



ADAPTIVE MANAGEMENT REPORT

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Los Angeles Regional
Water Quality
Control Board

Prepared by:
Palos Verdes
Peninsula
Watershed
Management Group

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Acronyms and Abbreviations

303(d) List	California's Clean Water Act Section 303(d) List
BMP	Best Management Practice
CFR	Code of Federal Regulations
CGP	The State Board's Construction General Permit Order No. 2009-0009-DWQ, or as amended.
CIMP	The Peninsula Watershed Group Coordinated Integrated Monitoring Program
County	The LACFCD and the LA County DPW
CPS	Connector Pipe Screens
CWA	Clean Water Act
DDT	Dichlorodiphenyltrichloroethane
DTSC	Department of Toxic Substances Control
ESCP	Erosion and Sediment Control Plan
EWMP	The Peninsula Watershed Group Enhanced Watershed Management Program
IC/ID	Illicit Connection and Illicit Discharges
IPM	Integrated Pest Management
J7	Jurisdiction 7
LA County DPW	Los Angeles County Department of Public Works
LACFCD	Los Angeles County Flood Control District
LACSD	Los Angeles County Sanitation District
LID	Low Impact Development
MAL	Municipal Action Level
MOU	Memorandum of Understanding
MRP	Monitoring and Reporting Program
MS4	Municipal Separate Storm Sewer System
MS4 Permit	The Los Angeles Regional Water Quality Control Board Order No. R4-2012-0175
NPDES	National Pollutant Discharge Elimination System
NSW	Non-stormwater
PCBs	Polychlorinated biphenyls
PIPP	Public Information and Participation Program
POP	Point of Purchase
PVP	Palos Verdes Peninsula
RAA	Reasonable Assurance Analysis
Regional Board	California Regional Water Quality Control Board, Los Angeles Region
RHECH	Rolling Hills Estates City Hall monitoring location
SMARTS	State Water Resources Control Board's Storm Water Multiple Application and Report Tracking System
SMB	Santa Monica Bay
SMBBB	Santa Monica Bay Beaches Bacteria
SMBRC	Santa Monica Bay Restoration Commission

SSF	Subsurface Flow
State Board	California State Water Resources Control Board
SWPPP	Stormwater Pollution Prevention Plan
TLR	Target Load Reduction
TMDL	Total Maximum Daily Load
TMRP	Trash Monitoring and Reporting Plan
TN	Total Nitrogen
TP	Total Phosphorus
TSS	Total Suspended Solids
USEPA	United States Environmental Protection Agency
WBPC	Water Body-Pollutant Combination
WLA	Waste Load Allocations
WCM	Watershed Control Measure
WMA	Watershed Management Area
WMG	Watershed Management Group
WQBEL	Water Quality Based Effluent Limitations
303(d) List	California's Clean Water Act Section 303(d) List
BMP	Best Management Practices
CGP	The State Board's Construction General Permit Order No. 2009-0009-DWQ, or as amended.
CIMP	The Peninsula Watershed Group Coordinated Integrated Monitoring Program
County	The LACFCD and the LA County DPW
CWA	Clean Water Act
CWC	California Water Code
ESCP	Erosion and Sediment Control Plan
EWMP	The Peninsula Watershed Group Enhanced Watershed Management Program
IPM	Integrated Pest Management
LA County DPW	Los Angeles County Department of Public Works
LACFCD	Los Angeles County Flood Control District
LID	Low Impact Development
MAL	Municipal Action Level
MRP	Monitoring and Reporting Program
MS4	Municipal Separate Storm Sewer System
MS4 Permit	The Los Angeles Regional Water Quality Control Board Order No. R4-2012-0175
NPDES	National Pollutant Discharge Elimination System
NSW	Nonstormwater
PIPP	Public Information and Participation Program
PVP	Palos Verdes Peninsula
RAA	Reasonable Assurance Analysis
Regional Board	California Regional Water Quality Control Board, Los Angeles Region

SMARTS	State Water Resources Control Board's Storm Water Multiple Application and Report Tracking System
State Board	California State Water Resources Control Board
SWPPP	Stormwater Pollution Prevention Plan
TLR	Target Load Reduction
TMDL	Total Maximum Daily Load
TSS	Total Suspended Solids
USEPA	United States Environmental Protection Agency
WLA	Waste Load Allocations
WCM	Watershed Control Measure
WMG	Watershed Management Group
WQBEL	Water Quality Based Effluent Limitations

1 Introduction

The Palos Verdes Peninsula Watershed Management Group (PVP WMG) is comprised of the Cities of Palos Verdes Estates, Rancho Palos Verdes, Rolling Hills Estates and Unincorporated County of Los Angeles and the Los Angeles County Flood Control District (LACFCD). The City of Rolling Hills, a participating member of the Coordinated Integrated Monitoring Program (CIMP), but not the Enhanced Watershed Management Program (EWMP), will respond to Adaptive Management questions through its individual annual report. See **Figure 1** for a map of the PVP EWMP Watershed Management Area (WMA). The PVP WMG developed an EWMP, which was approved by the Regional Board on April 19, 2016, to achieve compliance with MS4 Permit requirements of the Los Angeles Regional Water Quality Control Board (Regional Board) Order R4-2012-0175¹. As outlined in §VI.C.8 of the Los Angeles County MS4 Permit, the WMG shall implement an adaptive management process every two years from the date of approval of the EWMP to evaluate and improve its effectiveness. The adaptive management process discussed in this report is based on data and information collected through June 30, 2018. The subsequent sections of this report follow the reporting requirements outlined in the Watershed Annual Report form² Section 7, the EWMP approval letter³, and the Monitoring and Reporting Program (MRP)⁴ of the MS4 Permit.

Figure 1: Map of PVP Watershed Management Area



¹ NPDES Permit No. CAS004001 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.

² As required in §XVIII.A.6 of the Monitoring and Reporting Program (MRP), Attachment E of the MS4 Permit.

³ Dated April 19, 2016.

⁴ Attachment E

1.1 Land Uses

The PVP EWMP WMA predominantly consists of single-family residential (55.6%) and open space (32.8%) land uses. Very little multi-family residential (2.8%) and commercial areas (2.2%) and no industrial areas exist. A breakdown of land uses is shown in **Table 1**. Drainage within the PVP EWMP WMA is conveyed via natural, soft-bottom canyons and engineered storm drain networks. As discussed in the next section, the unique nature of the Palos Verdes Peninsula and distribution of land uses in turn influence the effectiveness of control measures.

Table 1 Land Distributions within the PVP EWMP Area

Watershed	COM	EDU	OS	OTHER	OTHER (R)	PUB	MFR	SFR
Dominguez Channel	3.10%	5.00%	18.40%	3.90%	1.40%	0.40%	2.90%	64.80%
Santa Monica Bay	1.60%	3.30%	41.20%	0.30%	0.00%	0.50%	2.70%	50.20%
Total	2.20%	3.90%	32.80%	1.60%	0.50%	0.40%	2.80%	55.60%

COM: Commercial
 EDU: Educational facility
 OS: Open space (i.e. park, recreational facility (i.e. stable, golf course), preserved land, and vacant)
 Other: Churches, cemetery
 Other (R): Reservoir
 PUB: Public facility (i.e. fire, police, city hall)
 MFR: Multi-family residential
 SFR: Single-family residential
 Note: A total of 0.2% are zoned as roads and are not included in this table.

2 Program Assessment

This chapter follows Sections 7.1.(a) and (b) of the Watershed Annual Report form.

2.1 Control Measure Effectiveness

This section summarizes the most effective and least effective control measures on a watershed scale. As described in Section 3 of the EWMP, Watershed Control Measures (WCMs) were identified and are being implemented by the Peninsula WMG agencies both individually at the jurisdictional level and collectively at the watershed scale.

2.1.1 Identification of the Most Effective Control Measures

The most effective structural and non-structural control measures have been identified in the subsequent sections below.

2.1.1.1 Industrial/Commercial Facilities Program

PVP WMG agencies perform inspections at commercial facilities within their respective jurisdictions to ensure that such facilities are not illicitly discharging to the MS4. Enforcement actions are taken (e.g. issuance of Notice of Violations) when illicit discharges from the site are observed or reported and follow up inspections are conducted until the site is in compliance. PVP agencies participate in the Clean Bay

Certified Restaurants (CBR) program managed by The Bay Foundation. Through this program, rigorous inspections are conducted annually at restaurants utilizing a 49-point stormwater inspection checklist to ensure that wastes generated from food services (i.e. fats, oils, grease) are properly managed and disposed of and that activity restrictions (e.g. no power washing of facilities and equipment to the MS4) are in place. The inspection checklist also includes items related to trash enclosure maintenance, grease handling and spill prevention, water conservation, and education and training. Restaurants that demonstrate 100% compliance with the CBR inspection checklist earn CBR Program certification and are publicly recognized for their efforts. Through this enhanced control measure, PVP WMG agencies are able to minimize illicit discharges and pollutants (e.g. bacteria, nutrients and trash) associated with restaurant activities from entering the MS4. During the FY17-18 reporting year, 32 establishments (roughly 28%) within the PVP EWMP WMA were awarded CBR certificates. For two of the PVP WMG agencies, this was only the second year of implementing the CBR program, the results of which demonstrated increased awareness of water quality issues and positively reinforced behavioral changes through the recognition process.

There are no industrial facilities located within the PVP EWMP WMA, as such that portion of this control measure does not apply.

2.1.1.2 Illicit Connection and Illicit Discharges (IC/ID) Elimination Program

PVP WMG agencies pro-actively respond to IC/ID by conducting source investigations, eliminating the source, reporting to the appropriate authority, cleaning up the discharge, and conducting annual training for staff. This control measure significantly reduces, and in many cases prevents, spills and other illicit discharges from reaching receiving waters, thereby minimizing pollutants from also entering the MS4 and receiving waters. Additional measures have been implemented for non-stormwater (NSW) discharges, which are discussed in Section 2.1.1.5 “Non-Stormwater Discharge Measures” below.

2.1.1.3 Public Agency Activities Program

The PVP WMG is subject to two trash total maximum daily loads (TMDLs): Machado Lake Trash TMDL and Santa Monica Bay Nearshore and Offshore Debris TMDL. Compliance with these TMDLs is based on the installation of full capture devices, such as Connector Pipe Screens (CPS), in catch basins that drain to these receiving waters, supplemented with institutional controls. See Section 2.2.1 for progress toward achieving WQBELs for these TMDLs. Installation of full capture devices prevents not only trash but also sediment and landscape trimmings from entering the MS4, thereby also targeting less visible forms of pollution that adhere to solid waste and/or are sediment-borne. These include pollutants from roadway vehicles (i.e. hydrocarbons and metals: copper, lead, zinc, etc.), landscaping chemicals (i.e. pesticides), and nutrients (i.e. phosphorus and nitrogen). Note, the PVP WMG area typically generates low amounts of trash as the primary land uses are residential and open space.

Additionally, PVP WMG agencies implement street sweeping, with increased frequencies in high traffic areas, and have increased catch basin cleaning frequencies, which reduce potential pollutant loads to receiving waters. PVP WMG staff also participate in joint annual trainings which allow PVP agencies to share methodologies and experiences, thereby further promoting interagency coordination and the spreading of ideas to improve program effectiveness.

2.1.1.4 Public Information and Participation Program (PIPP)

The PVP WMG has collaborated on several PIPP outreach materials targeted at sources and pollutants of concern for the PVP WMG such as nutrients and sediment-borne metals and legacy toxic pollutants. These outreach pieces are geared toward specific audiences and dischargers to deter bad practices and affect behavior change. The predominant land use in the PVP EWMP WMA is residential with limited areas of commercial and institutional land use. The PVP EWMP WMA is also largely built-out so there are few construction projects more than one acre in size (the Chandler Ranch/Rolling Hills Country Club redevelopment being one notable exception). The following public outreach materials have been developed since approval of the PVP EWMP to target audiences and sources of concern:

- Construction BMPs brochure for sites less than one acre in disturbed area
- Sustainable Gardening and Landscaping and Integrated Pest Management (IPM) webpages, which are being hosted on the South Bay Environmental Services Center website:
<http://www.southbaycities.org/programs/environmentally-friendly-landscaping-gardening-and-pest-control>
- Website content outlining BMPs for conditionally exempt dischargers (e.g. street/sidewalk washing, residential/charity car washing, etc.)

A tip card for mobile businesses (e.g. carpet cleaners, dog groomers, window washers, mobile car washers, etc.) is currently in development in collaboration with Beach Cities WMG.

The PVP WMG will also continue to participate in county-wide outreach campaigns led by Los Angeles County and will utilize outreach materials for the county-wide program as needed for individual and watershed outreach.

2.1.1.5 Non-Stormwater Discharge Measures

The PVP WMG has undertaken efforts to address non-stormwater discharges through the CIMP by following the requirements of the non-stormwater outfall screening and investigation procedures outlined in the MS4 Permit's Attachment E Monitoring and Reporting Program, in which non-stormwater sources for outfalls with significant flow have been identified. See the Watershed Annual Report for more information. Additionally, the PVP WMG agencies have implemented several measures to reduce non-stormwater runoff. These include irrigation reduction incentive programs, Ocean Friendly Landscape Workshops, and efficient irrigation and landscaping ordinances. Water conservation measures within the Peninsula EWMP WMA have been effective in reducing water use which translates into a parallel reduction in outdoor water use and non-stormwater runoff. Conservation programs utilized by customers in California Water Service Palos Verdes System achieved a savings of 21 million gallons in 2016, with 15 million gallons attributed to irrigation equipment and landscape improvements⁵.

2.1.2 Identification the Least Effective Control Measures

2.1.2.1 Planning and Land Development

The least effective control measure for the PVP WMG is the Planning and Land Development Program in which Low Impact Development (LID) BMPs are required for qualifying development projects. The Permit prioritizes infiltration BMPs; however, due to the unique geological nature of the Palos Verdes Peninsula,

⁵ California Water Service: Palos Verdes System 2016 Conservation Report
https://www.calwater.com/docs/conservation/update/2016/2016_report-pv.pdf

infiltration is often infeasible. Frequent geologic movement is prevalent throughout the Palos Verdes Peninsula and extensive research has documented areas where geotechnical hazards exist and are a concern (see **Figure 2**). These geologic conditions coupled with additional areas where rising groundwater is a known concern have limited the feasibility and effectiveness of LID infiltration projects through the Planning and Land Development program. Additionally, the analysis performed in the EWMP indicates biofiltration systems are not as effective as infiltration BMPs in pollutant removal. For example, biotreatment cannot reliably attain the Machado Lake Nutrient TMDL 0.1 mg/L final Total Phosphorus objective. Thus, green street solutions and LID on redevelopment projects are of limited value in the PVP EWMP WMA.

As shown in Table 3b of the PVP Watershed Annual Report, a total of 8 new/redevelopment and other non-regional projects subject to Low Impact Development (LID) have been completed since July 2015 — these projects address 12.24 acres of the PVP EWMP WMA out of a total of 14,464 acres (22.6 square miles). This amounts to 0.08% of the PVP EWMP WMA addressed by LID over a 3-year period or an annual rate of 0.03%. This rate of redevelopment is significantly lower than the rates assumed in the PVP EWMP RAA (see footnote in Table 3a of Section 3 of the Watershed Annual Report).

As previously described in Section 1.1, the predominant land use in the PVP EWMP WMA is single-family residential, and most redevelopment projects that are proposed do not meet the thresholds that would trigger LID (i.e., the threshold for single-family residential projects is 10,000 square feet of impervious area and most single-family residential projects are not of that size). Projects that do trigger LID requirements usually face considerable lag time between project submittal/plan check and actual construction and completion of the project. It can be several years from the time a project is conditioned for LID to the time construction is completed.

Despite these challenges, the group will continue to explore improvements that can be made to the LID and Downspout Disconnect Programs, such as incentives through Measure W funding. Additionally, PVP WMG agencies continue to be committed to preserving open space land. Large portions of the Peninsula are dedicated open space reserves and/or are zoned as open space, to include dedicated parklands (see **Figure 3**). The Palos Verdes Nature Preserve consists of 11 reserves within the PVP EWMP WMA, encompassing approximately 1,400 acres and is co-managed by the Palos Verdes Peninsula Land Conservancy for ecological values and habitat restoration. Two other preserves, separate from the Palos Verdes Nature Preserve, are also within PVP WMG boundaries and consist of a total of 65 acres.

Figure 2: Geologic Hazards in PVP

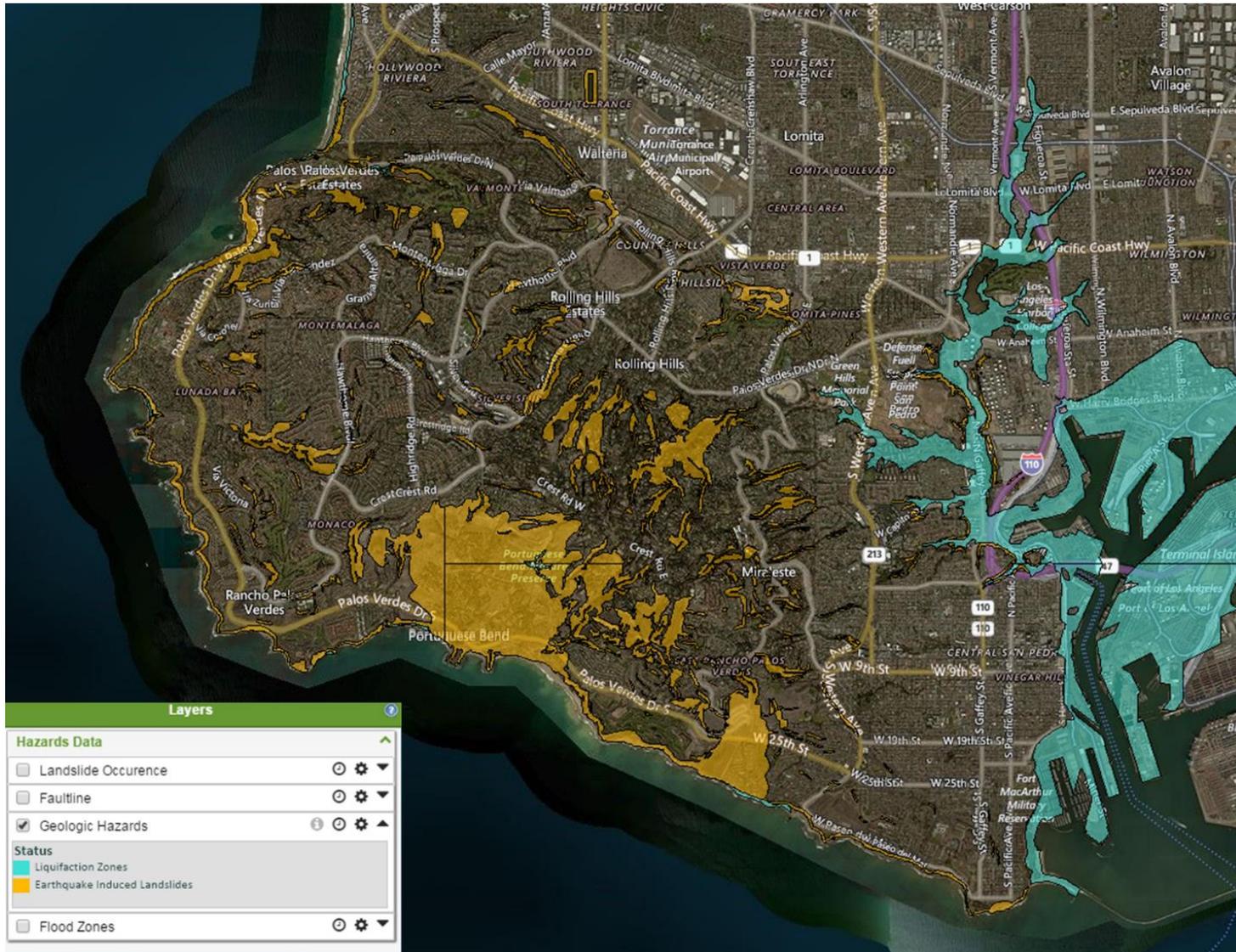
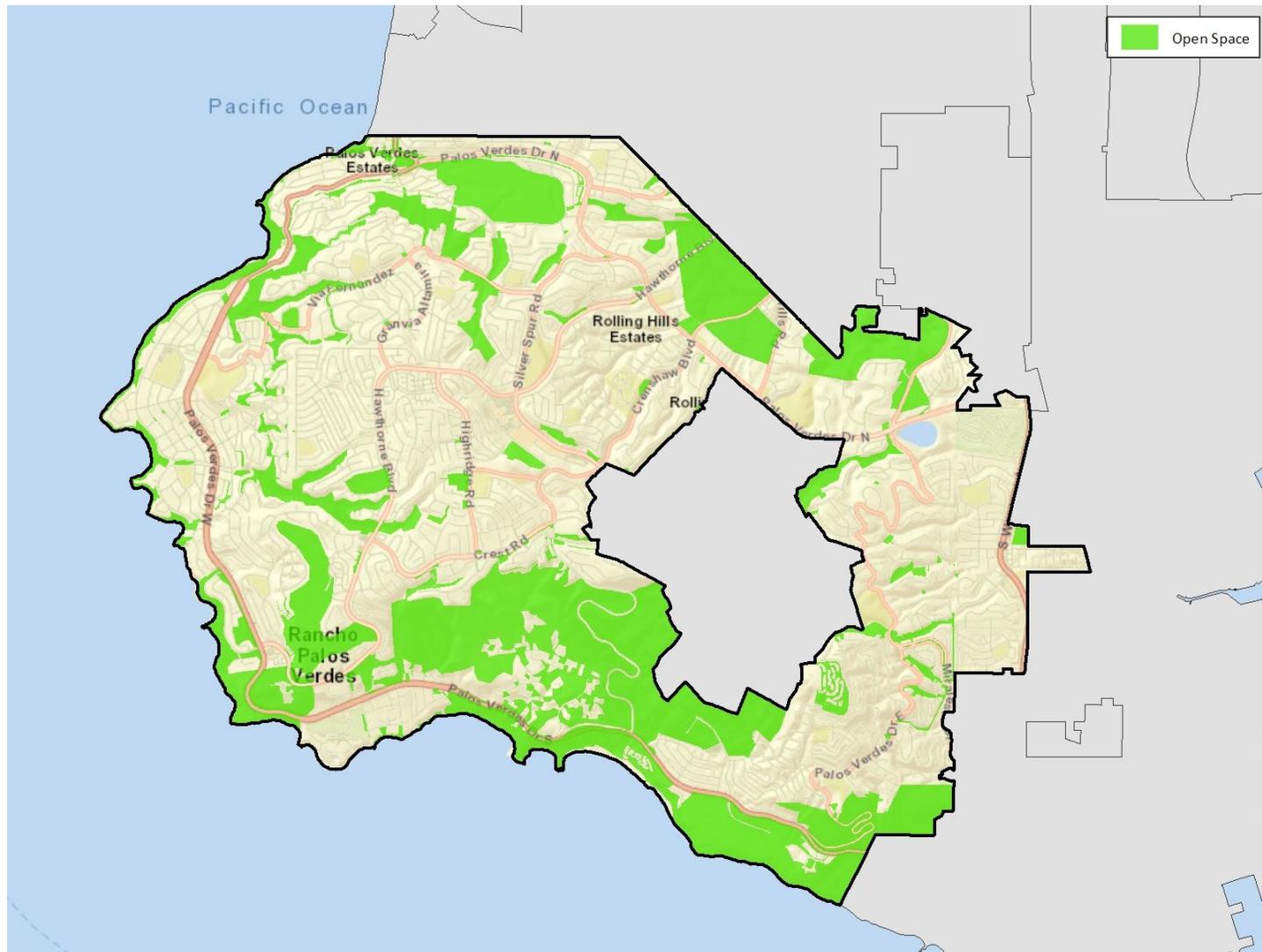


Figure 3: Open Space Zoning in the Peninsula WMG



2.2 Assessment of Milestones

The purpose of this section is to evaluate progress toward achieving milestones, including applicable Water Quality Based Effluent Limits (WQBELs) and Waste Load Allocations (WLAs), stormwater retention, and multi-year efforts.

2.2.1 Progress Toward Achieving Applicable WQBELs & WLAs and Improved Water Quality in MS4 Discharges and Receiving Waters

The PVP WMG is subject to TMDLs established in Attachments M and N of the Permit and milestones set forth in the PVP EWMP. The subsequent sub-sections discuss the progress toward achieving the interim and final milestones set forth in these TMDLs with comparisons to RAA projections where applicable. See Section 3 of the Watershed Annual Report for additional information.

2.2.1.1 TMDLs in Santa Monica Bay WMA (Attachment M of Permit)

2.2.1.1.1 Santa Monica Bay Beaches Bacteria (SMBBB) TMDL

The final compliance deadline for dry weather bacteria single-sample objectives was July 2, 2014, the effective date of the revised SMBBB TMDL⁶. The final compliance deadline for wet weather Single Sample Objectives is July 15, 2021. Historical data of exceedances of the Annual Allowable Exceedance Days of the Single Sample Objective within the Permit term through the current reporting year are summarized in **Table 4**. The data indicate the following:

- No summer dry weather exceedances of Annual Allowable Exceedance Days occurred during the six years since permit adoption at 3 of the 5 monitoring locations; while at the other two monitoring locations summer dry weather exceedances above the Annual Allowable Exceedance Days occurred in only one of the six years.
- No winter dry weather exceedances of Annual Allowable Exceedance Days occurred during the six years since permit adoption at 4 out of 5 monitoring locations. At one monitoring location winter dry weather exceedances of Annual Allowable Exceedance days occurred during three of the six reporting years.
- Wet weather exceedances of Annual Allowable Exceedance Days are rare. Two of the five monitoring locations have exhibited no exceedances above Annual Allowable Exceedance Days since permit adoption, and the other three monitoring locations exceeded the Annual Allowable Exceedance Days only during reporting year 2016-17, which was an unusually wet winter season that exceeded the critical wet year for the SMBBB TMDL at one of the two rain gauges utilized in the Peninsula CIMP.

The TMDL also requires analysis of geometric means for three indicator bacteria (i.e. total coliform, fecal coliform, and enterococcus). Data indicate that exceedances of the geometric mean limitations are rare with no exceedances occurring at any of the monitoring locations during five out of six years since reporting year 2012-13.. During the relatively wet 2016-17 reporting year, three of the monitoring locations exhibited no (0) geometric mean exceedances, one monitoring location exhibited one (1) geometric mean exceedance, and one monitoring location exhibited two (2) geometric mean

⁶ Attachment A to Resolution No. R12-007.

exceedances. (see **Table 5**) Final compliance with geometric mean limitations is due no later than July 15, 2021.

The data generally indicates that exceedances of the Single Sample Objectives are infrequent, and when observed are more likely due to natural fluctuations or background causes (e.g. the presence of ocean debris, birds, dead birds or marine mammals, heavy surf, increased wave height and wind speed⁷) rather than anthropogenic. Thus, stormwater control measures implemented by the PVP WMG continue to be effective in maintaining the high-quality recreational shoreline waters of Santa Monica Bay. Since no additional target load reductions were needed to attain the critical condition target load reduction as demonstrated in the approved EWMP, the Implementation of enhanced Control Measures provides an additional margin of safety in the Santa Monica Bay Watershed Areas above and beyond what is needed to meet the critical condition target load reduction. See **Table 2**.

Additionally, all of the PVP J7 monitoring locations have consistently been rated with grades of B or higher (mostly A+) annually through Heal the Bay Annual Beach Report Card⁸, with the exception of one C grade at SMB 7-4 for wet weather in 2017 due to a particularly wet winter season which is unusual for the region (see **Table 3**). Furthermore, all five PVP J7 sites were recommended by the State Water Board to be delisted from the 2014/2016 303(d) list for indicator bacteria, which was approved by the USEPA on April 6, 2018, indicating that Peninsula shoreline waters are no longer considered to be impaired for indicator bacteria.

Table 2: SMBBB TMDL RAA Comparison

Watershed	TMDL	RAA Analysis Region	Pollutant Analyzed	Critical Condition TLR*	Progress in Load Reduction Beyond Critical Condition as Projected by RAA	IS TLR Met?
Santa Monica Bay	SMBBB	SMB 7-1	Fecal Coliform	0%	7.5%	Yes
Santa Monica Bay	SMBBB	SMB 7-2	Fecal Coliform	0%	7.5%	Yes
Santa Monica Bay	SMBBB	SMB 7-3	Fecal Coliform	0%	7.5%	Yes
Santa Monica Bay	SMBBB	SMB 7-4	Fecal Coliform	0%	7.5%	Yes
Santa Monica Bay	SMBBB	SMB 7-5	Fecal Coliform	0%	7.5%	Yes

*Target Load Reduction reported as percent baseline load for the 1995 critical year

⁷ February 2008 Los Angeles County Department of Public Works. Santa Monica Bay Beaches Bacterial Indicator TMDL Compliance Study-Final Report, prepared by Weston Solutions.

⁸ This report provides a third-party rating system that evaluates beach water quality on an annual basis at California beaches. This report is based on water quality monitoring results over the entire year.

Table 3: Heal the Bay Annual Beach Report Card 2012-2017

SMB Station	Beach Monitoring Location	Year	Annual Grades by Season		
			Summer Dry	Winter Dry	Annual Wet
7-1	Malaga Cove	2012	A	A	A
		2013	A	A	A
		2014	A+	A+	A+
		2015	A	A+	A+
		2016	B	A	A+
		2017	A	A+	A
7-2	Bluff Cove	2012	A+	A+	A+
		2013	A+	A+	A+
		2014	A	A+	A+
		2015	A+	A+	A+
		2016	A+	A	A+
		2017	A+	A+	A+
7-3	Long Point	2012	A+	A+	A
		2013	A	A	A+
		2014	A+	A	B
		2015	A+	A+	B
		2016	A+	A+	A+
		2017	A+	A+	B
7-4	Abalone Cove	2012	A+	A+	A+
		2013	A+	A+	A+
		2014	A+	A+	A+
		2015	A+	A+	A+
		2016	A+	A+	A+
		2017	A+	A+	C
7-5	Portuguese Bend Cove	2012	A	A+	A+
		2013	A	A+	A+
		2014	A+	A+	A+
		2015	A+	A+	A+
		2016	A+	A+	A+
		2017	A+	A+	A+

Source: <https://beachreportcard.org>

Table 4: Summary of Exceedances of the Annual Allowable Exceedance Days of the Single Sample Objective

Station ID	SMB 7-1			SMB 7-2			SMB 7-3			SMB 7-4			SMB 7-5		
Season*	Summer Dry	Winter Dry	Wet Weather	Summer Dry	Winter Dry	Wet Weather	Summer Dry	Winter Dry	Wet Weather	Summer Dry	Winter Dry	Wet Weather	Summer Dry	Winter Dry	Wet Weather
Reporting Year	No. of Exceedances of Annual Allowable Exceedance Days			No. of Exceedances of Annual Allowable Exceedance Days			No. of Exceedances of Annual Allowable Exceedance Days			No. of Exceedances of Annual Allowable Exceedance Days			No. of Exceedances of Annual Allowable Exceedance Days		
2012-13	1	0	0	0	0	0	2	1	0	0	0	0	0	0	0
2013-14	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
2014-15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2015-16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2016-17	0	0	2	0	0	0	0	0	1	0	0	1	0	0	0
2017-18	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0

* Summer Dry (April 1 – October 31)
 Winter Dry (November 1 – March 31)
 Wet Weather (Year-Round)

Table 5: SMBBB TMDL Geometric Means Data Summary

Reporting Year	SMB Station	Did Geometric Mean Exceedances Occur?	Constituent that Exceeded Geometric Mean	# of Exceedances
2012-13	All	No	N/A	N/A
2013-14	All	No	N/A	N/A
2014-15	All	No	N/A	N/A
2015-16	All	No	N/A	N/A
2016-17	7-1	Yes	Enterococcus	2
	7-4	Yes	Enterococcus	1
2017-18	All	No	N/A	N/A

Geometric mean compliance deadline July 15, 2021.

2.2.1.1.2 Santa Monica Bay (SMB) Nearshore and Offshore Debris TMDL

The PVP WMG was awarded \$600,000 in funding from the Santa Monica Bay Restoration Commission (SMBRC) for a Prop 84 grant to assist the agencies in the installation of certified full capture devices for trash on catch basins within the Santa Monica Bay Watershed to address the SMB Nearshore and Offshore Debris TMDL. This grant funding will enable the PVP WMG to install full capture systems for trash in catch basins throughout the PVP EWMP WMA to complete the attainment of the final SMB Nearshore and Offshore Debris TMDL WLAs under an expedited schedule utilizing a single contracting mechanism.

As described in Section 3.2, the PVP WMG requested a change in the implementation schedule of the EWMP for this TMDL, which was approved by the Regional Board on February 12, 2018. **Table 6** below shows the TMDL schedule and **Table 7** shows the approved EWMP schedule.

Table 6: SMB Nearshore and Offshore Debris TMDL Schedule

Permittees	Baseline	3/20/16	3/20/17	3/20/18	3/20/19	3/20/20	Compliance Status
		(80%)	(60%)	(40%)	(20%)	(0%)	
Annual Trash Discharge (gals/yr)							
Palos Verdes Estates	3,346	2,677	2,007	1,338	669	0	Expected to be in full compliance by 2020 with the implementation of Prop 84 grant
Rancho Palos Verdes	7,254	5,803	4,353	2,902	1,451	0	
Rolling Hills Estates	365	292	219	146	73	0	

Table 7: SMB Nearshore and Offshore Debris TMDL EWMP Schedule

Dates & Milestones	2016	2017	2018	2019	2020
		20-Mar	20-Mar	20-Aug	20-Aug
% Reduction in Trash from Baseline or Action (A)	20%	40%	A*	A**	100%
*Execution of MOU for Prop 84 grant.					
** Complete 50% of full capture system installations by August 20, 2019.					

The City of Rancho Palos Verdes executed a grant agreement with the SWRCB Division of Financial Assistance on November 30, 2017. On June 20, 2018, the Cities of Palos Verdes Estates and Rolling Hills Estates entered into an MOU with the City of Rancho Palos Verdes for administration and cost sharing of matching funds and implement the Santa Monica Bay Catch Basin Insert Project which completes the first “action” milestone (August 20, 2018) in the revised EWMP approved by Regional Board staff. The next steps are to issue a request for bids for the installation of the catch basin inserts and select the contractor to carry out the work. See **Figure 4** for proposed catch basin retrofit locations. The 2019 and 2020 milestones are expected to be achieved on schedule.

Rolling Hills Estates:

Consistent with its approved Trash Monitoring and Reporting Plan (October 2016), the City of Rolling Hills Estates is utilizing a combined approach to demonstrate compliance with Santa Monica Bay Debris TMDL WLAs for trash through installation of full capture systems where feasible in combination with a

comprehensive program of institutional controls. There are only 294 acres within the City tributary to the Santa Monica Bay and this area consists of residential land use and open space. The City is documenting compliance through monitoring via Minimum Frequency of Assessment and Collection (MFAC). Based on the first year of monitoring data collected in 2017-18, the City is demonstrating compliance with the final Waste Load Allocations (WLAs) for the Santa Monica Bay Debris TMDL. Nevertheless, the City intends to retrofit catch basins within this area where feasible with certified full capture connector pipe screens and has executed a memorandum of understanding with the City of Rancho Palos Verdes for administration and cost sharing of matching funds to implement the Santa Monica Bay Catch Basin Insert grant project prior to the final Santa Monica Bay Debris TMDL WLA deadline.

Rancho Palos Verdes:

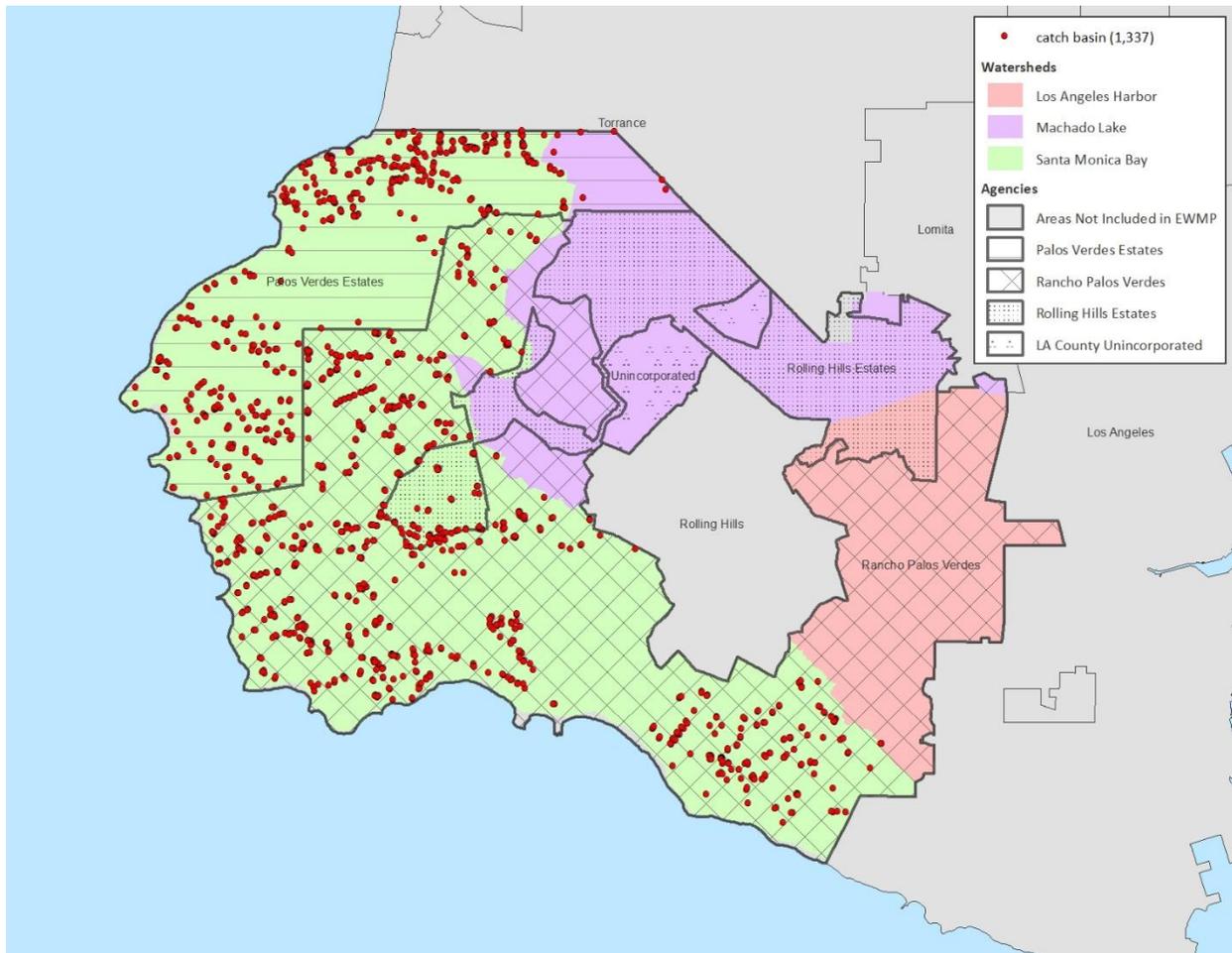
The City of Rancho Palos Verdes (City) is complying with the interim quality-based effluent limitations for trash discharged into Santa Monica Bay as detailed in the Santa Monica Bay Nearshore and Offshore Debris TMDL (TMDL). The City is employing a combination of full capture systems and institutional controls—all properly sized, operated, and maintained—to achieve a reduction in trash discharge of 60% or greater from the baseline load by March 20, 2018. The percent reduction of 90% was determined through a mass balance approach, based on a daily generation rate (DGR) study as described in the MS4 NPDES Permit.

Palos Verdes Estates:

On June 12, 2018 the Palos Verdes Estates City Council approved the Memorandum of Understanding among the cities of Rancho Palos Verdes, Palos Verdes Estates and Rolling Hills Estates relating to the administration and cost sharing for implementing the Proposition 84 Santa Monica Bay Catch Basin Insert Project, thereby accomplishing the August 20, 2018 milestone in the EWMP approved by the Regional Board. The Prop 84 Clean Beaches/Santa Monica Bay Restoration Grant Program will fund approximately 60% of the cost of installation of certified full capture devices throughout the Santa Monica Bay watershed area, with the balance of the cost to be drawn from each city's general fund. The City has budgeted capital improvement funds from its general fund to cover the remaining cost as its matching share of the grant project. Additionally, the City maintains a proactive litter abatement program and an intensive program of institutional controls.

For further details, see each respective City's Individual Annual Reports Section 8.

Figure 4: SMB Nearshore and Offshore Debris TMDL Proposed Locations for Full Capture Devices



2.2.1.1.3 Santa Monica Bay (SMB) TMDL for DDTs and PCBs

This is an USEPA established TMDL and therefore no final compliance schedule is established. However, compliance with this TMDL is to be determined based on a three-year averaging period as shown in the table below. With only two full years of monitoring complete, the group does not have enough data to provide three-year averaging values. However, preliminary data is shown in Table 8 below, indicating the annual loadings are well below the WLAs, consistent with the assumptions in the TMDL. Additionally, the Santa Monica Bay Offshore/Nearshore water body was removed from the 303(d) List for sediment toxicity, indicating that Peninsula shoreline waters are no longer considered to be impaired for sediment toxicity.

Table 8: Progress Data for SMB TMDL for DDTs and PCBs

Event	Monitoring Station	DDT (g/year)	PCBs (g/year)
SMB TMDL Annual Mass-Based WLA*		1.03	5.33
PVPOF-2016WetSS	Peninsula-SD1	0.16	0.20
	Peninsula-SD2**	0.14	0.03
PVPOF-2017/18WetSS	Peninsula-SD1	0.01	0.0004
	Peninsula-SD2	0.07	0.15
<p>*applied as a 3-year average based on area-share of WLA attributed to Peninsula WMG.</p> <p>**Flow data for stormwater outfall event 1/19/17 is not available for SD-2 due to personnel error in deploying equipment during the monitoring event and is therefore not included in this calculation. Note: The WLAs indicated in the TMDL are assigned to the entire SMB Watershed. The WLAs shown here are calculated as a percentage of the TMDL WLAs based on the Peninsula EWMP area.</p>			

2.2.1.2 TMDLs in Dominguez Channel and Greater Harbor Waters WMA (Attachment N of Permit)

2.2.1.2.1 Machado Lake Trash TMDL

Each city in the PVP WMG and the County of Los Angeles submitted a Trash Monitoring and Reporting Plan (TMRP) to the Regional Board proposing compliance via progressive installation of full capture devices throughout the Machado Lake Sub-watershed in order to achieve compliance with the Machado Lake Trash TMDL. In early 2014, each city in the PVP WMG, along with three other partner cities, were awarded a grant from the Proposition 84 Stormwater Grant Program to fund the installation of full capture trash devices within the Machado Lake subwatershed. With the financial assistance of the grant, the cities were able to complete the installations of over 2,000 inserts in the Machado Lake Watershed by December 2015. County also retrofitted all identified catch basins in the unincorporated area of the Machado Lake drainage area.

Rolling Hills Estates:

The City of Rolling Hills Estates is utilizing a combined approach to demonstrate compliance with Machado Lake WLAs for trash through installation of full capture systems in commercial and high-density residential areas of the City and a comprehensive program of institutional controls and Minimum Frequency of Assessment and Collection (MFAC) in the remaining areas of the City consisting of medium- and low-density residential, open space and public parks. The City has retrofit 28 out of 28 catch basins in commercial areas of the City, and 15 out of 15 catch basins in high density residential areas of the City. During the first year of MFAC monitoring the City demonstrated 99.6% trash reduction from baseline within the Machado Lake tributary areas not addressed by full capture systems based on a program of proactive institutional controls. Please see the City’s Individual Annual Report for a detailed discussion of the MFAC monitoring data.

Rancho Palos Verdes:

The City of Rancho Palos Verdes is complying with the Machado Lake Trash TMDL through a combination of full capture systems and institutional controls. The percent reduction in trash discharge was determined through a mass balance approach, based on a daily generation rate (DGR) study as described in the Permit. The study showed a trash loading reduction of 99.3% from the baseline allocation, demonstrating effective compliance with the final water-quality based effluent limitation.

Palos Verdes Estates:

The area of the City of Palos Verdes Estates tributary to Machado Lake is approximately 250 acres with land use comprised of R-1 single family residences, one public school site and open space -- due to low rates of trash generation such land use areas are considered as non-priority under the Statewide Trash Policy. The City has chosen to demonstrate compliance through the use of full capture systems. Additionally, the City maintains a proactive litter abatement program and an intensive program of institutional controls—please see the City’s Individual Annual Report Section 8.1 for further details. Thus, the City is demonstrating full compliance with the final Machado Lake WLAs for trash through 99% retrofit with full capture systems and intensive institutional controls.

For further details, see the respective City’s Individual Annual Reports Section 8. See

Figure 7 for map of completed catch basin retrofits in the Machado Lake subwatershed.

2.2.1.2.2 Machado Lake Nutrient TMDL

Since August 2011, the Peninsula agencies have been monitoring four outfalls draining to Machado Lake for Total Nitrogen (TN) and Total Phosphorous (TP). The PVP WMG are assessing Nutrient TMDL attainment and the effectiveness of implementation activities through concentration-based monitoring at the termini of the shared Peninsula drainage system. Attainment is based upon the flow-weighted average of monthly samples for TN and TP, respectively. In the event that a sampling location is sampled more than once during the month, the flow-weighted average for that sampling location is first calculated, and then the result is used in calculating the flow-weighted average for the four sampling locations. The monthly flow-weighted averages are compared to the interim concentration-based WLAs in effect through reporting year 2017-2018. For TN the interim WLA is 2.45 mg/L and 1.25 mg/L for TP (RWQCB, 2008)⁹. The final WLAs for TN and TP, 1.00 mg/L and 0.10 mg/L, respectively, go into effect on September 11, 2018,

Historical stormwater monitoring data indicates that the quality of stormwater discharges from the Peninsula Cities has remained relatively consistent and generally below the interim WLAs. As shown in Figure 5, over the past six reporting years since adoption of the MS4 Permit, there were only two (2) exceedances of the interim WLA for TP and seven (7) exceedances of the interim WLA for TN out of 72 months of data. Four of the seven TN monthly exceedances occurred during the unusually heavy wet weather season of 2016-17. See the following figures for graphical representations of data through reporting year 2017-18, which include both dry weather and wet weather data combined into monthly flow-weighted averages.

⁹ The State of California, California Regional Water Quality Control Board, Los Angeles Region, 2008. Resolution No. R08-006, Amendment to the Water Quality Control Plan for the Los Angeles Region to Incorporate a Total Daily Maximum Load for Eutrophic, Algae, Ammonia, and Odors (Nutrients) for Machado Lake: Dated May 1, 2008.

Figure 5: Machado Lake Nutrient TMDL Total Nitrogen Progress¹⁰

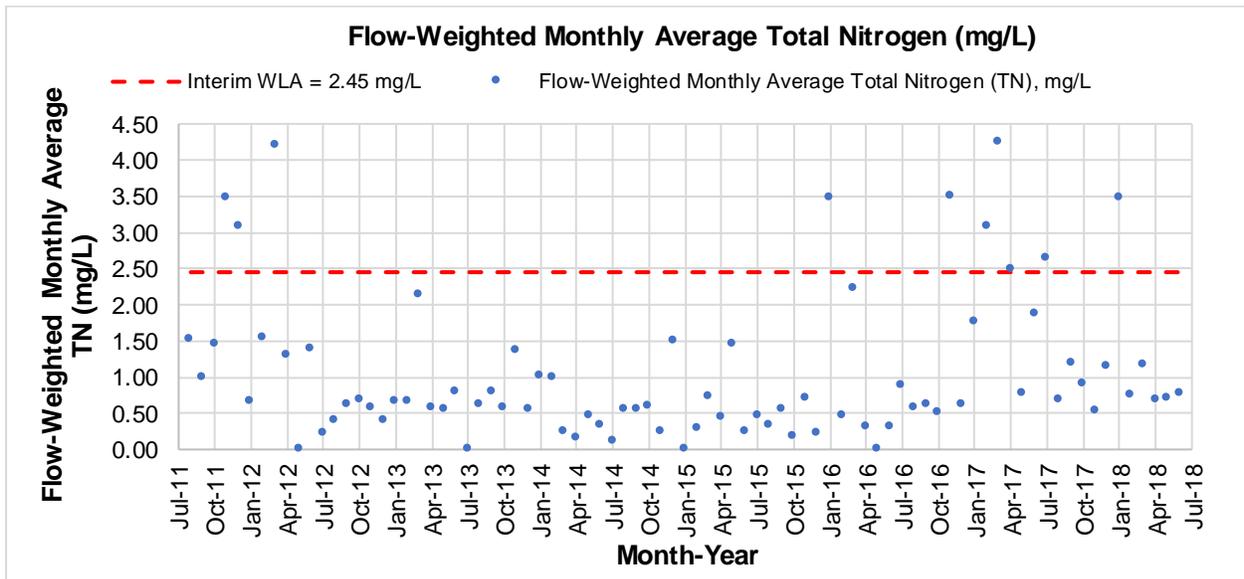
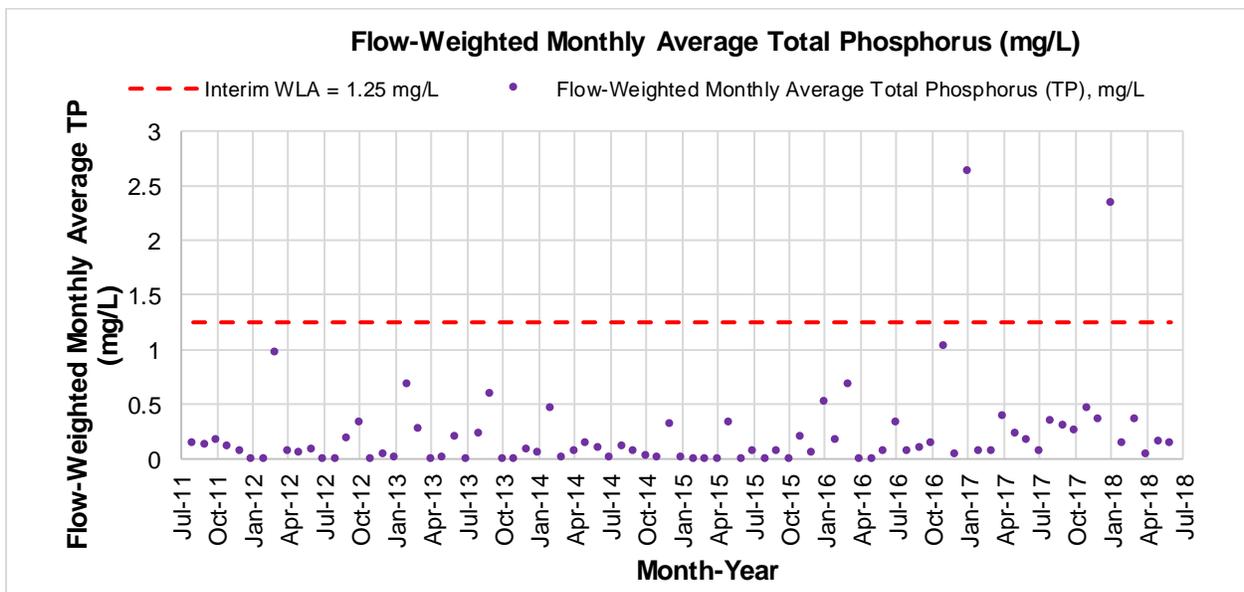


Figure 6: Machado Lake Nutrient TMDL Total Phosphorus Progress¹⁰



As discussed in Volume I, Section 2.6 of the Watershed Annual Report, two regional projects are now complete and shown in column 9 of the Machado analysis region row in Table 3a of the Watershed Annual Report. They have a combined load reduction of 60.6% for Total Phosphorus and 67.7% for Total Nitrogen within the Machado analysis region and in combination with the 7.5% load reduction for non-structural programmatic BMPS, the overall percent load reduction for Total Nitrogen and Total Phosphorus are 68.1 and 75.2, respectively in the Machado analysis region. Thus, the critical condition target load reductions

¹⁰ Note: flow data for Valmonte for monitoring event 1/19/17 is not available. The automated flow meter that is installed at this location became damage during the storm event and no flow data was recorded. As a result, the TN and TP results at this location for this date are not included in the flow-weighted average.

for Total Nitrogen and Total Phosphorus have been met in the Machado analysis region of the Peninsula WMG, whereas the target load reductions in Solano, Valmonte and RHECH analysis regions have not yet been met. Documented geologic and geotechnical constraints in many areas of the Palos Verdes Peninsula do not allow for cost-effective infiltration-based stormwater control measures and based on the analysis performed in the EWMP, biofiltration systems cannot reliably attain the nutrient objectives. As a result, green street solutions and LID on redevelopment projects are of limited value.

The WMG is currently investigating alternative, more cost-effective, potential options for meeting the Machado Lake Nutrient TMDL final WLAs, including potential regional projects located outside the Peninsula WMG. The Peninsula WMG is participating in the preliminary design study of the Torrance Airport Storm Water Infiltration Project. See Section 2.5.1 for additional information. A reconsideration of the Machado Lake Nutrients TMDL was scheduled for September 11, 2016 and the Peninsula WMG submitted a request for reconsideration on September 7, 2016. Regional Board TMDL staff have indicated that a sufficient body of in-lake monitoring data collected by the City of Los Angeles following completion of the lake rehabilitation project is needed prior to a reconsideration.

Table 9: Machado Lake Nutrient TMDL RAA Comparison

Watershed	TMDL	RAA Analysis Region	Pollutant Analyzed	Critical Condition TLR*	Progress in Meeting Cumulative Load Reduction Projected by RAA	Is TLR Met?	
Machado Lake	Nutrients	Machado	Total Phosphorus	67.3%	68.1%	Yes	
			Total Nitrogen	0%	75.2%	Yes	
Machado Lake via Wilmington Drain		RHECH + Wilmington Drain	Total Phosphorus	50.4%	7.5%	No	
			Total Nitrogen	6.60%	7.5%	No	
		Solano	Total Phosphorus	58.9%	7.5%	No	
			Total Nitrogen	9.1%	7.5%	No	
		Valmonte	Total Phosphorus	80.7%	7.5%	No	
			Total Nitrogen	15.3%	7.5%	No	
*Target Load Reduction reported as percent baseline load for the 1995 critical year.							

2.2.1.2.3 Machado Lake Pesticides and PCBs TMDL

The Machado Lake Pesticides and PCBs TMDL requires Permittees to comply with specified concentration-based WQBELs in discharges of suspended sediments to Machado Lake, applied as a 3-year average. The Peninsula watershed group has been conducting wet weather sampling and analysis for pesticides and PCBs at the four Machado Lake TMDL outfall sites since 2014. Historically, not enough sediment is available for collection to analyze for pesticides and PCBs due to low sediment recovery rates in stormwater samples. Beginning in the 2016-2017 reporting year as approved in the Peninsula CIMP, samples were composited from a maximum of three wet events to obtain a sufficient amount of sediment for laboratory analysis. In this way, one composite sample per year is analyzed and reported from each of the four sites. The data collected to date have been quite variable, particularly with respect to Total Chlordane, however based on preliminary data collected to date it appears that the concentration-based WQBELs are likely to be met for Dieldrin, PCBs and DDT (see **Table 10**). The group will continue to collect and analyze sediment samples through the next reporting year in order to accrue sufficient data to apply the 3-year average WQBEL. A TMDL reconsideration is needed to provide for a mass-based compliance option. According to the implementation schedule established for the TMDL, a reconsideration of the TMDL is scheduled for September 2019.

The WMG has collaborated with the City of Torrance to evaluate preliminary design options for a joint regional project in an effort to address the TMDL. See Section 2.5.1 for additional information.

Table 10: Progress Data for Machado Lake Pesticides and PCBs TMDL

2016-2017							
Monitoring Station	Pesticides (µg/kg)						PCB Congeners - Low Resolution (µg/kg)
	Sum DDD (U = 0)	Sum DDE (U = 0)	Sum DDT (U = 0)	Total Chlordane (U = 0)	Total DDx (U = 0)	Dieldrin (U=0)	Total PCB Congener - Low Resolution (U = 0)
Machado Lake TMDL Effluent Limitations for Suspended Sediments*	4.88	3.16	4.16	3.24	5.28	1.9	59.8
RHE City Hall	0.11 U	14	0.090 U	11.9	14	0.31 U	16.9
RHE City Hall Duplicate	0.115 U	15	0.095 U	8.6	15	0.32 U	16
Valmonte	0.090 U	7.8	0.075 U	21.8	7.8	0.26 U	0.425 U
Solano	0.375 U	51	0.31 U	80	51	1.1 U	241
Lariat	0.105 U	22	0.085 U	6.2	22	0.30 U	0.49 U
2017-2018							
Monitoring Station	Pesticides (µg/kg)						PCB Congeners - Low Resolution (µg/kg)
	Sum DDD (U = 0)	Sum DDE (U = 0)	Sum DDT (U = 0)	Total Chlordane (U = 0)	Total DDx (U = 0)	Dieldrin (U=0)	Total PCB Congener - Low Resolution (U = 0)
Machado Lake TMDL Effluent Limitations for Suspended Sediments*	4.88	3.16	4.16	3.24	5.28	1.9	59.8
RHE City Hall	62 J	29 J	0.27 U	0.315 U	91 J	0.92 U	2.6 J
RHE City Hall Duplicate	22 J	25 J	0.105 U	0.12 U	47 J	0.35 U	20 J
Valmonte	4	11	0.07 UJ	0.085 U	15 J	0.24 U	1.6
Solano	5.1	29	0.185 U	0.22 U	34	0.64 U	2.05 U
Lariat	2.6	32	0.085 U	0.1 U	35	0.29 U	2.2
*applied as a 3-year average Bold: detected result U: compound analyzed but not detected above detection limit J: estimated value							

2.2.1.2.4 *Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants TMDL*

As described in the approved PVP EWMP, RHECH location is currently being used as a surrogate sample point for the Harbor Toxics TMDL. Samples have been collected for total and dissolved metals (copper, lead, zinc), total DDT, total PAHs, and total PCBs and are to be evaluated against interim limits over a three-year averaging period per the WQBELS established in Part E of Attachment N of the Permit for the water bodies relevant to the PVP WMG (i.e. Los Angeles Inner Harbor, Los Angeles Outer Harbor, Cabrillo Marina, and Fish Harbor). Two years of data have been collected thus far; however, one more year of data is needed to assess compliance. A comparison of the dissolved concentrations observed in discharge data with the saltwater acute and chronic concentrations set for the harbor waters indicates that both acute and chronic dissolved concentrations of lead and zinc are meeting the TMDL targets. However, this is not the case for copper where the dissolved concentrations observed in the stormwater discharge data are exceeding both the saltwater acute and chronic concentrations set for the harbor waters. Additional data is needed to assess whether these concentrations are trending downward in line with implementation of the phasing out of copper in brake pads, and three years of data are also needed to assess progress towards meeting the final mass-based WQBELS/WLAs for the Harbor Toxics TMDL.

The PVP EWMP RAA has predicted total copper to be the controlling metals pollutant (see table below for RAA comparison). Currently, the Regional Board is preparing for a reconsideration of the TMDL in 2018-19, as required 6 years after the TMDL effective date. Once additional data are accumulated, the PVP WMG is scheduled to begin exploring feasibility of the proposed Eastview Park Regional Project in 2025.

Table 11: Great LA Harbor Total Metals RAA Comparison

Watershed	TMDL	RAA Analysis Region	Pollutant Analyzed	Critical Condition TLR*	Progress in Meeting Cumulative Load Reduction Projected by RAA	Is TLR Met?
Greater LA Harbor	Toxics	GLA Harbor	Total Cu	79.9%	7.5%	No
			Total Pb	3.6%	7.5%	Yes
			Total Zn	8.9%	7.5%	No
*Target Load Reduction reported as percent baseline load for the 1995 critical year.						

2.3 *Re-evaluation of Category 2 and 3 Water Quality Priorities*

The PVP EWMP identified Category 2 pollutants as those listed on the 303(d) list and Category 3 pollutants as those that are not addressed through a TMDL nor on the 303(d) list. Currently, coliform bacteria in the Wilmington Drain sub-watershed is the only 303(d)-listed pollutant within the PVP WMG that is not being addressed by a TMDL. Through the CIMP program, the PVP WMG has been monitoring indicator bacteria levels at sampling station RHECH, which ultimately discharges to Wilmington Drain. Elevated concentrations of E. coli bacteria have been observed in RHECH samples in comparison to the Basin Plan Water Quality Objectives for freshwater. Indicator bacteria levels will continue to be monitored at this location as the group explores regional project options for the Machado Lake Sub-watershed.

Table 12: Wilmington Drain Bacteria RAA Comparison

Watershed	303(d)	RAA Analysis Region	Pollutant Analyzed	Critical Condition TLR*	Progress in Meeting Cumulative Load Reduction Projected by RAA	Is TLR Met?
Wilmington Drain	Bacteria	Machado Lake via Wilmington Drain	Fecal Coliform	53.5%	7.5%	No
*Target Load Reduction reported as percent baseline load for the 1995 critical year.						

2.4 Progress Toward Achieving Stormwater Retention Milestone

Since the beginning of the Permit term, the PVP WMG has completed projects to address 832.77 acres of area with increased stormwater retention capacity of 7.19 acre-feet. During the 2017-18 reporting year, an estimated 50.29 acre-feet of additional runoff volume was retained by projects completed since the beginning of the permit term; most of this capacity is associated with the completion of the two regional projects in the Machado Lake Watershed.

2.4.1 Completed Projects

See **Figure 7** for a map of completed projects, including: regional projects, public retrofit projects, distributed catch basin retrofits, and LID on new and redevelopment projects. Descriptions of the projects are provided in the following sections.

2.4.1.1 Casaba Estates

The Casaba Estates regional BMP identified in the approved PVP EWMP for the Machado Lake Watershed was completed in 2013 through private redevelopment for a subdivision of single-family residential homes. The project created a bioretention system to address a total tributary area of 26.6 acres. It provides retention and infiltration capacity for a volume exceeding the 85th percentile/24-hour storm runoff capture volume.

2.4.1.2 Chandler Ranch/Rolling Hills Country Club (formerly Chandler Quarry)

Redevelopment of the former Chandler Quarry in the City of Rolling Hills Estates is under way through private funding to construct a 114-home subdivision and reconfigure the Rolling Hills Country Club golf course and clubhouse. The golf course portion of the project was constructed on the site of the former quarry, with the golf course and subsurface infiltration gallery designed to provide the same hydraulic retention and infiltration capacity as the former quarry, an exception to the Peninsula’s geological constraints. The new homes that are part of this redevelopment are still under construction, however the stormwater infiltration systems have been fully operational since January 2018. This regional project consists of three infiltration galleries along with a pretreatment system for each gallery that consists of a suite of catch basin inserts, drainage swales, barrancas and, for the largest gallery, a biofiltration basin. The subsurface infiltration galleries have been designed as a regional BMP system to capture the 50-year storm runoff event from the 705.2-acre tributary area. This regional project is identified as a full capture regional BMP for the Machado Lake Watershed in the approved EWMP and well exceeds the standard for retention of the 85th percentile, 24-hour storm.

2.4.1.3 San Ramon Canyon

The San Ramon Canyon project is located in the City of Rancho Palos Verdes within the Santa Monica Bay Watershed and was completed in 2014 as an early action project identified in the EWMP. The project consists of the construction of a mid-canyon inlet structure connected to a 3,900-foot long, 54-inch pipe that outlets below the oceanfront bluff, bypassing a highly erodible section of the canyon. The project inlet is located slightly upstream of the upper switchback along Palos Verdes Drive East and substantially reduces the amount of flow being delivered to an existing, and previously overwhelmed, storm drain at Palos Verdes Drive South/25th Street. This project improves water quality by substantially reducing erosion and minimizing debris transport to this drain by diverting all stormwater runoff from a greater than ¼ inch rain event to the underground pipe, diverting it from the erosive canyon. This project has also restored and protected the existing streambed and the surrounding ecosystem to encourage infiltration and biologic uptake.

2.4.2 Regional Project Feasibility Assessments

The PVP EWMP RAA proposed two regional flow-through advanced treatment systems to demonstrate with reasonable assurance that the Machado Lake TMDL pollutant targets could be met for the PVP EWMP WMA. These were the Palos Verdes Landfill Regional Project and Valmonte Regional Project. Upon further evaluation, the projects as originally conceived in the EWMP have been determined to be infeasible as regional projects due to significant jurisdictional, land-use, geotechnical and environmental challenges.

2.4.2.1 Palos Verdes Landfill

As described in the Peninsula EWMP, the Palos Verdes Landfill Regional Project was proposed to be located on an inactive landfill. Impaired groundwater and subsurface contamination at the site made infiltration BMPs infeasible, therefore, the Peninsula EWMP evaluated more costly treatment BMPs at the site such as a storage-and-treatment facility or a Subsurface Flow (SSF) wetland lined with an impervious barrier. Further investigation demonstrated that there is limited space available on earthen ground (i.e. not on fill) to support the 50 MG storage structure and treatment facility necessary to treat the required volume of water from the 85th percentile, 24-hour storm event. The Department of Toxic Substances Control (DTSC), who oversees the landfill, also raised significant concerns about the potential for leaks and releases of water into the fill and are unlikely to approve the siting of an SSF wetland on the landfill surface. Although the original scope of the proposed project is infeasible, a smaller, alternative scope on this site in combination with other projects may be considered.

2.4.2.2 Valmonte Regional BMP

The Valmonte Regional EWMP Project was also evaluated by the PVP WMG and found to be infeasible for environmental reasons. This project proposed a storage-and-treatment facility or an SSF wetland within the Valmonte monitoring station's subdrainage area. It was discovered during the initial evaluation that the proposed regional BMP would be located within the flood plain of a blueline stream and as such construction would not be permitted. Additionally, the proposed project would involve easements and or land acquisition for multiple privately-owned parcels. The original scope of the project proposed in the EWMP was found to be infeasible, however a smaller, alternative project on an adjacent site in combination with other projects may be considered.

As a result of the technical infeasibility of the original scope of these two projects, the Peninsula WMG began the pursuit of the alternative structural regional projects, described in [Section 2.5.1](#).

2.5 Progress Toward Achieving Multi-Year Efforts that were not completed in the current year and will continue into the subsequent year(s)

The PVP WMG has conducted preliminary investigations of potential alternative regional projects that could serve as replacement of the infeasible Palos Verdes Landfill and Valmonte Regional BMPs projects that were originally proposed in the EWMP.

2.5.1 Torrance Airport Stormwater Infiltration Project

In February 2016, the PVP WMG members provided letters of support for the City of Torrance's Prop 1 Stormwater Planning Grant application for the design of the Torrance Airport Stormwater Infiltration Project, a potential regional project identified for Machado Lake sub-Watershed in the PVP EWMP. On July 13, 2016, the City of Torrance was notified that the Torrance Airport Stormwater Infiltration Project had been selected for planning/design funding from the State Water Resources Control Board (SWRCB). City of Torrance staff invited PVP WMG members to a status update meeting held on February 2, 2017 where the PVP WMG representatives learned of significant new developments with respect to the project. The City of Torrance had received a notice from the Groundwater Cleanup Unit of the Regional Board regarding groundwater contamination at the airport which posed challenges in designing the infiltration project. This discovery of groundwater contamination at the Torrance airport has resulted in delays in initiation of preliminary design and uncertainty regarding the feasibility of infiltrating into the shallow groundwater aquifer, necessitating a groundwater study along with preliminary design. During the ensuing year, PVP WMG entered into a Memorandum of Agreement with the City of Torrance to cost share the funding of preliminary design work—the PVP WMG contributed \$148,393 to the cost of the Preliminary Design which was 62% of the Prop 1 grant match needed for preliminary design.

The preliminary design study was undertaken in June of 2018 and included a geotechnical investigation, installation of groundwater monitoring wells, and development of a groundwater model to evaluate potential impacts of the project on the existing groundwater contaminant plume. The geotechnical investigation unexpectedly discovered that the clay aquitard which typically separates the Silverado from the Gage aquifers is absent below the site. The impact of this finding is that the proposed project will not be able to infiltrate the 85th percentile, 24-hour capture volume from the entire area tributary to the project without moving the contaminant plume to an extent acceptable to Regional Board groundwater staff. The PVP WMG have initiated further discussions with the City of Torrance to consider options on the Airport site and will continue to investigate other regional project alternatives, as described in the subsequent sections.

2.5.2 Dry Weather and Wet Weather Low Flow Diversion

The PVP WMG has completed an initial investigation into the potential feasibility of two diversion projects within the Machado Lake sub-Watershed. Baseline year-round flow in two major storm drains that are sampled monthly under the Machado Lake TMDLs was determined to be caused by rising groundwater (i.e., naturally occurring springs). Diversion of the baseline dry weather flow as well as wet weather low flows from these two storm drains could offer the opportunity for beneficial use of this water while also potentially contributing to attainment of the Machado Lake Nutrient TMDL on a mass basis (demonstrated through a special study). The Peninsula WMG investigated two alternative approaches to multi-benefit

diversion projects with assistance from the Sanitation Districts of Los Angeles County (LACSD) through its new authority to assist with stormwater projects¹¹.

The first alternative investigated by the PVP WMG was to divert the baseline dry weather and wet weather low flows to the sanitary sewer system with the potential for eventual treatment and beneficial use as recycled water. A desktop study to identify sanitary sewer lines with sufficient capacity to accept these low flows and within reasonable proximity to the two storm drains was undertaken by LACSD staff and funded by the PVP WMG. No sanitary sewer lines with sufficient capacity could be located within the PVP EWMP WMA, however, a sanitary sewer line with sufficient capacity to receive such flow was identified downstream at a location adjacent to the Torrance Airport in the City of Torrance.

The second alternative is to divert baseline dry weather and low-flow wet weather flows from storm drains within the PVP EWMP WMA for beneficial use to replace potable water for irrigation. The three most likely opportunities for significant irrigation demands within close proximity to these storm drains are three large open space/park land uses: the 35-acre Ernie Howlett Park, the 173-acre closed main site of the Palos Verdes Landfill, and the 83-acre South Coast Botanic Garden. During the current reporting year, LACSD staff worked on behalf of the PVP WMG to establish technical conditions satisfactory to the Department of Toxic Substances Control (DTSC) for the development of storage and treatment systems for the project on the PV Landfill main site and for utilization of the water for irrigation at agronomic rates. The next step for this alternative would be to develop design concepts, evaluate potential irrigation demand, and develop a water balance to establish the feasibility and scope of the potential project.

Either of the foregoing diversion projects would necessitate a special study for mass-based compliance with the Machado Lake Nutrient TMDL. Additionally, a mass-based compliance option will also be needed to meet the Machado Lake Pesticides and PCBs TMDL.

2.5.3 WALTERIA Detention Basin

The WALTERIA Detention Basin was constructed for flood protection in 1962 by the LACFCD. The basin has a perimeter of approximately one mile and extends to an approximate depth of 100 feet and has a total capacity of approximately 1,005 acre-feet. The primary function of the WALTERIA Detention Basin is to provide flood protection and as such it is operated to detain flows that enter the basin during storm events. During storm conditions the basin receives runoff from a tributary area of approximately 2,287 acres with 7.35% of that area (168 acres) contributed by the Peninsula WMG, with the balance of the area contributed by the City of Torrance. The facility is operated as a detention basin and when a major storm is forecast or following a significant storm event, the level in the basin is pumped down to maintain sufficient flood protection capacity for adjacent communities and to sustain capacity of downstream flood conveyance infrastructure. When such discharge is necessary, the discharge is pumped into a 54-inch diameter storm drain, i.e., through the Project No. 584 storm drain, and combines with flows from other MS4 agencies before eventually discharging to Wilmington Drain and on to Machado Lake. The Peninsula WMG also understands that approximately every 1-5 years it is also necessary to pump the level in the basin down for periodic maintenance purposes.

The WALTERIA Detention Basin was identified as a potential location for a regional BMP in the Peninsula EWMP, pending the results of a Special Study Monitoring Program. The City of Torrance and the LACFCD collaborated and completed the two-year Special Study Monitoring program to characterize water quality

¹¹ Enabled by legislation enacted on October 9, 2015 through SB485.

of the stormwater flowing into and out of the basin. Results of the monitoring effort can be found in the Peninsula WMG Annual Report. The Peninsula EWMP identified another potential regional BMP downstream of the Waleria Basin at Torrance Airport, which could divert outflows from the basin to the Airport for infiltration. The Peninsula WMG has contributed funding to a Preliminary Design study of the Torrance Airport Infiltration project and results of this work indicate that diversion of the dry weather discharges from Waleria Basin to the Torrance Airport for Infiltration will not be feasible. Nor is it feasible to use Waleria Basin as an in-situ water quality treatment system (such as through application of aluminum sulfate or other flocculants) since such approaches could diminish the flood protection capacity of the basin. However, the Peninsula WMG is interested in participating in further work to assess how the basin could be leveraged into an opportunity to create a regional project or to meet Machado Lake TMDL WLAs on a mass basis for the tributary area to the basin.

2.5.4 South Coast Botanic Garden

South Coast Botanic Garden Regional BMP has developed a “Vision Plan” for future facility projects and other improvements. A key part of the Vision Plan focuses on returning the garden’s stream corridor back to the original form and configuration of the Creek Garden and Lake. The Vision Plan continues to be conceptual and opportunities to potentially develop the existing creek and open space to stormwater BMPs are identified in the EWMP. Although lake dredging was estimated to be complete by 2018, the project is still in early planning stages. The County continues to explore funding opportunities, such as applicable grant programs, for the multi-benefit South Coast Botanic Garden Wetland and Lake Revitalization Project. In the meantime, the County continues to collaborate with the PVP WMG cities to identify opportunities to implement water quality projects.

2.5.5 Participation in Machado Lake Management Plan

Simultaneously with investigation of the foregoing potential projects, the PVP WMG has also engaged in discussions with City of Los Angeles staff and Regional Board staff regarding the potential for the group to participate in the Lake Water Quality Management Plan with the approval of Regional Board staff. The City of Los Angeles’s Machado Lake Ecosystem Rehabilitation Project was completed during 2017 and receiving water monitoring has resumed in the lake. Collection of monitoring data is needed for several years in order for Regional Board staff to reconsider the Machado Lake Nutrient TMDL.

2.5.6 Eastview Park Infiltration Project

The EWMP lists Eastview Park as a potential candidate for a regional infiltration BMP within the Los Angeles Harbor sub-Watershed that will be explored in the future per the EWMP schedule. In the meantime, the group will collect several more years of data to analyze trends in copper to assess the effectiveness of the brake pad reduction measures before undertaking planning studies for this regional project.

3 Modifications and Changes to Control Measures

Chapters 3.1 to 3.7 below follow Section 7.2 of the Watershed Annual Report template. Chapter 3.8 is a requirement specified in the MRP (Attachment E) of the Permit.

3.1 For those control measures identified as least effective, describe how the control measures will be modified or replaced

Although the Planning and Land Development program has been identified as the least effective control measure for the PVP WMG (see Section 2.1.2), the permit does not allow for elimination or modification of this control measure¹². As such, group members do not intend to modify or replace this measure and will continue to implement the program accordingly while seeking alternative regional projects to comply with WQBELs and WLAs.

3.2 Identification of significant changes to control measures during the prior year and the rationale for the changes

On December 13, 2017, the PVP WMG members requested a change in the implementation schedule of the EWMP. The PVP WMG has been fortunate to secure grant funding through the Proposition 84 Clean Beaches/Santa Monica Bay Restoration Grant Program to fund approximately 60% of the cost of installation of certified full capture trash devices throughout the Santa Monica Bay watershed area, with the balance of the cost to be drawn from each city's general fund. This grant funding will enable the PVP WMG to install full capture systems for trash in catch basins throughout the PVP WMA to complete the attainment of the final Santa Monica Bay Debris TMDL waste load allocations under an expedited schedule utilizing a single contracting mechanism. The schedule modification request was approved by the Regional Board on February 12, 2018.

The request consisted of a revision to Table 5-2, "TMDL and 303(d) WBPC Interim (I), Final (F) and Action (A) Compliance Milestones," from the Peninsula EWMP to change the March 20, 2018 and 2019 interim milestones from "% reduction in trash from baseline" to "Action Compliance Milestones". Specifically, the March 20, 2018 and 2019 milestones were replaced by the following two action items:

- Execution of an MOU among project partners for implementation and cost-sharing of the Prop 84 Santa Monica Bay Restoration/Clean Beaches Santa Monica Bay Catch Basin Insert Project by August 20, 2018.
- Complete 50% of full capture system installations by August 20, 2019.

The final milestone of March 20, 2020 for achievement of 100% reduction in trash from baseline through the installation of full capture devices in all catch basins draining to the Santa Monica Bay remains unchanged.

¹² §VI.C.5.b.iv.(1)

3.3 Description of all significant changes to control measures anticipated to be made in the next year and the rationale for the changes

3.3.1 Public Information and Participation Program (PIPP)

The MS4 Permit directs permittees to identify opportunities to customize the minimum control measures (MCMs) specified in the Permit to focus resources on high priority issues within their watersheds¹³. Modifications to the MCMs must address watershed priorities and be consistent with 40 CFR §122.26(d)(2)(iv)(A)-(D). Customized actions, once approved, shall replace in whole or in part the corresponding MCM requirements in the Permit.

The following contains a description of the modifications to the existing Public Information and Participation Program (PIPP) MCMs proposed by the PVP WMG along with basis for the modifications.

§VI.D.5.d(3) of the Permit outlines the following requirements for Point-of-Purchase (POP) distribution of outreach materials targeted at residents:

“Distribute activity specific storm water pollution prevention public education materials at, but not limited to, the following points of purchase:

- a) Automotive parts stores
- b) Home improvement centers / lumber yards / hardware stores/paint stores
- c) Landscaping / gardening centers
- d) Pet shops / feed stores”

The PVP WMG proposes a more customized strategy for providing stormwater pollution prevention outreach targeted at residential do-it-yourself (DIY) auto, home improvement, and gardening activities and pet owner activities in lieu of the distribution of print materials at POP retailers.

3.3.1.1 Basis for Modification to the POP Outreach Requirements

The PVP WMG finds that the proposed modified approach is more effective and less challenging to implement than the POP requirements. The Peninsula WMG proposes to focus its resources on the development of dual print/electronic outreach pieces targeted at residential activities of concern for which City staff have identified a clear need and can provide the means of distribution. Additionally, the Peninsula WMG proposes to leverage successful existing programs targeted at activities of concern related to high priority issues to achieve greater economies of scale and reach a broader audience than would be reached by point-of-purchase materials. Municipal stormwater permittees have no authority to require private retailers to distribute outreach materials to their customers, nor a means to measure the effectiveness of this outreach method; additionally, there are few such retailers within the PVP WMG to provide venues for distribution. The PVP WMG has limited resources to develop and distribute print-based outreach materials and needs to focus such resources on identified activities of concern.

The following describes the PVP WMG’s proposed customized residential outreach approach:

1. The PVP WMG proposes the following targeted outreach to residents involved in DIY auto activities in lieu of distribution of print materials at automotive parts stores:

¹³ Order No. R4-2012-0175 Part VI.C.5.b.iv.(1)(a)

- 1.1. Each of the PVP WMG agencies participates in the CalRecycle Used Oil and Household Hazardous Waste Program (Used Oil Program), which targets DIY auto enthusiasts and reaches the same target audience as POP via auto parts stores. The CalRecycle Used Oil Program encourages recycling of used lubricating oil and filters, aiming to decrease the illegal disposal/dumping of used oil and to recover more used oil and filters for recycling by establishing a statewide network of collection opportunities and undertaking outreach efforts that include public service announcements, a robust website, YouTube broadcasts, and social media posts.
- 1.2. The PVP WMG is currently developing a Mobile Business Tip Card (in both electronic and print format) targeted at mobile businesses that generate waste water such as mobile auto detailers, window washers, and the like. These types of mobile services have been identified by the Peninsula WMG as activities of concern related to non-stormwater discharges. The tip card covers site preparation and cleanup, spill prevention and response, use of environmentally friendly cleaning agents, and proper disposal of wastewater. While this outreach targets the mobile business sector, this outreach also reaches residents that use these services and educates them on proper BMPs for outdoor DIY activities and the importance of proper wastewater disposal. The tip card will be distributed through the City counters when businesses come in for permits, through code enforcement in the field, and online via each City's website.
2. The PVP WMG proposes the following targeted outreach to residents involved in DIY home improvement activities in lieu of distribution of print materials at home improvement centers/lumber yards/hardware stores/paint stores:
 - 2.1. Each year, the PVP WMG agencies either host or promote nearby Household Hazardous Waste Collection Events which provide opportunities for disposal of unwanted household chemicals that cannot be disposed of in the regular trash, such as paint and paint thinners, automotive fluids, pesticides, etc. These events are free to the public and advertised on each of the Peninsula WMG agencies' websites and promoted through the South Bay Environmental Services Center (SBESC), a program of the South Bay Cities Council of Governments (SBCCOG) which consists of 16 South Bay cities and the County of Los Angeles. The SBESC promotes events through its e-newsletter, social media accounts, and website.
 - 2.2. The PVP WMG agencies have a robust outreach program directed at construction activities which includes outreach regarding building and painting activities. Together with the Beach Cities WMG, the PVP WMG developed and is distributing a Small Site Construction brochure aimed at sites less than 1-acre in disturbed area that includes information regarding material storage and handling as well as spill prevention and clean-up and disposal. This brochure is distributed to all homeowners and developers in PVP WMG Cities that apply for a building permit and by building inspectors when they find problems with BMPs.
 - 2.3. Curbside pickup of bulky items, green waste, and other recyclables is offered by the PVP WMG agencies at no extra cost to residents. Some of the PVP WMG agencies offer on-call curbside collection of household hazardous waste such as paint, aerosol cans, household cleaners, used oil and filters, and compact fluorescent bulbs.
 - 2.4. Each of the PVP WMG agencies conducts outreach on proper waste management, including construction wastes and household hazardous waste products like paint, through their

- respective contracted waste hauler in the form of bill inserts or direct mailers, and at the public counter when building permits are issued.
- 2.5. Each of the PVP WMG agencies provides outreach to residents on the proper disposal of pool and spa maintenance discharges. They distribute this information through their websites and at their public counters.
 3. The PVP WMG proposes the following targeted outreach to residents involved in DIY landscaping and gardening activities in lieu of distribution of print materials at landscaping/gardening centers:
 - 3.1. The PVP WMG have established [Environmentally Friendly Landscaping, Gardening and Pest Control](http://www.southbaycities.org/programs/environmentally-friendly-landscaping-gardening-and-pest-control) webpages targeted at residents. The webpages were developed by the PVP WMG in partnership with the Beach Cities WMG and are being hosted by the South Bay Environmental Services Center (a program of the South Bay Cities Council of Governments) on their website. The webpages include information on minimizing runoff through sustainable gardening and irrigation practices. The webpages also link residents to several rebate programs for smart irrigation systems and water conservation measures and include information on Integrated Pest Management. The webpage URL is: <http://www.southbaycities.org/programs/environmentally-friendly-landscaping-gardening-and-pest-control>.
 - 3.2. The PVP WMG has developed a print brochure on Native and Drought Tolerant Plant Gardens and Landscapes on the Palos Verdes Peninsula. A number of California Friendly gardens and landscapes located throughout the PVP WMG are showcased through this brochure and a map offers residents the opportunity to visit these demonstration gardens which highlight the beauty, utility and economy of native and drought-tolerant plants that require far less water, fertilizer and pesticides than traditional landscape plantings. The brochure is distributed at the PVP WMG agencies' public counters and is made available at various events throughout the Palos Verdes Peninsula and at the George F. Canyon Nature Center.
 - 3.3. A number of California Friendly gardens and landscapes located throughout the PVP WMG demonstrate to residents the beauty, utility and economy of native and drought-tolerant plants which require far less water, fertilizer and pesticides than traditional landscape plantings. These gardens are highlighted on the Environmentally Friendly Landscaping Gardening and Pest Control webpages as well as through the Native and Drought Tolerant Plant Gardens and Landscapes on the Peninsula brochure.
 - George F Canyon Nature Center and Preserve - 27305 Palos Verdes Drive East, Rolling Hills Estates
 - Pt. Vicente Interpretive Center - 31501 Palos Verdes Drive West, Rancho Palos Verdes
 - South Coast Botanic Garden - 26300 Crenshaw Boulevard, Rolling Hills Estates
 - White Point Nature Preserve - 1600 W. Paseo del Mar, San Pedro
 - Vicente Bluffs Reserve - 31501 Palos Verdes Drive West, Rancho Palos Verdes
 - 3.4. The PVP WMG members will continue to promote sustainable landscaping, gardening and water efficiency programs offered through West Basin Municipal Water District (WBMWD) to its customers who are also residents and businesses of the PVP WMG. Examples of the types of

programs that have been offered by in the past by WBMWD and by the PVP WMG members include:

- The PVP WMG agencies promote the West Basin Municipal Water District free rain barrel giveaway program through their City websites and through the South Bay Environmental Services Center. The program includes a 50-gallon capacity barrel equipped with overflow spout, built-in mosquito screen along with a rain gutter downspout flex arm hose connector. A separate program promoted by the Peninsula WMG agencies and administered by the Metropolitan Water District of Southern California (MWD) provides \$75 rebates to residents within its service district who purchase their own barrels. Rain barrel distribution or rebate programs engage and educate the community through active participation in stormwater capture and may serve as a stepping stone to more significant residential stormwater capture retrofit projects such as downspout disconnection into cisterns or rain gardens.
- West Basin Municipal Water District offers a Landscape Irrigation Efficiency Program for large landscape residential water users within its service area, which includes the PVP WMG area. The PVP WMG agencies promote this program through their City websites and through the South Bay Environmental Services Center. The program provides outdoor water evaluations which identify leaks, broken sprinklers and pipes, unnecessary runoff, sprinkler controller issues, and other water wasting problems in landscapes. The program includes sprinkler nozzle retrofits and an outdoor water use report complete with recommendations on more efficient outdoor watering habits.
- West Basin Municipal Water District, in collaboration with the South Bay Environmental Services Center and the Surfrider Foundation, has offered California Friendly Landscape workshops for residents to help them manage their landscapes more efficiently. These workshops are free to residents within its service district, which includes most of the PVP WMG area. The program consists of a classroom presentation along with a hands-on workshop at a demonstration garden location. Topics covered in the workshops address both stormwater and non-stormwater pollutant source reduction. Residents learn about native plants and edibles, water efficient smart irrigation control equipment, rainwater capture and permeable materials for on-site retention of rainwater to reduce runoff and pollution to the ocean. The objectives of these workshops are to teach participants to apply methods that will reduce water consumption, runoff and ocean pollution.
- West Basin periodically holds weather-based irrigation controller exchange events where customers can attend a 30-minute training on how to install and operate the weather-based irrigation controllers and then trade in their old, inefficient controllers for a new free controller. Each of the PVP WMG agencies promotes this program through its respective website and through the South Bay Environmental Services Center.

Los Angeles County provides information on water conservation and Smart Gardening (<http://dpw.lacounty.gov/epd/sg/>) along with the importance of reducing the use of pesticides and incorporating Integrated Pest Management (IPM, <http://lacountyipm.org/>). Brochures are distributed at the Smart Gardening Workshops and list resource websites regarding native plants,

smart gardening techniques, recognizing garden weeds, identifying insects, detecting plant diseases, and categorizing vertebrate pests.

4. The PVP WMG proposes the following targeted outreach to residential pet owners in lieu of distribution of print materials at pet shops/feed stores:
 - 4.1. The PVP WMG agencies maintain pet waste collection and clean-up stations in each of their respective municipal parks.
 - 4.2. The PVP WMG agencies that allow residential horse keeping have developed and distribute outreach materials describing stormwater BMPs for horse keeping and manure management. These outreach materials are distributed at City and equestrian events, public counters and City websites, and during routine trail maintenance activities. PVP WMG agencies that allow residential horse keeping also provide manure collection services through the solid waste contract hauler.
 - 4.3. The Model Equestrian project at the Peter Weber Equestrian Center, serves an educational function to the equestrian community. Interpretive signage throughout the facility identifies the horse keeping BMPs for owners of horses boarded at the facility, horse trainers, and children who attend pony camps at the facility (as well as their parents). Pony camp materials used at the facility have been updated with worksheets on environmentally friendly horse keeping practices.
 - 4.4. The County and the LACFCD partnered with Caltrans on a public education campaign to encourage behavior changes that lead to reducing stormwater pollution. This campaign consists of ads on trash, pesticides and pet waste aired on social media, internet, billboards and radio.

3.3.2 Proposed Actions for TSS MAL Exceedances

PVP WMG agencies are implementing the Construction Development Program. For sites greater than an acre, PVP agencies review and approve Stormwater Pollution Prevention Plans (SWPPPs) and ensure that these are submitted to the State Water Resources Control Board through the Stormwater Multiple Application and Report Tracking System (SMARTS) before permits are issued. Additionally, each agency performs monthly inspections, as required by the Construction General Permit (CGP), to verify that contractors are implementing appropriate construction BMPs per their respective SWPPPs. Enforcement actions are taken (e.g. issuance of Notice of Violations) when illicit discharges from the construction site are observed or reported and follow up inspections are conducted until the site is in compliance. Similarly, sites that are less than an acre are required to submit and implement an Erosion and Sediment Control Plan (ESCP) prior to the issuance of permits. Enforcement actions ensue if any illicit discharges occur.

Additionally, PVP WMG staff participate in joint annual trainings regarding the Development Construction Program requirements. The joint training sessions allow PVP WMG jurisdictions to share methodology and experiences, thereby further promoting interagency coordination and the spreading of ideas to improve program effectiveness. Furthermore, the PVP WMG collaborated on a construction brochure for sites less than one acre in an effort to educate owners and contractors on the minimum BMPs that are required. In these ways, this control measure has played a significant role in minimizing construction-related discharges into the MS4 and receiving waters, especially sediment and any related pollutants.

However, as indicated in the Integrated Monitoring Compliance Report (IMCR) of the Watershed Annual Report (i.e. Section 6), the PVP WMG exhibits a running average of 20% or greater of exceedances of the TSS Municipal Action Level (MAL) at Lariat and Valmonte monitoring locations. Per Attachment G, Part VIII of the Permit, the implementation of an approved Watershed Management Program (i.e. WMP or EWMP) per Part VI.C of the Order fulfills all requirements related to the development and implementation of a MAL Action Plan (page G-18). In addition to the existing control measures, the PVP WMG proposes the actions described below to further minimize the transport of sediment into the MS4.

This section describes the existing MCMs for construction sites and identifies enhancements intended to reduce exceedances of the MAL for TSS to less than 20% on a running average. The MCMs for construction sites specified in the MS4 Permit distinguish between small (less than 1 acre) and large (1 acre or greater and subject to the CGP) sites, so they are discussed separately in the following subsections.

Small Construction Sites

The MCMs for construction sites disturbing less than one acre specify that Permittees must require the implementation of an effective combination of erosion and sediment control BMPs from Table 12 of the LA MS4 Permit, and that the Permittees will conduct inspections of construction sites as needed based on the threat to water quality posed by the site, and will implement a progressive enforcement policy to ensure that construction sites are brought into compliance within a reasonable time period. The list of BMPs in Table 12 of the LA MS4 Permit are:

- Scheduling
- Preservation of existing vegetation
- Silt fence
- Sand bag barrier
- Stabilized construction site entrance/exit
- Water conservation practices
- Dewatering operations
- Material delivery and storage
- Stockpile management
- Spill prevention and control
- Concrete waste management
- Sanitary/septic waste management

In order to enhance the effectiveness of this program and to ensure that contractors working on small construction sites understand these requirements, a newly developed brochure available in both English and Spanish is distributed to contractors at the time permits are obtained for these sites. The brochure describes the required BMPs and includes an illustration of a hypothetical residential construction site demonstrating where to deploy these BMPs. A copy of the brochure in both languages is provided in Attachment A of this report.

Large Construction Sites

The MCMs in the LA MS4 Permit for construction sites disturbing one acre or more and permitted under the CGP are summarized as follows:

- An inventory of construction permits including grading, demolition and building permits must be maintained and used for tracking active construction sites.

- The construction site erosion and sediment control plan (ESCP) or stormwater pollution prevention plan (SWPPP) must be developed by a Qualified SWPPP Developer (QSD) and reviewed and approved by the City prior to the issuance of a grading or building permit.
- In addition to the minimum BMPs for small construction sites listed in Section 3.1, construction sites subject to the CGP must implement additional applicable BMPs from a list of 21 additional BMPs, and for high risk sites (Risk Level 3 sites per the CGP), from a list of 29 enhanced BMPs.
- The City's inspector must inspect all large sites at least monthly.
- For sites determined to be a significant threat to water quality (Risk Level 3), the sites must be inspected at least twice per month and whenever there is a forecast of two or more consecutive days with greater than 50% chance of rainfall, and following a rainfall of ½ inch of rain.
- All phases of construction must be inspected including: prior to land disturbance to ensure that BMP materials are at the ready per the SWPPP, during active construction, and at the conclusion of the project to ensure final stabilization has been reached and all construction materials have been removed as a condition of final approval. ESCP/SWPP reviews must be conducted by personnel trained and knowledgeable in the technical review of ESCP and the CGP requirements.
- Inspectors must be knowledgeable in inspection procedures consistent with the CGP program as well as local requirements.

In order to improve the effectiveness of sediment controls on CGP sites, the following enhancements to the PVP agencies' implementation of the MCMs are proposed to confirm that adequate sediment controls are being implemented:

- Enhance trainings to construction inspectors
- Increase public education and outreach to contractors
- Implement regional projects

See Section 3.6 below for implementation schedule.

3.4 The status of all multi-year efforts that were not completed in the current year and will continue into the subsequent year(s)

See Section 2.5.

3.5 Description of additional BMPs, including modifications to current BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedances of receiving water limitations

See Section 3.3.

3.6 An implementation schedule for additional BMPs, including modifications to current BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedances of receiving water limitations

Table 13: Implementation Schedule for Proposed PIPP

Propose Program Enhancement	Schedule for Implementation
Customized strategy for providing stormwater pollution prevention outreach targeted at residential do-it-yourself (DIY) auto, home improvement, and gardening activities and pet owner activities in lieu of the distribution of print materials at POP retailers. See Section 3.3.1.	Immediately upon Approval of Regional Board Executive Officer

Table 14: Implementation Schedule for Proposed Actions for TSS MAL Exceedances

Propose Program Enhancement	Schedule for Implementation
Distribution of newly developed construction brochure for small sites. See Section 3.3.2.	Immediately upon Approval of Regional Board Executive Officer
Enhanced measures for CGP sites. See Section 3.3.2.	Immediately upon Approval of Regional Board Executive Officer

3.7 Any modifications, 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/EWMP

See Sections 3.2 and 3.3.

3.8 Include a detailed description of control measures to be applied to New Development or Re-development projects disturbing more than 50 acres.

See responses in each agency’s Individual Annual Report.

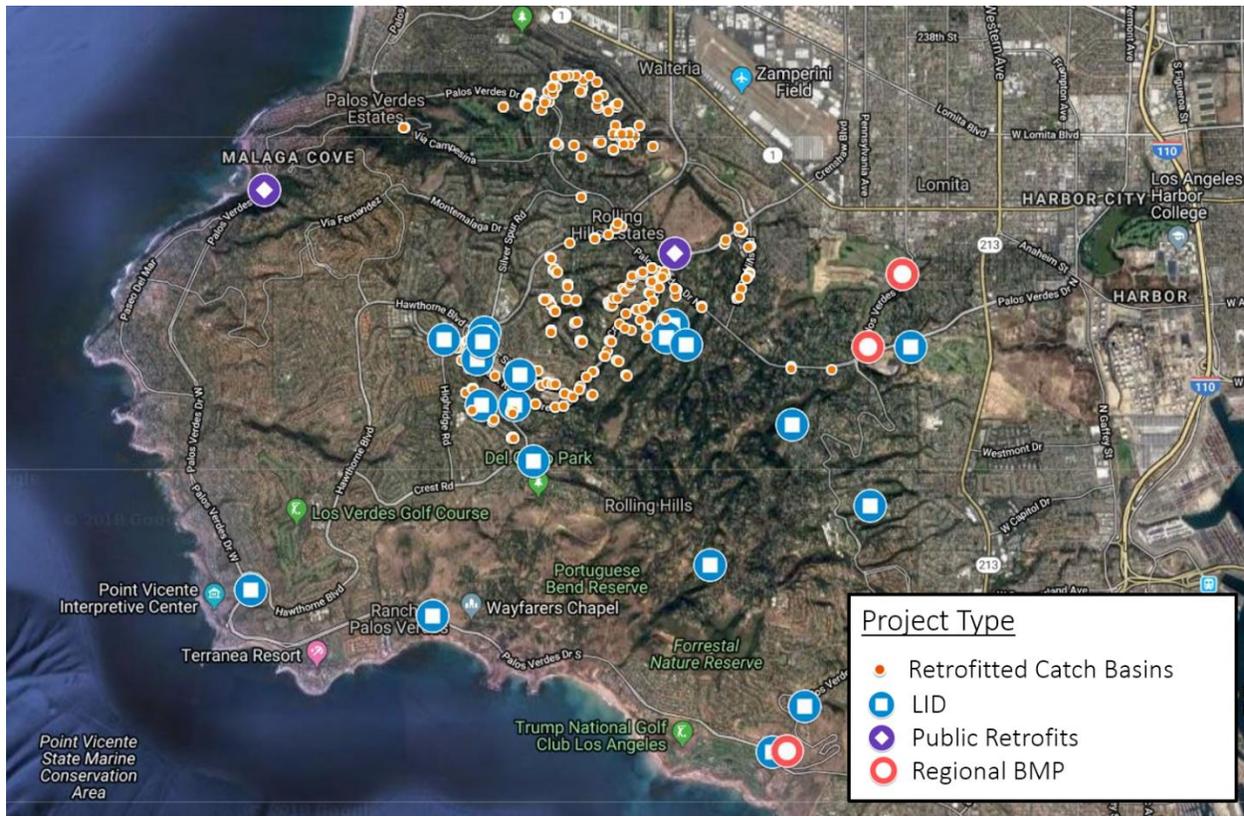
4 Adaptive Management Reporting

This chapter follows Section 7.3 of the Watershed Annual Report template.

4.1 On-the-ground structural control measures completed

Figure 7 provides a map of completed projects, including: regional projects, public retrofit projects, distributed catch basin retrofits, and LID on new and redevelopment projects.

Figure 7: Map of Completed Control Measures



4.2 Non-structural control measures completed

The PVP WMG agencies continue to implement all non-structural control measures, as follows:

- Development Construction Program
- Industrial/Commercial Facilities Program
- Illicit Connection and Illicit Discharge Elimination Program
- Public Agency Activities Program
- Public Information and Participation Program (PIPP)

4.3 Monitoring data that evaluates the effectiveness of implemented control measures in improving water quality

See Section 2.2 for discussion.

4.4 Comparison of the effectiveness of the control measures to the results projected by the RAA

See Table 3a in Volume I of the Watershed Annual Report.

4.5 Comparison of control measures completed to date with control projected by the RAA

See Table 3a in Volume I of the Watershed Annual Report.

4.6 Comparison of control measures completed to date with control measures projected to be completed to date pursuant to the EWMP

The following table provides a list of regional projects identified in the EWMP and the status of completion of each project.

Table 15: Regional Control Measures Completed to Date with Projected Completion Dates in EWMP

Control Measure	Completed?	Completion Date	Projected Completion Date in EWMP
Casaba Estates	Yes	February 2013	Completed prior to EWMP approval
San Ramon Canyon	Yes	November 2014	Completed prior to EWMP approval
Chandler Quarry	Yes	Online 2018	2018
South Coast Botanic Garden	No	TBD	2018
Palos Verdes Landfill	No	TBD*	September 2018
Valmonte Regional BMP	No	TBD*	September 2018
Eastview Park	No	TBD	March 2032

*Original scope of proposed project found to be infeasible, however a smaller, alternative scope on this site in combination with other projects may be considered.

4.7 Control measures proposed to be completed in the next two years pursuant to the EWMP and the schedule for completion of those control measures

- See **Table 7** in Section 2.2.1.1.2 for SMB catch basin retrofit schedule.
- See Section **2.5.1.** for alternative regional BMPs. A schedule will be formulated when the alternative options are fully realized.

4.8 Status of funding and implementation for control measures proposed to be completed in the next two years

PVP agencies continue to fund their respective stormwater programs through General Funds and seek grant opportunities (e.g. Prop 84) to aid with the implementation of structural control measures, such as catch basin retrofits to comply with trash TMDLs. The PVP WMG will continue to seek funding through grants in the future as alternative projects are explored.

Importantly, in 2016, the Board of Supervisors directed the Los Angeles County Flood Control District (LACFCD) to develop the Safe Clean Water Program. LACFCD invested significant resources to develop the program, including the gathering of information to assist the development of Measure W, which was passed by Los Angeles County voters on November 6, 2018 with more than a two-thirds majority. The Safe Clean Water Program, the first of its kind and a model for the State and the nation, will provide a much-needed long term, dedicated revenue source for stormwater projects, including the projects identified in the approved EWMP that will improve water quality working towards achieving compliance of the water quality priorities within the watershed.

Attachment A

Sample Brochures: BMPs for Small Construction Sites



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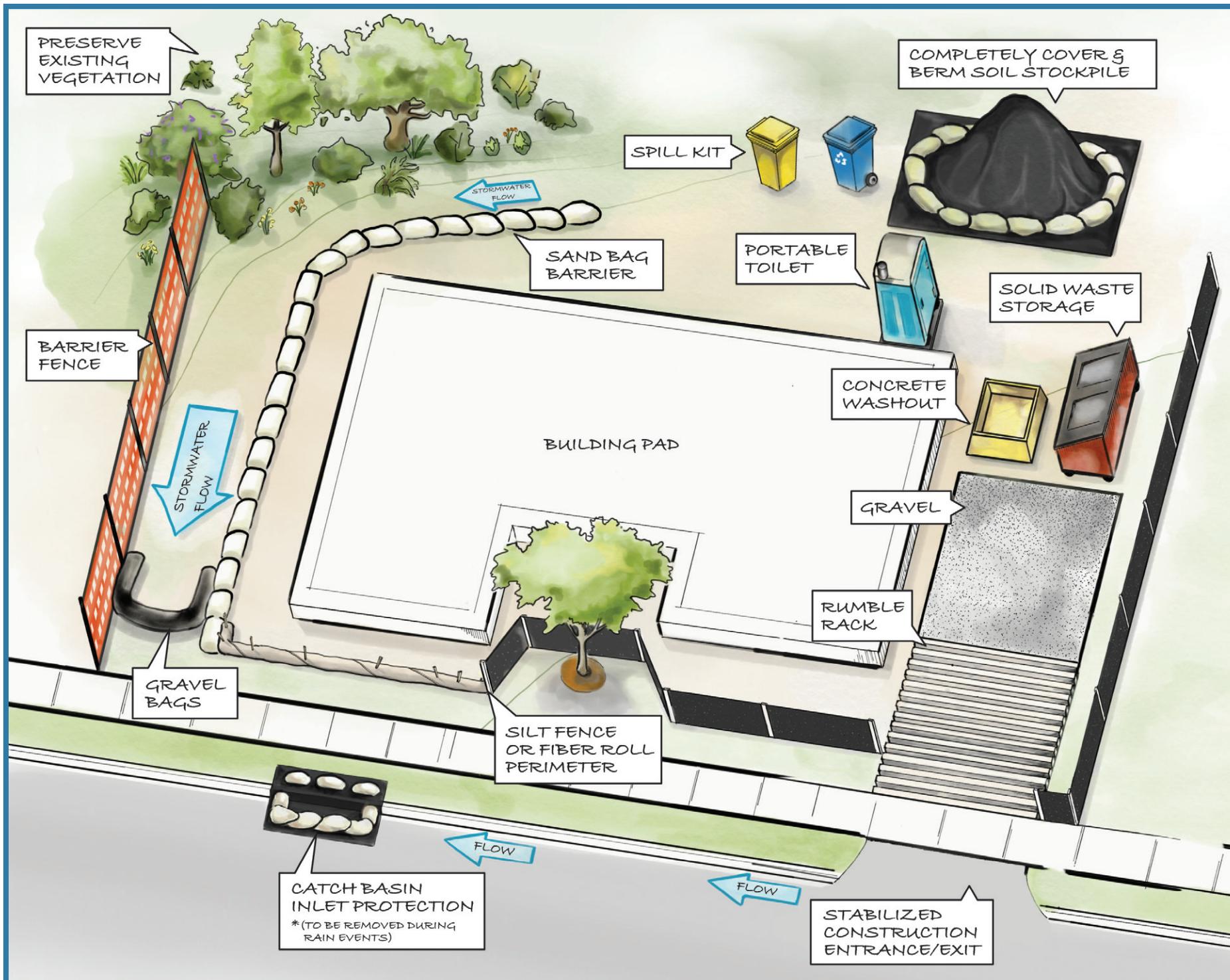
KEEP IT ONSITE!

Best Management Practices *for Small Construction Sites*

Our beaches, coastal streams and wetlands are precious to our coastal communities, but human activity such as construction work can pollute these natural treasures unless contractors use effective best management practices (BMPs).

This brochure outlines the minimum required BMPs for construction projects that disturb less than one acre* of soil (small construction sites).

* Construction projects that disturb one acre or more of soil must comply with the Statewide Construction General Permit: waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml



BEST MANAGEMENT PRACTICES FOR SMALL CONSTRUCTION SITES

An effective combination of all of the following 13 minimum BMPs must be implemented and maintained on all small construction sites to comply with the Clean Water Act. Local agencies may have additional requirements.

EROSION CONTROLS

- Schedule** construction to minimize the area and duration of soil disturbance/exposure, especially during the rainy season.
 - Deploy all construction BMPs before beginning construction and maintain frequently.
 - Monitor weather forecasts and check BMPs before and after rain events.
 - Schedule grading for non-rainy season whenever possible (May – September).
 - Stabilize inactive areas of exposed soil.
 - At the end of the job, stabilize all exposed soil with sod, seed, vegetation or mulch.
- Preserve and Protect Existing Trees and Vegetation from Construction.**
 - Allow existing vegetation to remain as natural erosion control if possible.
 - Flag or fence trees and vegetation to be protected prior to construction.
 - Place temporary fencing at the edge of the tree canopy/dripline to protect roots from compaction.
 - Keep trenching outside of tree canopy and cover any exposed roots with soil.
 - Consult an arborist for advice on protecting valuable trees.
 - Do not cut trees or brush along the banks of a natural drainage course without appropriate permit(s) (see Additional Permits).

SEDIMENT CONTROLS

- Silt Fence** used for sediment control consists of woven geotextile fabric stretched across supporting posts with bottom edge trenched and anchored into soil and placed:
 - down-slope of exposed soil on slopes < 1:1,
 - at project perimeter,
 - around stockpiles, or
 - to protect onsite storm drain/inlets/drains.
- Sand Bag or Fiber Roll Barriers** should be placed on a level contour to intercept sheet flow and allow sediment to settle out behind the barrier. These can be effective:

- at site perimeter,
- down-slope of exposed soil,
- at the top of slopes to divert flows away from disturbed slopes,
- as grade breaks on slope faces, and
- around temporary stockpiles.
- ↓ Sand bags are not effective for flow-through filtration (use gravel bags instead).

Note: Sand bags must be replaced every 2–3 months because bag material degrades.

- Stabilized Construction Entrance/Exit** is required if vehicles will enter the site to prevent tracking of dirt and mud onto street and will include:
 - Crushed aggregate at least 3 inches in diameter placed at least 12 inches deep over filter fabric,
 - Rumble racks (manufactured steel plates with ribs), and
 - Site control to limit vehicle access only to stabilized entrance/exit.

WATER USE AND MANAGEMENT

- Water Conservation Practices** also prevent illegal construction discharges. Such BMPs include:
 - Dry sweeping and/or vacuuming paved areas
 - Use of quick-release nozzles on hoses
 - Prompt repair of leaks from water trucks, irrigation, hydrant connections, etc.
 - Reusing water generated onsite for dust control
- Dewatering Operations** If construction dewatering or impounded stormwater will be discharged to the storm drain or street:
 - 45 days prior to discharge, a separate permit must be obtained under Los Angeles Regional Water Quality Control Board Order No. R4-2013-0095, waterboards.ca.gov/losangeles/board_decisions/adopted_orders/
 - Implement and maintain treatment as specified by R4-2013-0095 permit approval
 - Keep the flow path of the discharge to the storm drain clean, i.e., sweep up dirt, debris, leaves, and trash in the flow path
 - Dewatering discharges must not cause soil erosion

MATERIAL AND WASTE MANAGEMENT PRACTICES

- Material Delivery and Storage Management**
 - Schedule material deliveries to minimize storage time and space onsite.

- Limit the number of different types of solvents and materials to reduce waste.
- Select less toxic or hazardous products when feasible.
- Store liquids or toxic materials in: double-walled tanks or watertight containers under covered areas away from drainage-ways.
- Locate material storage away from vehicle traffic and drainage pathways.
- Keep Safety Data Sheets onsite and train workers to review before using hazardous materials.

9. Stockpile Management and Protection

- Cover during non-active periods to protect from wind-blown dispersion.
- Locate stockpiles away from street or onsite drainage pathways.
- Provide perimeter sediment barrier.

10. Spill Prevention and Control Measures

- Maintain spill absorbent and clean-up supplies readily at hand.
- Utilize spill prevention/containment measures such as drip pans.
- If equipment fueling or maintenance must be performed onsite, designate a specific area on level ground away from drainage-way or street with spill kit.
- Stop, safely contain and clean up spills promptly.
- Properly dispose of spill cleanup materials.
- Keep emergency response contact numbers readily available onsite

11. Solid Waste Management

- Follow local demolition/debris management, recycling and disposal requirements.
- Maintain an organized/segregated waste storage area.
- Dispose of hazardous waste in a lawful manner.
- Control litter such as empty food and beverage containers and cigarette butts.

Do not:

- ↓ Bury or dispose of waste materials onsite
- ↓ Dispose of liquids in dumpster

12. Concrete Waste, including concrete washout, tile, stucco and any cementitious waste

- Provide designated containment area lined or designed to prevent the release of liquids onto or into the ground.

- Train workers in proper use and inspect regularly.
- Properly dispose of waste.

Do not:

- ↓ Rinse concrete vehicles or equipment into the street or catch basin.

13. Sanitary/Septic Waste Management

Follow local requirements for placement and service of portable toilets.

- Locate away from catch basins and vehicular traffic.
- Anchor in areas subject to vandalism or when strong winds are forecast.
- Require spill prevention measures during service.

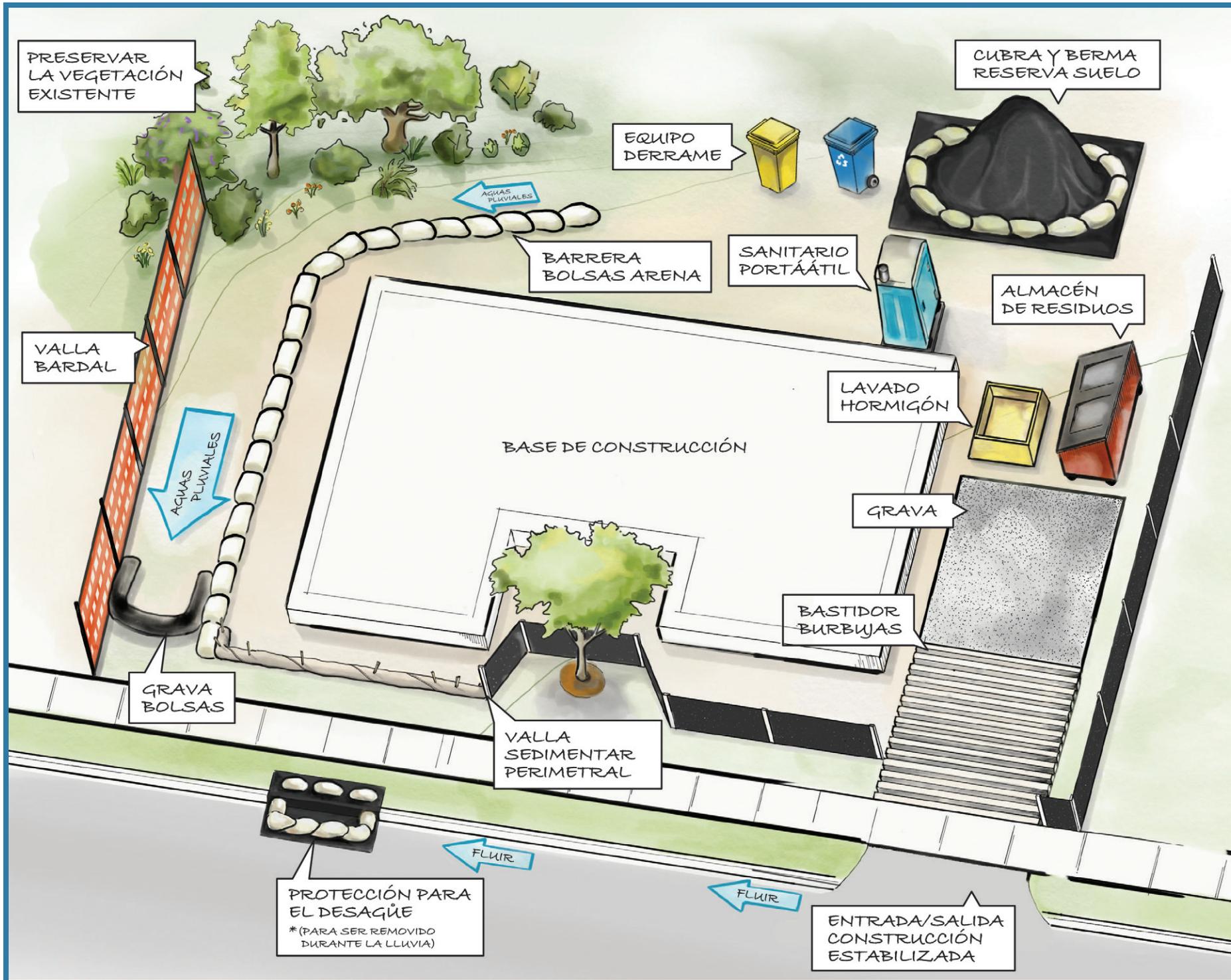
SPECIAL PROVISIONS AND ADDITIONAL PERMITS

Asbestos: work with or removal of asbestos-related materials requires special handling and containment practices under Title 8 of California Code of Regulations.

Lead-Based Paint Renovation, Removal and Painting Program Rule: The RRP Rule requires that contractors that work on pre-1978 dwellings and child-occupied facilities be trained and certified to use lead-safe work practices.

Lake or Streambed Work: Additional permits may be required if construction work will be conducted along the banks or in a lake, stream or ocean. These include:

- Lake or Streambed Alteration Agreement from CA Depart. of Fish & wildlife.ca.gov/conservation/LSA
- US Army Corps of Engineers usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/Obtain-a-Permit/
- Los Angeles Regional Water Quality Control Board 401 Water Quality Certification permit waterboards.ca.gov/losangeles/water_quality/programs/401_water_quality_certification/CleanWaterApp.shtml



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¡Manténgalo En El Sitio

Mejores Prácticas de Manejo para Pequeños Sitios de Construcción

Nuestras playas, arroyos costeros y humedales son valiosos para nuestras comunidades costeras, pero la actividad humana, tal como el trabajo de construcción, pueden contaminar estos tesoros naturales a menos que contratistas usen mejores prácticas de manejo eficaces (BMPs).

Este folleto describe los requisitos mínimos de BMPs para los proyectos de construcción que perturban menos de un acre* de suelo (pequeños sitios de construcción).

* Los proyectos de construcción que perturban un acre o más de suelo deben cumplir con el permiso de Construcción General Estatal: waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml

MEJORES PRÁCTICAS DE MANEJO PARA PEQUEÑOS SITIOS DE CONSTRUCCIÓN

Una combinación efectiva de todos los siguientes 13 BMPs mínimas debe ser implementada y mantenido en todos los pequeños sitios de construcción para cumplir con la Ley de Agua Limpia. Las Agencias Locales pueden tener requisitos adicionales.

CONTROL DE EROSIÓN

- 1. Planificar** la construcción para minimizar el área y la duración del disturbio/exposición del suelo, especialmente durante la temporada de lluvias.
 - Desplegar todas las BMP de construcción antes de comenzar la construcción y mantener con frecuencia.
 - Monitoree las previsiones meteorológicas y compruebe las BMPs antes y después de los eventos de lluvia.
 - Programe nivelar terrenos durante la temporada sin lluvias siempre que sea posible (de Mayo – Septiembre).
 - Establecí zonas inactivas de suelo expuesto.
 - Al final del trabajo, establezca todo el suelo expuesto con césped, semilla, vegetación o mantillo.
- 2. Preservar y Proteger los Árboles y la Vegetación Existente de la Construcción.**
 - Permitir que la vegetación existente permanezca como control natural de la erosión si es posible.
 - Señale los árboles y la vegetación o póngales cercos para protegerlos antes de la construcción.
 - Coloque una cerca temporal en el borde de la copa del árbol/línea de goteo para proteger las raíces de la compactación.
 - Mantenga las zanjas fuera de copa de los árboles y cubra las raíces expuestas con el suelo.
 - Consulte a un arbolista para el asesoramiento en la protección de árboles valiosos.
 - No corte los árboles ni cepille a lo largo de las orillas de un curso de drenaje natural sin permiso(s) apropiado(s) (ver Permisos Adicionales).

CONTROL DE SEDIMENTOS

- 3. La Barrera de Sedimentos** utilizada para el control de sedimentos consiste en una tela geotextil tejida estirada a través de postes de apoyo con borde inferior atrincherados y anclados en el suelo y colocado:
 - cuesta abajo de suelos expuestos en laderas inferiores a menos de 1:1,
 - en el perímetro del proyecto,
 - alrededor de las reservas, o
 - para proteger el drenaje de tormentas en desagüe pluviales/entradas/drenajes.

- 4. Las Bolsas de Arena o Barreras de Rollo de Fibra** deben colocarse en un contorno nivelado para interceptar el flujo de la lámina y permitir que el sedimento se deposite detrás de las barreras. Estas pueden ser eficaces:
 - en el perímetro del sitio,
 - pendiente descendiente del suelo expuesto,
 - en la parte superior de las laderas para desviar los flujos lejos de laderas perturbadas,
 - cuando se rompe el grado en las caras de la pendiente, y
 - alrededor de existencias temporales.
 - Los sacos de arena no son efectivos para la filtración de flujo (utilice bolsas de grava en su lugar).

Nota: Los sacos de la arena serán reemplazados cada 2–3 meses porque el material de la bolsa se degrada.
- 5. Entrada/Salida de Construcción Estabilizada** es requerida si los vehículos entrarán en el sitio para prevenir el rastreo de suciedad y barro en la calle e incluirán:
 - Agregado triturado por lo menos 3 pulgadas de diámetro colocado por lo menos 12 pulgadas de profundidad sobre la tela del filtro,
 - Bastidores de burbujas (placas de acero fabricadas con nervaduras), y
 - Control del sitio para limitar el acceso de vehículos sólo estabilizado a la entrada/salida estabilizada.

USO Y MANEJO DEL AGUA

- 6. Prácticas de Conservación del Agua** también previenen las descargas ilegales de la construcción. Tales BMPs incluyen:
 - Barrido en seco y/o aspirar áreas pavimentadas
 - Uso de boquillas de cierre rápido en mangueras
 - Reparación rápida de fugas de camiones cisterna, riego, conexiones de hidrantes, etc.
 - Reutilizar el agua generada en el sitio para el control del polvo
- 7. Operaciones de Deshidratación** si la construcción de desecación o aguas pluviales confiscadas serán descargados al drenaje de las tormentas o calle:
 - 45 días previos a la descarga, deberá obtenerse un permiso separado bajo la Orden N° R4-2013-0095 de la Junta Regional de Control de la Calidad del Agua de Los Ángeles, ver waterboards.ca.gov/losangeles/board_decisions/adopted_orders/
 - Implementar y mantener el tratamiento según lo especificado por la aprobación del permiso de R4-2013-0095
 - Mantenga limpia la trayectoria de flujo de la descarga a la alcantarilla, es decir, barra la suciedad, los desechos, las hojas y la basura en la trayectoria del flujo
 - Las Descargas de desagüe no deben causar erosión del suelo

PRÁCTICAS DE MATERIALES Y GESTIÓN DE RESIDUOS

- 8. Entrega de Material y Administración de Almacenamiento**
 - Programe entregas de material para minimizar el tiempo y el espacio de almacenamiento en el sitio.
 - Limite el número de diferentes tipos de solventes y materiales para reducir los residuos.
 - Seleccione los productos menos tóxicos o peligrosos cuando sea posible.
 - Almacene líquidos o materiales tóxicos en: tanques de doble pared o recipientes estancos bajo áreas cubiertas lejos de las vías de drenaje.
 - Localice el almacenamiento de materiales lejos del tráfico de vehículos y vías de drenaje.
 - Mantengan hojas de datos de seguridad en el sitio y entrenen a los trabajadores a revisarlos antes de utilizar materiales peligrosos.
- 9. Mantenimiento y Protección de la Reserva**
 - Cubrir durante los periodos no activos para protegerlo de la dispersión del viento y la lluvia.
 - Localizar reservas de vías de drenaje de la calle o en el sitio.
 - Proporcionar una barrera perimetral para sedimentos
- 10. Medidas de Control y Prevención de Derrames**
 - Mantenga a mano los suministros de absorción y limpieza de derrames.
 - Utilizar medidas de prevención/contención de derrames, como un recipiente para coleccionar goteo.
 - Si el equipo de abastecimiento de combustible o mantenimiento debe ser realizado en el sitio, designar un área específica en un terreno nivelado lejos de la vía de drenaje o de la calle con el equipo de derrame.
 - Detener, contener con seguridad y limpiar los derrames inmediatamente.
 - Deseche adecuadamente los materiales de limpieza de derrames.
 - Mantenga los números de contacto de respuesta de emergencia disponibles en el sitio
- 11. Manejo de Residuos Sólidos**
 - Siga los requisitos locales de demolición/eliminación de desechos, reciclado y eliminación.
 - Mantenga un área de almacenamiento de residuos organizado/segregados.
 - Deseche los residuos peligrosos de manera legal.
 - Controle desperdicios tales como envases vacíos de alimentos, bebidas y colillas de cigarrillos.

No:

 - ↓ Enterrar o desechar los materiales de desecho en el sitio
 - ↓ Deseche los líquidos en el contenedor de basura

- 12. Residuos de Hormigón** incluyendo lavado concreto, azulejo, cualquier residuo de cemento o estuco
 - Proporcione un área de contención designada forrada o diseñada para prevenir la liberación de líquidos sobre o en el suelo.
 - Entrene a los trabajadores en el uso apropiado e inspeccione regularmente.
 - Deseche los residuos correctamente.

No:

 - ↓ Enjuague los vehículos o equipos de hormigón en la calle o cuenca.
- 13. Gestión de Residuos Sanitarios Sépticos**

Siga los requisitos locales para la colocación y el servicio de sanitarios portátiles.

 - Ubique lejos de piletas de recepción y tráfico vehicular.
 - Ancla en áreas expuestas al vandalismo o cuando se pronostican fuertes vientos.
 - Requieren medidas de prevención de derrames durante el servicio.

DISPOSICIONES ESPECIALES Y PERMISOS:

Asbesto: trabajar con o eliminación de materiales relacionados con asbesto requiere un tratamiento especial y prácticas de contención bajo título 8 del Código de Reglamentos de California.

Regla del Programa de Renovación, Remoción y Pintura (RRP) a base de Plomo: La Regla de RRP requiere que los contratistas que trabajan en viviendas pre-1978 e instalaciones ocupadas por niños sean entrenados y certificados para usar prácticas de trabajo seguras para el plomo.

Trabajo en el Lago o Arroyo: permisos adicionales pueden ser necesarios si la obra se llevará a cabo a lo largo de las orillas o en un lago, arroyo u océano. Estos incluyen:

- Salida lago o acuerdo de alteración de cauce de CA. de peces y vida silvestre wildlife.ca.gov/conservation/LSA
- Cuerpo de ingenieros del ejército de Estados Unidos usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/Obtain-a-Permit/
- Junta Regional de Control de la Calidad del Agua de Los Ángeles 401 permiso de Certificación de Calidad del Agua waterboards.ca.gov/losangeles/water_issues/programs/401_water_quality_certification/CleanWaterApp.shtml