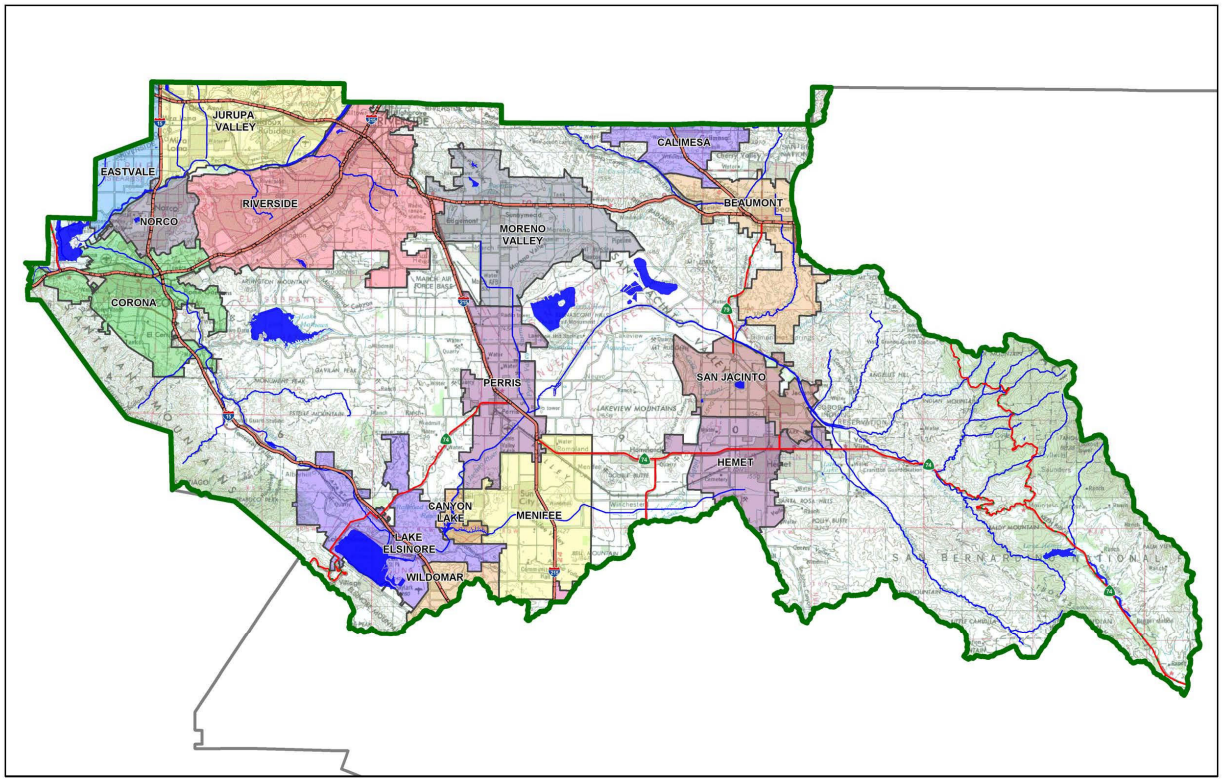
Project Specific Water Quality Management Plan

*A Template for Projects located within the **Santa Ana Watershed** Region of Riverside County*

Project Title: Majestic Freeway Business Center, Building 17

Development No: BGR xxxxxx

Design Review/Case No: PPT 220009



☒ **Preliminary**
☐ **Final**

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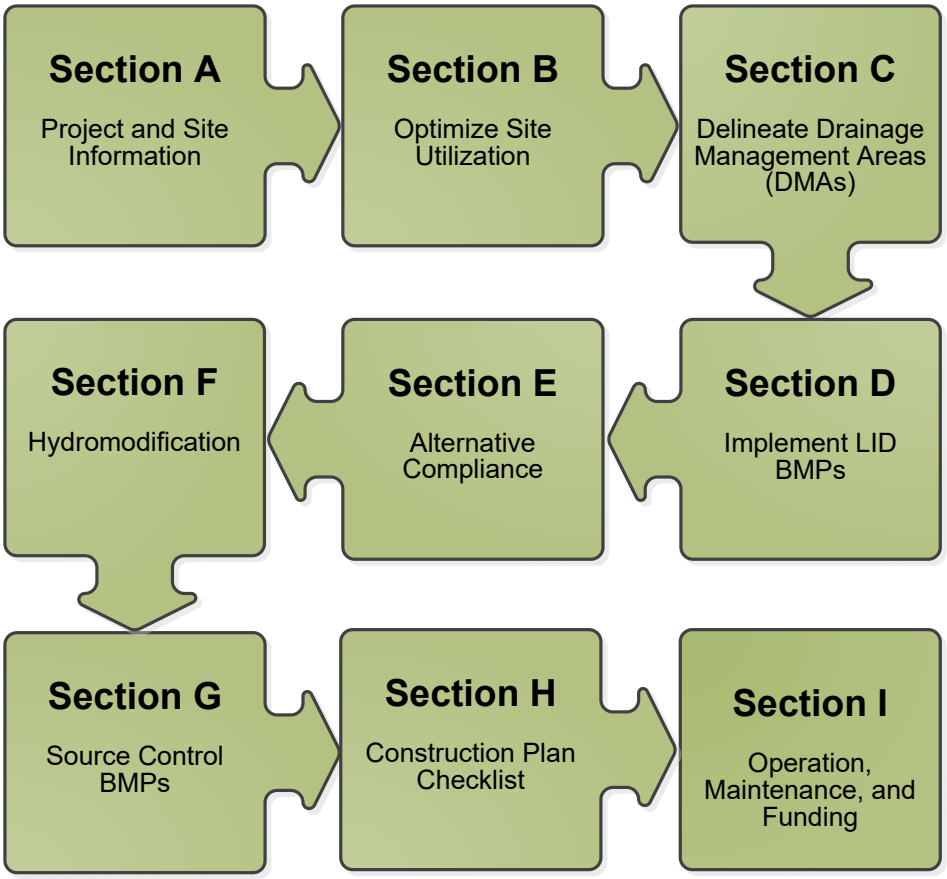
A Brief Introduction

This Project-Specific WQMP Template for the **Santa Ana Region** has been prepared to help guide you in documenting compliance for your project. Because this document has been designed to specifically document compliance, you will need to utilize the WQMP Guidance Document as your "how-to" manual to help guide you through this process. Both the Template and Guidance Document go hand-in-hand, and will help facilitate a well prepared Project-Specific WQMP. Below is a flowchart for the layout of this Template that will provide the steps required to document compliance.



OWNER'S CERTIFICATION

This Project-Specific Water Quality Management Plan (WQMP) has been prepared for Majestic Freeway Business Center, LLC by PBLA Engineering, Inc. for the Majestic Freeway Business Center, Building 17 project.

This WQMP is intended to comply with the requirements of Riverside County for Ordinance No. 754.2 which includes the requirement for the preparation and implementation of a Project-Specific WQMP.

The undersigned, while owning the property/project described in the preceding paragraph, shall be responsible for the implementation and funding of this WQMP and will ensure that this WQMP is amended as appropriate to reflect up-to-date conditions on the site. In addition, the property owner accepts responsibility for interim operation and maintenance of Stormwater BMPs until such time as this responsibility is formally transferred to a subsequent owner. This WQMP will be reviewed with the facility operator, facility supervisors, employees, tenants, maintenance and service contractors, or any other party (or parties) having responsibility for implementing portions of this WQMP. At least one copy of this WQMP will be maintained at the project site or project office in perpetuity. The undersigned is authorized to certify and to approve implementation of this WQMP. The undersigned is aware that implementation of this WQMP is enforceable under Riverside County Water Quality Ordinance (Municipal Code Section 754.2).

"I, the undersigned, certify under penalty of law that the provisions of this WQMP have been reviewed and accepted and that the WQMP will be transferred to future successors in interest."

Owner's Signature	Date
Owner's Printed Name	Owner's Title/Position

PREPARER'S CERTIFICATION

"The selection, sizing and design of stormwater treatment and other stormwater quality and quantity control measures in this plan meet the requirements of Regional Water Quality Control Board Order No. **R8-2010-0033** and any subsequent amendments thereto."

Preparer's Signature	6/2/22 Date
Steve Levisee Preparer's Printed Name	Principal Preparer's Title/Position

Preparer's Licensure:
CA 45926

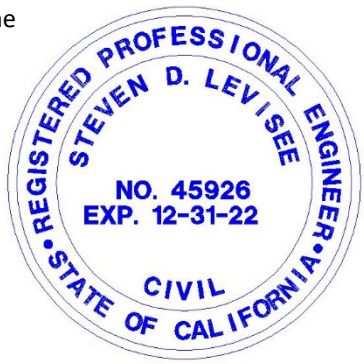


Table of Contents

Section A: Project and Site Information 6

A.1 Maps and Site Plans 6
A.2 Identify Receiving Waters 7
A.3 Additional Permits/Approvals required for the Project: 7

Section B: Optimize Site Utilization (LID Principles) 8

Section C: Delineate Drainage Management Areas (DMAs) 10

Section D: Implement LID BMPs 12

D.1 Infiltration Applicability 12
D.2 Harvest and Use Assessment 13
D.3 Bioretention and Biotreatment Assessment 15
D.4 Feasibility Assessment Summaries 16
D.5 LID BMP Sizing 17

Section E: Alternative Compliance (LID Waiver Program) 18

E.1 Identify Pollutants of Concern 19
E.2 Stormwater Credits 20
E.3 Sizing Criteria 20
E.4 Treatment Control BMP Selection 21

Section F: Hydromodification 22

F.1 Hydrologic Conditions of Concern (HCOC) Analysis 22
F.2 HCOC Mitigation 23

Section G: Source Control BMPs 24

Section H: Construction Plan Checklist 27

Section I: Operation, Maintenance and Funding 28

List of Tables

Table A.1 Identification of Receiving Waters 7
Table A.2 Other Applicable Permits 7
Table C.1 DMA Classifications 10
Table C.2 Type 'A', Self-Treating Areas 10
Table C.3 Type 'B', Self-Retaining Areas 10
Table C.4 Type 'C', Areas that Drain to Self-Retaining Areas 11
Table C.5 Type 'D', Areas Draining to BMPs 11
Table D.1 Infiltration Feasibility 12
Table D.2 LID Prioritization Summary Matrix 16
Table D.3 DCV Calculations for LID BMPs 17
Table E.1 Potential Pollutants by Land Use Type 19
Table E.2 Water Quality Credits 20
Table E.3 Treatment Control BMP Sizing 20
Table E.4 Treatment Control BMP Selection 21
Table F.1 Hydrologic Conditions of Concern Summary 22
Table G.1 Permanent and Operational Source Control Measures 24
Table H.1 Construction Plan Cross-reference 27

List of Appendices

Appendix 1: Maps and Site Plans 29
Appendix 2: Construction Plans 30
Appendix 3: Soils Information 31
Appendix 4: Historical Site Conditions 32
Appendix 5: LID Infeasibility 33
Appendix 6: BMP Design Details 34
Appendix 7: Hydromodification 35
Appendix 8: Source Control 37
Appendix 9: O&M 38
Appendix 10: Educational Materials ..... - 6 -

Section A: Project and Site Information

PROJECT INFORMATION		
Type of Project:	Light Industrial	
Planning Area:	Riverside County	
Community Name:	Perris	
Development Name:	Majestic Freeway Business Center, Building 17	
PROJECT LOCATION		
Latitude & Longitude (DMS): 33º 51' 23", 117º 15' 33"		
Project Watershed and Sub-Watershed: Santa Ana, Perris Valley		
Gross Acres: 15.77		
APN(s): 314-100-082 & 314-100-084		
Map Book and Page No.: Pg 777, Grid C1		
PROJECT CHARACTERISTICS		
Proposed or Potential Land Use(s)	Industrial	
Proposed or Potential SIC Code(s)	4225, 4214	
Area of existing Impervious Project Footprint (SF)	0	
Total Area of proposed Impervious Surfaces within the Project Footprint (SF)/or Replacement	474,740	
Does the project consist of offsite road improvements?	☒ Y	☐ N
Does the project propose to construct unpaved roads?	☐ Y	☒ N
Is the project part of a larger common plan of development (phased project)?	☒ Y	☐ N
EXISTING SITE CHARACTERISTICS		
Total area of existing Impervious Surfaces within the Project limits Footprint (SF)	0	
Is the project located within any MSHCP Criteria Cell?	☐ Y	☒ N
If so, identify the Cell number:	N/A	
Are there any natural hydrologic features on the project site?	☐ Y	☒ N
Is a Geotechnical Report attached?	☒ Y	☐ N
If no Geotech. Report, list the NRCS soils type(s) present on the site (A, B, C and/or D)	A & B	
What is the Water Quality Design Storm Depth for the project?	0.58"	

A.1 Maps and Site Plans

When completing your Project-Specific WQMP, include a map of the local vicinity and existing site. In addition, include all grading, drainage, landscape/plant palette and other pertinent construction plans in Appendix 2. At a **minimum**, your WQMP Site Plan should include the following:

- Drainage Management Areas
- Proposed Structural BMPs
- Drainage Path
- Drainage Infrastructure, Inlets, Overflows
- Source Control BMPs
- Buildings, Roof Lines, Downspouts
- Impervious Surfaces
- Standard Labeling
- BMP Locations (Lat/Long)

Use your discretion on whether or not you may need to create multiple sheets or can appropriately accommodate these features on one or two sheets. Keep in mind that the Co-Permittee plan reviewer must be able to easily analyze your project utilizing this template and its associated site plans and maps.

A.2 Identify Receiving Waters

Using Table A.1 below, list in order of upstream to downstream, the receiving waters that the project site is tributary to. Continue to fill each row with the Receiving Water's 303(d) listed impairments (if any), designated beneficial uses, and proximity, if any, to a RARE beneficial use. Include a map of the receiving waters in Appendix 1.

Table A.1 Identification of Receiving Waters

Receiving Waters	EPA Approved 303(d) List Impairments	Designated Beneficial Uses	Proximity to RARE Beneficial Use
Perris Valley Storm Drain	None Listed	N/A	N/A
San Jacinto River Reach 3	None Listed	N/A	15 mi
Railroad Canyon / Canyon Lake	Nutrients	Warm freshwater aquatic habitat (WARM), body contact recreation (REC1), non-body contact recreation (REC2), wildlife habitat (WILD), municipal and domestic water supply (MUN), agricultural water supply (AGR), and groundwater recharge (GWR), Commercial/Sport Fishing (COMM)	16.8 mi
San Jacinto River Reach 1	None Listed	N/A	N/A
Lake Elsinore	Nutrients, Low Dissolved Oxygen, DDT	Warm freshwater aquatic habitat (WARM), body contact recreation (REC1), non-body contact recreation (REC2), Commercial/Sport Fishing (COMM), wildlife habitat (WILD), Rare, Threatened, or Endangered Species (RARE)	23.2

A.3 Additional Permits/Approvals required for the Project:

Table A.2 Other Applicable Permits

Agency	Permit Required	
State Department of Fish and Game, 1602 Streambed Alteration Agreement	☐ Y	☒ N
State Water Resources Control Board, Clean Water Act (CWA) Section 401 Water Quality Cert.	☐ Y	☒ N
US Army Corps of Engineers, CWA Section 404 Permit	☐ Y	☒ N
US Fish and Wildlife, Endangered Species Act Section 7 Biological Opinion	☐ Y	☒ N
Statewide Construction General Permit Coverage	☒ Y	☐ N
Statewide Industrial General Permit Coverage	☒ Y	☐ N
Western Riverside MSHCP Consistency Approval (e.g., JPR, DBESP)	☐ Y	☒ N
Other *(please list in the space below as required)*	☐ Y	☒ N

If yes is answered to any of the questions above, the Co-Permittee may require proof of approval/coverage from those agencies as applicable including documentation of any associated requirements that may affect this Project-Specific WQMP.

Section B: Optimize Site Utilization (LID Principles)

Review of the information collected in Section 'A' will aid in identifying the principal constraints on site design and selection of LID BMPs as well as opportunities to reduce imperviousness and incorporate LID Principles into the site and landscape design. For example, **constraints** might include impermeable soils, high groundwater, groundwater pollution or contaminated soils, steep slopes, geotechnical instability, high-intensity land use, heavy pedestrian or vehicular traffic, utility locations or safety concerns. **Opportunities** might include existing natural areas, low areas, oddly configured or otherwise unbuildable parcels, easements and landscape amenities including open space and buffers (which can double as locations for bioretention BMPs), and differences in elevation (which can provide hydraulic head). Prepare a brief narrative for each of the site optimization strategies described below. This narrative will help you as you proceed with your LID design and explain your design decisions to others.

The 2010 Santa Ana MS4 Permit further requires that LID Retention BMPs (Infiltration Only or Harvest and Use) be used unless it can be shown that those BMPs are infeasible. Therefore, it is important that your narrative identify and justify if there are any constraints that would prevent the use of those categories of LID BMPs. Similarly, you should also note opportunities that exist which will be utilized during project design. Upon completion of identifying Constraints and Opportunities, include these on your WQMP Site plan in Appendix 1.

Consideration of "highest and best use" of the discharge should also be considered. For example, Lake Elsinore is evaporating faster than runoff from natural precipitation can recharge it. Requiring infiltration of 85% of runoff events for projects tributary to Lake Elsinore would only exacerbate current water quality problems associated with Pollutant concentration due to lake water evaporation. In cases where rainfall events have low potential to recharge Lake Elsinore (i.e. no hydraulic connection between groundwater to Lake Elsinore, or other factors), requiring infiltration of Urban Runoff from projects is counterproductive to the overall watershed goals. Project proponents, in these cases, would be allowed to discharge Urban Runoff, provided they used equally effective filtration-based BMPs.

The proposed Bioretention Basin is at an elevation higher than the adjacent street, and therefore cannot be used to treat these areas. Every effort has been made to capture and treat as much of the Project as practicable for both onsite areas.

Site Optimization

The following questions are based upon Section 3.2 of the WQMP Guidance Document. Review of the WQMP Guidance Document will help you determine how best to optimize your site and subsequently identify opportunities and/or constraints, and document compliance.

Did you identify and preserve existing drainage patterns? If so, how? If not, why?

Current drainage pattern effectively directs runoff to the UPRR along the east side of the site The nature and geometry of the proposed site emulates this drainage pattern.

Did you identify and protect existing vegetation? If so, how? If not, why?

This site is part of a larger overall development where initial grading, improvements, and utility infrastructure have occurred over time. Vegetation on the perimeter of the site footprint will be preserved to the maximum extent possible.

Did you identify and preserve natural infiltration capacity? If so, how? If not, why?

No. The site does not perk due to bedrock. The site design incorporates a Bioretentention Basin on the eastern side of the proposed site.

Did you identify and minimize impervious area? If so, how? If not, why?

Every effort was taken to minimize impervious area and comply with Riverside County minimum requirements for parking, access, circulation, and fire requirements.

Did you identify and disperse runoff to adjacent pervious areas? If so, how? If not, why?

Distribution / logistical facilities of this nature along with steep slopes at the perimeter make it infeasible to direct sheet flows to adjacent landscaped areas.

Section C: Delineate Drainage Management Areas (DMAs)

Utilizing the procedure in Section 3.3 of the WQMP Guidance Document which discusses the methods of delineating and mapping your project site into individual DMAs, complete Table C.1 below to appropriately categorize the types of classification (e.g., Type A, Type B, etc.) per DMA for your project site. Upon completion of this table, this information will then be used to populate and tabulate the corresponding tables for their respective DMA classifications.

Table C.1 DMA Classifications

DMA Name or ID	Surface Type(s)[1][2]	Area (Sq. Ft.)	DMA Type
D1	Roof	256,148	Type D – Drains to BMP
D1	Paving	222,887	Type D – Drains to BMP
D1	Landscape	22,683	Type D – Drains to BMP
B1	Landscape	21,825	Type D – Drains to BMP
D2	Paving	33,837	Type B – Self Retaining
D2	Landscape	36,306	Type B – Self Retaining
D2	Landscape	15,290	Type B – Self Retaining
D3	Landscape	71,503	Type A – Self Treating

[1]*Reference Table 2-1 in the WQMP Guidance Document to populate this column*
[2]*If multi-surface provide back-up*

Table C.2 Type 'A', Self-Treating Areas

DMA Name or ID	Area (Sq. Ft.)	Stabilization Type	Irrigation Type (if any)
D3	71,503	Landscape	Heads & bubblers

Table C.3 Type 'B', Self-Retaining Areas

Self-Retaining Area				**Type 'C' DMAs that are draining to the Self-Retaining Area**		
DMA Name/ ID	Post-project surface type	Area (square feet) [A]	Storm Depth (inches) [B]	DMA Name / ID	[C] from Table C.4 = [C]	Required Retention Depth (inches) [D]
D2	SELF TREAT	15,290	0.58	D2-IMPEV	33,837	
``				D2-L/S	5,160	
				TOTALS	**38,997**	**2.1**

$$[D] = [B] + \frac{[B] \cdot [C]}{[A]}$$

Table C.4 Type 'C', Areas that Drain to Self-Retaining Areas

DMA					Receiving Self-Retaining DMA		
DMA Name/ ID	Area (square feet)	Post-project surface type	Impervious fraction	Product		Area (square feet)	Ratio
	[A]		[B]	[C] = [A] x [B]	DMA name /ID	[D]	[C]/[D]
						15,290	2.55*

Table C.5 Type 'D', Areas Draining to BMPs

DMA Name or ID	BMP Name or ID
D1 (Roof, Paving, L/S)	Bioretention B1

Note: More than one drainage management area can drain to a single LID BMP, however, one drainage management area may not drain to more than one BMP.

*The available area to provide a self-retaining area is limited considering the site geometry and elevations. As a result of these factors and the resultant design, there is no feasible way to collect and treat the runoff from the street area on the north side of America's Tire Drive and the project driveways in the onsite BMP.

Considering all existing conditions and design factors, the Project frontage drainage areas in lieu of capture and treatment are being treated to the maximum extent practicable using an onsite self-retaining area.

Section D: Implement LID BMPs

D.1 Infiltration Applicability

Is there an approved downstream 'Highest and Best Use' for stormwater runoff (see discussion in Chapter 2.4.4 of the WQMP Guidance Document for further details)? ☐ Y ☒ N

If yes has been checked, Infiltration BMPs shall not be used for the site; proceed to section D.3

If no, continue working through this section to implement your LID BMPs. It is recommended that you contact your Co-Permittee to verify whether or not your project discharges to an approved downstream 'Highest and Best Use' feature.

Geotechnical Report

A Geotechnical Report or Phase I Environmental Site Assessment may be required by the Copermittee to confirm present and past site characteristics that may affect the use of Infiltration BMPs. In addition, the Co-Permittee, at their discretion, may not require a geotechnical report for small projects as described in Chapter 2 of the WQMP Guidance Document. If a geotechnical report has been prepared, include it in Appendix 3. In addition, if a Phase I Environmental Site Assessment has been prepared, include it in Appendix 4.

Is this project classified as a small project consistent with the requirements of Chapter 2 of the WQMP Guidance Document? ☐ Y ☒ N

Infiltration Feasibility

Table D.1 below is meant to provide a simple means of assessing which DMAs on your site support Infiltration BMPs and is discussed in the WQMP Guidance Document in Chapter 2.4.5. Check the appropriate box for each question and then list affected DMAs as applicable. If additional space is needed, add a row below the corresponding answer.

Table D.1 Infiltration Feasibility

Does the project site…	YES	NO
…have any DMAs with a seasonal high groundwater mark shallower than 10 feet?		X
If Yes, list affected DMAs:		
…have any DMAs located within 100 feet of a water supply well?		X
If Yes, list affected DMAs:		
…have any areas identified by the geotechnical report as posing a public safety risk where infiltration of stormwater could have a negative impact?		X
If Yes, list affected DMAs:		
…have measured in-situ infiltration rates of less than 1.6 inches / hour?	X	
If Yes, list affected DMAs:	ALL	
…have significant cut and/or fill conditions that would preclude in-situ testing of infiltration rates at the final infiltration surface?		X
If Yes, list affected DMAs:		
…geotechnical report identify other site-specific factors that would preclude effective and safe infiltration?	X	
Describe here: Shallow Bedrock		

If you answered "Yes" to any of the questions above for any DMA, Infiltration BMPs should not be used for those DMAs and you should proceed to the assessment for Harvest and Use below.

D.2 Harvest and Use Assessment

Please check what applies*:*

☐ Reclaimed water will be used for the non-potable water demands for the project.

☐Downstream water rights may be impacted by Harvest and Use as approved by the Regional Board (verify with the Copermittee).

☐The Design Capture Volume will be addressed using Infiltration Only BMPs. In such a case, Harvest and Use BMPs are still encouraged, but it would not be required if the Design Capture Volume will be infiltrated or evapotranspired.

If any of the above boxes have been checked, Harvest and Use BMPs need not be assessed for the site. If none of the above criteria applies, follow the steps below to assess the feasibility of irrigation use, toilet use and other non-potable uses (e.g., industrial use).

Irrigation Use Feasibility

Complete the following steps to determine the feasibility of harvesting stormwater runoff for Irrigation Use BMPs on your site:

Step 1: Identify the total area of irrigated landscape on the site, and the type of landscaping used.

Total Area of Irrigated Landscape: 2.52

Type of Landscaping (Conservation Design or Active Turf): Conservation

Step 2: Identify the planned total of all impervious areas on the proposed project from which runoff might be feasibly captured and stored for irrigation use. Depending on the configuration of buildings and other impervious areas on the site, you may consider the site as a whole, or parts of the site, to evaluate reasonable scenarios for capturing and storing runoff and directing the stored runoff to the potential use(s) identified in Step 1 above.

Total Area of Impervious Surfaces: 11.65

Step 3: Cross reference the Design Storm depth for the project site (see Exhibit A of the WQMP Guidance Document) with the left column of Table 2-3 in Chapter 2 to determine the minimum area of Effective Irrigated Area per Tributary Impervious Area (EIATIA).

Enter your EIATIA factor: 0.79

Step 4: Multiply the unit value obtained from Step 3 by the total of impervious areas from Step 2 to develop the minimum irrigated area that would be required.

Minimum required irrigated area: 9.20

Step 5: Determine if harvesting stormwater runoff for irrigation use is feasible for the project by comparing the total area of irrigated landscape (Step 1) to the minimum required irrigated area (Step 4).

Minimum required irrigated area (Step 4)	Available Irrigated Landscape (Step 1)
9.20	2.52

Toilet Use Feasibility

Complete the following steps to determine the feasibility of harvesting stormwater runoff for toilet flushing uses on your site:

Step 1: Identify the projected total number of daily toilet users during the wet season, and account for any periodic shut downs or other lapses in occupancy:

Projected Number of Daily Toilet Users: 5

Project Type: Industrial

Step 2: Identify the planned total of all impervious areas on the proposed project from which runoff might be feasibly captured and stored for toilet use. Depending on the configuration of buildings and other impervious areas on the site, you may consider the site as a whole, or parts of the site, to evaluate reasonable scenarios for capturing and storing runoff and directing the stored runoff to the potential use(s) identified in Step 1 above.

Total Area of Impervious Surfaces: 11.65

Step 3: Enter the Design Storm depth for the project site (see Exhibit A) into the left column of Table 2-2 in Chapter 2 to determine the minimum number or toilet users per tributary impervious acre (TUTIA).

Enter your TUTIA factor: 172

Step 4: Multiply the unit value obtained from Step 3 by the total of impervious areas from Step 2 to develop the minimum number of toilet users that would be required.

Minimum number of toilet users: 2,003

Step 5: Determine if harvesting stormwater runoff for toilet flushing use is feasible for the project by comparing the Number of Daily Toilet Users (Step 1) to the minimum required number of toilet users (Step 4).

Minimum required Toilet Users (Step 4)	Projected number of toilet users (Step 1)
2,003	50

Other Non-Potable Use Feasibility

Are there other non-potable uses for stormwater runoff on the site (e.g. industrial use)? See Chapter 2 of the Guidance for further information. If yes, describe below. If no, write N/A.

N/A

Step 1: Identify the projected average daily non-potable demand, in gallons per day, during the wet season and accounting for any periodic shut downs or other lapses in occupancy or operation.

Average Daily Demand: N/A

Step 2: Identify the planned total of all impervious areas on the proposed project from which runoff might be feasibly captured and stored for the identified non-potable use. Depending on the configuration of buildings and other impervious areas on the site, you may consider the site as a whole, or parts of the site, to evaluate reasonable scenarios for capturing and storing runoff and directing the stored runoff to the potential use(s) identified in Step 1 above.

Total Area of Impervious Surfaces: N/A

Step 3: Enter the Design Storm depth for the project site (see Exhibit A) into the left column of Table 2-4 in Chapter 2 to determine the minimum demand for non-potable uses per tributary impervious acre.

Enter the factor from Table 2-4: N/A

Step 4: Multiply the unit value obtained from Step 3 by the total of impervious areas from Step 2 to develop the minimum number of gallons per day of non-potable use that would be required.

Minimum required use: N/A

Step 5: Determine if harvesting stormwater runoff for other non-potable use is feasible for the project by comparing the projected average daily use (Step 1) to the minimum required non-potable use (Step 4).

Minimum required non-potable use (Step 4)	**Projected average daily use (Step 1)**
N/A	N/A

If Irrigation, Toilet and Other Use feasibility anticipated demands are less than the applicable minimum values, Harvest and Use BMPs are not required and you should proceed to utilize LID Bioretention and Biotreatment per Section 3.4.2 of the WQMP Guidance Document.

D.3 Bioretention and Biotreatment Assessment

Other LID Bioretention and Biotreatment BMPs as described in Chapter 2.4.7 of the WQMP Guidance Document are feasible on nearly all development sites with sufficient advance planning.

Select one of the following:

☒ LID Bioretention/Biotreatment BMPs will be used for some or all DMAs of the project as noted below in Section D.4 (note the requirements of Section 3.4.2 in the WQMP Guidance Document).

☐ A site-specific analysis demonstrating the technical infeasibility of all LID BMPs has been performed and is included in Appendix 5. If you plan to submit an analysis demonstrating the technical infeasibility of LID BMPs, request a pre-submittal meeting with the Copermittee to discuss this option. Proceed to Section E to document your alternative compliance measures.

D.4 Feasibility Assessment Summaries

From the Infiltration, Harvest and Use, Bioretention and Biotreatment Sections above, complete Table D.2 below to summarize which LID BMPs are technically feasible, and which are not, based upon the established hierarchy.

Table D.2 LID Prioritization Summary Matrix

DMA Name/ID	LID BMP Hierarchy				No LID (Alternative Compliance)
	1. Infiltration	2. Harvest and use	3. Bioretention	4. Biotreatment	
B1	☐	☐	☒	☐	☐
D1	☐	☐	☒	☐	☐
	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐

For those DMAs where LID BMPs are not feasible, provide a brief narrative below summarizing why they are not feasible, include your technical infeasibility criteria in Appendix 5, and proceed to Section E below to document Alternative Compliance measures for those DMAs. Recall that each proposed DMA must pass through the LID BMP hierarchy before alternative compliance measures may be considered.

N/A

D.5 LID BMP Sizing

Each LID BMP must be designed to ensure that the Design Capture Volume will be addressed by the selected BMPs. First**,** calculate the Design Capture Volume for each LID BMP using the V_{BMP} worksheet in Appendix F of the LID BMP Design Handbook. Second**,** design the LID BMP to meet the required V_{BMP} using a method approved by the Copermittee. Utilize the worksheets found in the LID BMP Design Handbook or consult with your Copermittee to assist you in correctly sizing your LID BMPs. Complete Table D.3 below to document the Design Capture Volume and the Proposed Volume for each LID BMP. Provide the completed design procedure sheets for each LID BMP in Appendix 6. You may add additional rows to the table below as needed.

Table D.3 DCV Calculations for LID BMPs

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Impervious Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*Basin B1*		
	[A]		[B]	[C]	[A] x [C]			
D1	*253,320*	*Roof*	*1.0*	*0.89*	*225,961*	*Design Storm Depth (in)*	*Design Capture Volume,* V_{BMP} *(cubic feet)*	*Proposed Volume on Plans (cubic feet)*
D1	*219,625*	*Pavement*	*1.0*	*0.89*	*195,906*			
D1	*17,583*	*Landscaping*	*0.10*	*0.11*	*1,942*			
B1	*30,165*	*Basin*	*0.10*	*0.11*	*3,332*			
	507,693				427,141	0.58	20,645	30,000

[B], [C] is obtained as described in Section 2.3.1 of the WQMP Guidance Document

[E] is obtained from Exhibit A in the WQMP Guidance Document

[G] is obtained from a design procedure sheet, such as in LID BMP Design Handbook and placed in Appendix 6

Section E: Alternative Compliance (LID Waiver Program)

LID BMPs are expected to be feasible on virtually all projects. Where LID BMPs have been demonstrated to be infeasible as documented in Section D, other Treatment Control BMPs must be used (subject to LID waiver approval by the Copermittee). Check one of the following Boxes:

☒ LID Principles and LID BMPs have been incorporated into the site design to fully address all Drainage Management Areas. No alternative compliance measures are required for this project and thus this Section is not required to be completed.

- *Or* -

☐ The following Drainage Management Areas are unable to be addressed using LID BMPs. A site-specific analysis demonstrating technical infeasibility of LID BMPs has been approved by the Co-Permittee and included in Appendix 5. Additionally, no downstream regional and/or sub-regional LID BMPs exist or are available for use by the project. The following alternative compliance measures on the following pages are being implemented to ensure that any pollutant loads expected to be discharged by not incorporating LID BMPs, are fully mitigated.

N/A

E.1 Identify Pollutants of Concern

Utilizing Table A.1 from Section A above which noted your project's receiving waters and their associated EPA approved 303(d) listed impairments, cross reference this information with that of your selected Priority Development Project Category in Table E.1 below. If the identified General Pollutant Categories are the same as those listed for your receiving waters, then these will be your Pollutants of Concern and the appropriate box or boxes will be checked on the last row. The purpose of this is to document compliance and to help you appropriately plan for mitigating your Pollutants of Concern in lieu of implementing LID BMPs.

Table E.1 Potential Pollutants by Land Use Type

Priority Development Project Categories and/or Project Features (check those that apply)	General Pollutant Categories							
	Bacterial Indicators	Metals	Nutrients	Pesticides	Toxic Organic Compounds	Sediments	Trash & Debris	Oil & Grease
☐ Detached Residential Development	P	N	P	P	N	P	P	P
☐ Attached Residential Development	P	N	P	P	N	P	P	P(2)
☒ Commercial/Industrial Development	P(3)	P	P(1)	P(1)	P(5)	P(1)	P	P
☐ Automotive Repair Shops	N	P	N	N	P(4, 5)	N	P	P
☐ Restaurants (>5,000 ft²)	P	N	N	N	N	N	P	P
☐ Hillside Development (>5,000 ft²)	P	N	P	P	N	P	P	P
☒ Parking Lots (>5,000 ft²)	P(6)	P	P(1)	P(1)	P(4)	P(1)	P	P
☐ Retail Gasoline Outlets	N	P	N	N	P	N	P	P
Project Priority Pollutant(s) of Concern	☐	☒	☒	☒	☒	☒	☒	☒

P = Potential

N = Not Potential

(1) A potential Pollutant if non-native landscaping exists or is proposed onsite; otherwise not expected

(2) A potential Pollutant if the project includes uncovered parking areas; otherwise not expected

(3) A potential Pollutant is land use involving animal waste

(4) Specifically petroleum hydrocarbons

(5) Specifically solvents

(6) Bacterial indicators are routinely detected in pavement runoff

E.2 Stormwater Credits

Projects that cannot implement LID BMPs but nevertheless implement smart growth principles are potentially eligible for Stormwater Credits. Utilize Table 3-8 within the WQMP Guidance Document to identify your Project Category and its associated Water Quality Credit. If not applicable, write N/A.

Table E.2 Water Quality Credits

Qualifying Project Categories	Credit Percentage[2]
N/A	
Total Credit Percentage[1]	

[1]*Cannot Exceed 50%*
[2]*Obtain corresponding data from Table 3-8 in the WQMP Guidance Document*

E.3 Sizing Criteria

After you appropriately considered Stormwater Credits for your project, utilize Table E.3 below to appropriately size them to the DCV, or Design Flow Rate, as applicable. Please reference Chapter 3.5.2 of the WQMP Guidance Document for further information.

Table E.3 Treatment Control BMP Sizing

DMA Type/ID	**DMA Area (square feet)**	**Post-Project Surface Type**	**Effective Impervious Fraction, I_f**	**DMA Runoff Factor**	**DMA Area x Runoff Factor**		***BASIN B1***		
	[A]		[B]	[C]	[A] x [C]				
D1	253,320	ROOF	1.0	0.89	*225,961*	*Design Storm Depth (in)*	*Minimum Design Capture Volume or Design Flow Rate (cubic feet or cfs)*	*Total Storm Water Credit % Reduction*	*Proposed Volume or Flow on Plans (cubic feet or cfs)*
D1	219,625	PVMNT	1.0	0.89	*195,906*				
D1	17,583	L/S	0.1	0.11	*1,942*				
B1	30,165	L/S	0.1	0.11	*3,332*				
	520,693				427,141	0.58	20645 CU – FT	0	30,000 CU-FT

[B], [C] is obtained as described in Section 2.3.1 from the WQMP Guidance Document
[E] is for Flow-Based Treatment Control BMPs [E] = .2, for Volume-Based Control Treatment BMPs, [E] obtained from Exhibit A in the WQMP Guidance Document
[G] is for Flow-Based Treatment Control BMPs [G] = 43,560, for Volume-Based Control Treatment BMPs, [G] = 12
[H] is from the Total Credit Percentage as Calculated from Table E.2 above
[I] as obtained from a design procedure sheet from the BMP manufacturer and should be included in Appendix 6

E.4 Treatment Control BMP Selection

Treatment Control BMPs typically provide proprietary treatment mechanisms to treat potential pollutants in runoff, but do not sustain significant biological processes. Treatment Control BMPs must have a removal efficiency of a medium or high effectiveness as quantified below:

- **High**: equal to or greater than 80% removal efficiency
- **Medium**: between 40% and 80% removal efficiency

Such removal efficiency documentation (e.g., studies, reports, etc.) as further discussed in Chapter 3.5.2 of the WQMP Guidance Document, must be included in Appendix 6. In addition, ensure that proposed Treatment Control BMPs are properly identified on the WQMP Site Plan in Appendix 1.

Table E.4 Treatment Control BMP Selection

Selected Treatment Control BMP Name or ID[1]	Priority Pollutant(s) of Concern to Mitigate[2]	Removal Efficiency Percentage[3]
Basin B-1	Metals, nutrients, pesticides, toxic organic compounds, sediments, trash & debris, oil & grease	See study referenced below from the EPA for documenting MEP performance.

[1] *Treatment Control BMPs must not be constructed within Receiving Waters. In addition, a proposed Treatment Control BMP may be listed more than once if they possess more than one qualifying pollutant removal efficiency.*
[2] *Cross Reference Table E.1 above to populate this column.*
[3] *As documented in a Co-Permittee Approved Study and provided in Appendix 6.*

Per the following document, BMP's with multiple unit operations and processes (a.k.a. BMPs with a "treatment train" approach) were documented to successfully treat stormwater discharge when hydraulically sized to treat the water quality design storm:

Pitt, et al., Stormwater Treatment at Critical Areas: The Multi-Chambered Treatment Train (MCTT), US EPA, Washington, DC, EPA/600/R-99/017, 1999.

https://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey-30003Q6G.txt

Section F: Hydromodification

F.1 Hydrologic Conditions of Concern (HCOC) Analysis

Once you have determined that the LID design is adequate to address water quality requirements, you will need to assess if the proposed LID Design may still create a HCOC. Review Chapters 2 and 3 (including Figure 3-7) of the WQMP Guidance Document to determine if your project must mitigate for Hydromodification impacts. If your project meets one of the following criteria which will be indicated by the check boxes below, you do not need to address Hydromodification at this time. However, if the project does not qualify for Exemptions 1, 2 or 3, then additional measures must be added to the design to comply with HCOC criteria. This is discussed in further detail below in Section F.2.

HCOC EXEMPTION 1: The Priority Development Project disturbs less than one acre. The Copermittee has the discretion to require a Project-Specific WQMP to address HCOCs on projects less than one acre on a case by case basis. The disturbed area calculation should include all disturbances associated with larger common plans of development.

Does the project qualify for this HCOC Exemption? ☐ Y ☒ N

If Yes, HCOC criteria do not apply.

HCOC EXEMPTION 2: The volume and time of concentration[1] of storm water runoff for the post-development condition is not significantly different from the pre-development condition for a 2-year return frequency storm (a difference of 5% or less is considered insignificant) using one of the following methods to calculate:

- Riverside County Hydrology Manual
- Technical Release 55 (TR-55): Urban Hydrology for Small Watersheds (NRCS 1986), or derivatives thereof, such as the Santa Barbara Urban Hydrograph Method
- Other methods acceptable to the Co-Permittee

Does the project qualify for this HCOC Exemption? ☐ Y ☒ N

If Yes, report results in Table F.1 below and provide your substantiated hydrologic analysis in Appendix 7.

Table F.1 Hydrologic Conditions of Concern Summary

	2 year – 24 hour		
	Pre-condition	**Post-condition**	**% Difference**
Time of Concentration	N/A	N/A	N/A
Volume (Cubic Feet)	N/A	N/A	N/A

[1] Time of concentration is defined as the time after the beginning of the rainfall when all portions of the drainage basin are contributing to flow at the outlet.

HCOC EXEMPTION 3: All downstream conveyance channels to an adequate sump (for example, Prado Dam, Lake Elsinore, Canyon Lake, Santa Ana River, or other lake, reservoir or naturally erosion resistant feature) that will receive runoff from the project are engineered and regularly maintained to ensure design flow capacity; no sensitive stream habitat areas will be adversely affected; or are not identified on the Co-Permittees Hydromodification Susceptibility Maps.

Does the project qualify for this HCOC Exemption? ☒ Y ☐ N

If Yes, HCOC criteria do not apply and note below which adequate sump applies to this HCOC qualifier:

Site is ultimately tributary to Canyon Lake and Lake Elsinore as conveyed through a series of County maintained conveyance elements

F.2 HCOC Mitigation

If none of the above HCOC Exemption Criteria are applicable, HCOC criteria is considered mitigated if they meet one of the following conditions:

a. Additional LID BMPS are implemented onsite or offsite to mitigate potential erosion or habitat impacts as a result of HCOCs. This can be conducted by an evaluation of site-specific conditions utilizing accepted professional methodologies published by entities such as the California Stormwater Quality Association (CASQA), the Southern California Coastal Water Research Project (SCCRWP), or other Co-Permittee approved methodologies for site-specific HCOC analysis.

b. The project is developed consistent with an approved Watershed Action Plan that addresses HCOC in Receiving Waters.

c. Mimicking the pre-development hydrograph with the post-development hydrograph, for a 2-year return frequency storm. Generally, the hydrologic conditions of concern are not significant, if the post-development hydrograph is no more than 10% greater than pre-development hydrograph. In cases where excess volume cannot be infiltrated or captured and reused, discharge from the site must be limited to a flow rate no greater than 110% of the pre-development 2-year peak flow.

Be sure to include all pertinent documentation used in your analysis of the items a, b or c in Appendix 7.

Section G: Source Control BMPs

Source control BMPs include permanent, structural features that may be required in your project plans — such as roofs over and berms around trash and recycling areas — and Operational BMPs, such as regular sweeping and "housekeeping", that must be implemented by the site's occupant or user. The MEP standard typically requires both types of BMPs. In general, Operational BMPs cannot be substituted for a feasible and effective permanent BMP. Using the Pollutant Sources/Source Control Checklist in Appendix 8, review the following procedure to specify Source Control BMPs for your site:

1. ***Identify Pollutant Sources*:** Review Column 1 in the Pollutant Sources/Source Control Checklist. Check off the potential sources of Pollutants that apply to your site.

2. ***Note Locations on Project-Specific WQMP Exhibit*:** Note the corresponding requirements listed in Column 2 of the Pollutant Sources/Source Control Checklist. Show the location of each Pollutant source and each permanent Source Control BMP in your Project-Specific WQMP Exhibit located in Appendix 1.

3. ***Prepare a Table and Narrative*:** Check off the corresponding requirements listed in Column 3 in the Pollutant Sources/Source Control Checklist. In the left column of Table G.1 below, list each potential source of runoff Pollutants on your site (from those that you checked in the Pollutant Sources/Source Control Checklist). In the middle column, list the corresponding permanent, Structural Source Control BMPs (from Columns 2 and 3 of the Pollutant Sources/Source Control Checklist) used to prevent Pollutants from entering runoff. **Add additional narrative** in this column that explains any special features, materials or methods of construction that will be used to implement these permanent, Structural Source Control BMPs.

4. ***Identify Operational Source Control BMPs:*** To complete your table, refer once again to the Pollutant Sources/Source Control Checklist. List in the right column of your table the Operational BMPs that should be implemented as long as the anticipated activities continue at the site. Copermittee stormwater ordinances require that applicable Source Control BMPs be implemented; the same BMPs may also be required as a condition of a use permit or other revocable Discretionary Approval for use of the site.

Table G.1 Permanent and Operational Source Control Measures

Potential Sources of Runoff pollutants	Permanent Structural Source Control BMPs	Operational Source Control BMPs
On-site storm drain inlets	Mark all inlets with the words "Only Rain Down the Storm Drain" or similar. Catch Basin Markers may be available from the Riverside County Flood Control and Water Conservation District, call 951.955.1200 to verify. Install full trash capture catch basin filter inserts (triton or equal)	• Maintain and periodically repaint or replace inlet markings. • Provide stormwater pollution prevention information to new site owners, lessees, or operators. • See applicable operational BMPs in Fact Sheet SC-44, "Drainage System Maintenance," in the CASQA

		Stormwater Quality Handbooks at www.cabmphandbooks.com Include the following in lease agreements: "Tenant shall not allow anyone to discharge anything to storm drains or to store or deposit materials so as to create a potential discharge to storm drains."
Landscape/ Outdoor Pesticide Use	• Preserve existing native trees, shrubs, and ground cover to the maximum extent possible. • Design landscaping to minimize irrigation and runoff, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution. • Where landscaped areas are used to retain or detain stormwater, specify plants that are tolerant of saturated soil conditions. • Consider using pest-resistant plants, especially adjacent to hardscape. To insure successful establishment, select plants appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions.	• Maintain landscaping using minimum or no pesticides. • See applicable operational BMPs in "What you should know for…..Landscape and Gardening" at: http://rcflood.org/stormwater/ Provide IPM information to new owners, lessees and operators.
Refuse areas	• State how site refuse will be handled and provide supporting detail to what is shown on plans. State that signs will be posted on or near dumpsters with the words "Do not dump hazardous materials here" or similar.	Provide adequate number of receptacles. Inspect receptacles regularly; repair or replace leaky receptacles. Keep receptacles covered. Prohibit/prevent dumping of liquid or hazardous wastes. Post "no hazardous materials" signs. Inspect and pick up litter daily and

		clean up spills immediately. Keep spill control materials available on-site. See Fact Sheet SC-34, "Waste Handling and Disposal" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com
Loading Docks		• Move loaded and unloaded items indoors as soon as possible. See Fact Sheet SC-30, "Outdoor Loading and Unloading," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com
Plazas, sidewalks, and parking lots.		Sweep plazas, sidewalks, and parking lots regularly to prevent accumulation of litter and debris. Collect debris from pressure washing to prevent entry into the storm drain system. Collect washwater containing any cleaning agent or degreaser and discharge to the sanitary sewer not to a storm drain.

Section H: Construction Plan Checklist

Populate Table H.1 below to assist the plan checker in an expeditious review of your project. The first two columns will contain information that was prepared in previous steps, while the last column will be populated with the corresponding plan sheets. This table is to be completed with the submittal of your final Project-Specific WQMP.

Table H.1 Construction Plan Cross-reference

BMP No. or ID	BMP Identifier and Description	Corresponding Plan Sheet(s)	BMP Location (Lat/Long)
B1	Bioretention Basin, subdrain system, outlet structure	Provided in final WQMP	Provided in final WQMP

Note that the updated table — or Construction Plan WQMP Checklist — is **only a reference tool** to facilitate an easy comparison of the construction plans to your Project-Specific WQMP. Co-Permittee staff can advise you regarding the process required to propose changes to the approved Project-Specific WQMP.

Section I: Operation, Maintenance and Funding

The Copermittee will periodically verify that Stormwater BMPs on your site are maintained and continue to operate as designed. To make this possible, your Copermittee will require that you include in Appendix 9 of this Project-Specific WQMP:

1. A means to finance and implement facility maintenance in perpetuity, including replacement cost.
2. Acceptance of responsibility for maintenance from the time the BMPs are constructed until responsibility for operation and maintenance is legally transferred. A warranty covering a period following construction may also be required.
3. An outline of general maintenance requirements for the Stormwater BMPs you have selected.
4. Figures delineating and designating pervious and impervious areas, location, and type of Stormwater BMP, and tables of pervious and impervious areas served by each facility. Geo-locating the BMPs using a coordinate system of latitude and longitude is recommended to help facilitate a future statewide database system.
5. A separate list and location of self-retaining areas or areas addressed by LID Principles that do not require specialized O&M or inspections but will require typical landscape maintenance as noted in Chapter 5, pages 85-86, in the WQMP Guidance. Include a brief description of typical landscape maintenance for these areas.

Your local Co-Permittee will also require that you prepare and submit a detailed Stormwater BMP Operation and Maintenance Plan that sets forth a maintenance schedule for each of the Stormwater BMPs built on your site. An agreement assigning responsibility for maintenance and providing for inspections and certification may also be required.

Details of these requirements and instructions for preparing a Stormwater BMP Operation and Maintenance Plan are in Chapter 5 of the WQMP Guidance Document.

Maintenance Mechanism: Majestic Management Co.

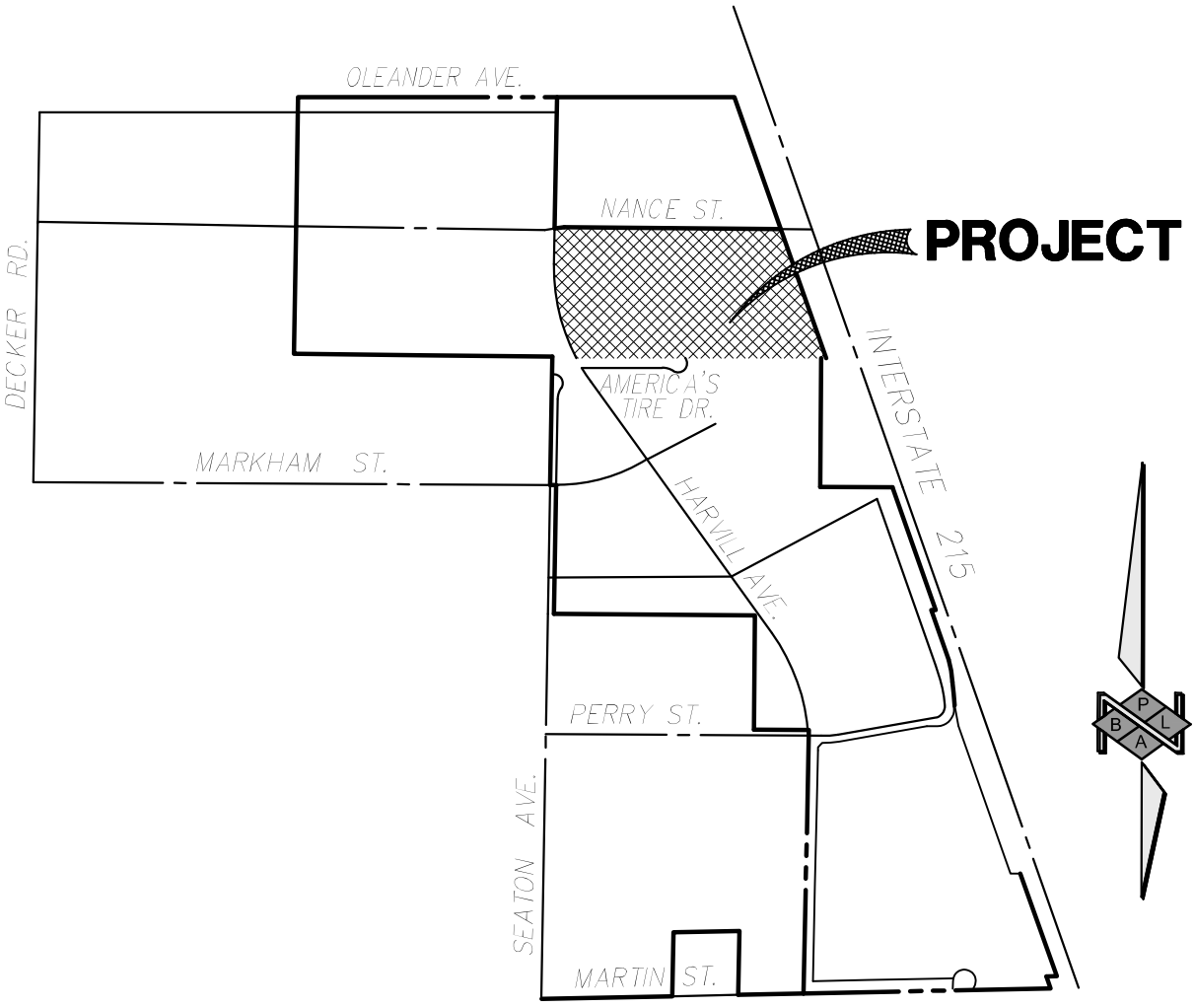
Will the proposed BMPs be maintained by a Home Owners' Association (HOA) or Property Owners Association (POA)?

☐ Y ☒ N

Include your Operation and Maintenance Plan and Maintenance Mechanism in Appendix 9. Additionally, include all pertinent forms of educational materials for those personnel that will be maintaining the proposed BMPs within this Project-Specific WQMP in Appendix 10.

Appendix 1: Maps and Site Plans

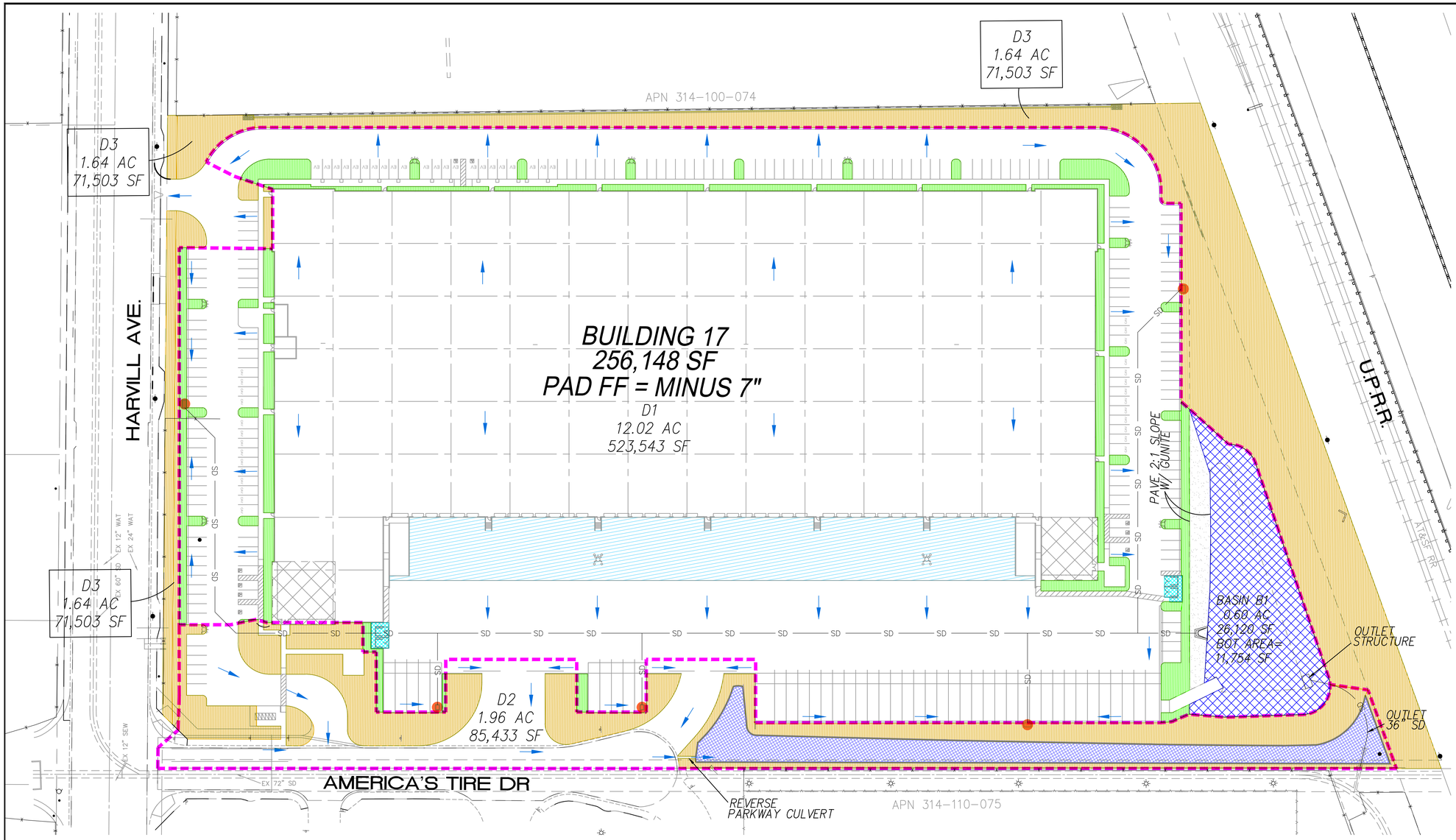
Location Map, WQMP Site Plan and Receiving Waters Map

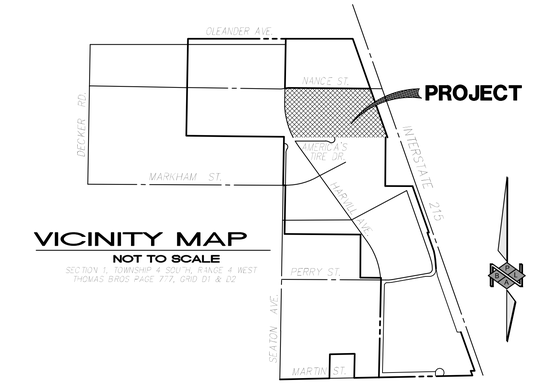


VICINITY MAP

NOT TO SCALE

SECTION 1, TOWNSHIP 4 SOUTH, RANGE 4 WEST
THOMAS BROS PAGE 777, GRID D1 & D2

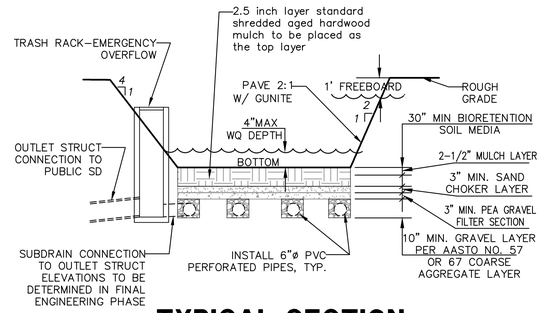




VICINITY MAP

NOT TO SCALE

SECTION 1, TOWNSHIP 4 SOUTH, RANGE 4 WEST
THOMAS BROS. PAGE 777, GRID D1 & D2



TYPICAL SECTION

BIO-RETENTION BASIN NTS

WSE BASIN B1:
4" MAX DEPTH (WQ)
3.1' FR SUBDRAIN INVERT
(FOR INCREASED RUNOFF - 100 YR, 6HR STORM)

NON-STRUCTURAL BMPS

PROPERTY OWNER EDUCATION	COMMON AREA LITTER CONTROL
ACTIVITY RESTRICTIONS	EMPLOYEE TRAINING
COMMON AREA LANDSCAPE MAINTENANCE	ACTIVITY RESTRICTIONS
BMP MAINTENANCE	HOUSEKEEPING OF LOADING DOCKS
LOCAL INDUSTRIAL PERMIT COMPLIANCE	COMMON AREA CATCH BASIN INSPECTION
SPILL CONTINGENCY PLAN	PARKING LOT SWEEPING
UNIFORM FIRE CODE IMPLEMENTATION	

PROJECT DATA:

TOTAL NET AREA OF PROPOSED DEVELOPMENT: 687,158 Sq Ft (15.77 AC)

TOTAL DISTURBED AREA: 687,158 Sq Ft (15.77 AC)

CURRENT USE: VACANT
PROPOSED USE: INDUSTRIAL

WATERSHED:
MESSENIA STORM DRAIN/PERRIS VALLEY CHANNEL

SUB-WATERSHED:
CANYON LAKE/LAKE ELSINORE

LEGEND STRUCTURAL / TREATMENT BMPS

- LANDSCAPE AREA EFFICIENT IRRIGATION LANDSCAPE AREA RUNOFF-MINIMIZING DESIGN
- SELF TREATING/SELF-RETAINING LANDSCAPE AREAS NOT TRIBUTARY TO BASIN B1
- TRASH ENCLOSURE
- DOCK AREAS
- BIO-RETENTION BASIN
- CATCH BASIN STENCIL TRITON INLET FILTER
- FLOW PATTERN
- DMA BOUNDARY
- SD ONSITE STORM DRAIN
- SELF RETAINING DEPRESSION

DMA "D1" DATA

TOTAL AREA TRIBUTARY TO TREATMENT = 523,543 SF (12.02 AC)

ROOF AREA: 256,148 SF
PAVED AREA: 218,592 SF
ONSITE LANDSCAPE: 22,683 SF
WATER QUALITY BASIN: 21,825 SF
PAVED BASIN SLOPE: 4,295 SF
0.91 IMPERVIOUS RATIO

DESIGN CAPTURE VOLUME: = 20,890 CF (0.48 AC-FT)

DMA "D2" DATA

TOTAL AREA = 85,433 SF

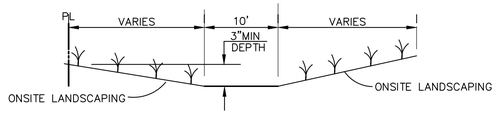
TOTAL IMPERVIOUS AREA = 33,837 SF

LS AREA = 36,306 SF

SELF TREATING AREA = 15,290 SF

DMA "D3" DATA / SELF TREATING

LS AREA = 76,076 SF



SELF RETAINING DEPRESSION DETAIL

NTS

BIORETENTION SOIL MEDIA

1. The engineer shall furnish to the County a copy of the source testing and a signed certification that the fully blended Bioretention/Biofiltration Soil Media (BSM) material meets all of the WQMP requirements before material is imported or if the material is mixed onsite prior to installation.

2. As BSM material is being installed, Quality Assurance (QA) tests shall be conducted or for every 1,200 tons or 800 cubic yards mixed on-site from a completely mixed stockpile or windrow, with a minimum of three tests. For imported material from a supplier with a quality control program the QA tests shall be conducted 2,400 tons or 1,600 cubic yards from the supplier.

3. The Engineer conducting the Quality Control testing shall furnish to the County copy of the QA testing and a certification that the BSM for the project meets all of the following requirements. Certified mitigation plans can be used for exceedances, as long as all the requirements are designed to be met.

a. BSM shall not be compacted. BSM shall consist of 60-80% clean sand, up to 20% clean topsoil, and 20% of a nutrient-stabilized organic amendment. The initial infiltration rate shall be greater than 8 inches per hour per laboratory test.

b. pH: 6.0 - 8.8; Salinity: 0.5 to 3.0 mmh0/cm as electrical conductivity; Sodium absorption ratio: < 6.0; Chloride: < 800ppm in saturated extract; Cation Exchange Capacity (CEC): > 10meq/100g; Organic Matter: 2 to 5-percent on a dry weight basis; Carbon:Nitrogen Ratio: 12 to 40, preferably 15 to 40; Gravel larger than 2mm: 0 to 25-percent of the total sample; Clay smaller than 0.005mm: 0 to 5 percent of the non-gravel fraction.

c. BSM shall be tested to limit the leaching of potential inherent pollutants. BSM used in Biofiltration BMPs shall conform to the following limits for pollutant concentrations in saturated extract: Phosphorus: < 1mg/L; Nitrate < 3mg/L, Copper < 0.025mg/L. These pollutant limits are for the amount that is leached from the sample, not from the soil sample itself. Testing may be performed after laboratory rinsing of media with up to 15 pore volumes of water. Equivalent test results will be accepted if certified by a laboratory or appropriate testing facility.

d. Low nutrient compost used in BSM shall be sourced from a facility permitted through CalRecycle, preferably through USCC STA program. Compost shall conform to the following requirements: Physical contaminants < 1% by dry weight; Carbon:Nitrogen ratio 12:1 to 40:1; Maturity/Stability shall conform to either: Solvita Maturity Index: ≥ 5.5, CO2 Evolution: < 2.5 mg CO2-C per g compost organic matter per day, or < 3mg CO2-C per g compost C per day; Select Pathogens and trace metals shall pass US EPA Class A Standard. Testing shall be no more than 6 months old and representative of current stock piles.

e. Coconut coir pith used in BSM shall be thoroughly rinsed with freshwater and screened to remove coarse fibers as part of production and aged > 6 months. Peat used in BSM shall be sphagnum peat.

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

Aug 02 2023

PREPARED BY:	REVISIONS:
PBLA ENGINEERING, INC. Planning • Engineering • Surveying 1809 E. DYER ROAD, STE 301 SANTA ANA, CA 92705 (888) 714-9642 • (714)389-9191 FAX	

WATER QUALITY MANAGEMENT PLAN
SITE PLAN
MFBC - BUILDING 17
RIVERSIDE COUNTY, CA

JOB NO. 100-103

SHEET 1 of 1

SITE

PERRIS VALLEY SD

SAN JACINTO RIVER REACH 3

SAN JACINTO RIVER REACH 1

SEE FOOTNOTE

SEE FOOTNOTE

PERRIS

CANYON LAKE

LAKE ELSINORE

MENIFEE

WILDOMAR

MAIN STREET BASIN

MONTECITO RANCH BROWN CYN BASIN

MONTECITO RANCH HUNT-CYN BASIN

METZ ROAD DETENTION BASIN

PERRIS CITY DRAINS 3RD ST BASIN

SUN CITY - GOETZ RD DET BASIN

MCVICKER CANYON BASIN

ORTEGA CH_LAT A BASIN

SWASSON-CYN CH_STG 1

BRADLEY ROAD CH

RIVERSIDE COUNTY
ORANGE COUNTY

0 3000 6000 9000 12000
Survey Feet

NPDES MUNICIPAL PERMIT
Santa Ana River Watershed
EXHIBIT SA-2
(Lake Elsinore, Canyon Lake, Perris, Menifee, Wildomar Areas)

- SAR Core Monitoring Stations
- City Facilities
- County Facilities
- RCFC&WCD Facilities
- Other Facilities
- Major Outfall Sites
- Landfill Sites
- SewageTreatment Plants
- Blue Line Streams
- Thomas Bros Streets
- Highways/Freeways
- Incorporated Areas
- SA Region Watershed Boundary
- SM Region MS4 Permit Area Boundary

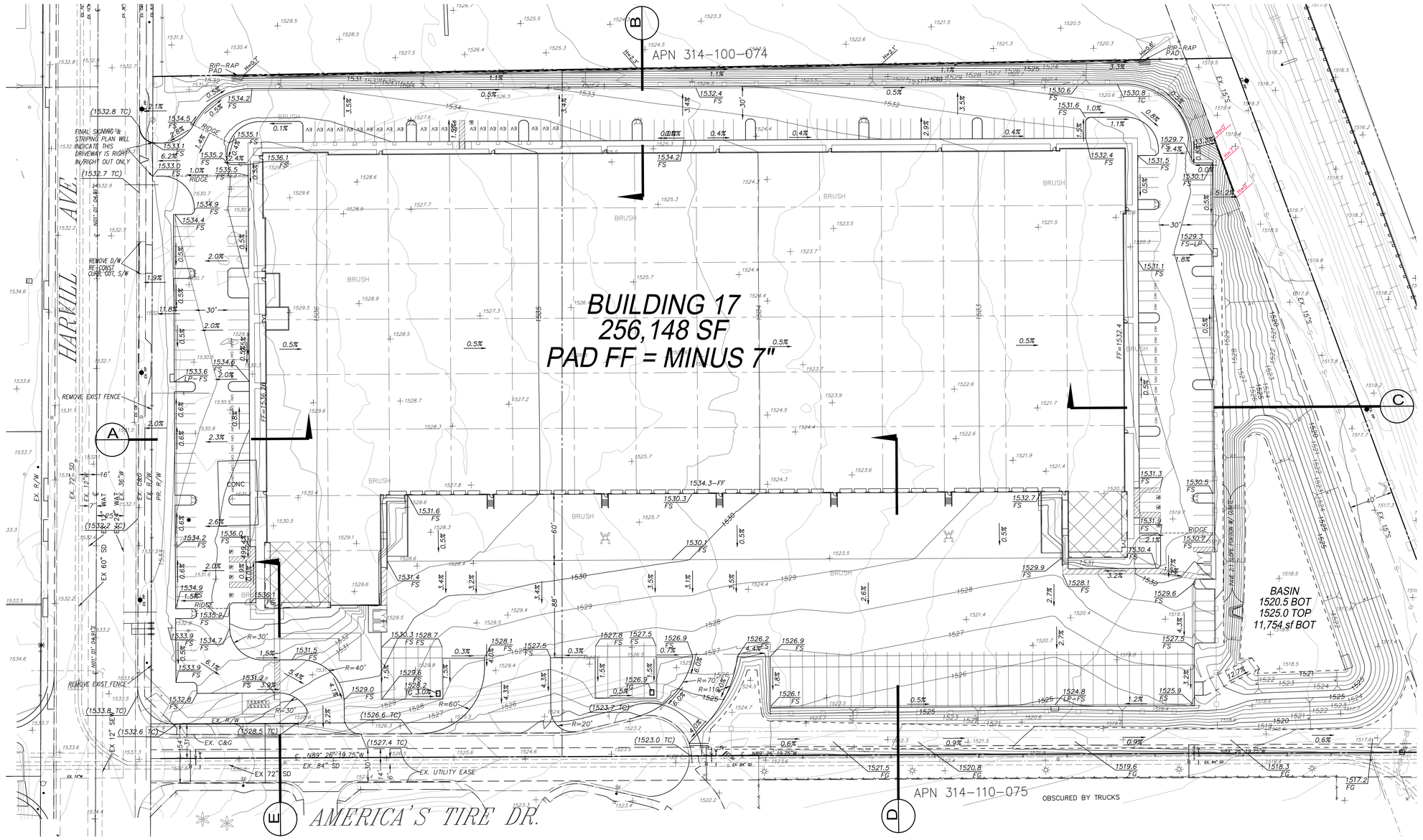
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT GEOGRAPHIC INFORMATION SYSTEM

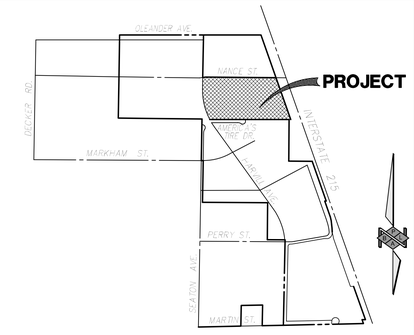
SAR 2011 AnnRpt - MS4 Maps.gws Nov. 2011

Footnote:
1) MS4 Permit Area removed from Region 8 based on jurisdictional area swap agreement between Region 8 and Region 9

Appendix 2: Construction Plans

Grading and Drainage Plans





VICINITY MAP
NOT TO SCALE

SECTION 17, TOWNSHIP 3 SOUTH, RANGE 4 WEST
THOMAS BROS PAGE 777, GRID B7 & D2

OVERALL SITE EARTHWORK QUANTITIES

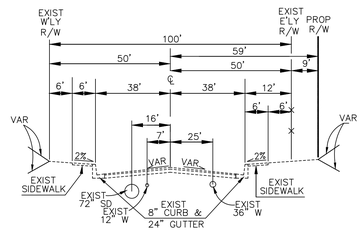
DESCRIPTION	CUT (CY)	FILL (CY)
RAW QUANTITIES	1,275	154,563
BLDG OVER EX (3')	29,206	29,206
PARKING OVER EX (18")	12,430	12,430
HEAVY DUTY PAVING (5"/11")	6,304	0
LIGHT DUTY PAVING (3"/4")	806	0
TRAILER PARKING (4"/5")	524	0
BUILDING SLAB (6")	4,691	0
APRON SLAB (8")	782	0
CONC PARKING (7")	168	0
STORM DRAIN AVG DIA (42")	0	0
BUILDING FOOTINGS 2'X4'	0	0
SHRINKAGE 7%	0	10,819
SUBSIDANCE 0.1'	0	2,352
RETENTION BASIN BOTTOM EX (3')	1,157	0
TOTAL ADJUSTMENT	55030	209370
IMPORT	154340	

OVERALL SITEWORK QUANTITIES

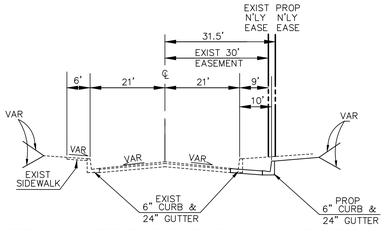
DESCRIPTION	QUANTITY
CONC DRIVEWAY APPROACH	2,458 SF
CURB	4,619 LF
CURB & GUTTER	2,082 LF
TRAILER PARKING	18,863 SF
4"/4.5" H.D. PAVEMENT	127,980 LF
3"/4" L.D. PAVEMENT	37,531 SF
RETAINING WALLS	907 LF
CONCRETE APRON	31,527 SF
CONCRETE PARKING	7,831 SF
2'W x 1'D INTERCEPTOR DITCH	814 LF

PROJECT AREA

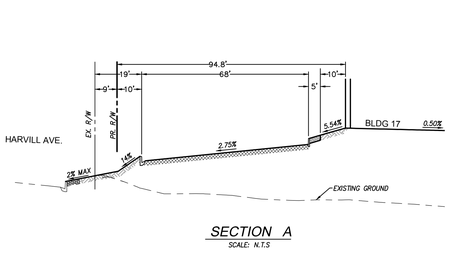
GROSS ACREAGE = 16.1 AC
NET ACREAGE = 15.65 AC



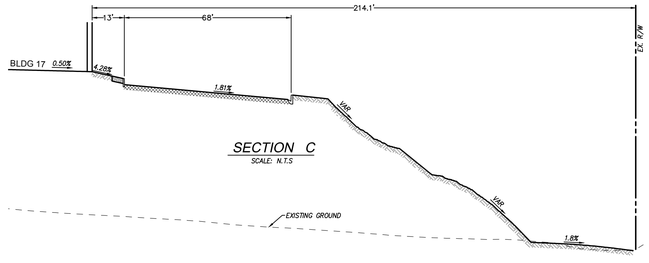
HARVILL AVENUE-TYPICAL SECTION
NORTH OF MARKAM ST.
(LOOKING NORTH)



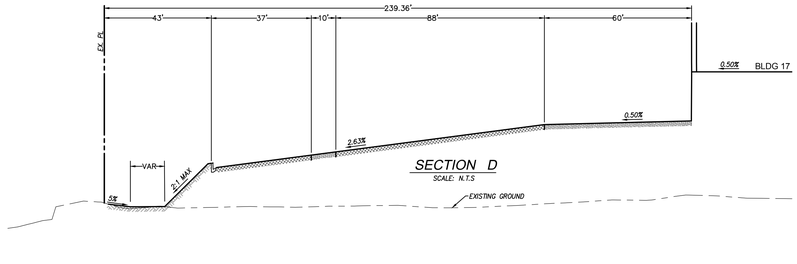
AMERICAS TIRE RD-TYPICAL SECTION
EAST OF HARVILL - PRIVATE ROAD
(LOOKING WEST)



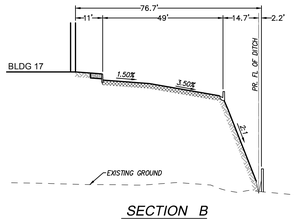
SECTION A
SCALE: N.T.S



SECTION C
SCALE: N.T.S



SECTION D
SCALE: N.T.S



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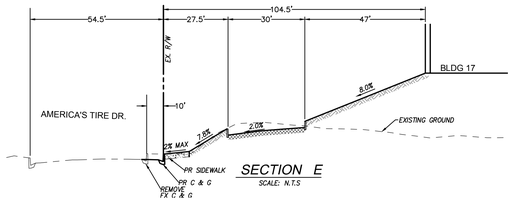

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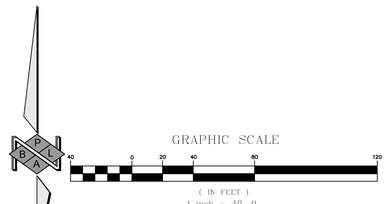


NOTE: SITE IS NOT SUBJECT TO LIQUIFACTION OR ANY OTHER GEOLOGIC HAZARDS, IS NOT IN A SPECIAL STUDIES ZONE, AND IS NOT SUBJECT TO FLOOD INUNDATION.

TOPOGRAPHY DATE: 3-7-05

PPT 220009

LEGAL DESCRIPTION	ASSESSOR'S PARCEL NUMBERS	CONCEPT GRADING PLAN MFBC-BUILDING 17
THE ELY 10 AC AND WLY 5.25 AC OF LOT 5, BLK 2 VAL VERDE TRACT, BK 1 PG 6-7 OF MAPS, O.R. OF RIVERSIDE COUNTY.	314-100-082, 084	

Aug 02 2023

PREPARED FOR:

COMMERCE CONSTRUCTION CO., LP.
13191 Crossroads Parkway North
Suite 405
City of Industry, California 91746-3497
Telephone: (562) 699-0453
License No. 723302

PREPARED BY:

PBLA ENGINEERING, INC.
Planning • Engineering • Surveying
1809 E. DYER ROAD, SUITE 301
SANTA ANA, CALIF. 92705
(888) 714-9642 • (714)389-9191 FAX

DATE	BY	REVISION

WO 100-103

Sht. 1 of 2

APN 314-100-074

HARVILL AVE.

BUILDING 17
256,148 SF
PAD FF = MINUS 7"

EX 60" SD
EX 12" WAT
EX 24" WAT
EX 12" SEW
EX 72" SD

AMERICA'S TIRE DR.

APN 314-110-075

OVERALL PRIVATE UTILITY QUANTITIES

	DESCRIPTION	QUANTITY
SD	12" STORM DRAIN	0 LF
SD	18" STORM DRAIN	1187 LF
SD	24" STORM DRAIN	551 LF
SD	36" STORM DRAIN	117 LF
WT	1-1/2" DOMESTIC WATER	1,010 LF
WT	8" PVC FIRE WATER	2,980 LF
S	8" PVC SEWER	1,640 LF
	FIRE HYDRANT	10 EA

OVERALL PUBLIC UTILITY QUANTITIES

DESCRIPTION	QUANTITY
WATER METER	3 EA
RPPD	3 EA
DDCA	2 EA

EXISTING EASEMENTS

EXIST 30' UTILITY EASEMENT – AMERICAS TIRE DR
EXIST 40' UTILITY EASEMENT – ALONG EASE PL

GRAPHIC SCALE

40 0 20 40 80 120

(IN FEET)
1 inch = 40 ft.

TOPOGRAPHY DATE: 3-7-05

PPT 220009

LEGAL DESCRIPTION	ASSESSOR'S PARCEL NUMBERS
THE ELY 10 AC AND WLY 5.25 AC OF LOT 5, BLK 2 VAL VERDE TRACT, BK 1 PG 6-7 OF MAPS, O.R. OF RIVERSIDE COUNTY.	314-100-082, 084

CONCEPT GRADING PLAN MFBC-BUILDING 17

Aug 02 2023

PREPARED FOR:

COMMERCE CONSTRUCTION CO., L.P.
13191 Crossroads Parkway North
Sixth Floor
City of Industry, California 91746-3497
Telephone: (562) 699-0453
License No. 723302

PREPARED BY:

PBLA ENGINEERING, INC.
Planning • Engineering • Surveying
1809 E. DYER ROAD, SUITE 301
SANTA ANA, CALIF. 92705
(888) 714-9642 • (714)389-9191 FAX

DATE	BY	REVISION

WO 100-103

Sht. 1 of 2

Appendix 3: Soils Information

Geotechnical Study and Other Infiltration Testing Data

December 20, 2021

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

Commerce Construction Co., L.P.
13191 Crossroads Parkway North, 6th Floor
City of Industry, California 91746

Attention: Mr. Matthew Vawter
Vice President – District Manager

Project No.: **21G252-2**

Subject: **Results of Infiltration Testing**
Majestic Freeway Business Center – Building No. 17
NEC Harvill Avenue and Americas Tire Drive
Riverside County (Perris), California

Reference: Geotechnical Investigation, Majestic Freeway Business Center – Building No. 17, NEC Harvill Avenue and Americas Tire Drive, Riverside County (Perris), California, prepared for Commerce Construction Co., L.P by Southern California Geotechnical, Inc. (SCG), SCG Project No. 21G252-1.

Mr. Vawter:

In accordance with your request, we have conducted infiltration testing at the subject site. We are pleased to present this report summarizing the results of the infiltration testing and our design recommendations.

Scope of Services

The scope of services performed for this project was in general accordance with our Proposal No. 21P410 and Change Order No. 21G229-CO, dated September 21, 2021 and October 7, 2021, respectively. The scope of services included site reconnaissance, subsurface exploration, field testing, and engineering analysis to determine the infiltration rates of the on-site soils at the tested locations. The infiltration testing was performed in general accordance with ASTM Test Method D-3385-03, Standard Test Method for Infiltration Rate of Soils in Field Using Double Ring Infiltrometer.

Site and Project Description

The site is located at the northeast corner of Harvill Avenue and Americas Tire Drive in an unincorporated portion of Riverside County near the city of Perris, California. The site is bounded to the north by a vacant lot, to the west by Harvill Avenue, to the south by Americas Tire Drive and a commercial/industrial building, and to the east by the Atchison, Topeka and Santa Fe (AT&SF) Railway. The general location of the site is illustrated on the Site Location Map, included as Plate 1 in Appendix A of this report.

The site consists of a trapezoidal-shaped parcel, 15.43± acres in size. Based on our site visit, the project site is vacant and generally undeveloped. Remnants of a previous single family-residence (SFR), including the previous concrete floor slab, are located on the western region of

the site. The ground surface cover consists of exposed soil with sparse to moderate native grass and weed growth, with occasional large trees.

Detailed topographic information was not available at the time of this report. Based on the elevations obtained from Google Earth and visual observations made at the time of the subsurface investigation, the site slopes gently to the east at a gradient of less than 2± percent.

Proposed Development

Our office was provided with a conceptual site plan by the client. Based on this plan, the site will be developed with one (1) commercial/industrial building, identified as Building 17. Building 17 will be 255,320± ft² in size and will be located in the northern region of the site. Dock-high doors and a truck court will be constructed on the south side of the proposed building. The new building is expected to be surrounded by asphaltic concrete (AC) pavements in the parking and drive areas and Portland cement concrete (PCC) pavements in the loading dock area. Several landscaped planters and concrete flatwork are also expected to be included throughout the site.

We understand that the proposed development will include on-site storm water infiltration. The proposed stormwater infiltration system will consist of one (1) detention basin, extending to depths of 8 to 10± feet below the existing site grades. The detention basin will be located in the southeast area of the site.

Concurrent Study

SCG concurrently conducted a geotechnical investigation at the subject site, which is referenced above. As part of this study, five (5) borings (identified as Boring Nos. B-1 through B-5) advanced to depths of 15 to 25± feet below the existing site grades.

Artificial fill soils were encountered at the ground surface at two of the boring locations, extending to a depth of 4½± feet below the existing site grades. The fill soils generally consist of medium dense clayey sands. The fill soils possess a disturbed and mottled appearance, resulting in their classification as artificial fill. Older alluvium was encountered at the ground surface or beneath the artificial fill soils at all boring locations, extending to at least the maximum depth explored of 25± feet below the existing site grades. The older alluvium generally consists of medium dense to dense clayey sands and silty sands, and dense to very dense sands and silty sands to sandy silts. Boring No. B-4 encountered a stratum of stiff sandy clays at a depth of 17 to 22± feet.

Groundwater

Free water was not encountered during the drilling of any of the borings. Based on the moisture content of the recovered soil samples and the lack of free water in the borings, the static groundwater table is at a greater depth than 25± feet below existing site grades.

As part of our research, we reviewed available groundwater data in order to determine the historic high groundwater level for the site. The primary reference used to determine the groundwater depths in this area is the California Department of Water Resources Water Data Library website, https://wdl.water.ca.gov/waterdatalibrary/. One of the monitoring wells

observed in the vicinity of the site is located 3,100± feet east of the subject site. Water level readings within this monitoring well indicates a high groundwater level of 67± feet below the ground surface in March 2021.

Subsurface Exploration

Scope of Exploration

The subsurface exploration for the infiltration testing consisted of two (2) backhoe-excavated trenches, extending to a depth of 10± feet below existing site grades. The trenches were logged during excavation by a member of our staff. The approximate locations of the infiltration trenches (identified as I-1 and I-2) are indicated on the Infiltration Test Location Plan, enclosed as Plate 2 of this report.

Geotechnical Conditions

Artificial fill soils were encountered at the ground surface at both infiltration trench locations, extending to a depth of 2± feet below the existing site grades. The fill soils generally consist of medium dense silty sands. The fill soils possess a disturbed and mottled appearance resulting in their classification as artificial fill. Native older alluvium was encountered beneath the fill soils at both of the trench locations, extending to at least the maximum depth explored of 10± feet below ground surface. These soils generally consist of dense clayey fine to medium sands with varying silt content.

Infiltration Testing

We understand that the results of the testing will be used to prepare a preliminary design for the storm water infiltration system that will be used at the subject site. As previously mentioned, the infiltration testing was performed in general accordance with ASTM Test Method D-3385-03, Standard Test Method for Infiltration Rate of Soils in Field Using Double Ring Infiltrometer.

Two stainless steel infiltration rings were used for the infiltration testing. The outer infiltration ring is 2 feet in diameter and 20 inches in height. The inner infiltration ring is 1 foot in diameter and 20 inches in height. At the test locations, the outer ring was driven 3± inches into the soil at the base of each trench. The inner ring was centered inside the outer ring and subsequently driven 3± inches into the soil at the base of the trench. The rings were driven into the soil using a ten-pound sledge hammer. The soil surrounding the wall of the infiltration rings was only slightly disturbed during the driving process.

Infiltration Testing Procedure

The infiltration testing consisted of filling the inner ring and the annular space (the space between the inner and outer rings) with water, approximately 3 to 4 inches above the soil. To prevent the flow of water from one ring to the other, the water level in both the inner ring and the annular space between the rings was maintained using constant-head float valves. The volume of water that was added to maintain a constant head in the inner ring and the annular

space during each time interval was determined and recorded. A cap was placed over the rings to minimize the evaporation of water during the tests.

Based on the observed infiltration rate at each test location, the volumetric measurements were made at increments of 20 minutes for Infiltration Test Nos. I-1 to I-2. The water volume measurements are presented on the spreadsheets enclosed with this report. The infiltration rates for each of the timed intervals are also tabulated on these spreadsheets.

The infiltration rates for the infiltration tests are calculated in centimeters per hour and then converted to inches per hour. The rates are summarized below:

Infiltration Test No.	Depth (feet)	Soil Description	Infiltration Rate (inches/hour)
I-1	10	Brown Clayey fine to medium Sand, trace coarse Sand, little Silt	0.8
I-2	10	Dark Reddish Brown Clayey fine to medium Sand, trace Silt	0.7

Laboratory Testing

Moisture Content

The moisture contents for the recovered soil samples within the trenches were determined in accordance with ASTM D-2216 and are expressed as a percentage of the dry weight. These test results are presented on the Trench Logs.

Grain Size Analysis

The grain size distribution of selected soils collected from the base of each infiltration test boring have been determined using a range of wire mesh screens. These tests were performed in general accordance with ASTM D-422 and/or ASTM D-1140. The weight of the portion of the sample retained on each screen is recorded and the percentage finer or coarser of the total weight is calculated. The results of these tests are presented on Plates C-1 and C-2 of this report.

Design Recommendations

Two (2) infiltration tests were performed at the subject site. As noted above, the calculated infiltration rates at the infiltration test locations range from 0.7 to 0.8 inches per hour. **Based on the results of infiltration testing, we recommend an infiltration rate of 0.7 inches per hour to be used for the design of the proposed infiltration system located in the southeastern region of the subject site, if the bottom of the infiltration system extends to 10± feet below the existing site grades.**

Although infiltration is not considered feasible at the site, the client may desire to use storm water disposal systems that do not rely on infiltration at this site. The design of storm water disposal systems should be performed by the project civil engineer, in accordance with the

County of Riverside guidelines. It is recommended any such systems be designed and constructed to facilitate removal of silt and clay, or other deleterious materials from any water that may enter the system. The presence of such materials would decrease the flow rates through the system. It should be noted that the recommended infiltration rates are based on infiltration testing at two (2) discrete locations and that the overall infiltration rates of the proposed infiltration systems could vary considerably.

Infiltration Rate Considerations

The infiltration rates presented herein was determined in accordance with the Riverside County guidelines and are considered valid only for the time and place of the actual test. Varying subsurface conditions will exist in other areas of the site, which could alter the recommended infiltration rates presented above. The infiltration rates will decline over time between maintenance cycles as silt or clay particles accumulate on the BMP surface. The infiltration rate is highly dependent upon a number of factors, including density, silt and clay content, grainsize distribution throughout the range of particle sizes, and particle shape. Small changes in these factors can cause large changes in the infiltration rates.

Infiltration rates are based on unsaturated flow. As water is introduced into soils by infiltration, the soils become saturated and the wetting front advances from the unsaturated zone to the saturated zone. Once the soils become saturated, infiltration rates become zero, and water can only move through soils by hydraulic conductivity at a rate determined by pressure head and soil permeability. Changes in soil moisture content will affect the infiltration rate. Infiltration rates should be expected to decrease until the soils become saturated. Soil permeability values will then govern groundwater movement. Permeability values may be on the order of 10 to 20 times less than infiltration rates. The system designer should incorporate adequate factors of safety and allow for overflow design into appropriate traditional storm drain systems, which would transport storm water off-site.

Construction Considerations

The infiltration rates presented in this report are specific to the tested locations and tested depths. Infiltration rates can be significantly reduced if the soils are exposed to excessive disturbance or compaction during construction. Compaction of the soils at the bottom of the infiltration system can significantly reduce the infiltration ability of the basins. Therefore, the subgrade soils within proposed infiltration system areas should not be over-excavated, undercut or compacted in any significant manner. **It is recommended that a note to this effect be added to the project plans and/or specifications.**

We recommend that a representative from the geotechnical engineer be on-site during the construction of the proposed infiltration system to identify the soil classification at the base of each system. It should be confirmed that the soils at the base of the proposed infiltration system correspond with those presented in this report to ensure that the performance of the system will be consistent with the rates reported herein.

We recommend that scrapers and other rubber-tired heavy equipment not be operated on the basin bottom, or at levels lower than 2 feet above the bottom of the system, particularly within basins. As such, the bottom 24 inches of the infiltration system should be excavated with non-rubber-tired equipment, such as excavators.

Basin Maintenance

The proposed project may include infiltration basins. Water flowing into these basins will carry some level of sediment. Wind-blown sediments and erosion of the basin side walls will also contribute to sediment deposition at the bottom of the basin. This layer has the potential to significantly reduce the infiltration rate of the basin subgrade soils. Therefore, a formal basin maintenance program should be established to ensure that these silt and clay deposits are removed from the basin on a regular basis. Appropriate vegetation on the basin sidewalls and bottom may reduce erosion and sediment deposition.

Basin maintenance should also include measures to prevent animal burrows, and to repair any burrows or damage caused by such. Animal burrows in the basin sidewalls can significantly increase the risk of erosion and piping failures.

Location of Infiltration System

The use of on-site storm water infiltration systems carries a risk of creating adverse geotechnical conditions. Increasing the moisture content of the soil can cause the soil to lose internal shear strength and increase its compressibility, resulting in a change in the designed engineering properties. Overlying structures and pavements in the infiltration area could potentially be damaged due to saturation of the subgrade soils. **The proposed infiltration system for this site should be located at least 25 feet away from any structures, including retaining walls.** Even with this provision of locating the infiltration system at least 25 feet from the building(s), it is possible that infiltrating water into the subsurface soils could have an adverse effect on the proposed or existing structures. It should also be noted that utility trenches which happen to collect storm water can also serve as conduits to transmit storm water toward the structure, depending on the slope of the utility trench. Therefore, consideration should also be given to the proposed locations of underground utilities which may pass near the proposed infiltration system.

The infiltration system designer should also give special consideration to the effect that the proposed infiltration systems may have on nearby subterranean structures, open excavations, or descending slopes. In particular, infiltration systems should not be located near the crest of descending slopes, particularly where the slopes are comprised of granular soils. Such systems will require specialized design and analysis to evaluate the potential for slope instability, piping failures and other phenomena that typically apply to earthen dam design. This type of analysis is beyond the scope of this infiltration test report, but these factors should be considered by the infiltration system designer when locating the infiltration systems.

General Comments

This report has been prepared as an instrument of service for use by the client in order to aid in the evaluation of this property and to assist the architects and engineers in the design and preparation of the project plans and specifications. This report may be provided to the contractor(s) and other design consultants to disclose information relative to the project. However, this report is not intended to be utilized as a specification in and of itself, without appropriate interpretation by the project architect, structural engineer, and/or civil engineer. The design of the proposed storm water infiltration system is the responsibility of the civil engineer. The role of the geotechnical engineer is limited to determination of infiltration rate only. By using the design infiltration rate contained herein, the civil engineer agrees to

indemnify, defend, and hold harmless the geotechnical engineer for all aspects of the design and performance of the proposed storm water infiltration system. The reproduction and distribution of this report must be authorized by the client and Southern California Geotechnical, Inc. Furthermore, any reliance on this report by an unauthorized third party is at such party's sole risk, and we accept no responsibility for damage or loss which may occur.

The analysis of this site was based on a subsurface profile interpolated from limited discrete soil samples. While the materials encountered in the project area are considered to be representative of the total area, some variations should be expected between boring locations and testing depths. If the conditions encountered during construction vary significantly from those detailed herein, we should be contacted immediately to determine if the conditions alter the recommendations contained herein.

This report has been based on assumed or provided characteristics of the proposed development. It is recommended that the owner, client, architect, structural engineer, and civil engineer carefully review these assumptions to ensure that they are consistent with the characteristics of the proposed development. If discrepancies exist, they should be brought to our attention to verify that they do not affect the conclusions and recommendations contained herein. We also recommend that the project plans and specifications be submitted to our office for review to verify that our recommendations have been correctly interpreted. The analysis, conclusions, and recommendations contained within this report have been promulgated in accordance with generally accepted professional geotechnical engineering practice. No other warranty is implied or expressed.

Closure

We sincerely appreciate the opportunity to be of service on this project. We look forward to providing additional consulting services during the course of the project. If we may be of further assistance in any manner, please contact our office.

Respectfully Submitted,

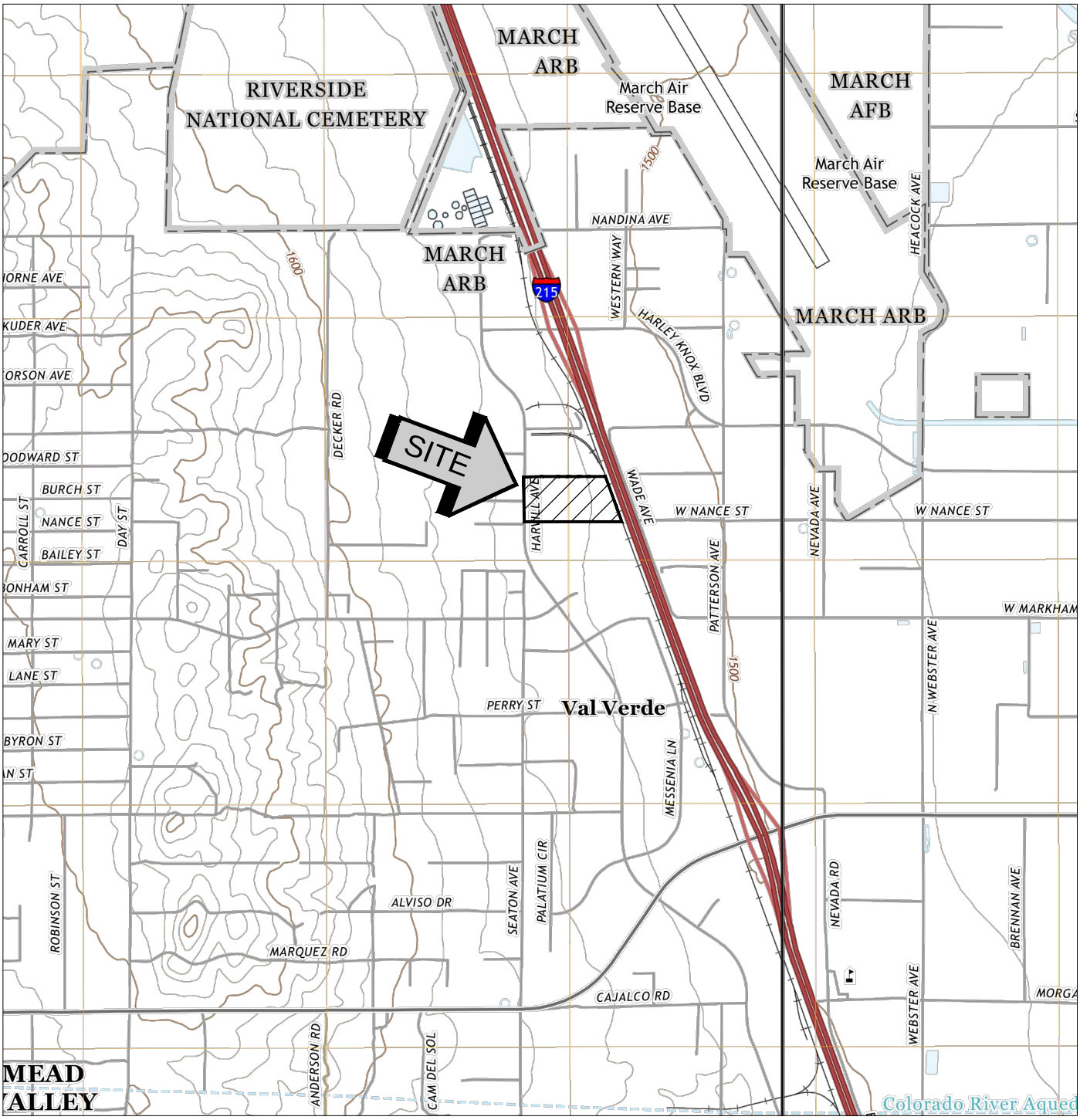
SOUTHERN CALIFORNIA GEOTECHNICAL, INC.

Jose A. Zuniga
Staff Engineer

Robert G. Trazo, GE 2655
Principal Engineer

Distribution: (1) Addressee

Enclosures: Plate 1 - Site Location Map
Plate 2 - Infiltration Test Location Plan
Boring Log Legend and Logs (4 pages)
Infiltration Test Results Spreadsheets (2 pages)
Grain Size Distribution Graphs (2 pages)



SOURCE: USGS TOPOGRAPHIC MAPS OF THE STEELE PEAK AND PERRIS QUADRANGLES, RIVERSIDE COUNTY, CALIFORNIA, 2018.

SITE LOCATION MAP

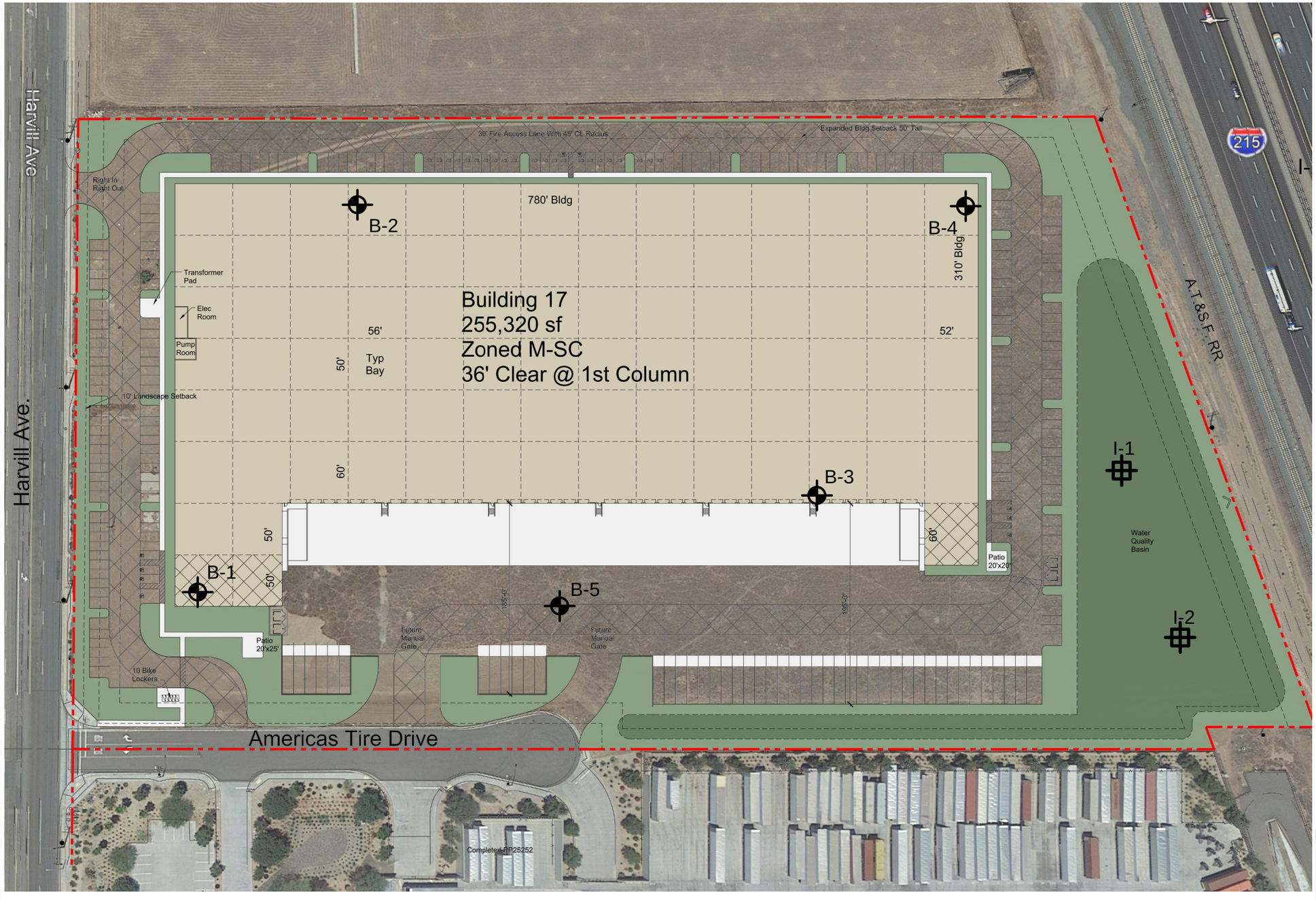
MAJESTIC FREEWAY BUSINESS CENTER - BLDG 17

RIVERSIDE COUNTY (PERRIS), CALIFORNIA

SCALE: 1" = 2000'	
DRAWN: MD CHKD: RGT	
SCG PROJECT 21G252-2	
PLATE 1	

SoCalGeo

SOUTHERN CALIFORNIA GEOTECHNICAL



NORTH
SoCalGeo

GEOTECHNICAL LEGEND

APPROXIMATE INFILTRATION TEST LOCATION

PREVIOUS BORING LOCATION (SCG PROJECT NO. 21G252-1)

NOTE: SITE PLAN PROVIDED BY THE CLIENT.
AERIAL PHOTOGRAPH OBTAINED FROM GOOGLE EARTH.

INFILTRATION TEST LOCATION PLAN

MAJESTIC FREEWAY BUSINESS CENTER - BLDG 17

RIVERSIDE COUNTY (PERRIS), CALIFORNIA

SCALE: 1" = 100'

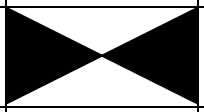
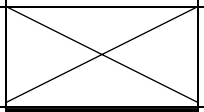
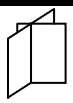
DRAWN: MD
CHKD: RGT

SCG PROJECT 21G252-2

PLATE 2

SoCalGeo
SOUTHERN CALIFORNIA GEOTECHNICAL

BORING LOG LEGEND

SAMPLE TYPE	GRAPHICAL SYMBOL	SAMPLE DESCRIPTION
AUGER		SAMPLE COLLECTED FROM AUGER CUTTINGS, NO FIELD MEASUREMENT OF SOIL STRENGTH. (DISTURBED)
CORE		ROCK CORE SAMPLE: TYPICALLY TAKEN WITH A DIAMOND-TIPPED CORE BARREL. TYPICALLY USED ONLY IN HIGHLY CONSOLIDATED BEDROCK.
GRAB		SOIL SAMPLE TAKEN WITH NO SPECIALIZED EQUIPMENT, SUCH AS FROM A STOCKPILE OR THE GROUND SURFACE. (DISTURBED)
CS		CALIFORNIA SAMPLER: 2-1/2 INCH I.D. SPLIT BARREL SAMPLER, LINED WITH 1-INCH HIGH BRASS RINGS. DRIVEN WITH SPT HAMMER. (RELATIVELY UNDISTURBED)
NSR		NO RECOVERY: THE SAMPLING ATTEMPT DID NOT RESULT IN RECOVERY OF ANY SIGNIFICANT SOIL OR ROCK MATERIAL.
SPT		STANDARD PENETRATION TEST: SAMPLER IS A 1.4 INCH INSIDE DIAMETER SPLIT BARREL, DRIVEN 18 INCHES WITH THE SPT HAMMER. (DISTURBED)
SH		SHELBY TUBE: TAKEN WITH A THIN WALL SAMPLE TUBE, PUSHED INTO THE SOIL AND THEN EXTRACTED. (UNDISTURBED)
VANE		VANE SHEAR TEST: SOIL STRENGTH OBTAINED USING A 4 BLADED SHEAR DEVICE. TYPICALLY USED IN SOFT CLAYS-NO SAMPLE RECOVERED.

COLUMN DESCRIPTIONS

DEPTH: Distance in feet below the ground surface.

SAMPLE: Sample Type as depicted above.

BLOW COUNT: Number of blows required to advance the sampler 12 inches using a 140 lb hammer with a 30-inch drop. 50/3" indicates penetration refusal (>50 blows) at 3 inches. WH indicates that the weight of the hammer was sufficient to push the sampler 6 inches or more.

POCKET PEN.: Approximate shear strength of a cohesive soil sample as measured by pocket penetrometer.

GRAPHIC LOG: Graphic Soil Symbol as depicted on the following page.

DRY DENSITY: Dry density of an undisturbed or relatively undisturbed sample in lbs/ft^3.

MOISTURE CONTENT: Moisture content of a soil sample, expressed as a percentage of the dry weight.

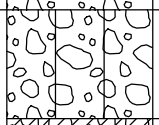
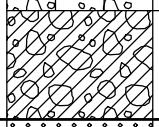
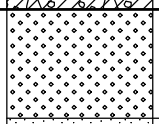
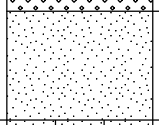
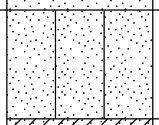
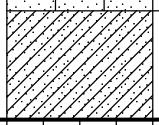
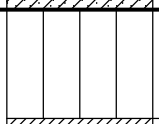
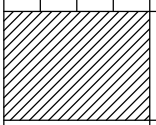
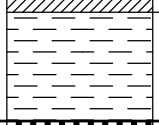
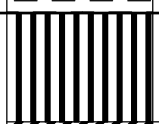
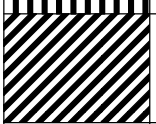
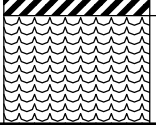
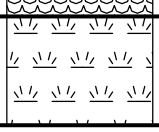
LIQUID LIMIT: The moisture content above which a soil behaves as a liquid.

PLASTIC LIMIT: The moisture content above which a soil behaves as a plastic.

PASSING #200 SIEVE: The percentage of the sample finer than the #200 standard sieve.

UNCONFINED SHEAR: The shear strength of a cohesive soil sample, as measured in the unconfined state.

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS
			GRAPH	LETTER	
COARSE GRAINED SOILS MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
				GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	CLEAN SANDS (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
				SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

SOUTHERN CALIFORNIA GEOTECHNICAL
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TRENCH NO. I-1

JOB NO.: 21G252-2
PROJECT: Majestic Frwy Business Center- Bldg 17
LOCATION: Riverside County, California
EXCAVATION DATE: 11/1/21
EXCAVATION METHOD: Backhoe
LOGGED BY: Oscar Sandoval
WATER DEPTH: Dry
CAVE DEPTH: ---
READING TAKEN: At Completion

FIELD RESULTS						LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION SURFACE ELEVATION: --- MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
					FILL: Light Brown to Brown Silty fine Sand, little medium to coarse Sand, trace fine root fibers, medium dense-dry							
					OLDER ALLUVIUM: Brown Clayey fine to medium Sand, trace coarse Sand, little Silt, dense-damp							
5												
					@ 9 to 10 feet, very dense-moist		11			13		
10					Trench Terminated at 10'							

TBL 21G252-2.GPJ SOCALGEO.GDT 12/20/21

TEST TRENCH LOG **PLATE B-1**

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

TRENCH NO. I-2

JOB NO.: 21G252-2
PROJECT: Majestic Frwy Business Center- Bldg 17
LOCATION: Riverside County, California
EXCAVATION DATE: 11/1/21
EXCAVATION METHOD: Backhoe
LOGGED BY: Oscar Sandoval
WATER DEPTH: Dry
CAVE DEPTH: ---
READING TAKEN: At Completion

FIELD RESULTS						LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION SURFACE ELEVATION: --- MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
					FILL: Light Brown Silty fine to medium Sand, trace fine root fibers, medium dense-dry							
					OLDER ALLUVIUM: Dark Redish Brown Clayey fine to medium Sand, trace SIlt, very dense-damp							
5												
					@ 9 to 10 feet, dense-moist		10			39		
10					Trench Terminated at 10'							

TBL 21G252-2.GPJ SOCALGEO.GDT 12/20/21

TEST TRENCH LOG **PLATE B-2**

INFILTRATION CALCULATIONS

Project Name	Majestic Freeway Bus. Center-Bldg. 17
Project Location	Riverside County (Perris) California
Project Number	21G252-2
Engineer	Oscar Sandoval

Infiltration Test No: I-1

Constants	Diameter (ft)	Area (ft^2)	Area (cm^2)
Inner	1	0.785	730
Anlr. Space	2	2.356	2189

*Note: The infiltration rate was calculated based on current time interval

Test Interval		Time (hr)	Interval **Elapsed** (min)	Flow Readings: Inner Ring (ml)	Flow Readings: Ring Flow (cm^3)	Flow Readings: Annular Ring (ml)	Flow Readings: Space Flow (cm^3)	Infiltration Rates: Inner Ring* (cm/hr)	Infiltration Rates: Annular Space* (cm/hr)	Infiltration Rates: Inner Ring* (in/hr)	Infiltration Rates: Annular Space* (in/hr)
1	Initial	12:00 PM	30	0	750	0	4000	2.06	3.65	0.81	1.44
	Final	12:30 PM	**30**	750		4000					
2	Initial	12:30 PM	30	0	740	0	4900	2.03	4.48	0.80	1.76
	Final	1:00 PM	**60**	740		4900					
3	Initial	1:00 PM	30	0	730	0	4800	2.00	4.39	0.79	1.73
	Final	1:30 PM	**90**	730		4800					
4	Initial	1:30 PM	30	0	730	0	4800	2.00	4.39	0.79	1.73
	Final	2:00 PM	**120**	730		4800					
5	Initial	2:00 PM	30	0	730	0	4800	2.00	4.39	0.79	1.73
	Final	2:30 PM	**150**	730		4800					
6	Initial	2:30 PM	30	0	730	0	4800	2.00	4.39	0.79	1.73
	Final	3:00 PM	**180**	730		4800					

INFILTRATION CALCULATIONS

Project Name	Majestic Freeway Bus. Center-Bldg. 17
Project Location	Riverside County (Perris) California
Project Number	21G252-2
Engineer	Oscar Sandoval

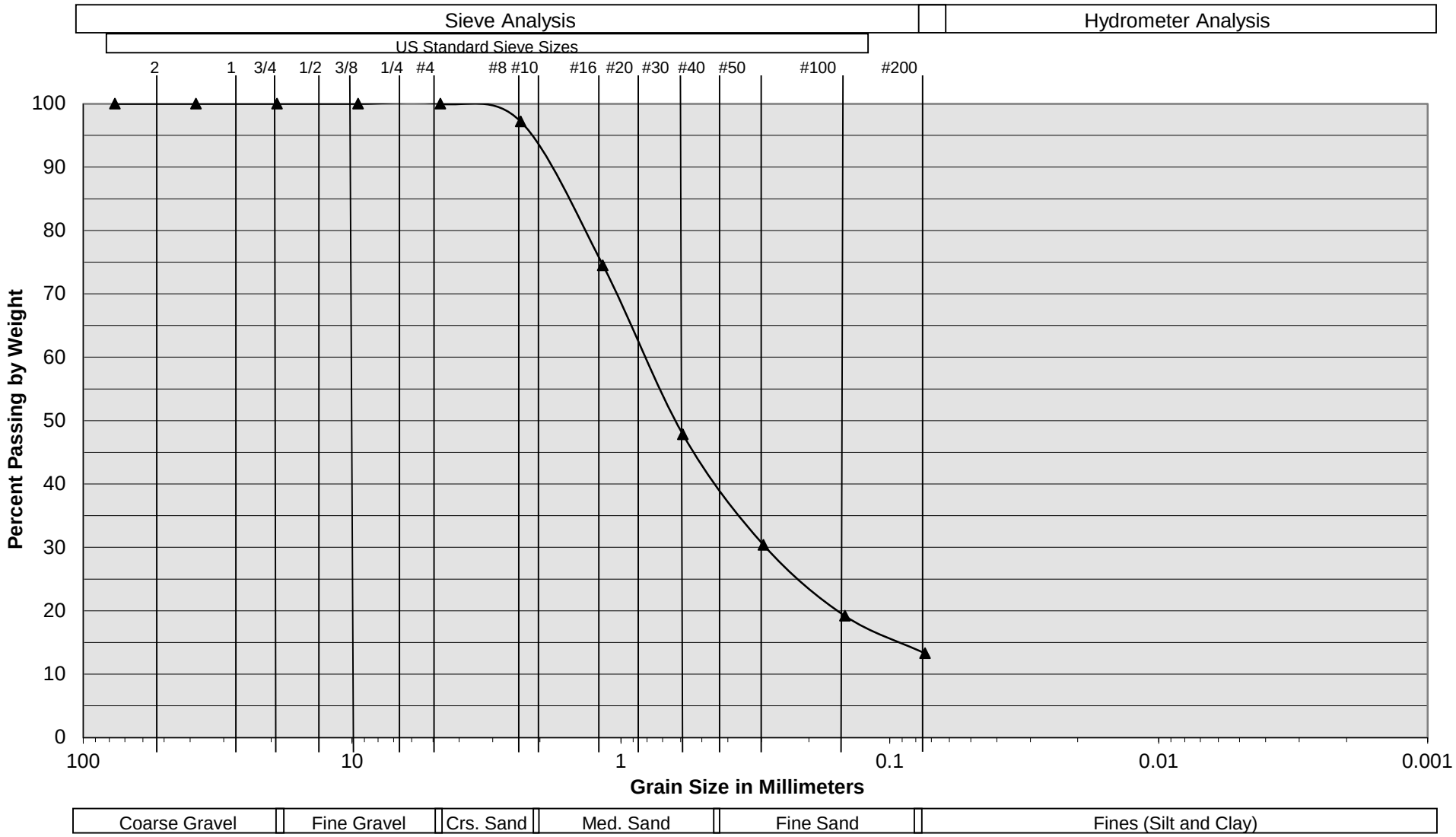
Infiltration Test No: I-2

Constants	Diameter (ft)	Area (ft^2)	Area (cm^2)
Inner	1	0.785	730
Anlr. Space	2	2.356	2189

*Note: The infiltration rate was calculated based on current time interval

Test Interval		Time (hr)	Interval **Elapsed** (min)	Flow Readings: Inner Ring (ml)	Flow Readings: Ring Flow (cm^3)	Flow Readings: Annular Ring (ml)	Flow Readings: Space Flow (cm^3)	Infiltration Rates: Inner Ring* (cm/hr)	Infiltration Rates: Annular Space* (cm/hr)	Infiltration Rates: Inner Ring* (in/hr)	Infiltration Rates: Annular Space* (in/hr)
1	Initial	8:00 AM	30	0	800	0	5000	2.19	4.57	0.86	1.80
	Final	8:30 AM	**30**	800		5000					
2	Initial	8:30 AM	30	0	750	0	4900	2.06	4.48	0.81	1.76
	Final	9:00 AM	**60**	750		4900					
3	Initial	9:00 AM	30	0	750	0	4900	2.06	4.48	0.81	1.76
	Final	9:30 AM	**90**	750		4900					
4	Initial	9:30 AM	30	0	700	0	4800	1.92	4.39	0.76	1.73
	Final	10:00 AM	**120**	700		4800					
5	Initial	10:00 AM	30	0	650	0	4600	1.78	4.20	0.70	1.65
	Final	10:30 AM	**150**	650		4600					
6	Initial	10:30 AM	30	0	650	0	4600	1.78	4.20	0.70	1.65
	Final	11:00 AM	**180**	650		4600					

Grain Size Distribution



Sample Description	I-1 @ 9
Soil Classification	Brown Clayey fine to medium Sand, trace coarse Sand, little Silt

Majestic Freeway Bus. Center-Bldg. 17
Riverside County (Perris), California
Project No. 21G252-2
PLATE C- 1

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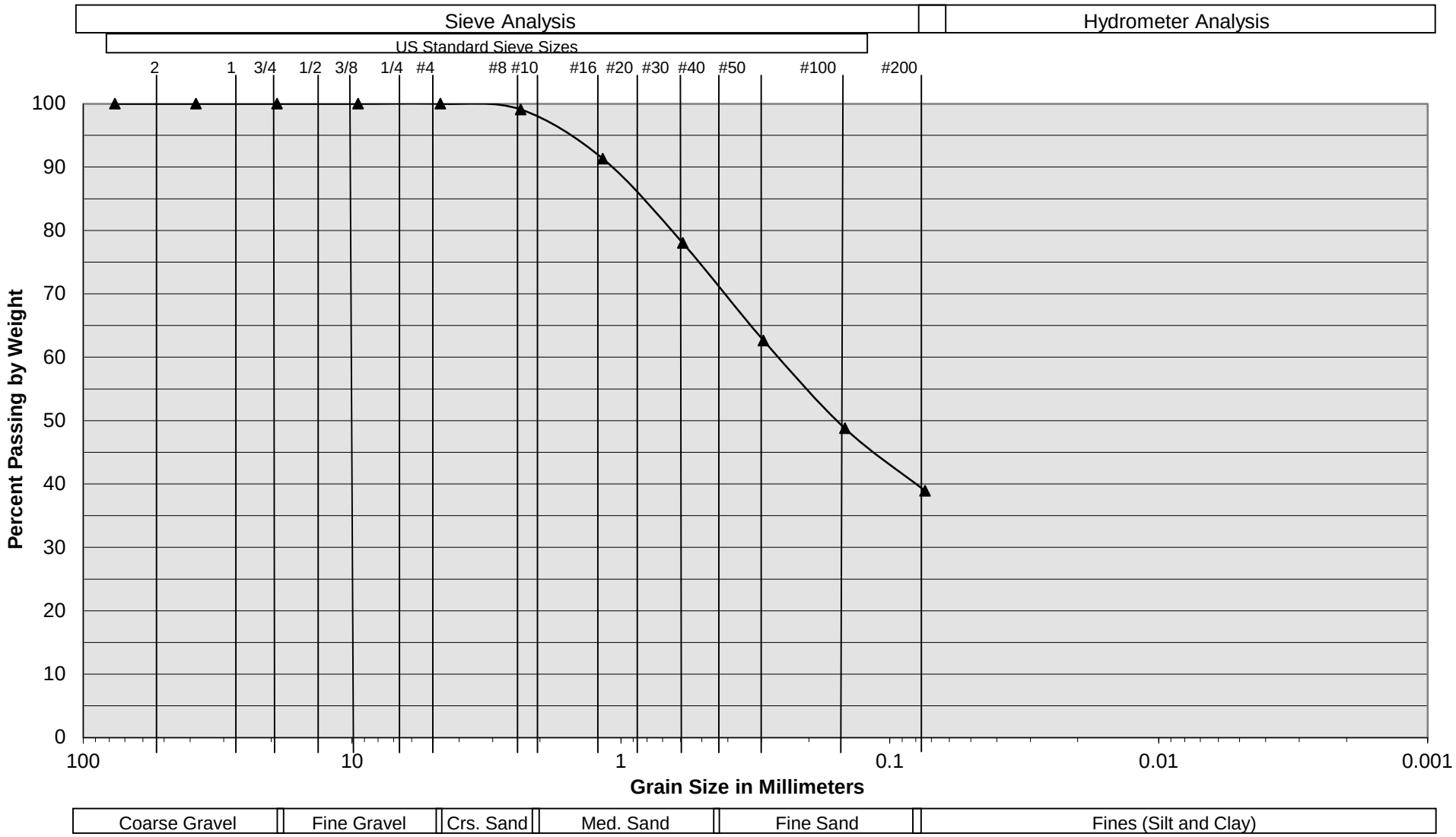
Grain Size Distribution



Sample Description	I-2 @ 9
Soil Classification	Dark Reddish Brown Clayey fine to medium Sand, trace Silt

Majestic Freeway Bus. Center-Bldg. 17
Riverside County (Perris), California
Project No. 21G252-2
PLATE C- 2

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Appendix 4: Historical Site Conditions

Phase I Environmental Site Assessment or Other Information on Past Site Use

Appendix 5: LID Infeasibility

LID Technical Infeasibility Analysis

NOT APPLICABLE

Appendix 6: BMP Design Details

BMP Sizing, Design Details and other Supporting Documentation

Santa Ana Watershed - BMP Design Volume, V_{BMP}

(Rev. 10-2011)

Legend: Required Entries / Calculated Cells

*(Note this worksheet shall **only** be used in conjunction with BMP designs from the **LID BMP Design Handbook**)*

Company Name	PBLA ENGINEERING, INC	Date	8/2/2022
Designed by	SDL	Case No	PPT 220009
Company Project Number/Name	MFBC-BLD 13		

BMP Identification

BMP NAME / ID: BASIN "B1"

Must match Name/ID used on BMP Design Calculation Sheet

Design Rainfall Depth

85th Percentile, 24-hour Rainfall Depth, from the Isohyetal Map in Handbook Appendix E

D_{85}= 0.58 inches

Drainage Management Area Tabulation

Insert additional rows if needed to accommodate all DMAs draining to the BMP

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Imperivous Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*Design Storm Depth (in)*	*Design Capture Volume, V_{BMP} (cubic feet)*	*Proposed Volume on Plans (cubic feet)*
D1	*256,148*	*Roofs*	*1*	*0.89*	*228484*			
DI	*222,887*	*Concrete or Asphalt*	*1*	*0.89*	*198815.2*			
D1	*22,683*	*Ornamental Landscaping*	*0.1*	*0.11*	*2505.5*			
B1	*21,825*	*Ornamental Landscaping*	*0.1*	*0.11*	*2410.7*			
	523543	***Total***			**432215.4**	**0.58**	***20890.4***	***30,000***

Notes:

Bioretention Facility - Design Procedure	BMP ID	Legend:	Required Entries	
	Bld 17 - B1		Calculated Cells	

Company Name:	PBLA Engineering	Date:	8/2/2023
Designed by:	SDL	County/City Case No.:	PPT 220009

Design Volume

Enter the area tributary to this feature	A_T=	12	acres
Enter V_{BMP} determined from Section 2.1 of this Handbook	V_{BMP}=	20,728	ft^3

Type of Bioretention Facility Design

(●) Side slopes required (parallel to parking spaces or adjacent to walkways)

( ) No side slopes required (perpendicular to parking space or Planter Boxes)

Bioretention Facility Surface Area

Depth of Soil Filter Media Layer	d_S =	2.0	ft
Top Width of Bioretention Facility, excluding curb	w_T =	34.0	ft
Total Effective Depth, d_E $d_E = (0.3) \times d_S + (0.4) \times 1 - (0.7/w_T) + 0.5$	d_E =	1.48	ft
Minimum Surface Area, A_m $A_M\ (ft^2) = \frac{V_{BMP}\ (ft^3)}{d_E\ (ft)}$	A_M =	14,011	ft^2
Proposed Surface Area	A=	11,760	ft^2

ERROR, the proposed surface area must be equal to or greater than the minimum surface area

Bioretention Facility Properties

Side Slopes in Bioretention Facility	z =	4	:1
Diameter of Underdrain		6	inches
Longitudinal Slope of Site (3% maximum)		0	%
6" Check Dam Spacing		0	feet
Describe Vegetation:		Natural Grasses	

Notes: Trib area is over 10 ac. Additional 2.3" ponding accouncts for slight increase in trib area.
Slight ponding over basin botton should not cause any adverse affect on basin performance.
2251 sf under min basin bottom area = 2.3" of additional ponding

Appendix 7: Hydromodification

Supporting Detail Relating to Hydrologic Conditions of Concern

AREA OUTSIDE HCOC APPLICABILITY AREA PER RIVERSIDE COUNTY

FLOOD CONTROL AND WATER CONSERVATION DISTRICT HCOC APPLICABILITY MAP

Appendix 8: Source Control

Pollutant Sources/Source Control Checklist

STORMWATER POLLUTANT SOURCES/SOURCE CONTROL CHECKLIST

How to use this worksheet (also see instructions in Section G of the WQMP Template):

1. Review Column 1 and identify which of these potential sources of stormwater pollutants apply to your site. Check each box that applies.
2. Review Column 2 and incorporate all of the corresponding applicable BMPs in your WQMP Exhibit.
3. Review Columns 3 and 4 and incorporate all of the corresponding applicable permanent controls and operational BMPs in your WQMP. Use the format shown in Table G.1on page 23 of this WQMP Template. Describe your specific BMPs in an accompanying narrative, and explain any special conditions or situations that required omitting BMPs or substituting alternative BMPs for those shown here.

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
❑ A. On-site storm drain inlets	❑ Locations of inlets.	❑ Mark all inlets with the words "Only Rain Down the Storm Drain" or similar. Catch Basin Markers may be available from the Riverside County Flood Control and Water Conservation District, call 951.955.1200 to verify.	❑ Maintain and periodically repaint or replace inlet markings. ❑ Provide stormwater pollution prevention information to new site owners, lessees, or operators. ❑ See applicable operational BMPs in Fact Sheet SC-44, "Drainage System Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com ❑ Include the following in lease agreements: "Tenant shall not allow anyone to discharge anything to storm drains or to store or deposit materials so as to create a potential discharge to storm drains."
❑ B. Interior floor drains and elevator shaft sump pumps		❑ State that interior floor drains and elevator shaft sump pumps will be plumbed to sanitary sewer.	❑ Inspect and maintain drains to prevent blockages and overflow.
❑ C. Interior parking garages		❑ State that parking garage floor drains will be plumbed to the sanitary sewer.	❑ Inspect and maintain drains to prevent blockages and overflow.

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
❑ D1. Need for future indoor & structural pest control		❑ Note building design features that discourage entry of pests.	❑ Provide Integrated Pest Management information to owners, lessees, and operators.
❑ D2. Landscape/ Outdoor Pesticide Use	❑ Show locations of native trees or areas of shrubs and ground cover to be undisturbed and retained. ❑ Show self-retaining landscape areas, if any. ❑ Show stormwater treatment and hydrograph modification management BMPs. (See instructions in Chapter 3, Step 5 and guidance in Chapter 5.)	State that final landscape plans will accomplish all of the following. ❑ Preserve existing native trees, shrubs, and ground cover to the maximum extent possible. ❑ Design landscaping to minimize irrigation and runoff, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution. Where landscaped areas are used to retain or detain stormwater, specify plants that are tolerant of saturated soil conditions. ❑ Consider using pest-resistant plants, especially adjacent to hardscape. To insure successful establishment, select plants appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions.	❑ Maintain landscaping using minimum or no pesticides. ❑ See applicable operational BMPs in "What you should know for…..Landscape and Gardening" at http://rcflood.org/stormwater/ Error! Hyperlink reference not valid. ❑ Provide IPM information to new owners, lessees and operators.

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
❑ E. Pools, spas, ponds, decorative fountains, and other water features.	❑ Show location of water feature and a sanitary sewer cleanout in an accessible area within 10 feet. (Exception: Public pools must be plumbed according to County Department of Environmental Health Guidelines.)	If the Co-Permittee requires pools to be plumbed to the sanitary sewer, place a note on the plans and state in the narrative that this connection will be made according to local requirements.	❑ See applicable operational BMPs in "Guidelines for Maintaining Your Swimming Pool, Jacuzzi and Garden Fountain" at http://rcflood.org/stormwater/
❑ F. Food service	❑ For restaurants, grocery stores, and other food service operations, show location (indoors or in a covered area outdoors) of a floor sink or other area for cleaning floor mats, containers, and equipment. ❑ On the drawing, show a note that this drain will be connected to a grease interceptor before discharging to the sanitary sewer.	❑ Describe the location and features of the designated cleaning area. ❑ Describe the items to be cleaned in this facility and how it has been sized to insure that the largest items can be accommodated.	❑ See the brochure, "The Food Service Industry Best Management Practices for: Restaurants, Grocery Stores, Delicatessens and Bakeries" at http://rcflood.org/stormwater/ Provide this brochure to new site owners, lessees, and operators.
❑ G. Refuse areas	❑ Show where site refuse and recycled materials will be handled and stored for pickup. See local municipal requirements for sizes and other details of refuse areas. ❑ If dumpsters or other receptacles are outdoors, show how the designated area will be covered, graded, and paved to prevent run-on and show locations of berms to prevent runoff from the area. ❑ Any drains from dumpsters, compactors, and tallow bin areas shall be connected to a grease removal device before discharge to sanitary sewer.	❑ State how site refuse will be handled and provide supporting detail to what is shown on plans. ❑ State that signs will be posted on or near dumpsters with the words "Do not dump hazardous materials here" or similar.	❑ State how the following will be implemented: Provide adequate number of receptacles. Inspect receptacles regularly; repair or replace leaky receptacles. Keep receptacles covered. Prohibit/prevent dumping of liquid or hazardous wastes. Post "no hazardous materials" signs. Inspect and pick up litter daily and clean up spills immediately. Keep spill control materials available on-site. See Fact Sheet SC-34, "Waste Handling and Disposal" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
❑ H. Industrial processes.	❑ Show process area.	❑ If industrial processes are to be located on site, state: "All process activities to be performed indoors. No processes to drain to exterior or to storm drain system."	❑ See Fact Sheet SC-10, "Non-Stormwater Discharges" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com See the brochure "Industrial & Commercial Facilities Best Management Practices for: Industrial, Commercial Facilities" at http://rcflood.org/stormwater/

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
❑ I. Outdoor storage of equipment or materials. (See rows J and K for source control measures for vehicle cleaning, repair, and maintenance.)	❑ Show any outdoor storage areas, including how materials will be covered. Show how areas will be graded and bermed to prevent run-on or run-off from area. ❑ Storage of non-hazardous liquids shall be covered by a roof and/or drain to the sanitary sewer system, and be contained by berms, dikes, liners, or vaults. ❑ Storage of hazardous materials and wastes must be in compliance with the local hazardous materials ordinance and a Hazardous Materials Management Plan for the site.	Include a detailed description of materials to be stored, storage areas, and structural features to prevent pollutants from entering storm drains. Where appropriate, reference documentation of compliance with the requirements of Hazardous Materials Programs for: ▪ Hazardous Waste Generation ▪ Hazardous Materials Release Response and Inventory ▪ California Accidental Release (CalARP) ▪ Aboveground Storage Tank ▪ Uniform Fire Code Article 80 Section 103(b) & (c) 1991 ▪ Underground Storage Tank www.cchealth.org/groups/hazmat/	❑ See the Fact Sheets SC-31, "Outdoor Liquid Container Storage" and SC-33, "Outdoor Storage of Raw Materials " in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
❑ J. Vehicle and Equipment Cleaning	❑ Show on drawings as appropriate: (1) Commercial/industrial facilities having vehicle/equipment cleaning needs shall either provide a covered, bermed area for washing activities or discourage vehicle/equipment washing by removing hose bibs and installing signs prohibiting such uses. (2) Multi-dwelling complexes shall have a paved, bermed, and covered car wash area (unless car washing is prohibited on-site and hoses are provided with an automatic shut-off to discourage such use). (3) Washing areas for cars, vehicles, and equipment shall be paved, designed to prevent run-on to or runoff from the area, and plumbed to drain to the sanitary sewer. (4) Commercial car wash facilities shall be designed such that no runoff from the facility is discharged to the storm drain system. Wastewater from the facility shall discharge to the sanitary sewer, or a wastewater reclamation system shall be installed.	❑ If a car wash area is not provided, describe any measures taken to discourage on-site car washing and explain how these will be enforced.	Describe operational measures to implement the following (if applicable): ❑ Washwater from vehicle and equipment washing operations shall not be discharged to the storm drain system. Refer to "Outdoor Cleaning Activities and Professional Mobile Service Providers" for many of the Potential Sources of Runoff Pollutants categories below. Brochure can be found at http://rcflood.org/stormwater/ ❑Car dealerships and similar may rinse cars with water only.

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
❑ K. Vehicle/Equipment Repair and Maintenance	❑ Accommodate all vehicle equipment repair and maintenance indoors. Or designate an outdoor work area and design the area to prevent run-on and runoff of stormwater. ❑ Show secondary containment for exterior work areas where motor oil, brake fluid, gasoline, diesel fuel, radiator fluid, acid-containing batteries or other hazardous materials or hazardous wastes are used or stored. Drains shall not be installed within the secondary containment areas. ❑ Add a note on the plans that states either (1) there are no floor drains, or (2) floor drains are connected to wastewater pretreatment systems prior to discharge to the sanitary sewer and an industrial waste discharge permit will be obtained.	❑ State that no vehicle repair or maintenance will be done outdoors, or else describe the required features of the outdoor work area. ❑ State that there are no floor drains or if there are floor drains, note the agency from which an industrial waste discharge permit will be obtained and that the design meets that agency's requirements. ❑ State that there are no tanks, containers or sinks to be used for parts cleaning or rinsing or, if there are, note the agency from which an industrial waste discharge permit will be obtained and that the design meets that agency's requirements.	In the Stormwater Control Plan, note that all of the following restrictions apply to use the site: ❑ No person shall dispose of, nor permit the disposal, directly or indirectly of vehicle fluids, hazardous materials, or rinsewater from parts cleaning into storm drains. ❑ No vehicle fluid removal shall be performed outside a building, nor on asphalt or ground surfaces, whether inside or outside a building, except in such a manner as to ensure that any spilled fluid will be in an area of secondary containment. Leaking vehicle fluids shall be contained or drained from the vehicle immediately. ❑ No person shall leave unattended drip parts or other open containers containing vehicle fluid, unless such containers are in use or in an area of secondary containment. Refer to "Automotive Maintenance & Car Care Best Management Practices for Auto Body Shops, Auto Repair Shops, Car Dealerships, Gas Stations and Fleet Service Operations". Brochure can be found at http://rcflood.org/stormwater/ Refer to Outdoor Cleaning Activities and Professional Mobile Service Providers for many of the Potential Sources of Runoff Pollutants categories below. Brochure can be found at http://rcflood.org/stormwater/

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
❑ L. Fuel Dispensing Areas	❑ Fueling areas[6] shall have impermeable floors (i.e., portland cement concrete or equivalent smooth impervious surface) that are: a) graded at the minimum slope necessary to prevent ponding; and b) separated from the rest of the site by a grade break that prevents run-on of stormwater to the maximum extent practicable. ❑ Fueling areas shall be covered by a canopy that extends a minimum of ten feet in each direction from each pump. [Alternative: The fueling area must be covered and the cover's minimum dimensions must be equal to or greater than the area within the grade break or fuel dispensing area[1].] The canopy [or cover] shall not drain onto the fueling area.		❑ The property owner shall dry sweep the fueling area routinely. ❑ See the Fact Sheet SD-30 , "Fueling Areas" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com

[6] The fueling area shall be defined as the area extending a minimum of 6.5 feet from the corner of each fuel dispenser or the length at which the hose and nozzle assembly may be operated plus a minimum of one foot, whichever is greater.

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
❑ M. Loading Docks	❑ Show a preliminary design for the loading dock area, including roofing and drainage. Loading docks shall be covered and/or graded to minimize run-on to and runoff from the loading area. Roof downspouts shall be positioned to direct stormwater away from the loading area. Water from loading dock areas shall be drained to the sanitary sewer, or diverted and collected for ultimate discharge to the sanitary sewer. ❑ Loading dock areas draining directly to the sanitary sewer shall be equipped with a spill control valve or equivalent device, which shall be kept closed during periods of operation. ❑ Provide a roof overhang over the loading area or install door skirts (cowling) at each bay that enclose the end of the trailer.		❑ Move loaded and unloaded items indoors as soon as possible. ❑ See Fact Sheet SC-30, "Outdoor Loading and Unloading," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
❑ N. Fire Sprinkler Test Water		❑ Provide a means to drain fire sprinkler test water to the sanitary sewer.	❑ See the note in Fact Sheet SC-41, "Building and Grounds Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com
O. Miscellaneous Drain or Wash Water or Other Sources ❑ Boiler drain lines ❑ Condensate drain lines ❑ Rooftop equipment ❑ Drainage sumps ❑ Roofing, gutters, and trim. ❑ Other sources		❑ Boiler drain lines shall be directly or indirectly connected to the sanitary sewer system and may not discharge to the storm drain system. ❑ Condensate drain lines may discharge to landscaped areas if the flow is small enough that runoff will not occur. Condensate drain lines may not discharge to the storm drain system. ❑ Rooftop equipment with potential to produce pollutants shall be roofed and/or have secondary containment. ❑ Any drainage sumps on-site shall feature a sediment sump to reduce the quantity of sediment in pumped water. ❑ Avoid roofing, gutters, and trim made of copper or other unprotected metals that may leach into runoff. Include controls for other sources as specified by local reviewer.	

STORMWATER POLLUTANT SOURCES/SOURCE CONTROL CHECKLIST

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
❑ P. Plazas, sidewalks, and parking lots.			❑ Sweep plazas, sidewalks, and parking lots regularly to prevent accumulation of litter and debris. Collect debris from pressure washing to prevent entry into the storm drain system. Collect washwater containing any cleaning agent or degreaser and discharge to the sanitary sewer not to a storm drain.

Appendix 9: O&M

Operation and Maintenance Plan and Documentation of Finance, Maintenance and Recording Mechanisms

Operation and Maintenance

O&M DESCRIPTION AND SCHEDULE:

Based on the standard Source Control BMPs listed in the WQMP Guidelines, the following chart indicates which Source Control (Non-Structural) BMPs will be implemented at this site:

Description of BMP and Method of Implementation	BMP Responsibility	Maintenance Responsibility	Funding Source For O & M	Maintenance Schedule
Education for Property Owners, Tenants and Occupants: The owner shall provide practical information materials: Water Quality Management on general housekeeping practices that contribute to the protection of stormwater quality. The future tenant/occupants will be given educational materials upon move-in and annually thereafter. Educational materials shall be located in the attachments of the WQMP. The owner and future tenant/occupants will be required to familiarize themselves with the WQMP Booklet and agree to abide by and perform maintenance functions. Start up date: Occupancy	**Owner**	**Owner**	**Owner**	Owner shall provide tenant/occupants educational materials upon move-in and annually thereafter. In conformance to the Model WQMP, see Attachments for educational materials.

Description of BMP and Method of Implementation	BMP Responsibility	Maintenance Responsibility	Funding Source For O & M	Maintenance Schedule
Activity Restrictions: Use restrictions (Addendum to Lease Agreement) shall be prepared by owner for the tenant/occupants and for the purpose of surface water quality protection. Owner shall enforce prohibitions of conditions, covenants, and restrictions (CC&Rs) and/or Lease Agreement to future tenant/occupants and thereafter. Use restrictions shall be utilized by said tenant/occupants. Additionally, no litter, liquids, or solids of any kind will be allowed to enter the on-site surface water drainage systems. Identified restrictions that will be imposed are as follows: Prohibit hosing down any paved surfaces where the result would be the flow of non-storm water into the street or storm drains, Prohibit dumping of any waste into catch basins, Prohibit blowing or sweeping of debris (leaf litter, grass clippings, litter,) into catch basins or streets, Prohibit discharges of fertilizer, pesticides, to streets or storm drains, Keep dumpster lids closed at all times. Start-up date: At point in time Activity Restrictions are made part of Lease Agreement.	**Owner**	**Owner**	**Owner**	Owner shall provide Activity Restrictions to tenant/occupants upon move-in. Owner shall be responsible to enforce restrictions "indefinately."
Landscape Planning: The landscape maintenance contractor shall perform the following on a weekly basis: Mowing, trimming/weeding, pruning and/or	**Owner**	**Owner**	**Owner**	Owner shall contract with a reputable landscape maintenance contractor. The landscape maintenance contractor shall provide landscape maintenance

Description of BMP and Method of Implementation	BMP Responsibility	Maintenance Responsibility	Funding Source For O & M	Maintenance Schedule
planting, and removal of litter, maintenance shall include, but not limited to, support structures. There shall be periodic inspection of the landscape areas to ensure the replacement of dead or diseased dying vegatation, Unhealthy or dead trees shall be replaced within seventy-two (72) hours, and the irrigation system is functioning properly. The landscape maintenance contractor shall utilize properly timed fertilizing and pesticide, weeding, pest control, and pruning, to preserve the landscapes water efficiency. Furthermore, the landscape maintenace contractor shall utilize proper management and their usage on fertilizers and pesticides this includes scheduling and disposal. The landscape maintenance contractor shall utilize landscape waste management (i.e., waste handling and disposal). Erosion control management shall be enforced, the landscape maintenance contractor shall inspect for erodable barren soil, maintain vegetative cover to prevent soil erosion, apply mulch or applicable alternative to serve as additional cover for soil stabilization. The landscape maintenance contractor shall train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements. The landscape maintenance contractor shall educate and train employees on the use of pesticides and pesticide application techniques. Only employees properly				experience/training in horticulture, fertilizer and pesticide usage, irrigation system knowledge, waste management, erosion control, storm water discharge prohibition, and wastewater discharge. Furthermore, have a spill contingency plan. Landscape Management shall be performed on a weekly basis.

Description of BMP and Method of Implementation	BMP Responsibility	Maintenance Responsibility	Funding Source For O & M	Maintenance Schedule
trained to use pesticides can apply them. The contractor shall train employees on proper spill containment and cleanup. Establish a regular training schedule, train all new and future employees, and conduct annual refresher training; furthermore, use a training log or similar method to document training. Start-up date: at time of installation				
BMP Maintenance: Owner shall be responsible for implementation of each non-structural BMP and scheduled cleaning, maintenance and repair of all structural/treatment BMP facilities "indefinitely." Start-up date: at time of installation	**Owner**	**Owner**	**Owner**	Owner shall be responsible for the inspection, operation, maintenance and repair of non-structural and structural/treatment facility BMPs, and shall document on the operation and maintenance schedule (log) for the life of the project. Frequency of maintenance shall be in accordance with "BMP Implementation Description" in Section 3.2.
Litter Control: The owner shall provide trash enclosure to common area(s) to dispose of trash, additionally sidewalks and private parking lots shall be maintained for litter control. The owner shall schedule trash pick-up for disposal of dumpster(s) and free standing trash receptacles weekly of each year (office entries). Pedestrian walks shall be inspected and maintained for trash/debris on a weekly basis of each year and properly disposed of.	**Owner**	**Owner**	**Owner**	Owner shall schedule trash pick-up on a weekly basis of each year for the disposal of trash dumpster(s). Owner shall be responsible for enforcing prohibitions on trash/debris (proper disposal) of trash dumpster(s), and free standing trash receptacles. Additionally, ensure maintenance of common area litter control. Pedestrian walks shall be

Description of BMP and Method of Implementation	BMP Responsibility	Maintenance Responsibility	Funding Source For O & M	Maintenance Schedule
Start-up date: at time of installation				maintained of trash/debris weekly of each year. Furthermore, parking lots shall be maintained of trash/debris on a weekly basis of each year and properly disposed of.
Spill Contingency Plan: The owner (building operator), shall prepare a "Spill Contingency Plan" for use by specified types of building or suite occupancies (Specified Use of Buildings Awaiting Lease) and which mandates stockpiling of cleanup materials, notification of responsible agencies, disposal of cleanup materials, documentation, etc. Business Emergency/Contingency Plan Guidelines and Forms shall be provided in accordance with Seciton 6.95 of the California Health and Safety Code. The owner shall educate said tenant/occupants on the Spill Contingency Plan upon move-in and annually thereafter. The owner shall be responsible to enforce the Business Emergency/Contingency Plan Guidelines to subject property through the life of the project.	**Owner**	**Owner**	**Owner**	Owner shall prepare a spill cleanup plan that includes: procedures for different types of spills, schedule for initial & annual training of employees, cleanup kits in well-marked accessible areas, and designation of key employee who monitors cleanup, posting the plan in the work area. Spill Contingency Plan (Business Emergency/Contingency Plan) shall be enforced and utilized by said tenant/occupants and their employees. The Spill Contingency Plan runs with the property "indefinitely".
Employee Training: The owner will be required to educate their contractor's and the contractor's employees, and shall provide them with Best Management Practices (BMPs) based on their tasks. (i.e. landscaping/irrigation personnel,	**Owner**	**Owner**	**Owner**	Owner shall be responsible to provide educational materials to contractor's; (landscape maintenance, catch basin cleaning, landscape and irrigation maintenance, etc.). The owner shall provide a signed form from the contractor

Description of BMP and Method of Implementation	BMP Responsibility	Maintenance Responsibility	Funding Source For O & M	Maintenance Schedule
street sweeping of parking lot, etc.). Start-up date: Upon indenture				that he or she has been given educational materials based on their task and agree to abide by conditions set forth. Educational Materials shall be provided upon indenture and annually thereafter.
Catch Basin Inspection: The catch basin with fossil filter insert located south of site (traffic grate inlet) within the parking lot shall be maintained by the owner. The owner shall maintain visual observation of catch basin(s) as stated on the Operations and Maintenance/Stated Maintenance Form (See attachment S). Removal of trash/debris shall be removed by owner/developer and properly disposed of within one (1) day. Furthermore, the owner shall develop a maintenance/service contract with Drainage Protection Systems (DPS) a dba Kristar Enterprises, Inc. for structural maintenance. The contract maintenance shall include, but not limited to; sediment removal by vactor truck, replacement of Fossil Filter Inserts, and for the annual renewal of medium. Structural integrity of broken or otherwise damaged inserts shall be repaired/replaced. Start-up date: at time of installation	**Owner**	**Owner**	**Owner**	Catch basin preventative maintenance and routine inspections shall be performed by the owner in accordance with the provisions of this Water Quality Management Plan. The owner shall inspect for debris/trash this shall be a visual observation before and once during each target storm event, weekly during the extended wet periods and monthly during the dry season. The debris/trash shall be removed and properly disposed of within 1 day. The oil and grease removal shall be a visual observation the maintenance indicator for removal are as follows: Absorbent granules are dark gray, or darker or unit is clogged with sediment. The visual observation shall be conducted at the end of each target storm event, weekly during extended wet periods and monthly during the dry season. Inspection for structural integrity shall be a visual observation of broken or otherwise damaged insert on a monthly basis. Replace media before November 1 of each

Description of BMP and Method of Implementation	BMP Responsibility	Maintenance Responsibility	Funding Source For O & M	Maintenance Schedule
				year. As a guide to the operation and maintenance on how to collect and dispose of sediments: Sediments must be collected by use of a vactor truck which vacuums the sediments out of the drop inlets and other drainage structures. The sediments are then transported daily to designated sites. Registered transporters are used to ship any hazardous sediments from the sites to authorized hazardous wasted disposal facilities under standard California Uniform Hazardous Waste Manifests.
Street Sweeping Private Drive Aisle & Parking Lot: Sweeping provides two primary benefits. The more obvious benefit is the collection and removal of paper, leaves, and other visible debris that collect in the gutters. In addition to being unsightly, this debris can block the catch basins and other storm water facilities, causing localized flooding during heavy rains. An equally important, but less visible benefit is the removal of metal particles, and other hazardous waste products left by vehicles. Although they are virtually invisible, these particles can be extremely harmful to the fish and other wildlife. Street sweeping is an effective method of removing both the large and microscopic pollutants that	**Owner**	**Owner**	**Owner**	Owner shall contract with a Street Sweeping Company for private drive isle and parking lot maintenance. The owner shall be responsible to provide educational materials upon indenture and annually thereafter. The maintenance service contract shall include street sweeping parking lot and drive Isle and inspected for trash/debris/grease and oil on a bi-weekly basis of each year.

Description of BMP and Method of Implementation	BMP Responsibility	Maintenance Responsibility	Funding Source For O & M	Maintenance Schedule
collect on parking lots.				
Storm Drain System Stenciling and Signage: Phrase "No Dumping-Drains to River" to be stenciled on catch basin(s) to alert the public to the destination of pollutants discharged into stormwater. City approved stencil/signage. The owner may contact das Manufacturing, Inc. to purchase the catch basin stenciling/signage. Call "das Curb Maker" at (800) 549-6024. Start up date: Time of installation	**Owner**	**Owner**	**Owner**	Owner shall be responsible to maintain storm drain stenciling & signage: Annually, and/or replace as needed
Inlet Stormwater Filters: Filters shall be full trash capture capable filters (Triton or equal) -Visually inspect for defects and illegal dumping. Notify proper authorities if illegal dumping has occurred. -Using an industrial vacuum, the collected materials shall be removed from the filter basket and disposed of properly.	**Owner**	**Owner**	**Owner**	Semi-annually (October 1st and February 1st) through maintenance service contract with the vendor or equally qualified contractor.

Description of BMP and Method of Implementation	BMP Responsibility	Maintenance Responsibility	Funding Source For O & M	Maintenance Schedule
Efficient Irrigation: The irrigation system shall consist of both drip / bubbler, and highly efficient pressure regulating spray / rotor heads with check valves to prevent overspray and runoff. Sprinkler heads are spaced 24" away from non-permeable paving to prevent runoff. The irrigation system is separated into hydrozones considering plant species factor (according to WULCOL III), plant density, and microclimate. The irrigation system is managed by an ET Based Controller (ET Water Controller) with flow sensor, master valve, and rain shut-off sensor. Project site shall utilize drought tolerant plants, shrubs and trees. Owner shall contract with landscape contractor to maintain landscaped areas of debris, grass clippings, and litter. Owner shall include in contract with landscape contractor to inspect irrigation lines and spray heads for overall efficiency and performance. Start up date: Time of installation	**Owner**	**Owner**	**Owner**	Owner shall be responsible to provide educational material to landscape maintenance contractor for proper functioning of landscape irrigation and water conservation upon indenture and annually thereafter. Maintain: Weekly

Appendix 10: Educational Materials

BMP Fact Sheets, Maintenance Guidelines and Other End-User BMP Information

Stormwater Pollution

What you should know for...

Industrial & Commercial Facilities

Best Management Practices (BMPS) for:

- Industrial Facilities
- Commercial Facilities

Riverside County Stormwater Program Members

City of Banning
(951) 922-3105

City of Beaumont
(951) 769-8520

City of Calimesa
(909) 795-9801

City of Canyon Lake
(951) 244-2955

City of Cathedral City
(760) 770-0340

City of Coachella
(760) 398-3502

City of Corona
(951) 736-2447

City of Desert Hot Springs
(760) 329-6411

City of Eastvale
(951) 361-0900

City of Hemet
(951) 765-2300

City of Indian Wells
(760) 346-2489

City of Indio
(760) 391-4000

City of Jurupa Valley
(951) 332-6464

City of Lake Elsinore
(951) 674-3124

City of La Quinta
(760) 777-7000

City of Menifee
(951) 672-6777

City of Moreno Valley
(951) 413-3000

City of Murrieta
(951) 304-2489

City of Norco
(951) 270-5607

City of Palm Desert
(760) 346-0611

City of Palm Springs
(760) 323-8299

City of Perris
(951) 943-6100

City of Rancho Mirage
(760) 324-4511

City of Riverside
(951) 826-5311

City of San Jacinto
(951) 487-7330

City of Temecula
(951) 694-6444

City of Wildomar
(951) 677-7751

Coachella Valley Water District
(760) 398-2651

County of Riverside
(951) 955-1000

Riverside County Flood Control District
(951) 955-1200

YOU can prevent Stormwater Pollution following these practices...

Industrial and Commercial Facilities

The Riverside County Stormwater Program has identified a number of Best Management Practices (BMPs) for Industrial and Commercial Facilities. These BMPs control and reduce stormwater pollutants from reaching our storm drain system and ultimately our local water bodies. City and County ordinances require businesses to use these BMPs to protect our water quality. Local cities and the County are required to verify implementation of these BMPs by performing regular facility inspections.

Prohibited Discharges

Discontinue all non-stormwater discharges to the storm drain system. It is *prohibited* to discharge any chemicals, paints, debris, wastes or wastewater into the gutter, street or storm drain.

Outdoor Storage BMPs

- Install covers and secondary containment areas for all hazardous materials and wastes stored outdoors in accordance with County and/or City standards.
- Keep all temporary waste containers covered, at all times when not in use.
- Sweep outdoor areas instead of using a hose or pressure washer.
- Move all process operations including vehicle/equipment maintenance inside of the building or under a covered and contained area.
- Wash equipment and vehicles in a contained and covered wash bay which is closed-loop or connected to a clarifier sized to local standards and discharged to a sanitary sewer or take them to a commercial car wash.

Spills and Clean Up BMPs

- Keep the work site clean and orderly. Remove debris in a timely fashion. Sweep up the area.
- Clean up spills immediately when they occur, using dry clean up methods such as absorbent materials or sweep followed by proper disposal of materials.
- Always have a spill kit available near chemical loading dock doors and vehicle maintenance and fueling areas.
- Follow your Business Emergency Plan, as filed with the local Fire Department.
- Report all prohibited discharges and non-implementation of BMPs to your local Stormwater Coordinator as listed on the back of this pamphlet.
- Report hazardous materials spills to 951-358-5055 or call after hours to 951-782-2973 or, if an emergency, call the Fire Department's Haz Mat Team at 911.

Plastic Manufacturing Facilities BMPs

AB 258 requires plastic product manufacturers to use BMPs, such as safe storage and clean-up procedures to prevent plastic pellets (nurdles) from entering the waterway. The plastic pellets are released into the environment during transporting, packaging and processing and migrate to waterways through the storm drain system. AB 258 will help protect fish and wildlife from the hazards of plastic pollution.

Training BMPs

As prescribed by your City and County Stormwater Ordinance(s), train employees in spill procedures and prohibit non-stormwater discharges to the storm drain system. Applicable BMP examples can be found at www.cabmphandbooks.com.

Permitting

Stormwater discharges associated with specific categories for industrial facilities are regulated by the State Water Resources Control Board through an Industrial Stormwater General Permit. A copy of this General Permit and application forms are available at: www.waterboards.ca.gov, select stormwater then the industrial quick link.

To report illegal dumping or for more information on stormwater pollution prevention call: 1-800-506-2555 or e-mail us at: fcnpdes@rcflood.org.

IRRIGATION RUNOFF

STORMWATER FACT SHEET

Report Irrigation Runoff or Stormwater Pollution:
800.506.2555

RIVERSIDE COUNTY
WATERSHED PROTECTION

OVERWATERING

Overwatering causes irrigation runoff that may contain pollutants such as pesticides, herbicides, fertilizers, pet waste, yard waste, and sediments which can be hazardous to residents and harmful to our environment. Runoff can also serve as a transport mechanism for other pollutants already on the ground or in the curb gutter. Irrigation runoff entering the storm drain system is an illicit discharge.

BEST PRACTICES

Urban runoff begins when yards and landscaped areas are over-irrigated. Irrigation systems require regular maintenance and visual inspection of the system should be performed to prevent over-spray, leaks, and other problems that result in runoff to storm drains, curbs and gutters.

You can **prevent pollution** by conserving water on your property. Water during cooler times of the day (before 10am and after 6pm).

- Adjust sprinklers to stop overspray and runoff.
- Make needed repairs immediately.
- Use drip irrigation, soaker hoses, or micro-spray systems.
- Use an irrigation timer to pre-set watering times.
- Use a control nozzle or similar mechanism when watering by hand.
- Switch to a water-wise landscape - native plants need less fertilizers, herbicides, pesticides and water.

PROTECT OUR WATERSHED

Many people think that when water flows into a storm drain it is treated, but the storm drain system and the sanitary sewer system are not connected. Everything that enters storm drains flows untreated directly into our creeks, rivers, lakes, beaches and ultimately the ocean. Storm water often contains pollutants, including chemicals, trash, and automobile fluids, all of which pollute our watershed and harm fish and wildlife.

Whether at home or work, you can help reduce pollution and improve water quality by using the above Best Management Practices (BMP's) as part of your daily clean up and maintenance routine.

The Complete Guide to Residential Recycling

Northwest Riverside County

Banning, Calimesa, Corona, Eastvale, Jurupa Valley,
Moreno Valley, Norco, Riverside

Used Oil and Filters

RECYCLE USED OIL

Recycling used motor oil and filters is easy!
Simply take them to one of the certified collection centers below. **It's free!**

Banning

AutoZone
3453-A W. Ramsey St.
(951) 849-7626

Certified Tire & Service Center Goodyear
1820 W. Ramsey St.
(951) 849-5028

Diamond Hills Auto Group
4545 W. Ramsey St.
(951) 849-7861

Cruz Industrial Truck Inc.
313 South Gallaher Way
(951) 849-7861

Corona

AutoZone
501 North McKinley St.
(951) 278-2073

AutoZone
1280 East Ontario Ave.
(951) 273-1583

AutoZone
1014 W. 6th St.
(951) 371-4730

Corona Nissan
2575 Wardlow Rd.
(877) 322-6739

Firestone Store
522 N. Main St.
(951) 735-4101

Goodyear Mountain View Tire
1630 E. Ontario Ave.
(951) 808-0818

Hamner Towing & Service Center
2125 Railroad St.
(951) 734-9331

Heavy Equipment Rentals
13013 Temescal Cyn. Rd.
(951) 609-4623

Jiffy Lube
906 W. 6th St.
(951) 549-9060

Jiffy Lube
1600 E. Ontario Blvd.
(951) 284-0922

O'Reilly Autoparts
1220 Magnolia Ave.
Suite 102
(951) 273-9891

O'Reilly Autoparts
1142 W. 6th St.
(951) 735-0936

Pep Boys
581 N. Main St.
(951) 279-9230

Quality Toyota
1700 W. Sixth St.
(951) 734-6020

Ramona Tire
304 W. Sixth St.
(951) 734-1222

Certified Tire and Service
624 N. Main St.
(951) 284-3443

Certified Tire and Service
2189 Sampson Ave., # 111
(951) 547-2080

Team Dykstra Carwash & Lube Center
2315 California Ave.
(951) 898-6482

Eastvale

Mountain View Tire
6080 Hamner Ave., #105
(909) 484-9497

Autozone
14228 Schleisman Rd.
(951) 898-4712

Jurupa Valley

D & B Automotive and Transmission
4321 Campbell St., #C
(951) 681-6483

Firestone Complete Auto Care
8360 Limonite Ave.
(951) 934-7304

LKQ Pick A Part
3760 Pyrite St.
(800) 749-2720

O'Reilly Autoparts
8702 Limonite Ave.
(951) 685-0822

Used Oil and Filters

RECYCLE
USED OIL FILTERS

You can also find Certified Collection Centers on the Cal Recycle Website:
www.calrecycle.ca.gov/recycle

Scher Goodyear Tire #24
6072 Camino Real
(951) 685-1000

AutoZone
3782 Riverview Dr.
(951) 275-0301

Moreno Valley

Auto Express Moreno Valley
24035 Sunnymead Blvd., #G
(951) 924-6363

AutoZone
27660 Eucalyptus Ave.
(951) 242-5190

AutoZone
16210 Perris Blvd.
(951) 242-2026

AutoZone
24570 Alessandro Blvd.
(951) 242-8439

AutoZone
12601 Perris Blvd.
(951) 242-4353

AutoZone
23510 Sunnymead Blvd.
(951) 924-5460

Buds Moreno Valley Tire Pros
22510 Alessandro Blvd.
(951) 776-7211

Certified Tire & Service Center
16190 Perris Blvd.
(951) 243-5655

Certified Tire & Service Center
23920 Alessandro Blvd., #A
(951) 656-6466

Certified Tire & Service Center
23135 Hemlock Ave.
(951) 369-0025

Firestone
24673 Alessandro Blvd.
(951) 242-6631

Integrity Tire
24901 Sunnymead Blvd.
(951) 656-6466

Moss Bros. Chevrolet
12625 Auto Mall Dr.
(951) 658-3145

Moss Brothers Honda
27910 Eucalyptus Ave.
(951) 486-9366

Moss Brothers Buick, GMC
8146 Auto Drive
(951) 242-2223

Moss Brothers Chrysler Jeep Dodge
27810 Eucalyptus Ave.
(951) 486-9288

Moss Brothers Toyota
12630 Motor Way
(951) 247-8000

Moss Brothers Volkswagen
27750 Eucalyptus Ave.
(951) 485-4188

O'Reilly Autoparts #1304
24021 Alessandro Blvd., #C
(951) 242-0641

O'Reilly Autoparts #1704
12240 Perris Blvd.
(951) 247-5509

Pep Boys #724
23470 Sunnymead Blvd.
(951) 247-4564

Valvoline Instant Oil Change
23165 Hemlock Ave.
(951) 247-1873

Norco

AutoZone #3340
1404 Hamner Ave.
(951) 817-9432

Browning Dodge Chrysler Jeep Ram
1983 Hamner Ave.
(951) 272-3110

Jiffy Lube
2925 Hamner Ave.
(951) 284-0210

Goodyear Mountain View Tire
2935 Hamner Ave.
(877) 872-0133

O'Reilly Autoparts
1050 Hamner Ave.
Suite 1616
(951) 898-1283

Used Oil and Filters

RECYCLE USED OIL

Riverside

Auto Express Riverside
11850 Magnolia Ave.
(951) 351-8875

AutoZone
7315 Indiana Ave.
(951) 637-6701

AutoZone
1947 University Ave.
(951) 788-4013

AutoZone
4195 Van Buren Blvd.
(951) 359-7760

AutoZone
19486 Van Buren Blvd.
(951) 653-5585

AutoZone
10249 Arlington Ave.
(951) 688-0296

AutoZone
6047 Magnolia Ave.
(951) 784-9201

AutoZone
3400 La Sierra Ave.
(951) 354-0781

BMW Of Riverside
3060 Adams St.
(951) 785-4444

Bud's Tire and Wheel
8651 Indiana Ave.
(951) 776-7211

Bud's Tire and Wheel Orangecrest
15967 Wood Rd.
(951) 776-7211

Goodyear Certified Tire & Service Center
8994 Trautwein Rd.
(951) 653-6800

Goodyear Certified Tire & Service Center
7341 Indiana Ave.
(951) 343-8535

Dutton Motor Company
8201 Auto Dr.
(951) 687-2020

Firestone Store
4199 Market St.
(951) 289-7811

Firestone Store
10091 Magnolia Ave.
(951) 977-5863

George Fritts Auto Repair
91 Commercial Ave.
(951) 788-9043

Jiffy Lube
3693 La Sierra Ave.
(951) 359-8999

Malcolm Smith Motorsports
7599 Indiana Ave.
(951) 687-1300

Moss Motors Dodge
8151 Auto Center Dr.
(951) 688-6200

O'Reilly Autoparts
6160 Arlington Ave.
(951) 689-0944

O'Reilly Autoparts
3790 Jurupa Ave.
(951) 682-6082

O'Reilly Autoparts
1691 University Ave.
(951) 222-2900

O'Reilly Autoparts
9929 Magnolia Ave.
(951) 359-3041

O'Reilly Autoparts
18570 Van Buren Blvd.
(951) 780-8721

Pep Boys #690
10831 Magnolia Ave.
(951) 354-0100

Raceway Ford
5900 Sycamore Canyon Blvd.
(951) 784-1000

Raceway Nissan
6030 Sycamore Canyon Blvd.
(951) 571-9300

Riverside Mitsubishi and Kia
8100 Auto Dr.
(951) 509-1000

Used Oil and Filters

Riverside Nissan
8330 Indiana Ave.
(951) 509-6581

Singh Chevrolet
8200 Auto Center Dr.
(951) 688-8111

Spoiled
2634 E. Alessandro Blvd.
(951) 656-2300

Toyota of Riverside
7870 Indiana Ave.
(951) 687-1622

Valvoline Instant Oil Change
3504 Central Ave.
(951) 367-0411

Valvoline Instant Oil Change
7450 Mission Grove Pkwy. South
(951) 780-2500

Valvoline Instant Oil Change
7437 Arlington Ave.
(951) 689-7805

Valvoline Instant Oil Change
3417 Arlington Ave.
(951) 788-7725

Valvoline Instant Oil Change
18681 Van Buren Blvd.
(951) 789-2882

Valvoline Instant Oil Change
3335 Iowa Blvd.
(951) 367-0147

Walters Mercedes-Benz
3213 Adam's St.
(888) 656-3915

Walters Porsche/Audi
3210 Adams St.
(888) 656-3915

Curbside pickup of used oil is available in some cities in Riverside County. Contact your waste hauler for more information. Waste hauler contact information is provided on the back page of this guide.

CalRecycle

You may not need to change your oil every 3000 miles! Save time, money, and the environment by visiting **www.checkyournumber.org** to find out what your manufacturer recommended oil change interval is. Check your number is provided by CalRecycle.

Locations marked with a also accept oil filters.

Please DO NOT drop off oil when the location is closed. **For more information about used oil collection centers call 800-350-4OIL.**

Household Hazardous Waste

Examples of household waste that are considered hazardous include:

- Batteries (all types)
- Electronic Waste
- Paint
- Used Oil and Antifreeze
- Sharps/ Needles

Permanent Household Hazardous Waste Collection Centers

Lake Elsinore Area (Closed January and December)

Lake Elsinore Regional Permanent HHW Collection Facility
512 N. Langstaff Street, Lake Elsinore, 92530
Open first Saturday of the month*, 9:00 a.m. to 2:00 p.m.
*Except holiday weekends and during inclement weather.

Riverside Area

Agua Mansa Regional Permanent HHW Collection Facility
1780 Agua Mansa Road, Riverside, 92509
Open non-holiday Saturdays*, 9:00 a.m. to 2:00 p.m.
*Except during inclement weather.

Regional ABOP Collection Centers (Antifreeze, Batteries, Oil and Oil Filters, and Latex Paint ONLY)

Murrieta Area

County Road Yard
25315 Jefferson Avenue, Murrieta, 92562
Open non-holiday Saturdays, 9:00 a.m. to 2:00 p.m.

Beaumont / Banning Area

Lamb Canyon Landfill
16411 Lamb Canyon Rd, Beaumont, 92223
Open non-holiday Saturdays, 9:00 a.m. to 2:00 p.m.

These sites accept residential waste only. For more information, contact the Riverside County Household Hazardous Waste Department Hotline at **800-304-2226 or 951-486-3200, or visit:**
www.rivcowm.org/opencms/hhw/index.html

Household Hazardous Waste

Below is a list of materials accepted at permanent HHW collection sites.*

Chemicals and Cleaners

Adhesives
Air Freshener
Aluminum Cleaners
Ammonia
Antifreeze
Brake Fluid
Carburetor Cleaner
Caulking
Chlorine Bleach
Chrome Polish
Disinfectant
Drain Cleaner
Engine Degreaser
Fertilizer
Fiberglass and Resins
Flea Powder
Floor / Surface Cleaners
Fungicides
Furniture Polish
Gas / Diesel Fuel
Glue
Gun Cleaner
Hair Dye
Hobby Chemicals
Insecticides / Pesticides
Kerosene / Lamp Oil
Lighter Fluid
Motor Oil
Mercury Devices
Oven Cleaner
Paint - Latex / Oil Based
Paint Stripper / Thinner
Photo Chemicals
Pool / Spa Chemicals
Rodent Bait / Poison
Roof Coating
Shoe Dye
Spot Remover
Transmission Fluid
Turpentine
Varnish
Weed Killer / Herbicide
Wood Preservative

Aerosols and Tanks

Aerosol Insecticides
Aerosol Cans
BBQ Propane Tanks
Camp Propane Tanks

E-Waste and Batteries

Batteries (all types)
Electronic Devices
Fluorescent Bulbs / Tubes
Old TVs and Computers

Medical Waste

Sharps / Needles

Please DO NOT bring the following types of materials (If you have any of these wastes please call (951) 486-3200):

Unacceptable Materials

Business, Non-Profit, or Out-of-County Waste
Explosives / Ammunition
Radioactive or Remediation Materials
Medical / Infectious Waste (Except Sharps)
Asbestos
Appliances
Tires
55 or 30 Gallon Drums
Compressed Gas Cylinders >40 lbs
Trash

*Maximum Chemical Load: 5 Gallons or 50lbs per trip. Residential waste only, no business waste accepted.

Recycling

What can go into your curbside recycling bins? Not sure what you can recycle? Check out the list below.

Paper and Cardboard

- Books and Coloring Books
- Cardboard
- Cardstock and Construction Paper
- Office Paper
- Egg Cartons
- Clean Food Boxes
- Junk Mail and Envelopes
- Magazines and Newspapers
- Notebook Paper
- Paper Bags
- Telephone Books

Metal

- Aluminum and Steel Cans
- Clean Aluminum Foil
- Scrap Metal

Glass Jars and Bottles

- Glass Jars
- Beverage Bottles

Plastic Bottles and Grocery Bags

- Plastic Milk Jugs
- Plastic Beverage Containers
- Plastic Grocery Bags

Recycling

Used Tires

Used tires are accepted at various locations in Riverside County. There is generally a fee to dispose of tires. The following locations accept tires:

Badlands Landfill

31125 Ironwood Ave., Moreno Valley, 92553

Lamb Canyon Landfill

16411 Lamb Canyon Rd., Beaumont, 92223

Visit www.rivcowm.org/opencms/landfill_info/landfill_fees.html for information on current landfill pricing.

BAS Recycling, Inc.

14050 Day St., Moreno Valley, 92553
(909) 383-7050
Call facility for pricing.

Electronic Waste Recyclers

Badlands, Lamb Canyon, and El Sobrante Landfills accept up to 2 CRT devices (e.g. computer monitors or TVs) per day for recycling at **no cost** during operating hours. The following recyclers also accept electronic waste:

Gold'n West Surplus, Corona - (951) 371-2020
Graebel Los Angeles Movers, Corona - (800) 373-6552
WM Recycle America, Jurupa Valley - (951) 681-4297
Waste Management, Inc., Moreno Valley - (951) 242-0421
Your Neighborhood Recycling, Moreno Valley - (951) 796-7673
1-800-GOT-JUNK, Riverside - (909) 425-9722

Other Recycling Facilities

For a complete list of recycling facilities visit www.calrecycle.ca.gov .

Earth911.com also provides valuable information and resources about recycling and recycling facilities.

Reycling Centers

What should you do with those empty cans and bottles? Below is a list of centers that accept beverage containers for recycling*.

Banning

Banning Recycling
284 S. 8th St.
(951) 922-9236

Ramsey Recyling
1243 E. Ramsey St.
(951) 849-5997

Calimesa

rePlanet
1155 Calimesa Blvd.
(877) 737-5263

Corona

NexCycle
535 N. McKinley St.
(800) 969-2020

rePlanet
260 W. Foothill Pkwy.
(951) 520-1700

rePlanet
1193 Magnolia Ave.
(877) 737-5263

rePlanet
1288 Border Ave.
(877) 737-5263

Sanchez Recycling Inc.
1130 W. 6th St.
(714) 793-9934

Six Pac Recycling
1430 E. 6th St.
(951) 734-2910

Eastvale

rePlanet
7070 Archibald Ave.
(951) 520-1700

rePlanet
12660 Limonite Ave.
(951) 520-1700

Jurupa Valley

Etiwanda Recycling
6102 Etiwanda Ave.
(951) 263-6173

Recycle Kingdom
4868 Etiwanda Ave.
(626) 617-1859

rePlanet
11070 Limonite Ave.
(877) 737-5263

Salazar's Recycler
5666 Etiwanda Ave.
(951) 966-6408

EarthWize Recycling
9075 Mission Blvd.
(909) 933-2773

Jurupa Valley Recycling Collection Center
6315 Pedley Rd.
(951) 681-0382

Pedley Recycling Center
7850 Limonite Ave.
(951) 823-1383

Pedley Vet Recycling
8980 Limonite Ave.
(909) 856-9053

Recycling Services Centers
6565 Mission Blvd.
(951) 685-4430

Renovate Recycling Center
8800 Limonite Ave.
(714) 453-7028

rePlanet
9155 Jurupa Rd.
(877) 737-5263

Rubidoux Recycling Center
5675 Mission Blvd.
(951) 823-1353

Moreno Valley

EarthWize Recycling
24525 Alessandro Blvd.
(909) 923-2773

Menlo Recycling Center
22405 Goldencrest Dr.
Bldg., A.
(951) 653-5565

Moreno Valley Recycling
22862 Alessandro Blvd.
(323) 732-9253

Moreno Valley Recycling 2
24135 Sunnymead Blvd.
(213) 625-8165

Moreno Valley Recycling 3
14940 Perris Blvd.
(323) 732-9253

Recycling Centers

rePlanet
23575 Sunnymead Ranch Pkwy.
(951) 520-1700

rePlanet
27100 Eucalyptus Ave.
(951) 520-1700

rePlanet
25900 Iris Ave.
(951) 520-1700

Smittys
25073 Sunnymead Blvd., #D-14
(951) 453-0806

Worasing Recycling
15928 Perris Blvd.
(951) 323-7532

Zuniga Recycling
21524 Dracea Ave.
(866) 718-7150

Norco

E&M Recycling
1943 River Rd.
(323) 732-9253

Norco Feed and Recycling
4409 California Ave.
(877) 247-6923

rePlanet
2790 Hamner Ave.
(877) 737-5263

Riverside

AAA Recycle
5490 26th St.
(951) 781-8046

ABC
10330 Hole Ave., #B-9
(909) 742-7129

Cash 4 Cans
7633 Cypress Ave.
(951) 352-5995

El Taray Recycling
12702 Magnolia Ave., #11
(714) 222-4047

rePlanet
4250 Van Buren Blvd.
(951) 520-1700

rePlanet
6155 Magnolia Ave.
(951) 520-1700

rePlanet
5225 Canyon Crest Dr.
(951) 520-1700

rePlanet
315 E. Alessandro Blvd.
(951) 520-1700

rePlanet
3900 Chicago Ave.
(951) 520-1700

rePlanet
2995 Iowa Ave.
(951) 520-1700

rePlanet
6160 Arlington Ave.
(951) 520-1700

rePlanet
9225 Magnolia Ave.
(951) 520-1700

rePlanet
17050 Van Buren Blvd.
(951) 520-1700

rePlanet
3420 La Sierra Ave.
(951) 520-1700

rePlanet
4680 La Sierra Ave.
(951) 520-1700

Riverside Scrap Iron and Metal Corp.
2993 6th St.
(951) 686-2129

Robert A. Nelson Transfer Station
1830 Agua Mansa Rd.
(951) 786-0639

rePlanet
4250 Van Buren Blvd.
(951) 520-1700

*Some recycling centers may accept other recyclable materials. It is advisable to call the center and confirm this, as well as operating hours, before visiting.

Fore more information about local recycling centers visit the **CalRecycle** website: **www.calrecycle.ca.gov.**

Types of Plastic

Confused about the types of plastic and if they can be recycled? Many plastic containers display an identification code that indicates what they are made from. Below are the 7 codes.

#1: Polyethylene Terephthalate (PETE or PET)
Used to create 2-liter soda bottles, water bottles, cooking oil bottles, peanut butter jars.
The most commonly accepted plastic for recycling.

#2: High Density Polyethylene
Used to create detergent bottles, milk and water jugs, grocery bags, yogurt cups.
Commonly accepted for recycling. Bags can be recycled at some large grocery stores.

#3: Polyvinyl Chloride
Used to create plastic pipes, outdoor furniture, shrink-wrap, liquid detergent containers, flooring, showercurtains.
Not currently accepted for recycling.

#4: Low Density Polyethylene
Used to create food storage containers, cellophane wrap, dry cleaning bags, produce bags, trash can liners.
Not commonly recycled, some large grocery stores accept LDPE bags.

#5: Polypropylene
Used to create ketchup bottles, aerosol caps, drinking straws, yogurt containers.
Not commonly accepted for recycling.

#6: Polystyrene
Also known as “Styrofoam.” Used to make coffee cups, take-out food packaging, egg cartons, and packaging “peanuts.”
Sometimes accepted for recycling and made into the same products.

#7: Other
All other plastic resins or a mixture of resins used to make reusable water bottles, Tupperware, biodegradable and compostable plastics.
Not commonly accepted for recycling.

Composting Basics

Got food scraps and yardwaste? Below is a quick guide to Backyard Composting.

1. Select a good spot for composting

- Sun or shade
- Convenient to kitchen or garden, and close to a source of water
- Keep away from structures and wood, as moisture can hasten decay
- Place only on bare ground, as organisms from soil are needed

2. Know the Ingredients

Nitrogen - Green materials - grass clippings, fresh leaves and twigs, vegetable and fruit trimmings, coffee grounds and filters, and non-meat eating animal manures.

Carbon - Brown materials that have released their nitrogen - dry and brittle leaves and grasses, straw, wood chips, corn stalks, shredded newspaper, paper towels, napkins, and cardboard.

Water - The correct moisture level should be about the same as a damp wrung out sponge. A few drops should fall when squeezed in your hand.

Air - Oxygen is very important to the bacteria, fungi, and microorganisms that are working in the pile to breakdown the organic material.

Do Not Add - Meat, dairy products, fats, oils, waste from meat eating animals (dogs and cats), thorny plant material, or diseased plant material.

2. Know the Methods

Aerobic - Pile equal parts green and brown material on ground or in a bin in a 3'x3'x3' heap, water well, and cover with a tarp, carpet or opaque plastic sheet. The pile will heat up (120 to 160 degrees), and needs to be turned after a few days, once it has cooled. Turn the pile weekly and continue composting until the pile has a dark rich look like chocolate cake and the things you put in don't look like their original form. After the compost is done, water well, cover, and let it rest for one to two weeks to make sure it is completely done and the nitrogen has a chance to stabilize. If the compost is used too soon it could rob nutrients from the surrounding plants. Remove large chunks and add them to the next compost pile.

Anerobic - Similar to the Aerobic method, but there is no need to actively turn the material. It may take longer (1-2 years), but is still beneficial to your garden. Just pile the stuff, water, cover, and wait.

For more detailed information on composting, free workshops, or other methods, such as **Vermicomposting,** visit www.rivcowm.org and search for composting.

Source Reduction

The best way to reduce waste is to prevent it!

Buy Responsibly

Reduce packaging waste - Look for products that reduce packaging, or purchase in bulk to reduce the amount of packaging needed.

Look for products containing recycled material - Recycled paper products, motor oil, and even pens and pencils are just a few examples of products that reduce waste.

Consider reusable products - Buy reusable water bottles and sturdy utensils and plates that can be washed and used again.

Get it "For Here," or bring your own - Many coffee shops will provide drinks to their customers in ceramic mugs rather than paper cups if requested. Just ask! Reusable tumblers are also a great alternative to paper cups, and many establishments will even give a small discount to those who bring their own!

Borrow, rent, or share - Why buy something if you are only going to use it once? Items such as tools, party decorations, and even newspapers and magazines can be shared with your friends, family, and/or community.

Purchase rebuilt, remanufactured, or refurbished - Many electronics such as cell phones, computers, and media players can be purchased "refurbished" at a sometimes substantial price reduction. This conserves the resources needed to manufacture a new product.

Choose Non-Toxic

Choose products that contain only non-toxic materials, or try one of these **homemade alternatives**:

- Instead of glass cleaner, dilute 1 cup of vinegar in 1 quart of water.
- To open clogged drains, flush with a mixture of boiling water, and equal parts baking soda and vinegar.

For more information on non-toxic alternatives, visit the California Coastal Commission website:
http://www.coastal.ca.gov/ccbn/lesstoxic.html

Source Reduction

Plastic bags and junk mail contribute to a significant amount of un-needed waste. You can lessen their impact by Reducing, Reusing, and Recycling.

Plastic Bags

Reduce: BYOB (Bring Your Own Bag) - Use reusable canvas or cloth bags rather than plastic bags, and keep them in your car. Not all items need a bag, just say "no, thank you."

Reuse - Plastic grocery bags can serve multiple purposes, such as trash can liners or for pet waste.

Recycle - If you find that you must use a plastic bag, recycle it when you are finished. Most large supermarkets and pharmacies offer free recycling of plastic bags.

Junk Mail Reduction

You can reduce the amount of unwanted junk mail in your mailbox by simply mailing a postcard to the following addresses, requesting your name be removed from their mailing list. Be sure to include your full name, your address(es), your signature, and the date.

Mail Preference Service
Attn.: Dept. 10088342
PO Box 282
Carmel, NY 10512

ADVO
Consumer Assistance
PO Box 249
Windsor, CT 06095

Harte-Hanks Circulation
C/O Pennysaver
2830 Orbiter St.
Brea, CA 92821

Valpak Direct Marketing Systems, Inc.
8605 Largo Lakes Dr.
Largo, FL 33773

Credit Card Junk Mail
Call (888)5-OPT OUT (888-567-8688)

City / County Resources

City of Banning - Recycling and Waste Hauling Information | (951) 922-3105
http://www.ci.banning.ca.us/index.aspx?NID=380

City of Calimesa - Public Works / Engineering Department | (909) 795-9801
http://www.cityofcalimesa.net/publicworks.htm

City of Corona - Trash and Recycling | (951) 736-2400
http://www.discovercorona.com/city-departments/public-works/refuse-and-recycling.aspx

City of Eastvale - Recycling / Solid Waste / Street Sweeping | (951) 361-0900
http://www.eastvalecity.org/index.aspx?page=140

City of Jurupa Valley - Local Resources | (951) 358-7387
http://www.jurupavalley.org/resources.php

City of Moreno Valley - Waste Disposal and Recycling | (951) 413-3100
http://www.moreno-valley.ca.us/resident_services/waste/index-waste.shtml

City of Norco - Trash / Recycling | (951) 270-5656
http://www.norco.ca.us/about/welcome_residents/trash_recycling.asp

City of Riverside - Trash & Recycling | (951) 826-5311
http://www.riversideca.gov/trash

County of Riverside - Riverside County Waste Management Department
http://www.rivcowm.org | (951) 486-3200

Western Riverside Council of Governments
http://www.wrcog.cog.ca.us | (800) 350-4645

Waste Haulers

Waste Management, Inc. - (951) 280-5400 - www.wm.com
Serves: All Cities

Burrtec - (951) 786-9660 - www.burrtec.com
Serves: Eastvale, Jurupa Valley, and Riverside

Athens - (888) 336-6100 - www.athensservices.com
Serves: Riverside

CR&R Disposal - (951) 943-1991 - www.crrwasteservices.com
Serves: Riverside

The Complete Guide to Residential Recyling is sponsored by:

Printed on recycled paper.

The Complete Guide to Residential Recycling

Southwest Riverside County

Canyon Lake, Hemet, Lake Elsinore, Menifee, Murrieta, Perris, San Jacinto, Temecula, Wildomar

Used Oil and Filters

Recycling used motor oil and filters is easy!
Simply take them to one of the certified collection centers below. **It's free!**

RECYCLE USED OIL

RECYCLE USED OIL FILTERS

Used Oil and Filters

You can also find Certified Collection Centers on the Cal Recycle Website:
www.calrecycle.ca.gov/recycle

Hemet

AutoZone #2820
1550 W. Florida Ave.
(951) 929-0807

AutoZone #5556
3100 E. Florida Ave.
(951) 652-1308

EZ Lube #112
532 W. Florida Ave.
(951) 766-1996

Firestone Store #2233
350 W. Florida St.
(951) 929-2424

Inland Chevrolet
350 Carriage Circle
(951) 658-4401

Integrity Tire
3223 W. Florida Ave.
(951) 658-3145

Jiffy Lube #3187
330 N Sanderson Ave.
(951) 487-2001

Masterlube #101
3615 W. Florida St.
(951) 766-7055

O'Reilly Autoparts #1332
849 W. Florida Ave.
(951) 929-2210

Pep Boys #866
2050 W. Florida Ave.
(951) 766-1477

Ramona Tire
2350 W. Menlo Ave.
(951) 925-6659

Synfast Oil Change
3615 W. Florida Ave.
(951) 766-7055

Valvoline Instant Oil Change
532 W. Florida Ave.
(951) 766-1996

Idyllwild

Idyllwild Garage
25015 Hwy. 243
(951) 659-2613

Lake Elsinore

AutoZone #5558
30870 Riverside Dr.
(951) 674-7806

AutoZone #5559
32231 Mission Trail
(951) 245-1012

Express Tire
300 Diamond Dr.
(951) 674-0794

EZ Lube #96
29285 Central Ave.
(951) 253-5200

Firestone Store #2238
31748 Mission Trail
(951) 674-0633

Jiffy Lube #2681
311 Summerhill Dr.
(951) 471-8445

O'Reilly Autoparts #1429
31660 Grape St.
(951) 245-8389

Valvoline Instant Oil Change
29285 Central Ave.
(951) 253-5200

Menifee

AutoZone #5561
30123 Antelope Rd.
(951) 301-7240

One Stop Lube & Oil Center
26825 Newport Rd.
(951) 301-7479

Murrieta

AutoZone #5566
40950 California Oaks Rd.
(951) 677-6206

Express Tire
40615 California Oaks Rd.
(951) 696-5200

EZ Lube #115
40430 California Oaks Rd.
(951) 696-2882

Mountain View Tire and Service
27584 Clinton Keith Rd.
(888) 860-0535

Murrieta Volkswagen
41300 Date St.
(951) 634-5434

O'Reilly Autoparts #1430
40951 California Oaks Rd.
(951) 696-2991

Valvoline Instant Oil Change
40430 California Oaks Rd.
(951) 696-2882

Perris

AutoZone #5570
401 E. 4th St.
(951) 657-0696

AutoZone #5571
1675 Perris Blvd.
(951) 943-5998

Jiffy Lube #3294
118 E. Ramona Expressway
(951) 943-2200

Jiffy Lube #3361
3150 Case Rd., Bldg. J.
(951) 284-0922

O'Reilly Autoparts #1046
119 W. Nuevo Rd.
(951) 657-1488

San Jacinto

AutoZone #5581
1540 San Jacinto Ave.
(951) 654-2216

Jiffy Lube #3186
635 S. State St.
(951) 487-2001

Ramona Auto Services, Inc.
2447 S. San Jacinto Ave.
(951) 925-5117

Temecula

AutoZone #5582
31837 US Hwy. 79
(951) 302-8334

AutoZone #5936
40345 Winchester Rd.
(951) 296-3973

DCH Acura of Temecula
26705 Ynez Rd.
(951) 491-2451

Used Oil and Filters

RECYCLE USED OIL

RECYCLE USED OIL FILTERS

Temecula

DCH Chrysler Jeep Dodge of Temecula
26845 Ynez Rd.
(951) 491-2151

DCH Honda of Temecula
26755 Ynez Rd.
(951) 491-2351

Express Tire
40915 Winchester Rd.
(951) 296-6699

Express Tire
44092 Margarita Rd.
(951) 302-5033

Express Tire
29095 Front St.
(951) 695-0555

EZ Lube #85
30625 Highway 79 South
(951) 553-7399

Jiffy Lube #1878
30690 Rancho California Rd.
(951) 694-5460

John Hine Temecula Mazda
42050 DLR Dr.
(951) 553-2000

O'Reilly Autoparts #0483
41125 Winchester Rd., #C1
(951) 296-5530

O'Reilly Autoparts #4291
33417 Temecula Pkwy.
(951) 302-1351

Paradise Chevrolet Cadillac
27360 Ynez Rd.
(951) 506-0058

Pep Boys #800
40605 Winchester Rd.
(951) 695-2322

Precision Tune Auto Care
26673 Ynez Rd., #A
(951) 699-6969

Promethean Biofuels Cooperative
27635 Diaz Rd.
(626) 232-7608

Quality Nissan
41895 Motor Car Pkwy.
(951) 676-6601

Ramona Auto Services, Inc.
40385 Winchester Rd.
(951) 719-1600

Ramona Auto Services, Inc.
31955 Via Rio Rd.
(951) 303-3584

Ramona Tire
40385 Winchester Rd.
(951) 719-1600

Rancho Car Wash and Quick Lube
27378 Jefferson Ave.
(951) 296-5644

Temecula Hyundai
27430 Ynez Rd.
(951) 699-6807

Temecula Quick Lube
29764 Rancho California Rd.
(951) 587-6624

Valvoline Instant Oil Change
30625 Highway 79 South
(951) 553-7399

Wildomar

Grease Monkey
32120 Clinton Keith Rd.
(951) 609-3000

Jiffy Lube #3412
32374 Clinton Keith Rd.
(951) 678-5300

Winchester

Mountain View Tire/Goodyear
30664 Benton Rd.
(877) 872-1021

Curbside pickup of used oil is available in some cities in Riverside County. Contact your waste hauler for more information. Waste hauler contact information is provided on the back page of this guide.

You may not need to change your oil every 3000 miles! Save time, money, and the environment by visiting **www.checkyournumber.org** to find out what your manufacturer recommended oil change interval is.

Locations marked with a also accept oil filters.

Please DO NOT drop off oil when the location is closed. **For more information about used oil collection centers call 800-350-4OIL.**

Household Hazardous Waste

Examples of household waste that are considered hazardous include:

- Batteries (all types)
- Electronic Waste
- Paint
- Used Oil and Antifreeze
- Sharps/ Needles

Permanent Household Hazardous Waste Collection Centers

Lake Elsinore Area (Closed January and December)

Lake Elsinore Regional Permanent HHW Collection Facility
512 N. Langstaff Street, Lake Elsinore, 92530
Open first Saturday of the month*, 9:00 a.m. to 2:00 p.m.
*Except holiday weekends and during inclement weather.

Riverside Area

Agua Mansa Regional Permanent HHW Collection Facility
1780 Agua Mansa Road, Riverside, 92509
Open non-holiday Saturdays*, 9:00 a.m. to 2:00 p.m.
*Except during inclement weather.

Regional ABOP Collection Centers (Antifreeze, Batteries, Oil and Oil Filters, and Latex Paint ONLY)

Murrieta Area

County Road Yard
25315 Jefferson Avenue, Murrieta, 92562
Open Non-Holiday Saturdays, 9:00 a.m. to 2:00 p.m.

These sites accept residential waste only. For more information, contact the Riverside County Household Hazardous Waste Department Hotline at **800-304-2226 or 951-486-3200, or visit, www.rivcowm.org/opencms/hhw/index.html**

Household Hazardous Waste

Below is a list of materials accepted at permanent HHW collection sites.*

Chemicals and Cleaners

Adhesives
Air Freshener
Aluminum Cleaners
Ammonia
Antifreeze
Brake Fluid
Carburetor Cleaner
Caulking
Chlorine Bleach
Chrome Polish
Disinfectant
Drain Cleaner
Engine Degreaser
Fertilizer
Fiberglass and Resins
Flea Powder
Floor / Surface Cleaners
Fungicides
Furniture Polish
Gas / Diesel Fuel
Glue
Gun Cleaner
Hair Dye
Hobby Chemicals
Insecticides / Pesticides
Kerosene / Lamp Oil
Lighter Fluid
Motor Oil
Mercury Devices
Oven Cleaner
Paint - Latex / Oil Based
Paint Stripper / Thinner
Photo Chemicals
Pool / Spa Chemicals
Rodent Bait / Poison
Roof Coating
Shoe Dye
Spot Remover
Transmission Fluid
Turpentine
Varnish
Weed Killer / Herbicide
Wood Preservative

Aerosols and Tanks

Aerosol Insecticides
Aerosol Cans
BBQ Propane Tanks
Camp Propane Tanks

E-Waste and Batteries

Batteries (all types)
Electronic Devices
Fluorescent Bulbs / Tubes
Old TVs and Computers

Medical Waste

Sharps / Needles

Please DO NOT bring the following types of materials (If you have any of these wastes please call (951) 486-3200):

Unacceptable Materials

Business, Non-Profit, or Out-of-County Waste
Explosives / Ammunition
Radioactive or Remediation Materials
Medical / Infectious Waste (Except Sharps)
Asbestos
Appliances
Tires
55 or 30 Gallon Drums
Compressed Gas Cylinders >40 lbs
Trash

*Maximum Chemical Load: 5 Gallons or 50lbs per trip. Residential waste only, no business waste accepted.

Recycling

Recycling

What can go into your curbside recycling bins? Not sure what you can recycle? Check out the list below.

Paper and Cardboard

- Books and Coloring Books
- Cardboard
- Cardstock and Construction Paper
- Office Paper
- Egg Cartons
- Clean Food Boxes
- Junk Mail and Envelopes
- Magazines and Newspapers
- Notebook Paper
- Paper Bags
- Telephone Books

Metal

- Aluminum and Steel Cans
- Clean Aluminum Foil
- Scrap Metal

Glass Jars and Bottles

- Glass Jars
- Beverage Bottles

Plastic Bottles and Grocery Bags

- Plastic Milk Jugs
- Plastic Beverage Containers
- Plastic Grocery Bags

Used Tires

Used tires are accepted at various locations in Riverside County. There is generally a fee to dispose of tires. The following locations accept tires:

Badlands Landfill

31125 Ironwood Ave., Moreno Valley, 92553

Lamb Canyon Landfill

16411 Lamb Canyon Rd., Beaumont, 92223

Visit www.rivcowm.org/opencms/landfill_info/landfill_fees.html for information on current landfill pricing.

BAS Recycling, Inc.

14050 Day St., Moreno Valley, 92553
(909) 383-7050
Call facility for pricing.

Electronic Waste Recyclers

Badlands, Lamb Canyon, and El Sobrante Landfills accept up to 2 CRT devices (e.g. computer monitors or TVs) per day for recycling at **no cost** during operating hours. The following recyclers also accept electronic waste:

The Green Guys Recycling, Hemet - (951) 757-9156
Starsurplus.com, Murrieta - (951) 677-5696
XIT Communications, Murrieta - (951) 691-5138
CR&R, Perris - (800) 755-8112
Tire Stop & Recycling, Sun City - (951) 928-9600
GKAT, INC. dba Temecula Recycling, Temecula - (951) 693-1500
Heavy Metal Scrap & Recycling, Inc., Temecula - (951) 693-4677

Other Recycling Facilities

For a complete list of recycling facilities visit www.calrecycle.ca.gov and click on the "Recycle Tab."
Earth911.com also provides valuable information and resources about recycling and recycling facilities.

Reycling Centers

What should you do with those empty cans and bottles? Below is a list of centers that accept beverage containers for recycling*.

Hemet

EarthWize Recycling
1231 S. Sanderson Ave.
(909) 933-2773

Menlo Recycle Center
445 E. Menlo Ave.
(951) 766-8520

NexCycle
1295 S. State St.
(800) 969-2020

NexCycle
3125 W. Florida Ave.
(800) 969-2020

rePlanet
43396 US Hwy 74
(877) 737-5263

The Green Guys Recycling
100 N. State St., #101
(951) 757-9156

Valley Metals
342 N. Juanita St.
(951) 925-8577

Lake Elsinore

Cans Plus Recycling
29170 Riverside Dr., #1
(951) 245-1178

Downtown Elsinore Recycling
217 N. Main St.
(323) 204-8308

Lake Elsinore Recycling Center
1315 W. Flint St.
(951) 579-4102

Love Earth Recycling
31949 Corydon Rd., #160
(951) 230-6580

NexCycle
31564 Grape St.
(909) 796-2210

rePlanet
32281 Mission Tr.
(951) 520-1700

rePlanet
16750 Lakeshore Dr.
(877) 737-5263

Menifee

rePlanet
30125 Antelope Rd.
(951) 520-1700

rePlanet
25904 Newport Rd.
(877) 737-5263

Neill's Recycling
26026 Sherman Rd.
(951) 514-8656

NexCycle
27220 Sun City Blvd.
(909) 796-2210

Tire Stop and Recycling
27491 Ethanac Rd.
(888) 515-1376

Murrieta

EarthWize Recycling
27826 Clinton Keith Rd.
(909) 933-2773

Go Green Murrieta Recycling
40645 Cal. Oaks Rd.
(818) 220-9540

Murrieta Recycling
38365 Innovation Ct., #1102-1105
(951) 894-3094

rePlanet
40473 Murrieta Hot Springs Rd.
(951) 520-1700

rePlanet
23801 Washington Ave.
(951) 520-1700

rePlanet
4100 Cal. Oaks Rd.
(951) 520-1700

rePlanet
39140 Winchester Ave.
(951) 520-1700

rePlanet
28047 Scott Rd.
(877) 737-5263

SA Recycling
41400 Date St.
(951) 677-8586

Recycling Centers

Perris

A-1
24440 Hwy 74
(951) 940-4224

Ecology Auto Parts
23332 Cajalco Rd.
(951) 657-7725

Go Green Recycling
164 Malbert St., #A-2
(951) 487-5875

Harb Family Market Recycling
22707 San Jacinto Ave.
(951) 657-7733

4th Street Recycling
510 W. 4th St.
(323) 204-8308

Menlo Recycle Center
151 W. 7th St.
(951) 657-8200

RecycleWise
200 Sinclair St. #4
(951) 443-1894

Recycling Depot
1320 W. Oleander Ave.
(951) 442-5221

rePlanet
47 W. Nuevo Rd.
(877) 737-5263

San Jacinto

CA Recycling
762 S. San Jacinto Ave.
(951) 651-0010

rePlanet
1271 N. State St.
(877) 737-5263

San Jacinto Recycling Center
658 W. Esplanade Ave.
(951) 654-1399

Temecula

Heavy Metal Scrap Reycling Inc.
43136 Rancho Way
(951) 693-4677

NexCycle
29530 Rancho California Rd.
(909) 796-2210

NexCycle
26419 Ynez Rd.
(909) 796-2210

rePlanet
30530 Rancho California Rd.
(951) 520-1700

rePlanet
33293 Temecula Pkwy.
(951) 520-1700

rePlanet
31813 Temecula Pkwy.
(877) 737-5263

Temecula Recycling
27635 Diaz Rd., #120
(951) 693-1500

Wildomar

rePlanet
23893 Clinton Keith Rd.
(951) 520-1700

rePlanet
30712 Benton Rd.
(877) 737-5263

*Some recycling centers may accept other recyclable materials. It is advisable to call the center and confirm this, as well as operating hours, before visiting.

Fore more information about local recycling centers visit the **CalRecycle** website: **www.calrecycle.ca.gov.**

Types of Plastic

Confused about the types of plastic and if they can be recycled? Many plastic containers display an identification code that indicates what they are made from. Below are the 7 codes.

#1: Polyethylene Terephthalate (PETE or PET)
Used to create 2-liter soda bottles, water bottles, cooking oil bottles, peanut butter jars.
The most commonly accepted plastic for recycling.

#2: High Density Polyethylene
Used to create detergent bottles, milk and water jugs, grocery bags, yogurt cups.
Commonly accepted for recycling. Bags can be recycled at some large grocery stores.

#3: Polyvinyl Chloride
Used to create plastic pipes, outdoor furniture, shrink-wrap, liquid detergent containers, flooring, showercurtains.
Not currently accepted for recycling.

#4: Low Density Polyethylene
Used to create food storage containers, cellophane wrap, dry cleaning bags, produce bags, trash can liners.
Not commonly recycled, some large grocery stores accept LDPE bags.

#5: Polypropylene
Used to create ketchup bottles, aerosol caps, drinking straws, yogurt containers.
Not commonly accepted for recycling.

#6: Polystyrene
Also known as "Styrofoam." Used to make coffee cups, take-out food packaging, egg cartons, and packaging "peanuts."
Sometimes accepted for recycling and made into the same products.

#7: Other
All other plastic resins or a mixture of resins used to make reusable water bottles, Tupperware, biodegradable and compostable plastics.
Not commonly accepted for recycling.

Composting Basics

Got food scraps and yardwaste? Below is a quick guide to Backyard Composting.

1. Select a good spot for composting

- Sun or shade
- Convenient to kitchen or garden, and close to a source of water
- Keep away from structures and wood, as moisture can hasten decay
- Place only on bare ground, as organisms from soil are needed

2. Know the Ingredients

Nitrogen - Green materials - grass clippings, fresh leaves and twigs, vegetable and fruit trimmings, coffee grounds and filters, and non-meat eating animal manures.

Carbon - Brown materials that have released their nitrogen - dry and brittle leaves and grasses, straw, wood chips, corn stalks, shredded newspaper, paper towels, napkins, and cardboard.

Water - The correct moisture level should be about the same as a damp wrung out sponge. A few drops should fall when squeezed in your hand.

Air - Oxygen is very important to the bacteria, fungi, and microorganisms that are working in the pile to breakdown the organic material.

Do Not Add - Meat, dairy products, fats, oils, waste from meat eating animals (dogs and cats), thorny plant material, or diseased plant material.

2. Know the Methods

Aerobic - Pile equal parts green and brown material on ground or in a bin in a 3'x3'x3' heap, water well, and cover with a tarp, carpet or opaque plastic sheet. The pile will heat up (120 to 160 degrees), and needs to be turned after a few days, once it has cooled. Turn the pile weekly and continue composting until the pile has a dark rich look like chocolate cake and the things you put in don't look like their original form. After the compost is done, water well, cover, and let it rest for one to two weeks to make sure it is completely done and the nitrogen has a chance to stabilize. If the compost is used too soon it could rob nutrients from the surrounding plants. Remove large chunks and add them to the next compost pile.

Anerobic - Similar to the Aerobic method, but there is no need to actively turn the material. It may take longer (1-2 years), but is still beneficial to your garden. Just pile the stuff, water, cover, and wait.

For more detailed information on composting, free workshops, or other methods, such as **Vermicomposting**, visit www.rivcowm.org and search for composting.

Source Reduction

The best way to reduce waste is to prevent it!

Buy Responsibly

Reduce packaging waste - Look for products that reduce packaging, or purchase in bulk to reduce the amount of packaging needed.

Look for products containing recycled material - Recycled paper products, motor oil, and even pens and pencils are just a few examples of products that reduce waste.

Consider reusable products - Buy reusable water bottles and sturdy utensils and plates that can be washed and used again.

Get it "For Here," or bring your own - Many coffee shops will provide drinks to their customers in ceramic mugs rather than paper cups if requested. Just ask! Reusable tumblers are also a great alternative to paper cups, and many establishments will even give a small discount to those who bring their own!

Borrow, rent, or share - Why buy something if you are only going to use it once? Items such as tools, party decorations, and even newspapers and magazines can be shared with your friends, family, and/or community.

Purchase rebuilt, remanufactured, or refurbished - Many electronics such as cell phones, computers, and media players can be purchased "refurbished" at a sometimes substantial price reduction. This conserves the resources needed to manufacture a new product.

Choose Non-Toxic

Choose products that contain only non-toxic materials, or try one of these **homemade alternatives**:

- Instead of glass cleaner, dilute 1 cup of vinegar in 1 quart of water.
- To open clogged drains, flush with a mixture of boiling water, and equal parts baking soda and vinegar.

For more information on non-toxic alternatives, visit the California Coastal Commission website:
http://www.coastal.ca.gov/ccbn/lesstoxic.html

Source Reduction

Plastic bags and junk mail contribute to a significant amount of un-needed waste. You can lessen their impact by Reducing, Reusing, and Recycling.

Plastic Bags

Reduce: BYOB (Bring Your Own Bag) - Use reusable canvas or cloth bags rather than plastic bags, and keep them in your car. Not all items need a bag, just say "no, thank you."

Reuse - Plastic grocery bags can serve multiple purposes, such as trash can liners or for pet waste.

Recycle - If you find that you must use a plastic bag, recycle it when you are finished. Most large supermarkets and pharmacies offer free recycling of plastic bags.

Junk Mail Reduction

You can reduce the amount of unwanted junk mail in your mailbox by simply mailing a postcard to the following addresses, requesting your name be removed from their mailing list. Be sure to include your full name, your address(es), your signature, and the date.

Mail Preference Service
Attn.: Dept. 10088342
PO Box 282
Carmel, NY 10512

ADVO
Consumer Assistance
PO Box 249
Windsor, CT 06095

Harte-Hanks Circulation
C/O Pennysaver
2830 Orbiter St.
Brea, CA 92821

Valpak Direct Marketing Systems, Inc.
8605 Largo Lakes Dr.
Largo, FL 33773

Credit Card Junk Mail
Call (888)5-OPT OUT (888-567-8688)

City / County Resources

City of Canyon Lake - Waste and Recycling | (800) 755-8112
http://www.cityofcanyonlake.com/recycling.asp

City of Hemet - Integrated Waste Management | (951) 765-3712
http://www.cityofhemet.org/index.aspx?nid=93

City of Lake Elsinore - Recycling | (951) 674-3124
http://www.lake-elsinore.org/index.aspx?page=751

City of Menifee - Public Works Department | (951) 672-6777
http://www.cityofmenifee.us/index.aspx?nid=99

City of Murrieta - Trash & Recycling | (951) 461-6007
http://www.murrieta.org/services/trash

City of Perris - Waste & Recycling | (951) 943-6100
http://www.cityofperris.org/residents/waste-recycle.html

City of San Jacinto - Waste & Recycling | (951) 487-7330
http://www.san-jacinto.ca.us/residents/waste.html

City of Temecula - Trash & Recycling | 951-694-6444
http://www.cityoftemecula.org/temecula/residents/trashrecycling/recycling.htm

City of Wildomar - Trash Hauling and Recycling | (951) 677-7751
http://www.cityofwildomar.org/trash-hauling-recycling.asp

County of Riverside - Riverside County Waste Management Department
http://www.rivcowm.org | (951) 486-3200

Western Riverside Council of Governments
http://www.wrcog.cog.ca.us | (800) 350-4645

Waste Haulers

Waste Management, Inc. - (951) 280-5400 - www.wm.com
Serves: Menifee, Murrieta, and Wildomar

CR&R Disposal - (951) 943-1991 - www.crrwasteservices.com
Serves: Canyon Lake, Hemet, Lake Elsinore, Perris, San Jacinto, and Temecula

The Complete Guide to Residential Recyling is sponsored by:

After the Storm

A Citizen's Guide to Understanding Stormwater

EPA 833-B-03-002

January 2003

For more information contact:

or visit
www.epa.gov/npdes/stormwater
www.epa.gov/nps

What is stormwater runoff?

Stormwater runoff occurs when precipitation from rain or snowmelt flows over the ground. Impervious surfaces like driveways, sidewalks, and streets prevent stormwater from naturally soaking into the ground.

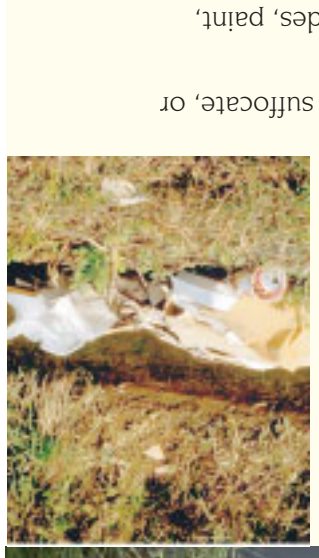
Stormwater can pick up debris, chemicals, dirt, and other pollutants and flow into a storm sewer system or directly to a lake, stream, river, wetland, or coastal water. Anything that enters a storm sewer system is discharged untreated into the waterbodies we use for swimming, fishing, and providing drinking water.

Why is stormwater runoff a problem?

The effects of pollution

Polluted stormwater runoff can have many adverse effects on plants, fish, animals, and people.

- Sediment can cloud the water and make it difficult or impossible for aquatic plants to grow. Sediment also can destroy aquatic habitats.
- Excess nutrients can cause algae blooms. When algae die, they sink to the bottom and decompose in a process that removes oxygen from the water. Fish and other aquatic organisms can't exist in water with low dissolved oxygen levels.
- Bacteria and other pathogens can wash into swimming areas and create health hazards, often making beach closures necessary.
- Debris—plastic bags, six-pack rings, bottles, and cigarette butts—washed into waterbodies can choke, suffocate, or disable aquatic life like ducks, fish, turtles, and birds.
- Household hazardous wastes like insecticides, pesticides, paint, solvents, used motor oil, and other auto fluids can poison aquatic life. Land animals and people can become sick or die from eating diseased fish and shellfish or ingesting polluted water.
- Polluted stormwater often affects drinking water sources. This, in turn, can affect human health and increase drinking water treatment costs.



Stormwater Pollution Solutions

Residential

Recycle or properly dispose of household products that contain chemicals, such as insecticides, pesticides, paint, solvents, and used motor oil and other auto fluids. Don't pour them onto the ground or into storm drains.

Lawn care

Excess fertilizers and pesticides applied to lawns and gardens wash off and pollute streams. In addition, yard clippings and leaves can wash into storm drains and contribute nutrients and organic matter to streams.

- Don't overwater your lawn. Consider using a soaker hose instead of a sprinkler.
- Use pesticides and fertilizers sparingly. When use is necessary, use these chemicals in the recommended amounts. Use organic mulch or safer pest control methods whenever possible.
- Compost or mulch yard waste. Don't leave it in the street or sweep it into storm drains or streams.
- Cover piles of dirt or mulch being used in landscaping projects.

Septic systems

Leaking and poorly maintained septic systems release nutrients and pathogens (bacteria and viruses) that can be picked up by stormwater and discharged into nearby waterbodies. Pathogens can cause public health problems and environmental concerns.

- Inspect your system every 3 years and pump your tank as necessary (every 3 to 5 years).
- Don't dispose of household hazardous waste in sinks or toilets.

Auto care

Washing your car and degreasing auto parts at home can send detergents and other contaminants through the storm sewer system. Dumping automotive fluids into storm drains has the same result as dumping the materials directly into a waterbody.

- Use a commercial car wash that treats or recycles its wastewater, or wash your car on your yard so the water infiltrates into the ground.
- Repair leaks and dispose of used auto fluids and batteries at designated drop-off or recycling locations.

Pet waste

Pet waste can be a major source of bacteria and excess nutrients in local waters.

- When walking your pet, remember to pick up the waste and dispose of it properly. Flushing pet waste is the best disposal method. Leaving pet waste on the ground increases public health risks by allowing harmful bacteria and nutrients to wash into the storm drain and eventually into local waterbodies.

Education is essential to changing people's behavior. Signs and markers near storm drains warn residents that pollutants entering the drains will be carried untreated into a local waterbody.

Residential landscaping

Permeable Pavement—Traditional concrete and asphalt don't allow water to soak into the ground. Instead these surfaces rely on storm drains to divert unwanted water. Permeable pavement systems allow rain and snowmelt to soak through, decreasing stormwater runoff.

Rain Barrels—You can collect rainwater from rooftops in mosquito-proof containers. The water can be used later on lawn or garden areas.

Rain Gardens and Grassy Swales—Specially designed areas planted with native plants can provide natural places for rainwater to collect and soak into the ground. Rain from rooftop areas or paved areas can be diverted into these areas rather than into storm drains.

Vegetated Filter Strips—Filter strips are areas of native grass or plants created along roadways or streams. They trap the pollutants stormwater picks up as it flows across driveways and streets.

Commercial

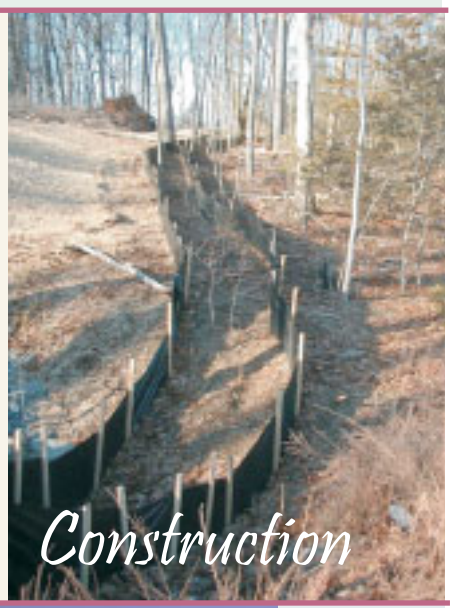
Dirt, oil, and debris that collect in parking lots and paved areas can be washed into the storm sewer system and eventually enter local waterbodies.

- Sweep up litter and debris from sidewalks, driveways and parking lots, especially around storm drains.
- Cover grease storage and dumpsters and keep them clean to avoid leaks.
- Report any chemical spill to the local hazardous waste cleanup team. They'll know the best way to keep spills from harming the environment.

Construction

Erosion controls that aren't maintained can cause excessive amounts of sediment and debris to be carried into the stormwater system. Construction vehicles can leak fuel, oil, and other harmful fluids that can be picked up by stormwater and deposited into local waterbodies.

- Divert stormwater away from disturbed or exposed areas of the construction site.
- Install silt fences, vehicle mud removal areas, vegetative cover, and other sediment and erosion controls and properly maintain them, especially after rainstorms.
- Prevent soil erosion by minimizing disturbed areas during construction projects, and seed and mulch bare areas as soon as possible.



Agriculture

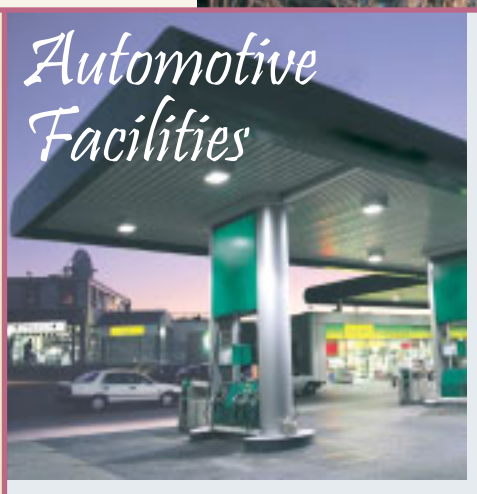
Lack of vegetation on streambanks can lead to erosion. Overgrazed pastures can also contribute excessive amounts of sediment to local waterbodies. Excess fertilizers and pesticides can poison aquatic animals and lead to destructive algae blooms. Livestock in streams can contaminate waterways with bacteria, making them unsafe for human contact.

- Keep livestock away from streambanks and provide them a water source away from waterbodies.
- Store and apply manure away from waterbodies and in accordance with a nutrient management plan.
- Vegetate riparian areas along waterways.
- Rotate animal grazing to prevent soil erosion in fields.
- Apply fertilizers and pesticides according to label instructions to save money and minimize pollution.

Forestry

Improperly managed logging operations can result in erosion and sedimentation.

- Conduct preharvest planning to prevent erosion and lower costs.
- Use logging methods and equipment that minimize soil disturbance.
- Plan and design skid trails, yard areas, and truck access roads to minimize stream crossings and avoid disturbing the forest floor.
- Construct stream crossings so that they minimize erosion and physical changes to streams.
- Expedite revegetation of cleared areas.



Automotive Facilities

Uncovered fueling stations allow spills to be washed into storm drains. Cars waiting to be repaired can leak fuel, oil, and other harmful fluids that can be picked up by stormwater.

- Clean up spills immediately and properly dispose of cleanup materials.
- Provide cover over fueling stations and design or retrofit facilities for spill containment.
- Properly maintain fleet vehicles to prevent oil, gas, and other discharges from being washed into local waterbodies.
- Install and maintain oil/water separators.