Project: El Monte Dry Weather Outfalls

NELAP #04229CA ELAP#1132 NEVADA #CA211 HAWAII LACSD #10143

Dear Ed Suher :

Enclosed are the results of analyses for samples received 12/26/13 16:10 with the Chain of Custody document. The samples were received in good condition, at 1.9 °C and on ice. All analysis met the method criteria except as noted below or in the report with data qualifiers.

Case Narrative:

Reviewed by:

Brandon Gee
Project Manager

AEI-CASC Consulting
2740 W. Magnolia Blvd., Ste.102
Burbank CA, 91505

Date Received: 12/26/13 16:10
Date Reported: 01/23/14 16:00

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Sampled by:	Sample Comments	Lab ID	Matrix	Date Sampled
RH-DWO-05	CM/LZ/ES		3L26030-01	Water	12/26/13 13:10
SG-DWO-07	CM/LZ/ES		3L26030-02	Water	12/26/13 15:00

ANALYSES

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Metals by EPA 200 Series Methods

Microbiological Parameters by Standard Methods

Semivolatile Organics - Low Level by GC/MS SIM Mode

AEI-CASC Consulting
2740 W. Magnolia Blvd., Ste.102
Burbank CA, 91505

Date Received: 12/26/13 16:10
Date Reported: 01/23/14 16:00

3L26030-01 RH-DWO-05

Sampled: 12/26/13 13:10 **Sampled By:** CM/LZ/ES **Matrix:** Water

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Method: EPA 1664A | Batch: W3L1437 | Prepared: 12/31/13 09:03 | Analyst: qvn

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Oil & Grease (HEM)	ND	5.0	mg/l	1	12/31/13 15:15	

Method: EPA 351.2 | Batch: W3L1467 | Prepared: 12/31/13 12:09 | Analyst: rjs

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
TKN	**0.32**	0.10	mg/l	1	01/08/14 12:34	

Method: EPA 353.2 | Batch: W3L1341 | Prepared: 12/27/13 13:20 | Analyst: MBC

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
NO2+NO3 as N	**180**	100	ug/l	1	12/27/13 17:27	

Method: EPA 365.3 | Batch: W3L1314 | Prepared: 12/27/13 09:21 | Analyst: ajp

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Phosphorus as P, Total	**0.052**	0.010	mg/l	1	12/31/13 09:57	

Method: SM 2540C | Batch: W3L1456 | Prepared: 12/31/13 10:59 | Analyst: ajw

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Total Dissolved Solids	**180**	10	mg/l	1	12/31/13 17:15	

Method: SM 2540D | Batch: W3L1304 | Prepared: 12/26/13 17:16 | Analyst: ajw

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Total Suspended Solids	ND	5	mg/l	1	12/26/13 19:00	

Method: Various | Batch: [CALC] | Prepared: 12/31/13 12:09 | Analyst: rjs

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Nitrogen, Total	**0.50**	0.20	mg/l	1	01/08/14 12:34	

Metals by EPA 200 Series Methods

Method: EPA 200.7 | Batch: W3L1403 | Prepared: 12/30/13 15:43 | Analyst: jck

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Copper, Total	**0.010**	0.010	mg/l	1	01/02/14 11:21	
Lead, Total	ND	0.0050	mg/l	1	01/02/14 11:21	
Selenium, Total	ND	0.030	mg/l	1	01/02/14 11:21	
Zinc, Total	ND	0.050	mg/l	1	01/02/14 11:21	

Microbiological Parameters by Standard Methods

Method: SM 9221B | Batch: W3L1394 | Prepared: 12/26/13 16:40 | Analyst: jug

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Total Coliform	**20**	2.0	MPN/100ml	1	12/26/13 16:40	

Method: SM 9221E | Batch: W3L1394 | Prepared: 12/26/13 16:40 | Analyst: jug

AEI-CASC Consulting
2740 W. Magnolia Blvd., Ste.102
Burbank CA, 91505

Date Received: 12/26/13 16:10
Date Reported: 01/23/14 16:00

3L26030-01 RH-DWO-05

Sampled: 12/26/13 13:10 **Sampled By:** CM/LZ/ES **Matrix:** Water

Microbiological Parameters by Standard Methods

Method: SM 9221E Batch: W3L1394 Prepared: 12/26/13 16:40 Analyst: jug

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Fecal Coliform	**1700**	2.0	MPN/100ml	1	12/26/13 16:40	

Method: SM 9221F Batch: W3L1394 Prepared: 12/26/13 16:40 Analyst: jug

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
E. coli	**20**	2.0	MPN/100ml	1	12/26/13 16:40	

Semivolatile Organics - Low Level by GC/MS SIM Mode

Method: EPA 625 Batch: W3L1446 Prepared: 12/31/13 10:34 Analyst: abj

Analyte	Result		MRL	Units	Dil	Analyzed	Qualifier
1-Methylnaphthalene	ND		0.10	ug/l	1	01/23/14 03:29	
2-Methylnaphthalene	ND		0.10	ug/l	1	01/23/14 03:29	
Acenaphthene	ND		0.10	ug/l	1	01/23/14 03:29	
Acenaphthylene	ND		0.10	ug/l	1	01/23/14 03:29	
Anthracene	ND		0.10	ug/l	1	01/23/14 03:29	
Benzo (a) anthracene	ND		0.10	ug/l	1	01/23/14 03:29	
Benzo (a) pyrene	ND		0.10	ug/l	1	01/23/14 03:29	
Benzo (b) fluoranthene	ND		0.10	ug/l	1	01/23/14 03:29	
Benzo (g,h,i) perylene	ND		0.10	ug/l	1	01/23/14 03:29	
Benzo (k) fluoranthene	ND		0.10	ug/l	1	01/23/14 03:29	
Chrysene	ND		0.10	ug/l	1	01/23/14 03:29	
Dibenzo (a,h) anthracene	ND		0.10	ug/l	1	01/23/14 03:29	
Fluoranthene	ND		0.10	ug/l	1	01/23/14 03:29	
Fluorene	ND		0.10	ug/l	1	01/23/14 03:29	
Indeno (1,2,3-cd) pyrene	ND		0.10	ug/l	1	01/23/14 03:29	
Naphthalene	ND		0.10	ug/l	1	01/23/14 03:29	
Phenanthrene	ND		0.10	ug/l	1	01/23/14 03:29	
Pyrene	ND		0.10	ug/l	1	01/23/14 03:29	
Surr: 2-Fluorobiphenyl	*78 %*	Conc:*3.90*	*22-107*	%			
Surr: Nitrobenzene-d5	*81 %*	Conc:*4.04*	*27-111*	%			
Surr: Terphenyl-d14	*79 %*	Conc:*3.96*	*28-113*	%			

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Date Received: 12/26/13 16:10
Date Reported: 01/23/14 16:00

3L26030-02 SG-DWO-07

Sampled: 12/26/13 15:00 **Sampled By:** CM/LZ/ES **Matrix:** Water

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Method: EPA 1664A | Batch: W3L1437 | Prepared: 12/31/13 09:03 | Analyst: qvn

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Oil & Grease (HEM)	ND	5.0	mg/l	1	12/31/13 15:15	

Method: EPA 351.2 | Batch: W3L1467 | Prepared: 12/31/13 12:09 | Analyst: rjs

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
TKN	**2.6**	0.10	mg/l	1	01/08/14 12:34	

Method: EPA 353.2 | Batch: W3L1341 | Prepared: 12/27/13 13:20 | Analyst: MBC

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
NO2+NO3 as N	**4000**	100	ug/l	1	12/27/13 17:29	

Method: EPA 365.3 | Batch: W3L1314 | Prepared: 12/27/13 09:21 | Analyst: ajp

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Phosphorus as P, Total	**0.63**	0.020	mg/l	1	12/31/13 09:57	M-06

Method: SM 2540C | Batch: W3L1456 | Prepared: 12/31/13 10:59 | Analyst: ajw

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Total Dissolved Solids	**460**	10	mg/l	1	12/31/13 17:15	

Method: SM 2540D | Batch: W3L1304 | Prepared: 12/26/13 17:16 | Analyst: ajw

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Total Suspended Solids	**21**	5	mg/l	1	12/26/13 19:00	

Method: Various | Batch: [CALC] | Prepared: 12/31/13 12:09 | Analyst: rjs

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Nitrogen, Total	**6.6**	0.20	mg/l	1	01/08/14 12:34	

Metals by EPA 200 Series Methods

Method: EPA 200.7 | Batch: W3L1403 | Prepared: 12/30/13 15:43 | Analyst: jck

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Copper, Total	**0.034**	0.010	mg/l	1	01/02/14 11:23	
Lead, Total	**0.0056**	0.0050	mg/l	1	01/02/14 11:23	
Selenium, Total	ND	0.030	mg/l	1	01/02/14 11:23	
Zinc, Total	**0.084**	0.050	mg/l	1	01/02/14 11:23	

Microbiological Parameters by Standard Methods

Method: SM 9221B | Batch: W3L1394 | Prepared: 12/26/13 16:40 | Analyst: jug

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Total Coliform	**14000**	2.0	MPN/100ml	1	12/26/13 16:40	

Method: SM 9221E | Batch: W3L1394 | Prepared: 12/26/13 16:40 | Analyst: jug

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Date Received: 12/26/13 16:10
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3L26030-02 SG-DWO-07

Sampled: 12/26/13 15:00 **Sampled By:** CM/LZ/ES **Matrix:** Water

Microbiological Parameters by Standard Methods

Method: SM 9221E Batch: W3L1394 Prepared: 12/26/13 16:40 Analyst: jug

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Fecal Coliform	**90000**	2.0	MPN/100ml	1	12/26/13 16:40	

Method: SM 9221F Batch: W3L1394 Prepared: 12/26/13 16:40 Analyst: jug

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
E. coli	**14000**	2.0	MPN/100ml	1	12/26/13 16:40	

Semivolatile Organics - Low Level by GC/MS SIM Mode

Method: EPA 625 Batch: W3L1446 Prepared: 12/31/13 10:34 Analyst: abj

Analyte	Result		MRL	Units	Dil	Analyzed	Qualifier
1-Methylnaphthalene	ND		0.10	ug/l	1	01/23/14 04:02	
2-Methylnaphthalene	ND		0.10	ug/l	1	01/23/14 04:02	
Acenaphthene	ND		0.10	ug/l	1	01/23/14 04:02	
Acenaphthylene	ND		0.10	ug/l	1	01/23/14 04:02	
Anthracene	ND		0.10	ug/l	1	01/23/14 04:02	
Benzo (a) anthracene	ND		0.10	ug/l	1	01/23/14 04:02	
Benzo (a) pyrene	ND		0.10	ug/l	1	01/23/14 04:02	
Benzo (b) fluoranthene	ND		0.10	ug/l	1	01/23/14 04:02	
Benzo (g,h,i) perylene	ND		0.10	ug/l	1	01/23/14 04:02	
Benzo (k) fluoranthene	ND		0.10	ug/l	1	01/23/14 04:02	
Chrysene	ND		0.10	ug/l	1	01/23/14 04:02	
Dibenzo (a,h) anthracene	ND		0.10	ug/l	1	01/23/14 04:02	
Fluoranthene	ND		0.10	ug/l	1	01/23/14 04:02	
Fluorene	ND		0.10	ug/l	1	01/23/14 04:02	
Indeno (1,2,3-cd) pyrene	ND		0.10	ug/l	1	01/23/14 04:02	
Naphthalene	ND		0.10	ug/l	1	01/23/14 04:02	
Phenanthrene	ND		0.10	ug/l	1	01/23/14 04:02	
Pyrene	ND		0.10	ug/l	1	01/23/14 04:02	
Surr: 2-Fluorobiphenyl	*75 %*	Conc:*3.77*	*22-107*	%			
Surr: Nitrobenzene-d5	*77 %*	Conc:*3.85*	*27-111*	%			
Surr: Terphenyl-d14	*82 %*	Conc:*4.08*	*28-113*	%			

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QUALITY CONTROL SECTION

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Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods - Quality Control

Batch W3L1304 - SM 2540D

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W3L1304-BLK1)				Analyzed: 12/26/13 19:00						
Total Suspended Solids	ND	5	mg/l							
Duplicate (W3L1304-DUP1)	**Source: 3L24045-01**			Analyzed: 12/26/13 19:00						
Total Suspended Solids	ND	5	mg/l		0.00					

Batch W3L1314 - EPA 365.3

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W3L1314-BLK1)				Analyzed: 12/31/13 09:57						
Phosphorus as P, Total	ND	0.010	mg/l							
LCS (W3L1314-BS1)				Analyzed: 12/31/13 09:57						
Phosphorus as P, Total	0.206	0.010	mg/l	0.200		103	90-110			
Matrix Spike (W3L1314-MS1)	**Source: 3L23090-01**			Analyzed: 12/31/13 09:57						
Phosphorus as P, Total	0.425	0.010	mg/l	0.200	0.214	105	90-110			
Matrix Spike Dup (W3L1314-MSD1)	**Source: 3L23090-01**			Analyzed: 12/31/13 09:57						
Phosphorus as P, Total	0.421	0.010	mg/l	0.200	0.214	103	90-110	0.9	20	

Batch W3L1341 - EPA 353.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W3L1341-BLK1)				Analyzed: 12/27/13 16:57						
NO2+NO3 as N	ND	100	ug/l							
LCS (W3L1341-BS1)				Analyzed: 12/27/13 16:59						
NO2+NO3 as N	998	100	ug/l	1000		100	90-110			
Matrix Spike (W3L1341-MS1)	**Source: 3L26032-01**			Analyzed: 12/27/13 17:08						
NO2+NO3 as N	5270	100	ug/l	2000	3330	97	90-110			
Matrix Spike Dup (W3L1341-MSD1)	**Source: 3L26032-01**			Analyzed: 12/27/13 17:44						
NO2+NO3 as N	5240	100	ug/l	2000	3330	95	90-110	0.7	20	

Batch W3L1437 - EPA 1664A

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W3L1437-BLK1)				Analyzed: 12/31/13 15:15						
Oil & Grease (HEM)	ND	5.0	mg/l							
LCS (W3L1437-BS1)				Analyzed: 12/31/13 15:15						
Oil & Grease (HEM)	19.2	5.0	mg/l	20.0		96	78-114			
LCS (W3L1437-BS2)				Analyzed: 12/31/13 15:15						
Oil & Grease (HEM)	4.60	5.0	mg/l	5.00		92	78-114			
LCS Dup (W3L1437-BSD1)				Analyzed: 12/31/13 15:15						
Oil & Grease (HEM)	17.3	5.0	mg/l	20.0		86	78-114	10	18	
Matrix Spike (W3L1437-MS1)	**Source: 3L26029-01**			Analyzed: 12/31/13 15:15						
Oil & Grease (HEM)	19.7	5.0	mg/l	20.9	2.50	82	78-114			

Batch W3L1456 - SM 2540C

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Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods - Quality Control

Batch W3L1456 - SM 2540C

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W3L1456-BLK1)				Analyzed: 12/31/13 17:15						
Total Dissolved Solids	ND	10	mg/l							
LCS (W3L1456-BS1)				Analyzed: 12/31/13 17:15						
Total Dissolved Solids	823	10	mg/l	824		100	96-102			
Duplicate (W3L1456-DUP1)	**Source: 3L30053-03**			Analyzed: 12/31/13 17:15						
Total Dissolved Solids	4960	10	mg/l		4940			0.5	10	
Duplicate (W3L1456-DUP2)	**Source: 3L30053-04**			Analyzed: 12/31/13 17:15						
Total Dissolved Solids	3640	10	mg/l		3630			0.3	10	

Batch W3L1467 - EPA 351.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W3L1467-BLK1)				Analyzed: 01/08/14 12:34						
TKN	ND	0.10	mg/l							
Blank (W3L1467-BLK2)				Analyzed: 01/08/14 12:34						
TKN	ND	0.10	mg/l							
LCS (W3L1467-BS1)				Analyzed: 01/08/14 12:34						
TKN	1.01	0.10	mg/l	1.00		101	90-110			
LCS (W3L1467-BS2)				Analyzed: 01/08/14 12:34						
TKN	1.01	0.10	mg/l	1.00		101	90-110			
Matrix Spike (W3L1467-MS1)	**Source: 3L27018-01**			Analyzed: 01/08/14 12:34						
TKN	1.23	0.10	mg/l	1.00	0.186	104	90-110			
Matrix Spike (W3L1467-MS2)	**Source: 3L27018-02**			Analyzed: 01/08/14 12:34						
TKN	1.29	0.10	mg/l	1.00	0.221	107	90-110			
Matrix Spike Dup (W3L1467-MSD1)	**Source: 3L27018-01**			Analyzed: 01/08/14 12:34						
TKN	1.23	0.10	mg/l	1.00	0.186	104	90-110	0.4	10	
Matrix Spike Dup (W3L1467-MSD2)	**Source: 3L27018-02**			Analyzed: 01/08/14 12:34						
TKN	1.29	0.10	mg/l	1.00	0.221	107	90-110	0.01	10	

Metals by EPA 200 Series Methods - Quality Control

Batch W3L1403 - EPA 200.7

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W3L1403-BLK1)				Analyzed: 01/02/14 11:03						
Copper, Total	ND	0.010	mg/l							
Lead, Total	ND	0.0050	mg/l							
Selenium, Total	ND	0.030	mg/l							
Zinc, Total	ND	0.050	mg/l							
LCS (W3L1403-BS1)				Analyzed: 01/02/14 11:05						
Copper, Total	0.211	0.010	mg/l	0.200		105	85-115			
Lead, Total	0.199	0.0050	mg/l	0.200		100	85-115			
Selenium, Total	0.207	0.030	mg/l	0.200		104	85-115			

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Metals by EPA 200 Series Methods - Quality Control

Batch W3L1403 - EPA 200.7

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
LCS (W3L1403-BS1)				Analyzed: 01/02/14 11:05						
Zinc, Total	0.194	0.050	mg/l	0.200		97	85-115			
Matrix Spike (W3L1403-MS1)	**Source: 3L19098-01**			Analyzed: 01/02/14 11:33						
Copper, Total	0.213	0.010	mg/l	0.200	0.0118	101	70-130			
Lead, Total	0.192	0.0050	mg/l	0.200	ND	96	70-130			
Selenium, Total	0.203	0.030	mg/l	0.200	ND	102	70-130			
Zinc, Total	0.364	0.050	mg/l	0.200	0.177	94	70-130			
Matrix Spike Dup (W3L1403-MSD1)	**Source: 3L19098-01**			Analyzed: 01/02/14 11:36						
Copper, Total	0.215	0.010	mg/l	0.200	0.0118	102	70-130	1	30	
Lead, Total	0.196	0.0050	mg/l	0.200	ND	98	70-130	2	30	
Selenium, Total	0.208	0.030	mg/l	0.200	ND	104	70-130	2	30	
Zinc, Total	0.366	0.050	mg/l	0.200	0.177	95	70-130	0.5	30	

Microbiological Parameters by Standard Methods - Quality Control

Batch W3L1394 - SM 9221F

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W3L1394-BLK1)				Analyzed: 12/16/13 12:00						
E. coli	ND	2.0	MPN/100 ml							
Fecal Coliform	ND	2.0	MPN/100 ml							
Total Coliform	ND	2.0	MPN/100 ml							
Blank (W3L1394-BLK2)				Analyzed: 12/19/13 17:00						
E. coli	ND	2.0	MPN/100 ml							
Fecal Coliform	ND	2.0	MPN/100 ml							
Total Coliform	ND	2.0	MPN/100 ml							
Blank (W3L1394-BLK3)				Analyzed: 12/23/13 13:00						
E. coli	ND	2.0	MPN/100 ml							
Fecal Coliform	ND	2.0	MPN/100 ml							
Total Coliform	ND	2.0	MPN/100 ml							
Blank (W3L1394-BLK4)				Analyzed: 12/24/13 13:15						
E. coli	ND	2.0	MPN/100 ml							
Fecal Coliform	ND	2.0	MPN/100 ml							

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Microbiological Parameters by Standard Methods - Quality Control

Batch W3L1394 - SM 9221B

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W3L1394-BLK4)				Analyzed: 12/24/13 13:15						
Total Coliform	ND	2.0	MPN/100 ml							
Blank (W3L1394-BLK5)				Analyzed: 12/26/13 16:40						
E. coli	ND	2.0	MPN/100 ml							
Fecal Coliform	ND	2.0	MPN/100 ml							
Total Coliform	ND	2.0	MPN/100 ml							

Semivolatile Organics - Low Level by GC/MS SIM Mode - Quality Control

Batch W3L1446 - EPA 625

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W3L1446-BLK1)				Analyzed: 01/23/14 01:19						
1-Methylnaphthalene	ND	0.10	ug/l							
2-Methylnaphthalene	ND	0.10	ug/l							
Acenaphthene	ND	0.10	ug/l							
Acenaphthylene	ND	0.10	ug/l							
Anthracene	ND	0.10	ug/l							
Benzo (a) anthracene	ND	0.10	ug/l							
Benzo (a) pyrene	ND	0.10	ug/l							
Benzo (b) fluoranthene	ND	0.10	ug/l							
Benzo (g,h,i) perylene	ND	0.10	ug/l							
Benzo (k) fluoranthene	ND	0.10	ug/l							
Chrysene	ND	0.10	ug/l							
Dibenzo (a,h) anthracene	ND	0.10	ug/l							
Fluoranthene	ND	0.10	ug/l							
Fluorene	ND	0.10	ug/l							
Indeno (1,2,3-cd) pyrene	ND	0.10	ug/l							
Naphthalene	ND	0.10	ug/l							
Phenanthrene	ND	0.10	ug/l							
Pyrene	ND	0.10	ug/l							
Surr: 2-Fluorobiphenyl	*3.30*		*ug/l*	*5.00*		*66*	*22-107*			
Surr: Nitrobenzene-d5	*3.67*		*ug/l*	*5.00*		*73*	*27-111*			
Surr: Terphenyl-d14	*3.52*		*ug/l*	*5.00*		*70*	*28-113*			
LCS (W3L1446-BS1)				Analyzed: 01/23/14 04:34						
Acenaphthene	8.56	0.10	ug/l	10.0		86	47-145			
Acenaphthylene	7.93	0.10	ug/l	10.0		79	33-145			
Anthracene	8.19	0.10	ug/l	10.0		82	27-133			
Benzo (a) anthracene	8.69	0.10	ug/l	10.0		87	33-143			
Benzo (a) pyrene	6.39	0.10	ug/l	10.0		64	17-163			

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Semivolatile Organics - Low Level by GC/MS SIM Mode - Quality Control

Batch W3L1446 - EPA 625

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
LCS (W3L1446-BS1)				Analyzed: 01/23/14 04:34						
Benzo (b) fluoranthene	7.02	0.10	ug/l	10.0		70	24-159			
Benzo (g,h,i) perylene	4.59	0.10	ug/l	10.0		46	0.1-219			
Benzo (k) fluoranthene	7.19	0.10	ug/l	10.0		72	11-162			
Chrysene	8.35	0.10	ug/l	10.0		84	17-168			
Dibenzo (a,h) anthracene	4.98	0.10	ug/l	10.0		50	0.1-227			
Fluoranthene	8.53	0.10	ug/l	10.0		85	26-137			
Fluorene	8.05	0.10	ug/l	10.0		80	59-121			
Indeno (1,2,3-cd) pyrene	6.24	0.10	ug/l	10.0		62	0.1-171			
Naphthalene	8.10	0.10	ug/l	10.0		81	21-133			
Phenanthrene	8.33	0.10	ug/l	10.0		83	54-120			
Pyrene	8.51	0.10	ug/l	10.0		85	52-115			
Surr: 2-Fluorobiphenyl	*3.75*		*ug/l*	*5.00*		*75*	*22-107*			
Surr: Nitrobenzene-d5	*3.94*		*ug/l*	*5.00*		*79*	*27-111*			
Surr: Terphenyl-d14	*3.39*		*ug/l*	*5.00*		*68*	*28-113*			
LCS Dup (W3L1446-BSD1)				Analyzed: 01/23/14 05:06						
Acenaphthene	8.67	0.10	ug/l	10.0		87	47-145	1	30	
Acenaphthylene	8.03	0.10	ug/l	10.0		80	33-145	1	30	
Anthracene	8.62	0.10	ug/l	10.0		86	27-133	5	30	
Benzo (a) anthracene	9.18	0.10	ug/l	10.0		92	33-143	5	30	
Benzo (a) pyrene	6.66	0.10	ug/l	10.0		67	17-163	4	30	
Benzo (b) fluoranthene	7.27	0.10	ug/l	10.0		73	24-159	4	30	
Benzo (g,h,i) perylene	4.87	0.10	ug/l	10.0		49	0.1-219	6	30	
Benzo (k) fluoranthene	7.56	0.10	ug/l	10.0		76	11-162	5	30	
Chrysene	8.75	0.10	ug/l	10.0		88	17-168	5	30	
Dibenzo (a,h) anthracene	5.20	0.10	ug/l	10.0		52	0.1-227	4	30	
Fluoranthene	8.99	0.10	ug/l	10.0		90	26-137	5	30	
Fluorene	8.26	0.10	ug/l	10.0		83	59-121	3	30	
Indeno (1,2,3-cd) pyrene	6.69	0.10	ug/l	10.0		67	0.1-171	7	30	
Naphthalene	8.31	0.10	ug/l	10.0		83	21-133	3	30	
Phenanthrene	8.65	0.10	ug/l	10.0		86	54-120	4	30	
Pyrene	9.08	0.10	ug/l	10.0		91	52-115	7	30	
Surr: 2-Fluorobiphenyl	*3.81*		*ug/l*	*5.00*		*76*	*22-107*			
Surr: Nitrobenzene-d5	*3.96*		*ug/l*	*5.00*		*79*	*27-111*			
Surr: Terphenyl-d14	*3.65*		*ug/l*	*5.00*		*73*	*28-113*			

AEI-CASC Consulting
2740 W. Magnolia Blvd., Ste.102
Burbank CA, 91505

Date Received: 12/26/13 16:10
Date Reported: 01/23/14 16:00

Notes and Definitions

M-06	Due to the high concentration of analyte inherent in the sample, sample was diluted prior to preparation. The MDL and MRL were raised due to this dilution.
ND	NOT DETECTED at or above the Reporting Limit. If J-value reported, then NOT DETECTED at or above the Method Detection Limit (MDL)
NR	Not Reportable
Dil	Dilution
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
% Rec	Percent Recovery
Sub	Subcontracted analysis, original report available upon request
MDL	Method Detection Limit
MDA	Minimum Detectable Activity
MRL	Method Reporting Limit

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

An Absence of Total Coliform meets the drinking water standards as established by the California Department of Health Services.

The Reporting Limit (RL) is referenced as the Laboratory's Practical Quantitation Limit (PQL) or the Detection Limit for Reporting Purposes (DLR).

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.

CHAIN OF CUSTODY RECORD

Weck Laboratories, Inc.
Analytical Laboratory Services - Since 1964
14859 East Clark Avenue : Industry : CA 91745
Tel 626-336-2139 ♦ Fax 626-336-2634 ♦ www.wecklabs.com

625 7221B 1221E

Page 1 Of 1

CLIENT NAME: AEI-CASC CONSULTING	PROJECT: EL MONTE WET WEATHER OUTFALLS
ADDRESS: 2740 W. MAGNOLIA BLVD SUITE 102 BURBANK, CA 91505	PHONE: 310-291-1150
	FAX:
	Email: e-SUHER@AEI-CASC.COM
	PO#:
PROJECT MANAGER: ED SUHER	Sampler: CM/ES

Special Handling

- ☐ Same Day Rush 150%
- ☐ 24 Hour Rush 100%
- ☐ 4-5 Day Rush 75%
- ☐ Rush Extraction 50%
- ☒ 10-15 Business Days
- ☐ QA/QC Package

Charges will apply for weekends and holidays

Method of Shipment

COMMENTS

ID# (For lab Use Only)	DATE SAMPLED	TIME SAMPLED	SMPL TYPE	SAMPLE IDENTIFICATION/SITE LOCATION	# OF CONT.	OIL & GREASE 1664A	TOTAL P 365.3	TOTAL N EPA CALC	TSS SM 2540D	TDS SM 2540C	POLYNUCLEAR AROMAT	TOTAL COLIFORM	FECAL COLIFORM	E. COLI 9221F	Cu, Pb, Zn, Se 200.7	
	2/6/14	1520	RW	RH-WWO-05	8	X	X	X	X	X	X	X	X	X	X	
	2/6/14	1640	RW	SG-WWO-07	8	X	X	X	X	X	X	X	X	X	X	

RELINQUISHED BY		DATE / TIME	RECEIVED BY		DATE / TIME
SIGNATURE: E Suher	PRINT NAME: ED SUHER	2/6/14 18:15	SIGNATURE: Jamal Jones	PRINT NAME	2/6/14 18:15
SIGNATURE	PRINT NAME		SIGNATURE	PRINT NAME	
SIGNATURE	PRINT NAME		SIGNATURE	PRINT NAME	

SAMPLE CONDITION:

Actual Temperature: 4.1C

Received On Ice	(Y) / N	
Preserved	(Y) / N	
Evidence Seals Present	Y / (N)	
Container Attacked	Y / (N)	
Preserved at Lab	Y / (N)	

SAMPLE TYPE CODE:
AQ=Aqueous
NA= Non Aqueous
SL = Sludge
DW = Drinking Water
WW = Waste Water
RW = Rain Water
GW = Ground Water
SO = Soil
SW = Solid Waste
OL = Oil
OT = Other Matrix

PRESCHEDULED RUSH ANALYSES WILL TAKE PRIORITY OVER UNSCHEDULED RUSH REQUESTS. CLIENT AGREES TO TERMS AND CONDITIONS (SEE BACK OF THIS FORM).

SPECIAL REQUIREMENTS / BILLING INFORMATION

DISTRIBUTION: WHITE & CANARY - For Laboratory PINK - For Client

CERTIFICATE OF ANALYSIS

Client: AEI-CASC Consulting
2740 W. Magnolia Blvd., Ste.102
Burbank CA, 91505

Attention: Ed Suher

Phone: (818) 841-9004

Fax: (818) 841-8013

Work Order(s): 4B06078

Report Date: 02/24/14 17:11

Received Date: 02/06/14 18:15

Turn Around: Normal

Client Project: El Monte Wet Weather Outfalls

NELAP #04229CA ELAP#1132 NEVADA #CA211 HAWAII LACSD #10143

Dear Ed Suher :

Enclosed are the results of analyses for samples received 02/06/14 18:15 with the Chain of Custody document. The samples were received in good condition, at 4.1 °C and on ice. All analysis met the method criteria except as noted below or in the report with data qualifiers.

Case Narrative:

Reviewed by:

Brandon Gee
Project Manager

AEI-CASC Consulting
2740 W. Magnolia Blvd., Ste.102
Burbank CA, 91505

Date Received: 02/06/14 18:15
Date Reported: 02/24/14 17:11

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Sampled by:	Sample Comments	Lab ID	Matrix	Date Sampled
RH-WWO-05	CM/ES		4B06078-01	Water	02/06/14 15:20
SG-WWO-07	CM/ES		4B06078-02	Water	02/06/14 16:40

ANALYSES

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Metals by EPA 200 Series Methods

Microbiological Parameters by Standard Methods

Semivolatile Organics - Low Level by GC/MS SIM Mode

AEI-CASC Consulting
2740 W. Magnolia Blvd., Ste.102
Burbank CA, 91505

Date Received: 02/06/14 18:15
Date Reported: 02/24/14 17:11

4B06078-01 RH-WWO-05

Sampled: 02/06/14 15:20 **Sampled By:** CM/ES **Matrix:** Water

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Method: EPA 1664A | Batch: W4B0521 | Prepared: 02/12/14 12:10 | Analyst: par

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Oil & Grease (HEM)	ND	5.0	mg/l	1	02/14/14 14:38	

Method: EPA 351.2 | Batch: W4B0653 | Prepared: 02/14/14 10:47 | Analyst: rjs

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
TKN	**0.91**	0.10	mg/l	1	02/18/14 13:17	

Method: EPA 353.2 | Batch: W4B0589 | Prepared: 02/13/14 14:03 | Analyst: MBC

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
NO2+NO3 as N	**590**	100	ug/l	1	02/13/14 17:19	

Method: EPA 365.3 | Batch: W4B0393 | Prepared: 02/10/14 12:58 | Analyst: ajp

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Phosphorus as P, Total	**0.076**	0.010	mg/l	1	02/14/14 18:26	

Method: SM 2540C | Batch: W4B0489 | Prepared: 02/11/14 17:53 | Analyst: ajw

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Total Dissolved Solids	**190**	10	mg/l	1	02/12/14 11:15	

Method: SM 2540D | Batch: W4B0321 | Prepared: 02/07/14 17:21 | Analyst: ajw

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Total Suspended Solids	ND	5	mg/l	1	02/07/14 18:45	

Method: Various | Batch: [CALC] | Prepared: 02/14/14 10:47 | Analyst: rjs

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Nitrogen, Total	**1.5**	0.20	mg/l	1	02/18/14 13:17	

Metals by EPA 200 Series Methods

Method: EPA 200.7 | Batch: W4B0375 | Prepared: 02/10/14 09:39 | Analyst: jck

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Copper, Total	**0.016**	0.010	mg/l	1	02/10/14 16:03	
Lead, Total	ND	0.0050	mg/l	1	02/10/14 16:03	
Selenium, Total	ND	0.030	mg/l	1	02/10/14 16:03	
Zinc, Total	ND	0.050	mg/l	1	02/10/14 16:03	

Microbiological Parameters by Standard Methods

Method: SM 9221B | Batch: W4B0809 | Prepared: 02/06/14 18:50 | Analyst: jug

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Total Coliform	**10000**	40	MPN/100ml	20	02/06/14 18:50	

Method: SM 9221E | Batch: W4B0809 | Prepared: 02/06/14 18:50 | Analyst: jug

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Burbank CA, 91505

Date Received: 02/06/14 18:15
Date Reported: 02/24/14 17:11

4B06078-01 RH-WWO-05

Sampled: 02/06/14 15:20 **Sampled By:** CM/ES **Matrix:** Water

Microbiological Parameters by Standard Methods

Method: SM 9221E | Batch: W4B0809 | Prepared: 02/06/14 18:50 | Analyst: jug

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Fecal Coliform	**260**	40	MPN/100ml	20	02/06/14 18:50	

Method: SM 9221F | Batch: W4B0809 | Prepared: 02/06/14 18:50 | Analyst: jug

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
E. coli	**260**	40	MPN/100ml	20	02/06/14 18:50	

Semivolatile Organics - Low Level by GC/MS SIM Mode

Method: EPA 625 | Batch: W4B0592 | Prepared: 02/13/14 14:17 | Analyst: abj

Analyte	Result		MRL	Units	Dil	Analyzed	Qualifier
1-Methylnaphthalene	ND		0.10	ug/l	1	02/20/14 05:36	
2-Methylnaphthalene	ND		0.10	ug/l	1	02/20/14 05:36	
Acenaphthene	ND		0.10	ug/l	1	02/20/14 05:36	
Acenaphthylene	ND		0.10	ug/l	1	02/20/14 05:36	
Anthracene	ND		0.10	ug/l	1	02/20/14 05:36	
Benzo (a) anthracene	ND		0.10	ug/l	1	02/20/14 05:36	
Benzo (a) pyrene	ND		0.10	ug/l	1	02/20/14 05:36	
Benzo (b) fluoranthene	ND		0.10	ug/l	1	02/20/14 05:36	
Benzo (g,h,i) perylene	ND		0.10	ug/l	1	02/20/14 05:36	
Benzo (k) fluoranthene	ND		0.10	ug/l	1	02/20/14 05:36	
Chrysene	ND		0.10	ug/l	1	02/20/14 05:36	
Dibenzo (a,h) anthracene	ND		0.10	ug/l	1	02/20/14 05:36	
Fluoranthene	ND		0.10	ug/l	1	02/20/14 05:36	
Fluorene	ND		0.10	ug/l	1	02/20/14 05:36	
Indeno (1,2,3-cd) pyrene	ND		0.10	ug/l	1	02/20/14 05:36	
Naphthalene	ND		0.10	ug/l	1	02/20/14 05:36	
Phenanthrene	ND		0.10	ug/l	1	02/20/14 05:36	
Pyrene	ND		0.10	ug/l	1	02/20/14 05:36	
Surr: 2-Fluorobiphenyl	*71 %*	Conc:*3.53*	*22-107*	%			
Surr: Nitrobenzene-d5	*78 %*	Conc:*3.90*	*27-111*	%			
Surr: Terphenyl-d14	*69 %*	Conc:*3.45*	*28-113*	%			

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Burbank CA, 91505

Date Received: 02/06/14 18:15
Date Reported: 02/24/14 17:11

4B06078-02 SG-WWO-07

Sampled: 02/06/14 16:40 **Sampled By:** CM/ES **Matrix:** Water

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Method: EPA 1664A | Batch: W4B0521 | Prepared: 02/12/14 12:10 | Analyst: par

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Oil & Grease (HEM)	ND	5.0	mg/l	1	02/14/14 14:38	

Method: EPA 351.2 | Batch: W4B0653 | Prepared: 02/14/14 10:47 | Analyst: rjs

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
TKN	**4.6**	0.40	mg/l	4	02/18/14 13:17	

Method: EPA 353.2 | Batch: W4B0589 | Prepared: 02/13/14 14:03 | Analyst: MBC

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
NO2+NO3 as N	**2000**	100	ug/l	1	02/13/14 17:21	

Method: EPA 365.3 | Batch: W4B0393 | Prepared: 02/10/14 12:58 | Analyst: ajp

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Phosphorus as P, Total	**1.2**	0.10	mg/l	1	02/14/14 18:26	M-06

Method: SM 2540C | Batch: W4B0489 | Prepared: 02/11/14 17:53 | Analyst: ajw

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Total Dissolved Solids	**130**	10	mg/l	1	02/12/14 11:15	

Method: SM 2540D | Batch: W4B0321 | Prepared: 02/07/14 17:21 | Analyst: ajw

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Total Suspended Solids	**230**	5	mg/l	1	02/07/14 18:45	

Method: Various | Batch: [CALC] | Prepared: 02/14/14 10:47 | Analyst: rjs

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Nitrogen, Total	**6.6**	0.50	mg/l	4	02/18/14 13:17	

Metals by EPA 200 Series Methods

Method: EPA 200.7 | Batch: W4B0375 | Prepared: 02/10/14 09:39 | Analyst: jck

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Copper, Total	**0.072**	0.010	mg/l	1	02/10/14 16:06	
Lead, Total	**0.032**	0.0050	mg/l	1	02/10/14 16:06	
Selenium, Total	ND	0.030	mg/l	1	02/10/14 16:06	
Zinc, Total	**0.29**	0.050	mg/l	1	02/10/14 16:06	

Microbiological Parameters by Standard Methods

Method: SM 9221B | Batch: W4B0809 | Prepared: 02/06/14 18:50 | Analyst: jug

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Total Coliform	**28000**	40	MPN/100ml	20	02/06/14 18:50	

Method: SM 9221E | Batch: W4B0809 | Prepared: 02/06/14 18:50 | Analyst: jug

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Date Received: 02/06/14 18:15
Date Reported: 02/24/14 17:11

4B06078-02 SG-WWO-07

Sampled: 02/06/14 16:40 **Sampled By:** CM/ES **Matrix:** Water

Microbiological Parameters by Standard Methods

Method: SM 9221E | Batch: W4B0809 | Prepared: 02/06/14 18:50 | Analyst: jug

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Fecal Coliform	**1400**	40	MPN/100ml	20	02/06/14 18:50	

Method: SM 9221F | Batch: W4B0809 | Prepared: 02/06/14 18:50 | Analyst: jug

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
E. coli	**1400**	40	MPN/100ml	20	02/06/14 18:50	

Semivolatile Organics - Low Level by GC/MS SIM Mode

Method: EPA 625 | Batch: W4B0592 | Prepared: 02/13/14 14:17 | Analyst: abj

Analyte	Result		MRL	Units	Dil	Analyzed	Qualifier
1-Methylnaphthalene	ND		0.10	ug/l	1	02/20/14 06:09	
2-Methylnaphthalene	ND		0.10	ug/l	1	02/20/14 06:09	
Acenaphthene	ND		0.10	ug/l	1	02/20/14 06:09	
Acenaphthylene	ND		0.10	ug/l	1	02/20/14 06:09	
Anthracene	ND		0.10	ug/l	1	02/20/14 06:09	
Benzo (a) anthracene	ND		0.10	ug/l	1	02/20/14 06:09	
Benzo (a) pyrene	ND		0.10	ug/l	1	02/20/14 06:09	
Benzo (b) fluoranthene	ND		0.10	ug/l	1	02/20/14 06:09	
Benzo (g,h,i) perylene	ND		0.10	ug/l	1	02/20/14 06:09	
Benzo (k) fluoranthene	ND		0.10	ug/l	1	02/20/14 06:09	
Chrysene	**0.14**		0.10	ug/l	1	02/20/14 06:09	
Dibenzo (a,h) anthracene	ND		0.10	ug/l	1	02/20/14 06:09	
Fluoranthene	**0.19**		0.10	ug/l	1	02/20/14 06:09	
Fluorene	ND		0.10	ug/l	1	02/20/14 06:09	
Indeno (1,2,3-cd) pyrene	ND		0.10	ug/l	1	02/20/14 06:09	
Naphthalene	ND		0.10	ug/l	1	02/20/14 06:09	
Phenanthrene	**0.12**		0.10	ug/l	1	02/20/14 06:09	
Pyrene	**0.15**		0.10	ug/l	1	02/20/14 06:09	
Surr: 2-Fluorobiphenyl	*86 %*	Conc:*4.28*	*22-107*	%			
Surr: Nitrobenzene-d5	*94 %*	Conc:*4.69*	*27-111*	%			
Surr: Terphenyl-d14	*86 %*	Conc:*4.32*	*28-113*	%			

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Burbank CA, 91505

Date Received: 02/06/14 18:15
Date Reported: 02/24/14 17:11

QUALITY CONTROL SECTION

AEI-CASC Consulting
2740 W. Magnolia Blvd., Ste.102
Burbank CA, 91505

Date Received: 02/06/14 18:15
Date Reported: 02/24/14 17:11

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods - Quality Control

Batch W4B0321 - SM 2540D

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4B0321-BLK1)				Analyzed: 02/07/14 18:45						
Total Suspended Solids	ND	5	mg/l							
Duplicate (W4B0321-DUP1)	**Source: 4B06021-01**			Analyzed: 02/07/14 18:45						
Total Suspended Solids	ND	5	mg/l		0.00					
Duplicate (W4B0321-DUP2)	**Source: 4B06078-01**			Analyzed: 02/07/14 18:45						
Total Suspended Solids	4.00	5	mg/l		4.00			NR	20	

Batch W4B0393 - EPA 365.3

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4B0393-BLK1)				Analyzed: 02/14/14 18:26						
Phosphorus as P, Total	ND	0.010	mg/l							
LCS (W4B0393-BS1)				Analyzed: 02/14/14 18:26						
Phosphorus as P, Total	0.205	0.010	mg/l	0.200		102	90-110			
Matrix Spike (W4B0393-MS1)	**Source: 4B05080-03**			Analyzed: 02/14/14 18:26						
Phosphorus as P, Total	0.329	0.010	mg/l	0.200	0.136	97	90-110			
Matrix Spike Dup (W4B0393-MSD1)	**Source: 4B05080-03**			Analyzed: 02/14/14 18:26						
Phosphorus as P, Total	0.328	0.010	mg/l	0.200	0.136	96	90-110	0.3	20	

Batch W4B0489 - SM 2540C

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4B0489-BLK1)				Analyzed: 02/12/14 11:15						
Total Dissolved Solids	ND	10	mg/l							
LCS (W4B0489-BS1)				Analyzed: 02/12/14 11:15						
Total Dissolved Solids	817	10	mg/l	824		99	96-102			
Duplicate (W4B0489-DUP1)	**Source: 4B06014-01**			Analyzed: 02/12/14 11:15						
Total Dissolved Solids	537	10	mg/l		535			0.4	10	
Duplicate (W4B0489-DUP2)	**Source: 4B11083-01**			Analyzed: 02/12/14 11:15						
Total Dissolved Solids	296	10	mg/l		289			2	10	

Batch W4B0521 - EPA 1664A

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4B0521-BLK1)				Analyzed: 02/14/14 14:38						
Oil & Grease (HEM)	ND	5.0	mg/l							
LCS (W4B0521-BS1)				Analyzed: 02/14/14 14:38						
Oil & Grease (HEM)	19.5	5.0	mg/l	20.0		98	78-114			
LCS (W4B0521-BS2)				Analyzed: 02/14/14 14:38						
Oil & Grease (HEM)	4.80	5.0	mg/l	5.00		96	78-114			
LCS Dup (W4B0521-BSD1)				Analyzed: 02/14/14 14:38						
Oil & Grease (HEM)	19.2	5.0	mg/l	20.0		96	78-114	2	18	

Batch W4B0589 - EPA 353.2

AEI-CASC Consulting
2740 W. Magnolia Blvd., Ste.102
Burbank CA, 91505

Date Received: 02/06/14 18:15
Date Reported: 02/24/14 17:11

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods - Quality Control

Batch W4B0589 - EPA 353.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4B0589-BLK1)				Analyzed: 02/13/14 17:15						
NO2+NO3 as N	ND	100	ug/l							
LCS (W4B0589-BS1)				Analyzed: 02/13/14 16:34						
NO2+NO3 as N	1030	100	ug/l	1000		103	90-110			
Matrix Spike (W4B0589-MS1)	**Source: 4B12061-03**			Analyzed: 02/13/14 16:42						
NO2+NO3 as N	5360	100	ug/l	2000	3370	99	90-110			
Matrix Spike (W4B0589-MS2)	**Source: 4B12061-04**			Analyzed: 02/13/14 16:49						
NO2+NO3 as N	6480	100	ug/l	2000	4570	96	90-110			
Matrix Spike Dup (W4B0589-MSD1)	**Source: 4B12061-03**			Analyzed: 02/13/14 16:44						
NO2+NO3 as N	5330	100	ug/l	2000	3370	98	90-110	0.6	20	
Matrix Spike Dup (W4B0589-MSD2)	**Source: 4B12061-04**			Analyzed: 02/13/14 16:51						
NO2+NO3 as N	6580	100	ug/l	2000	4570	100	90-110	1	20	

Batch W4B0653 - EPA 351.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4B0653-BLK1)				Analyzed: 02/18/14 13:17						
TKN	ND	0.10	mg/l							
Blank (W4B0653-BLK2)				Analyzed: 02/18/14 13:17						
TKN	ND	0.10	mg/l							
LCS (W4B0653-BS1)				Analyzed: 02/18/14 13:17						
TKN	0.968	0.10	mg/l	1.00		97	90-110			
LCS (W4B0653-BS2)				Analyzed: 02/18/14 13:17						
TKN	0.969	0.10	mg/l	1.00		97	90-110			
Duplicate (W4B0653-DUP1)	**Source: 4B07076-01**			Analyzed: 02/18/14 13:17						
TKN	1.74	0.40	mg/l		1.77			2	10	
Matrix Spike (W4B0653-MS1)	**Source: 4B07070-01**			Analyzed: 02/18/14 13:17						
TKN	6.93	0.40	mg/l	4.00	2.91	100	90-110			
Matrix Spike (W4B0653-MS2)	**Source: 4B07073-01**			Analyzed: 02/18/14 13:17						
TKN	2.52	0.20	mg/l	2.00	0.670	93	90-110			
Matrix Spike Dup (W4B0653-MSD1)	**Source: 4B07070-01**			Analyzed: 02/18/14 13:17						
TKN	6.99	0.40	mg/l	4.00	2.91	102	90-110	0.9	10	
Matrix Spike Dup (W4B0653-MSD2)	**Source: 4B07073-01**			Analyzed: 02/18/14 13:17						
TKN	2.53	0.20	mg/l	2.00	0.670	93	90-110	0.3	10	

Metals by EPA 200 Series Methods - Quality Control

Batch W4B0375 - EPA 200.7

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4B0375-BLK1)				Analyzed: 02/10/14 15:55						
Copper, Total	ND	0.010	mg/l							
Lead, Total	ND	0.0050	mg/l							

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Metals by EPA 200 Series Methods - Quality Control

Batch W4B0375 - EPA 200.7

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4B0375-BLK1)				Analyzed: 02/10/14 15:55						
Selenium, Total	ND	0.030	mg/l							
Zinc, Total	ND	0.050	mg/l							
LCS (W4B0375-BS1)				Analyzed: 02/10/14 15:58						
Copper, Total	0.198	0.010	mg/l	0.200		99	85-115			
Lead, Total	0.204	0.0050	mg/l	0.200		102	85-115			
Selenium, Total	0.205	0.030	mg/l	0.200		102	85-115			
Zinc, Total	0.194	0.050	mg/l	0.200		97	85-115			
Matrix Spike (W4B0375-MS1)	**Source: 4B07077-01**			Analyzed: 02/10/14 16:31						
Copper, Total	0.227	0.010	mg/l	0.200	0.0178	105	70-130			
Lead, Total	0.211	0.0050	mg/l	0.200	0.00345	104	70-130			
Selenium, Total	0.215	0.030	mg/l	0.200	ND	107	70-130			
Zinc, Total	0.420	0.050	mg/l	0.200	0.211	104	70-130			
Matrix Spike (W4B0375-MS2)	**Source: 4B07059-01**			Analyzed: 02/10/14 16:36						
Copper, Total	0.277	0.010	mg/l	0.200	0.0632	107	70-130			
Lead, Total	0.204	0.0050	mg/l	0.200	ND	102	70-130			
Selenium, Total	0.221	0.030	mg/l	0.200	0.0101	105	70-130			
Zinc, Total	0.372	0.050	mg/l	0.200	0.155	109	70-130			
Matrix Spike Dup (W4B0375-MSD1)	**Source: 4B07077-01**			Analyzed: 02/10/14 16:33						
Copper, Total	0.232	0.010	mg/l	0.200	0.0178	107	70-130	2	30	
Lead, Total	0.217	0.0050	mg/l	0.200	0.00345	107	70-130	3	30	
Selenium, Total	0.224	0.030	mg/l	0.200	ND	112	70-130	4	30	
Zinc, Total	0.429	0.050	mg/l	0.200	0.211	109	70-130	2	30	
Matrix Spike Dup (W4B0375-MSD2)	**Source: 4B07059-01**			Analyzed: 02/10/14 16:38						
Copper, Total	0.279	0.010	mg/l	0.200	0.0632	108	70-130	0.8	30	
Lead, Total	0.204	0.0050	mg/l	0.200	ND	102	70-130	0.07	30	
Selenium, Total	0.228	0.030	mg/l	0.200	0.0101	109	70-130	3	30	
Zinc, Total	0.371	0.050	mg/l	0.200	0.155	108	70-130	0.3	30	

Microbiological Parameters by Standard Methods - Quality Control

Batch W4B0809 - SM 9221F

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4B0809-BLK1)				Analyzed: 02/06/14 18:50						
E. coli	ND	2.0	MPN/100 ml							
Fecal Coliform	ND	2.0	MPN/100 ml							
Total Coliform	ND	2.0	MPN/100 ml							
Blank (W4B0809-BLK2)				Analyzed: 02/06/14 23:00						
E. coli	ND	2.0	MPN/100 ml							

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Microbiological Parameters by Standard Methods - Quality Control

Batch W4B0809 - SM 9221E

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4B0809-BLK2)				Analyzed: 02/06/14 23:00						
Fecal Coliform	ND	2.0	MPN/100 ml							
Total Coliform	ND	2.0	MPN/100 ml							

Semivolatile Organics - Low Level by GC/MS SIM Mode - Quality Control

Batch W4B0592 - EPA 625

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4B0592-BLK1)				Analyzed: 02/20/14 03:55						
1-Methylnaphthalene	ND	0.10	ug/l							
2-Methylnaphthalene	ND	0.10	ug/l							
Acenaphthene	ND	0.10	ug/l							
Acenaphthylene	ND	0.10	ug/l							
Anthracene	ND	0.10	ug/l							
Benzo (a) anthracene	ND	0.10	ug/l							
Benzo (a) pyrene	ND	0.10	ug/l							
Benzo (b) fluoranthene	ND	0.10	ug/l							
Benzo (g,h,i) perylene	ND	0.10	ug/l							
Benzo (k) fluoranthene	ND	0.10	ug/l							
Chrysene	ND	0.10	ug/l							
Dibenzo (a,h) anthracene	ND	0.10	ug/l							
Fluoranthene	ND	0.10	ug/l							
Fluorene	ND	0.10	ug/l							
Indeno (1,2,3-cd) pyrene	ND	0.10	ug/l							
Naphthalene	ND	0.10	ug/l							
Phenanthrene	ND	0.10	ug/l							
Pyrene	ND	0.10	ug/l							
Surr: 2-Fluorobiphenyl	*3.87*		*ug/l*	*5.00*		*77*	*22-107*			
Surr: Nitrobenzene-d5	*4.55*		*ug/l*	*5.00*		*91*	*27-111*			
Surr: Terphenyl-d14	*3.64*		*ug/l*	*5.00*		*73*	*28-113*			
LCS (W4B0592-BS1)				Analyzed: 02/20/14 04:29						
Acenaphthene	7.85	0.10	ug/l	10.0		78	47-145			
Acenaphthylene	8.58	0.10	ug/l	10.0		86	33-145			
Anthracene	8.66	0.10	ug/l	10.0		87	27-133			
Benzo (a) anthracene	8.89	0.10	ug/l	10.0		89	33-143			
Benzo (a) pyrene	7.76	0.10	ug/l	10.0		78	17-163			
Benzo (b) fluoranthene	8.39	0.10	ug/l	10.0		84	24-159			
Benzo (g,h,i) perylene	5.33	0.10	ug/l	10.0		53	0.1-219			
Benzo (k) fluoranthene	8.45	0.10	ug/l	10.0		84	11-162			
Chrysene	9.39	0.10	ug/l	10.0		94	17-168			
Dibenzo (a,h) anthracene	5.78	0.10	ug/l	10.0		58	0.1-227			

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Semivolatile Organics - Low Level by GC/MS SIM Mode - Quality Control

Batch W4B0592 - EPA 625

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
LCS (W4B0592-BS1)				Analyzed: 02/20/14 04:29						
Fluoranthene	8.96	0.10	ug/l	10.0		90	26-137			
Fluorene	7.91	0.10	ug/l	10.0		79	59-121			
Indeno (1,2,3-cd) pyrene	5.80	0.10	ug/l	10.0		58	0.1-171			
Naphthalene	7.86	0.10	ug/l	10.0		79	21-133			
Phenanthrene	8.75	0.10	ug/l	10.0		88	54-120			
Pyrene	9.01	0.10	ug/l	10.0		90	52-115			
Surr: 2-Fluorobiphenyl	*3.77*		*ug/l*	*5.00*		*75*	*22-107*			
Surr: Nitrobenzene-d5	*4.17*		*ug/l*	*5.00*		*83*	*27-111*			
Surr: Terphenyl-d14	*3.61*		*ug/l*	*5.00*		*72*	*28-113*			
LCS Dup (W4B0592-BSD1)				Analyzed: 02/20/14 05:02						
Acenaphthene	7.39	0.10	ug/l	10.0		74	47-145	6	30	
Acenaphthylene	8.16	0.10	ug/l	10.0		82	33-145	5	30	
Anthracene	7.78	0.10	ug/l	10.0		78	27-133	11	30	
Benzo (a) anthracene	8.40	0.10	ug/l	10.0		84	33-143	6	30	
Benzo (a) pyrene	6.98	0.10	ug/l	10.0		70	17-163	11	30	
Benzo (b) fluoranthene	7.60	0.10	ug/l	10.0		76	24-159	10	30	
Benzo (g,h,i) perylene	4.85	0.10	ug/l	10.0		49	0.1-219	9	30	
Benzo (k) fluoranthene	7.55	0.10	ug/l	10.0		75	11-162	11	30	
Chrysene	8.36	0.10	ug/l	10.0		84	17-168	12	30	
Dibenzo (a,h) anthracene	5.28	0.10	ug/l	10.0		53	0.1-227	9	30	
Fluoranthene	8.11	0.10	ug/l	10.0		81	26-137	10	30	
Fluorene	7.34	0.10	ug/l	10.0		73	59-121	8	30	
Indeno (1,2,3-cd) pyrene	5.35	0.10	ug/l	10.0		53	0.1-171	8	30	
Naphthalene	7.42	0.10	ug/l	10.0		74	21-133	6	30	
Phenanthrene	7.94	0.10	ug/l	10.0		79	54-120	10	30	
Pyrene	8.12	0.10	ug/l	10.0		81	52-115	10	30	
Surr: 2-Fluorobiphenyl	*3.59*		*ug/l*	*5.00*		*72*	*22-107*			
Surr: Nitrobenzene-d5	*3.93*		*ug/l*	*5.00*		*79*	*27-111*			
Surr: Terphenyl-d14	*3.30*		*ug/l*	*5.00*		*66*	*28-113*			

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Notes and Definitions

M-06	Due to the high concentration of analyte inherent in the sample, sample was diluted prior to preparation. The MDL and MRL were raised due to this dilution.
ND	NOT DETECTED at or above the Reporting Limit. If J-value reported, then NOT DETECTED at or above the Method Detection Limit (MDL)
NR	Not Reportable
Dil	Dilution
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
% Rec	Percent Recovery
Sub	Subcontracted analysis, original report available upon request
MDL	Method Detection Limit
MDA	Minimum Detectable Activity
MRL	Method Reporting Limit

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

An Absence of Total Coliform meets the drinking water standards as established by the California Department of Health Services.

The Reporting Limit (RL) is referenced as the Laboratory's Practical Quantitation Limit (PQL) or the Detection Limit for Reporting Purposes (DLR).

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.