Appendix F

Preliminary Water Quality Management Plan

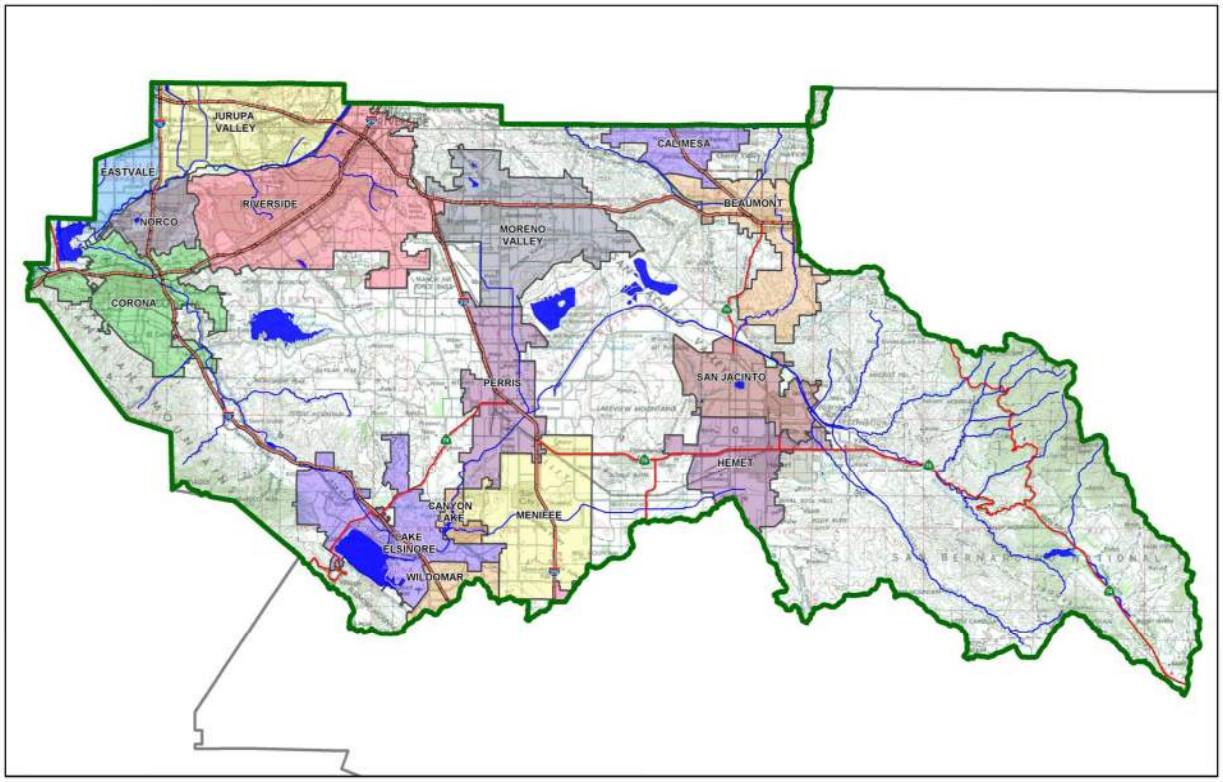
Project Specific Water Quality Management Plan

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

Project Title: Tentative Tract Map No. 38683 Residential Development

Development No: 15.01

Design Review/Case No: Insert text here



Contact Information:

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Prepared by: Blue Engineering and Consulting, Inc 9320 Baseline Rd., Ste. D, Rancho Cucamonga, CA 91701

☒ **Preliminary**
☐ **Final**

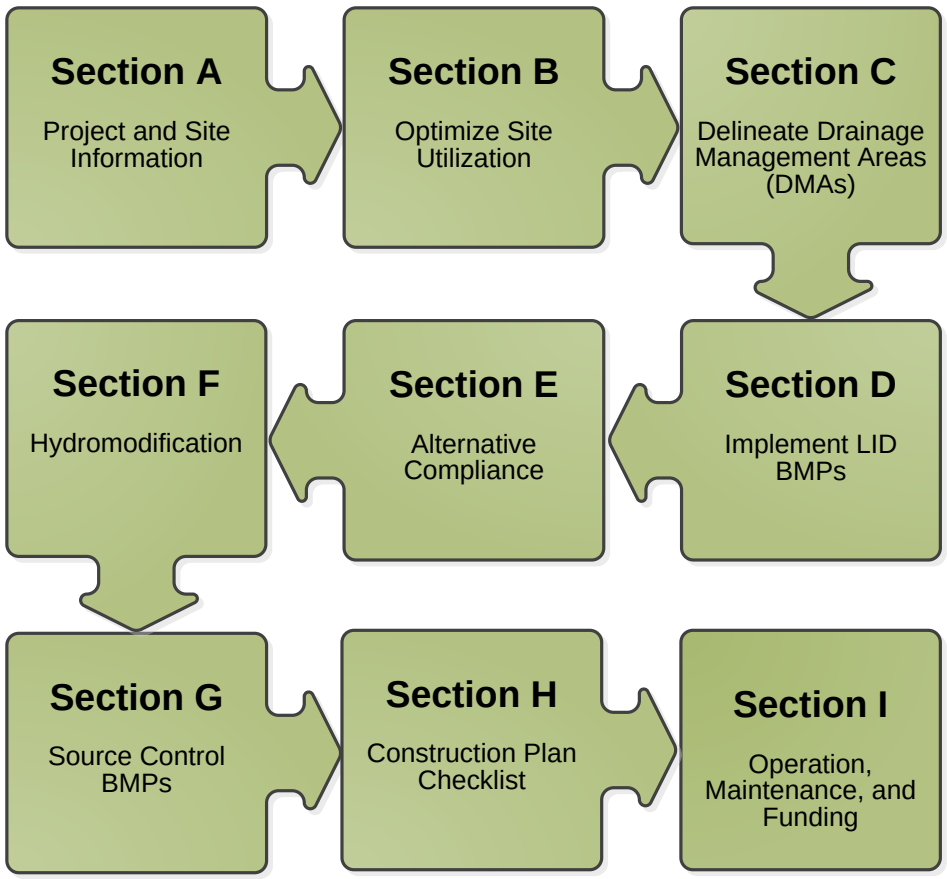
Original Date Prepared: February 2023

Revision Date(s): Insert text here

Prepared for Compliance with
Regional Board Order No. **R8-2010-0033**
Template revised June 30, 2016

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.



A Brief Introduction

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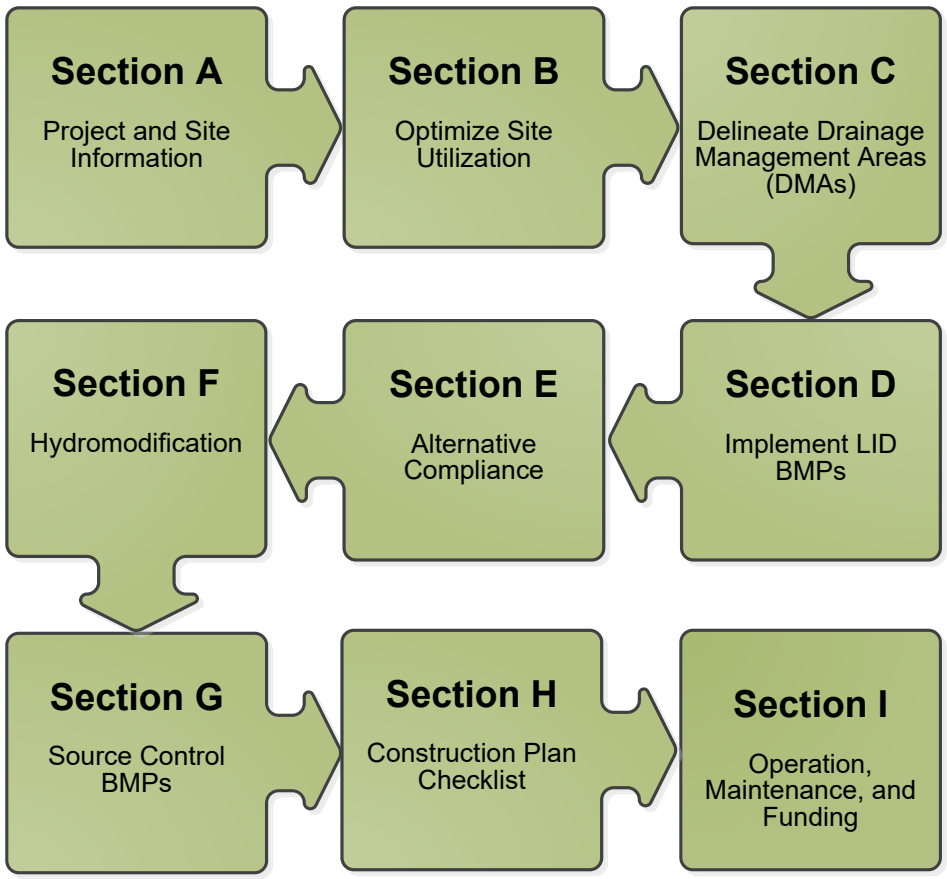

OWNER'S CERTIFICATION

This Project-Specific Water Quality Management Plan (WQMP) has been prepared for 168 Builders, Inc by Blue Engineering and Consulting, Inc for the Tentative Tract Map No. 38683 Residential Development project.

This WQMP is intended to comply with the requirements of The City of Manifee for Manifee Municipal Code Ch. 15.01 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 City of Manifee Water Quality Ordinance (Municipal Code Section 15.01).

"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
Tony Zeng	
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	Date
ANGEL CESAR	PE, QSD
Preparer's Printed Name	Preparer's Title/Position

Preparer's Licensure: No. 87222

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Section A: Project and Site Information

PROJECT INFORMATION	
Type of Project:	Residential
Planning Area:	LDR-1
Community Name:	n/a
Development Name:	Tentative Tract Map No. 38683 Residential Development

PROJECT LOCATION
Latitude & Longitude (DMS): 33°39'18.1"N & 117°10'40.5"W
Project Watershed and Sub-Watershed: San Jacinto; Lower San Jacinto River
Gross Acres: 9.21 APN(s): 360-3500-06
Map Book and Page No.: 360-35

PROJECT CHARACTERISTICS	
Proposed or Potential Land Use(s)	Residential
Proposed or Potential SIC Code(s)	1521
Area of Impervious Project Footprint (SF)	Insert text here
Total Area of proposed Impervious Surfaces within the Project Footprint (SF)/or Replacement	187,307 SF
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)	Insert text here.
Is the project located within any MSHCP Criteria Cell?	☐ Y ☒ N
If so, identify the Cell number:	Insert text here.
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)	D
What is the Water Quality Design Storm Depth for the project?	0.61

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
San Jacinto River Reach 1	None	AGR, GWR, MUN, REC1, REC2, WARM, WILD	N/A
Lake Elsinore	DDT, nutrients, organic enrichment/low dissolved oxygen, PCBs	AGR, REC1, REC2, WARM, WILD	N/A
Canyon Lake	Nutrients	MUN, AGR, GWR, REC1, REC2, WARM, WILD	N/A
San Jacinto Reach 3	None	AGR, GWR, REC1, REC2, WARM, WILD, RARE, SPWN	N/A

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)

Site Optimization

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

The existing ground drains into Tupelo Road, u,timately discharging into Lake Elsinore. We preserve this drainage pattern by limiting unnecessary grading and using proposed site drainage patterns as a natural design element.

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

The site has minimal existing vegetation to be preserved. The entire site will be disturbed.

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

The site consists of Las Posas loam (LAD2), Las Posas rocky loam (LkF3), Wyman fine sandy loam (WxD2) and Yokohl loam (YbC) soil consistent with soil type D. The design infiltration rate of the site is shown to be approximately 0 in/hr (as shown in Appendix 3).

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

The proposed impervious areas are designed per the City's minimum requirements.

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

Yes, roof runoff has been designed to drain into pervious landscape areas with each lot prior to discharge onto streets or connection to proposed in-tract storm drain systems. The 2-yr storm runoff from development will be collected and conveyed to proposed WQMP treatment areas for treatment prior to discharged or connection to proposed off-site storm drain systems.

Section C: Delineate Drainage Management Areas (DMAs)

Table C.1 DMA Classifications

DMA Name or ID	Surface Type(s)[1][2]	Area (Sq. Ft.)	DMA Type
DA-1 & DA-2	Roof, Concrete/Asphalt, Ornamental Landscape	401,250	B

[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)

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 =	Required Retention Depth (inches) [D]

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

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	DMA name /ID	Area (square feet)	Ratio
	[A]		[B]	[C] = [A] x [B]		[D]	[C]/[D]

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

DMA Name or ID	BMP Name or ID
DA-1	BMP A
DA-2	BMP B

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.

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

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 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:		
…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:		

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.

Harvest and Use BMPs need not be assessed for the site

Irrigation Use Feasibility

Total Area of Irrigated Landscape: Insert Area (Acres)

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

Total Area of Impervious Surfaces: Insert Area (Acres)

Enter your EIATIA factor: EIATIA Factor

Minimum required irrigated area: Insert Area (Acres)

Minimum required irrigated area (Step 4)	Available Irrigated Landscape (Step 1)
Insert Area (Acres)	Insert Area (Acres)

Toilet Use Feasibility

Projected Number of Daily Toilet Users: Number of daily Toilet Users

Project Type: Enter 'Residential', 'Commercial', 'Industrial' or 'Schools'

Total Area of Impervious Surfaces: Insert Area (Acres)

Enter your TUTIA factor: TUTIA Factor

Minimum number of toilet users: Required number of toilet users

Minimum required Toilet Users (Step 4)	Projected number of toilet users (Step 1)
Insert Area (Acres)	Insert Area (Acres)

Other Non-Potable Use Feasibility

Insert narrative description here.

Average Daily Demand: Projected Average Daily Use (gpd)

Total Area of Impervious Surfaces: Insert Area (Acres)

Enter the factor from Table 2-4: Enter Value

Minimum required use: Minimum use required (gpd)

Minimum required non-potable use (Step 4)	**Projected average daily use (Step 1)**
Minimum use required (gpd)	Projected Average Daily Use (gpd)

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

☐ A site-specific analysis demonstrating the technical infeasibility of all LID BMPs has been performed and is included in Appendix 5.

D.4 Feasibility Assessment Summaries

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	
DA-1	☐	☐	☒	☐	☐
	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐

The soil that the project location sits on has a hydrologic soil rating of D, the poor infiltration rates make infiltration BMP's infeasible. Harvest and use BMP's are also infeasible because harvesting and utilizing stormwater runoff would negatively impact downstream water rights, thus Bioretention BMP's will be used to mitigate the entire site.

LID BMP Sizing

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	*Enter BMP Name / Identifier Here*		
	[A]		[B]	[C]	[A] x [C]			
A	*64732*	*Roofs*	*1*	*0.89*	*57740.9*			
A	*104314*	*Concrete/Asphalt*	*1*	*0.89*	*93048.1*			
A	*232195*	*Ornamental Landscaping*	*0.1*	*0.11*	*2*			
						Design Storm Depth (in)	*Design Capture Volume, V_{BMP} (cubic feet)*	*Proposed Volume on Plans (cubic feet)*
	A_T = 401241				Σ= 176436.8	0.61	8968.9	11272

[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.

Section F: Hydromodification

F.1 Hydrologic Conditions of Concern (HCOC) Analysis

The project does create a Hydrologic Condition of Concern, not meeting the criteria for HCOC Exemption as shown below:

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	INSERT VALUE	INSERT VALUE	INSERT VALUE
Volume (Cubic Feet)	INSERT VALUE	INSERT VALUE	INSERT VALUE

[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

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.

☐ d. None of the above.

The Project meets condition “c” and the analysis for the unit hydrographs are shown on **Appendix 7**. See summary of the results on the “Unit Hydrograph Summary Table” Below

Source Control BMPs

Table 0.1 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 shall be per local agency requirements	• 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	Final landscape plans will accomplish all 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,	• 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.

	rain, land use, air movement, ecological consistency, and plant interactions.	
On-site Storm Drain Inlets	• Mark all inlets with the words "Only Rain-Down the Storm Drain" or similar. Catch Basin Markers shall be per local agency requirements	• 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."

Section G: Construction Plan Checklist

Table G.1 Construction Plan Cross-reference

BMP No. or ID	BMP Identifier and Description	Corresponding Plan Sheet(s)	BMP Location (Lat/Long)
DA-1	BMP A	Sheet 2	

Section H: 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.

Maintenance Mechanism: Insert text here.

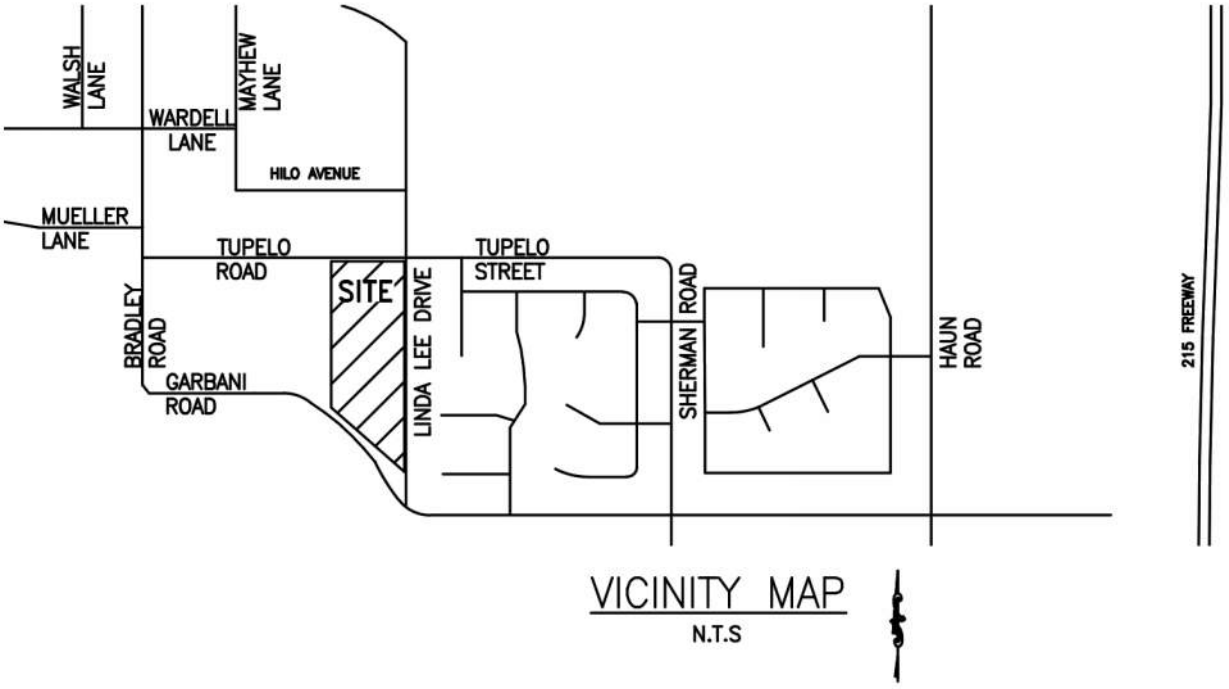
Will the proposed BMPs be maintained by a Home Owners' Association (HOA) or Property Owners Association (POA)?

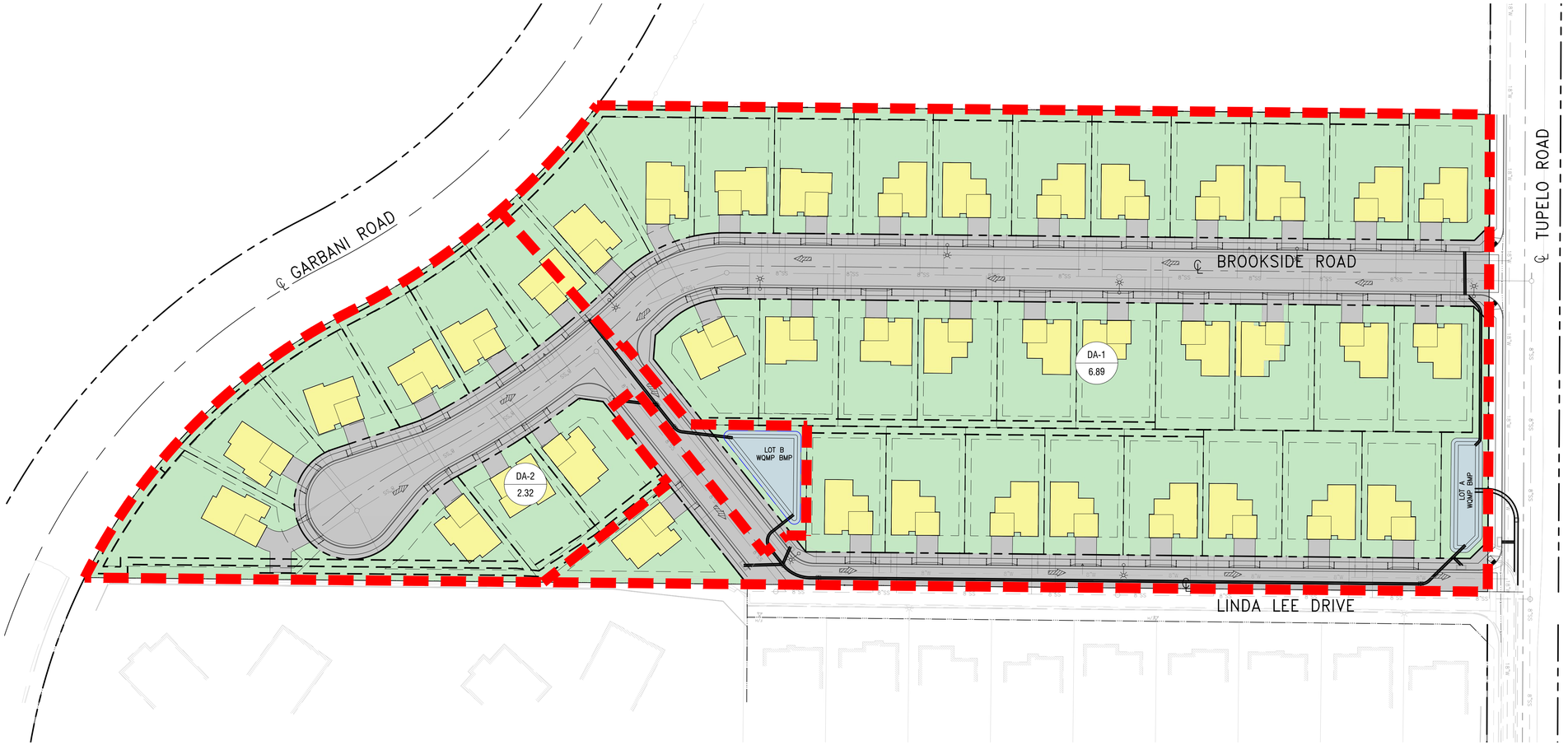
☒ Y ☐ N

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





LEGEND:

- PROPOSED WQMP BASINS
- ROOF AREA
- ROADWAY / SIDEWALK / PATIO AREA
- LANDSCAPING AREA
- DMA 1A / 3.31 — DMA NUMBER / TRIBUTARY AREA (ACRES)
- WQMP BASIN TRIBUTARY AREA BOUNDARY
- PROPOSED >18" HDPE STORM DRAIN
- PROPOSED <18" PVC STORM DRAIN
- R — RIDGE LINE
- AD/GI — AREA DRAIN/GATE INLET
- RD/DS — ROOF DRAIN/DOWNSPOUT
- FLOW DIRECTION
- EXISTING STORM DRAIN
- EXISTING U.G. BMP
- PERCOLATION TEST LOCATION

PROJECT BMP CONFORMANCE ANALYSIS

NAME	AREA (SF)	IMPERVIOUS	PERVIOUS	i	C	V_{BMP}	BMP	$A_{PROVIDED}$	$V_{PROVIDED}$
ROOFS	64.732	–	–	1	0.89	–	–	–	–
CONCRETE OR ASPHALT	104,314	–	–	1	0.89	–	–	–	–
ORNAMENTAL LANDSCAPING	232,195	–	–	0.1	0.11	–	–	–	–
TOTAL	401,241	169,046	232,195	–	–	10,010	BIORETENTION	5,569	11,272

PROJECT AREA BREAKDOWN

PROJECT TOTAL AREA	401,241	SF
PROJECT ROOF AREA	64,732	SF
PROJECT PAVEMENT AREA	104,314	SF
PROJECT LANDSCAPE AREA	232,195	SF
PROJECT BMP AREA	5,569	SF

SCALE
50 0 25 50 100
(FEET)
1 INCH = 50 FT.

DESIGNED BY: _____
DRAWN BY: _____
CHECKED BY: _____

SEAL-DESIGN ENGINEER
REGISTERED PROFESSIONAL ENGINEER ANGEL CESAR No. 87222 CIVIL STATE OF CALIFORNIA

BLUE ENGINEERING & CONSULTING, INC
FOREVER BLUE N.G.
9320 BASELINE RD., STE. D
RANCHO CUCAMONGA, CA 91701
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INFO@BLUECIVILENG.COM – WWW.BLUECIVILENG.COM

PLANS PREPARED UNDER THE SUPERVISION OF:
ANGEL CESAR, P.E. 87222 EXP. 9/30/23 — DATE

REV.	REVISION DESCRIPTION	BY	DATE

CITY OF MENIFEE
McCALL BLVD, MENIFEE, CA 92585

REVIEWED BY: _____ DATE

DANIEL PADILLA
P.E. NO. C-67008
EXP. DATE 09-30-2024

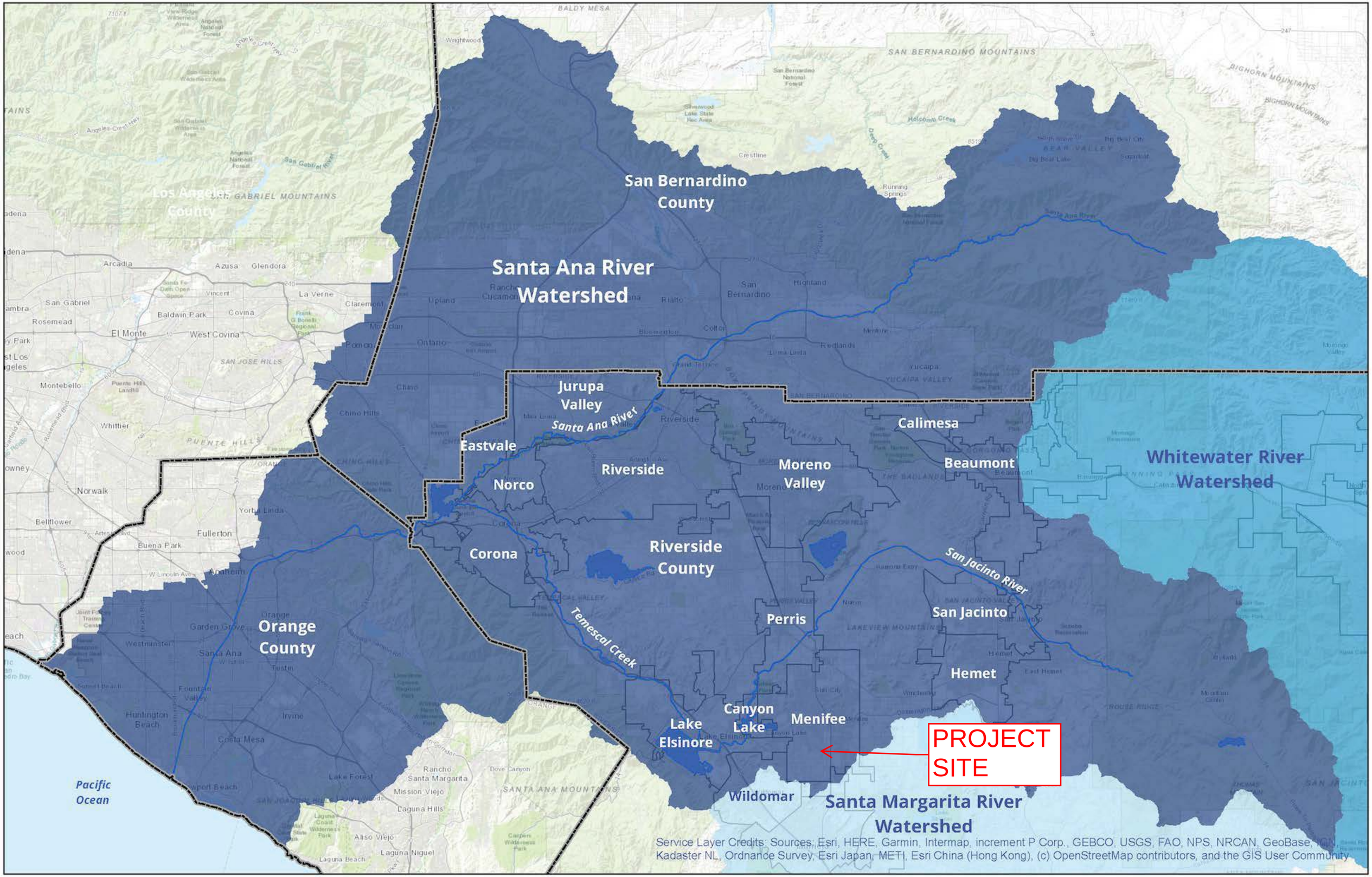
PRELIMINARY WATER QUALITY MANAGEMENT PLAN

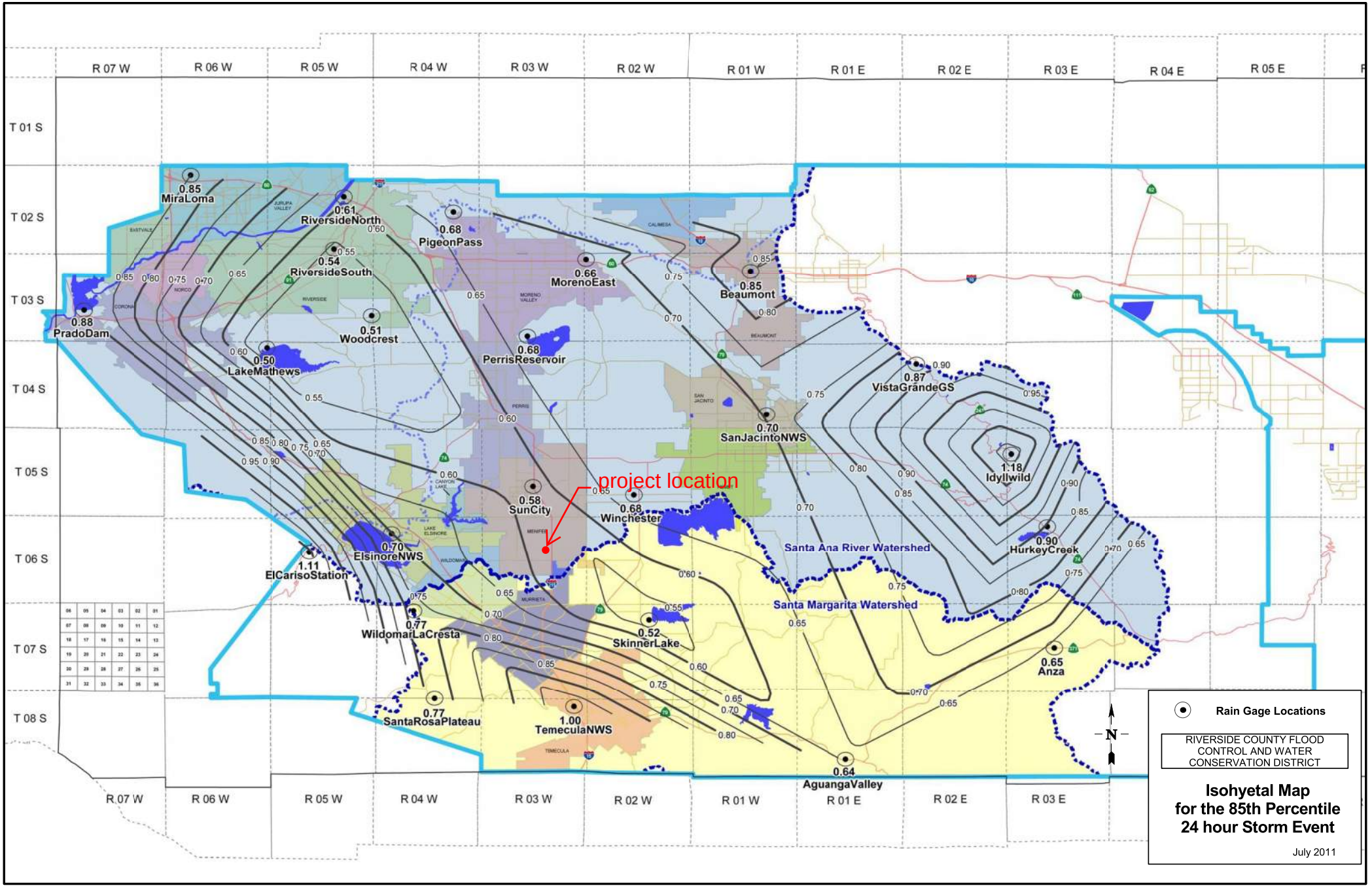
TENTATIVE TRACT MAP No. 38683
RESIDENTIAL DEVELOPMENT

CUP:
LDP:
DATE: February 6, 2023
SHEET 3
OF 3 SHEETS
PROJECT NUMBER:

Plans Prepared On: 2/6/2023

Z:\Shared\Blue\2022\99 - Garbani_Plan Set_Entitlement Package\2022199 - PWQMP.dwg - LAST PLOTTED ON Mon 02/06/23 - 02:07PM BY SilviaAlmaraz


San Bernardino County
Santa Ana River Watershed
Los Angeles County
Orange County
Riverside County
Jurupa Valley
Santa Ana River
Eastvale
Norco
Corona
Riverside
Moreno Valley
Calimesa
Beaumont
Whitewater River Watershed
San Jacinto River
San Jacinto
Hemet
Perris
Temescal Creek
Lake Elsinore
Canyon Lake
Menifee
Wildomar
Santa Margarita River Watershed
PROJECT SITE
Pacific Ocean
SAN BERNARDINO MOUNTAINS
SAN GABRIEL MOUNTAINS
SAN JOSE HILLS
PUENTE HILLS
CHINO HILLS
SANTA ANA MOUNTAINS
Service Layer Credits: Sources, Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community


R 07 W
R 06 W
R 05 W
R 04 W
R 03 W
R 02 W
R 01 W
R 01 E
R 02 E
R 03 E
R 04 E
R 05 E
T 01 S
T 02 S
T 03 S
T 04 S
T 05 S
T 06 S
T 07 S
T 08 S
0.85 MiraLoma
0.61 RiversideNorth
0.68 PigeonPass
0.54 RiversideSouth
0.66 MorenoEast
0.85 Beaumont
0.88 PradoDam
0.51 Woodcrest
0.68 PerrisReservoir
0.50 LakeMathews
0.87 VistaGrandeGS
0.70 SanJacintoNWS
1.18 Idyllwild
project location
0.58 SunCity
0.68 Winchester
0.70 ElsinoreNWS
1.11 ElCarisoStation
Santa Ana River Watershed
0.90 HurkeyCreek
Santa Margarita Watershed
0.77 WildomarLaCresta
0.52 SkinnerLake
0.65 Anza
0.77 SantaRosaPlateau
1.00 TemeculaNWS
0.64 AguangaValley
N
Rain Gage Locations
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
Isohyetal Map for the 85th Percentile 24 hour Storm Event
July 2011

Appendix 2: Construction Plans

Grading and Drainage Plans

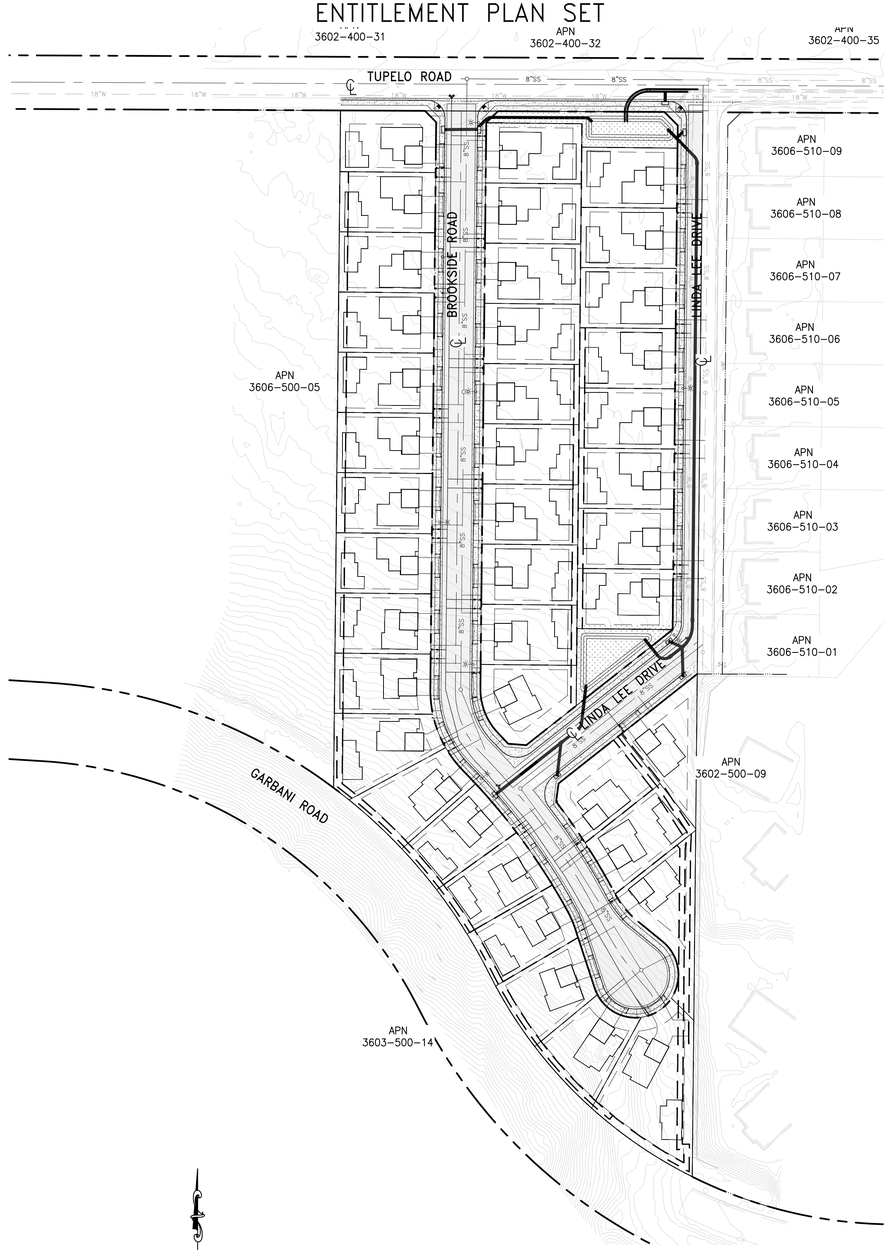
CITY OF MENIFEE

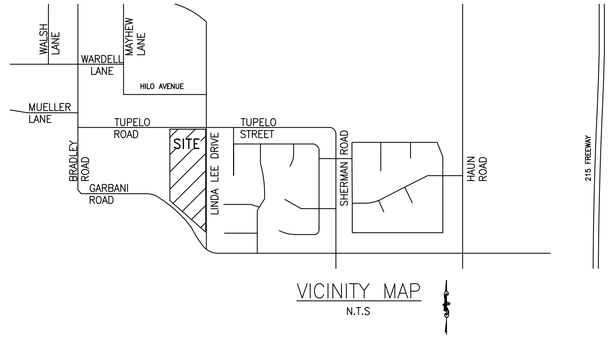
SAN BERNARDINO COUNTY, CALIFORNIA

APN: 3602-500-06

TENTATIVE TRACT MAP NO. 38683

ENTITLEMENT PLAN SET





VICINITY MAP

N.T.S

UTILITY PURVEYORS

WATER	EASTERN MUNICIPAL WATER DISTRICT 2270 TRUMBLE ROAD PERRIS, CA 92570 951-928-3777
SEWER	EASTERN MUNICIPAL WATER DISTRICT 2270 TRUMBLE ROAD PERRIS, CA 92570 951-928-3777
ELECTRIC	SOUTHERN CALIFORNIA EDISON 26100 MENIFEE ROAD MENIFEE, CA 92585 800-655-4555
GAS	SOUTHERN CALIFORNIA GAS COMPANY 25200 TRUMBLE ROAD PERRIS, CA 92571 800-427-2200
TELEPHONE	FRONTIER COMMUNICATIONS 29310 BRADLEY ROAD SUN CITY, CA 92586 1-877-530-0911
SCHOOL DISTRICT	MENIFEE UNION SCHOOL DISTRICT 29775 HAUN ROAD MENIFEE, CA 92586 951-672-1851

APPLICANT/OWNER

168 BUILDERS, INC
TONY ZENG
1211 CENTER COURT DR. #200
COVINA, CA 91724
PHONE: 909-702-8889
EMAIL: TONYZENG@SBCGLOBAL.NET

ARCHITECT

LC WANG
1420 NORTHWOOD RD. #241G
SEAL BEACH,CA 90740
PHONE: 626-232-2256
EMAIL: LCWANG.2021@GMAIL.COM

PREPARED BY:

BLUE ENGINEERING & CONSULTING, INC
9320 BASELINE ROAD, SUITE D
RANCHO CUCAMONGA, CA 91701
PHONE: 909-970-5654
EMAIL: INFO@BLUECIVILENG.COM

LEGAL DESCRIPTION

PARCEL 3 OF PARCEL MAP NO. 12401, IN THE CITY OF MENIFEE, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 61 PAGE 40 PARCEL MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.
APN: 3602-500-06

ABBREVIATIONS

AC	ACRE
BOT	BOTTOM OF BASIN ELEVATION
BSL	BUILDING SETBACK LINE
CB	CATCH BASIN
CO	CLEAN OUT
EVC	END OF VERTICAL CURVE
EX	EXISTING
FF	FINISHED FLOOR
FH	FIRE HYDRANT
FS	FINISHED SURFACE
FL	FLOW LINE
LP	LOW POINT
HP	HIGH POINT
GB	GRADE BREAK
PAD	PAD ELEVATION
POC	POINT OF CONNECTION
PR	PROPOSED
R	RADIUS
R/W	RIGHT OF WAY
RCP	REINFORCED CONCRETE PIPE
SD	STORM DRAIN
SF	SQUARE FEET
SS	SEWER
W	WATER

LEGEND

(2800)	EX CONTOURS
8"W	EX WTR LINE
8"SS	EX SWR LINE
G	EX GAS LINE
W	PR WATER LINE
SS	PR SEWER LINE
RCP	PR STORM DRAIN LINE
	BOUNDARY
	R/W
	LOT LINE
	EX. LOT LINE
	CENTERLINE
	EASEMENT
	BUILDING SETBACK LINE
	PR AC PAVEMENT

SHEET LIST TABLE

SHEET NUMBER	SHEET TITLE
ENTITLEMENT PLAN SET: CONCEPTUAL SITE PLAN	
1	TITLE SHEET
2	SITE PLAN
3	TENTATIVE TRACT MAP
4	CONCEPTUAL GRADING PLAN
5	CONCEPTUAL UTILITY PLAN
ENTITLEMENT PLAN SET: PRELIMINARY HYDROLOGY STUDY	
1	PRE-DEVELOPMENT HYDROLOGY KEY MAP
2	POST-DEVELOPMENT HYDROLOGY KEY MAP
3	PRELIMINARY WATER QUALITY MANAGEMENT PLAN

SCALE
80 0 40 80 160
(FEET)
1 INCH = 80 FT.

SURVEY MONUMENT NOTE

SURVEY MONUMENTS THAT EXIST AS SHOWN ON RECORDED MAPS, HIGHWAY MAPS, OR POINTS THAT PROVIDE SURVEY CONTROL WITHIN THE CONSTRUCTION AREA, SHALL BE LOCATED AND REFERENCED BY A LICENSED LAND SURVEYOR OR REGISTERED CIVIL ENGINEER (AUTHORIZED TO PRACTICE LAND SURVEYING). BEFORE THE START OF CONSTRUCTION, CORNER RECORDS SHALL BE FILED WITH THE COUNTY SURVEYOR. THESE CORNER RECORDS SHALL DESCRIBE THE MONUMENTS FOUND WITH TIE DISTANCES TO REFERENCE POINTS FOR THE RESETTING OF A SURVEY MONUMENT. WHEN CONSTRUCTION IS COMPLETED, MONUMENTS SHALL BE SET AND CORNER RECORDS SHALL BE FILED WITH THE COUNTY SURVEYOR SHOWING THE NEW MONUMENTS.

DESIGNED BY: BY
DRAWN BY: VL
CHECKED BY: AC

SEAL-DESIGN ENGINEER

REGISTERED PROFESSIONAL ENGINEER · ANGEL CESAR · No. 87222 · CIVIL · STATE OF CALIFORNIA

BLUE ENGINEERING & CONSULTING, INC
FOREVER BLUE N.G.
9320 BASELINE RD., STE. D
RANCHO CUCAMONGA, CA 91701
909-248-6557
INFO@BLUECIVILENG.COM – WWW.BLUECIVILENG.COM

PLANS PREPARED UNDER THE SUPERVISION OF:
ANGEL CESAR, P.E. 87222 EXP. 9/30/23 DATE

REV.	REVISION DESCRIPTION	BY	DATE

CITY OF MENIFEE
McCALL BLVD, MENIFEE, CA 92585

REVIEWED BY:

DANIEL PADILLA
P.E. NO. C-67008
EXP. DATE 09-30-2024
DATE

TITLE SHEET

TENTATIVE TRACT MAP No. 38683
RESIDENTIAL DEVELOPMENT

CUP:
LDP:
DATE: February 6, 2023
SHEET 1
OF 5 SHEETS
PROJECT NUMBER: 2022199

Plans Prepared On: 2/6/2023

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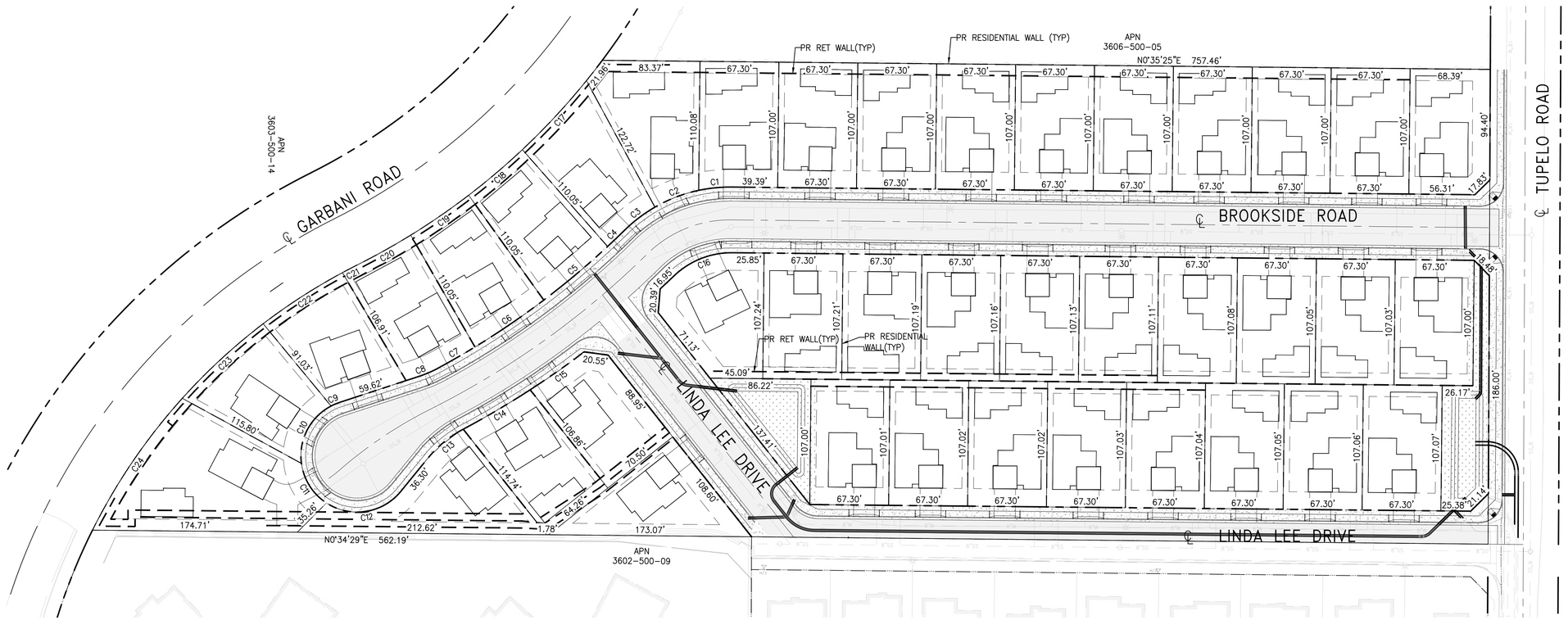
CITY OF MENIFEE

SAN BERNARDINO COUNTY, CALIFORNIA

APN: 3602-500-06

TENTATIVE TRACT MAP NO. 38683

SITE PLAN



2/6/2023 DATE SITE PLAN PREPARED

NOTES (THIS SHEET ONLY)

2. SEE SHEET 1 FOR VICINITY MAP, LEGAL DESCRIPTION, OWNER/ENGINEER CONTACT INFORMATION, AND UTILITY CONTACT INFORMATION
3. SEE SHEET 3 FOR LOT TABLE/AREAS
4. SEE SHEETS 4 AND 5 FOR CENTERLINE GRADES
5. SEE SHEET 5 FOR TYPICAL SECTIONS

GENERAL NOTES:

1. ACCESSOR'S PARCEL NUMBER: 3602-500-06
2. THE PROPERTY SHOWN HEREIN CONTAINS THE ENTIRE CONTIGUOUS OWNERSHIP.
3. TOTAL GROSS AREA = 9.211 AC.
   TOTAL NET AREA = 8.796 AC.
   TOTAL AREA TO BE DEDICATED FOR R/W = X.XX AC.
4. STREETS A – C ARE STREETS FOR PUBLIC DEDICATION.
5. LOTS 1 THROUGH 40 ARE 5,000 SF MIN. (RESIDENTIAL LOTS)
6. GROSS DENSITY: 4 /AC
   NET DENSITY: 4 DU/AC
   MINIMUM LOT SIZE: 5,000 SF
   MAXIMUM LOT SIZE: X,XXX SF
7. TOTAL NUMBER OF RESIDENTIAL LOTS = 37
   TOTAL NUMBER OF LETTERED LOTS = 1
8. LINEAR FEET OF STREETS:
   BROOKSIDE ROAD = 1059'
   LINDA LEE DR= 868'
9. ALL FRONT YARD BUILDING SETBACK LINES (BSL) ARE SHOWN TO AN AVERAGE DEPTH. MINIMUM FRONT YARD BSL=15'.
10. TOPOGRAPHY SOURCE: CALIFORNIA COORDINATE SYSTEM (CCS83) ZONE 6, NAD 1983. (2010.0000 EPOCH)
    CONTOUR INTERVAL: 1 FOOT
11. ALL SLOPES ARE 2:1 OR FLATTER UNLESS OTHERWISE NOTED.
12. LOT DIMENSION SHOWN HEREIN ARE APPROXIMATE.
13. FEMA 100 YEAR FLOOD ZONE "X". (0.2 PCT ANNUAL CHANCE FLOOD HAZARD)
14. THIS MAP IS COMPILED FROM RECORD INFORMATION ONLY AND IS NOT TO BE USED AS A BOUNDARY SURVEY.
15. THE LOCATIONS OF ALL EXISTING UTILITIES ARE APPROXIMATE. (NO RECORDS AVAILABLE)
16. ADD 1400 FEET TO ALL ELEVATIONS SHOWN HEREIN TO OBTAIN TRUE DATUM.
17. MINIMUM SIDE YARD SETBACK=5'
    MINIMUM REAR YARD SETBACK=15'
    MINIMUM DISTANCE BETWEEN BUILDINGS=10'

LAND USE/ZONING INFORMATION

ADJACENT LAND USE:
NORTH.....SINGLE FAMILY RESIDENTIAL
SOUTH.....VACANT
EAST.....VACANT
WEST.....VACANT
ADJACENT EXISTING ZONING:
NORTH.....LDR-2
SOUTH.....EDC-SG
EAST.....EDC-SG
WEST.....LDR-2

EXISTING ZONING: SINGLE FAMILY RESIDENTIAL (EDC-SG)
PROPOSED ZONING: SINGLE FAMILY RESIDENTIAL (LDR-2)
FIRE HAZARD CLASSIFICATION: NOT IN A FIRE HAZARD ZONE
PROPERTY OR PORTION OF THE PROPERTY IS NOT WITHIN ANY WETLAND, AS DEFINED IN UNITED STATES FISH AND WILDLIFE SERVICES MANUAL, PART 660 FW 2 (JUNE 21,1993)

CURVE DATA			
CURVE #	RADIUS	LENGTH	DELTA
C1	128.00'	28.14'	12°35'47"
C2	128.00'	40.16'	17°58'43"
C3	128.00'	32.62'	14°36'08"
C4	704.00'	20.06'	1°37'56"
C5	704.00'	71.12'	5°47'16"
C6	704.00'	71.12'	5°47'16"
C7	704.00'	35.88'	2°55'13"
C8	143.81'	29.74'	11°50'52"
C9	48.00'	7.90'	9°26'09"
C10	48.00'	58.73'	70°06'29"
C11	48.00'	41.26'	49°14'55"
C12	48.00'	70.23'	83°49'39"

CURVE DATA			
C13	160.47'	39.34'	14°02'44"
C14	763.44'	66.28'	4°58'28"
C15	564.02'	56.33'	5°43'21"
C16	71.37'	55.41'	44°29'12"
C17	594.00'	80.40'	7°45'17"
C18	594.00'	60.16'	5°48'11"
C19	594.00'	60.00'	5°47'16"
C20	594.00'	52.17'	5°01'56"
C21	506.00'	14.34'	1°37'26"
C22	506.00'	80.51'	9°06'59"
C23	506.00'	93.98'	10°38'30"
C24	506.00'	136.56'	15°27'49"

SCALE
50 0 25 50 100
(FEET)
1 INCH = 50 FT.

DESIGNED BY: BY
DRAWN BY: VL
CHECKED BY: AC

SEAL-DESIGN ENGINEER
REGISTERED PROFESSIONAL ENGINEER ANGEL CESAR No. 87222 CIVIL STATE OF CALIFORNIA

BLUE ENGINEERING & CONSULTING, INC
FOREVER BLUE N.G.
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PLANS PREPARED UNDER THE SUPERVISION OF: ANGEL CESAR, P.E. 87222 EXP. 9/30/23 DATE

REV.	REVISION DESCRIPTION	BY	DATE

CITY OF MENIFEE
McCALL BLVD, MENIFEE, CA 92585

REVIEWED BY:

DANIEL PADILLA
P.E. NO. C-67008
EXP. DATE 09-30-2024
DATE

SITE PLAN

TENTATIVE TRACT MAP No. 38683
RESIDENTIAL DEVELOPMENT

CUP:
LDP:
DATE: February 6, 2023
SHEET 2 OF 5 SHEETS
PROJECT NUMBER: 2022199

Plans Prepared On: 2/6/2023

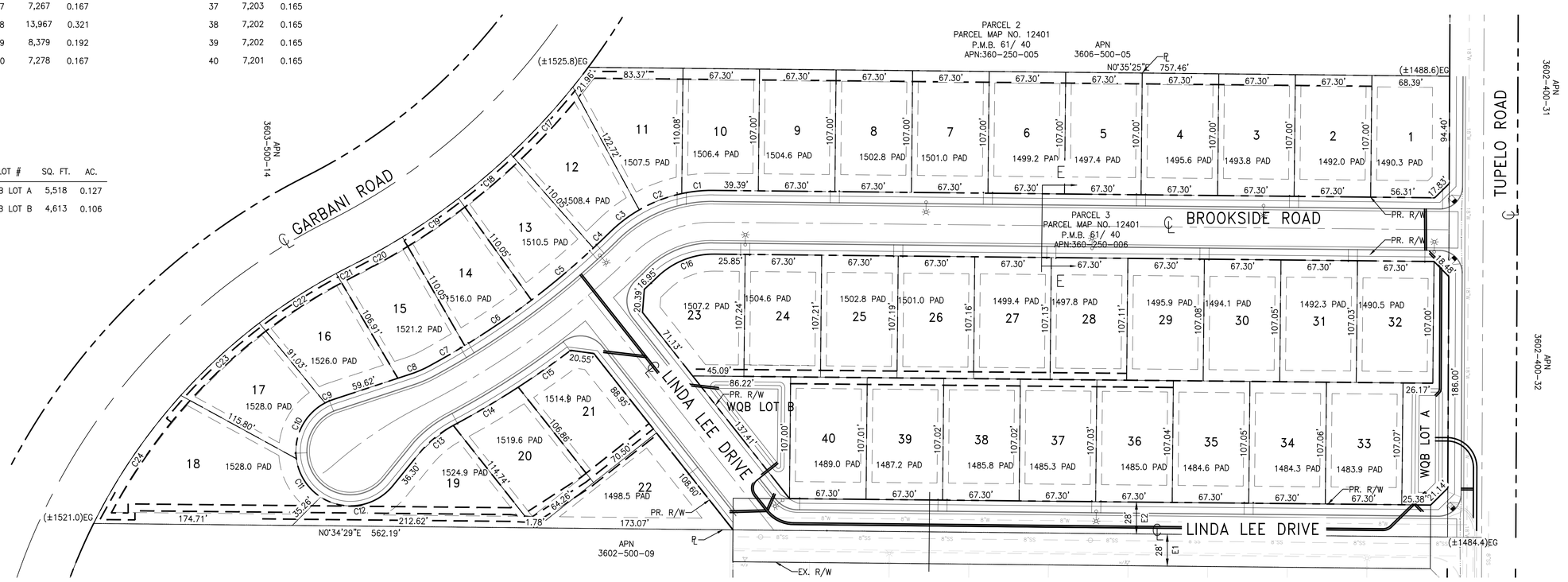
Z:\Shared\Blue\2022199 - Getsoni_Plan Set_Entitlement Package\2022199 - SP.dwg - LAST PLOTTED ON Mon 02/06/23 - 02:06PM BY SilviaAlmaraz

LOT #	SQ. FT.	AC.
1	7,270	0.167
2	7,201	0.165
3	7,201	0.165
4	7,201	0.165
5	7,201	0.165
6	7,201	0.165
7	7,201	0.165
8	7,201	0.165
9	7,201	0.165
10	7,230	0.166
11	8,442	0.194
12	7,426	0.170
13	7,220	0.166
14	7,212	0.166
15	7,212	0.166
16	7,233	0.166
17	7,267	0.167
18	13,967	0.321
19	8,379	0.192
20	7,278	0.167

LOT #	SQ. FT.	AC.
21	7,269	0.167
22	7,317	0.168
23	7,712	0.177
24	7,216	0.166
25	7,215	0.166
26	7,213	0.166
27	7,211	0.166
28	7,209	0.166
29	7,207	0.165
30	7,206	0.165
31	7,204	0.165
32	7,201	0.165
33	7,205	0.165
34	7,205	0.165
35	7,204	0.165
36	7,204	0.165
37	7,203	0.165
38	7,202	0.165
39	7,202	0.165
40	7,201	0.165

LOT #	SQ. FT.	AC.
WQB LOT A	5,518	0.127
WQB LOT B	4,613	0.106

CITY OF MENIFEE
SAN BERNARDINO COUNTY, CALIFORNIA
APN: 3602-500-06
TENTATIVE TRACT MAP



NOTES (THIS SHEET ONLY)

1. SEE SHEET 1 FOR VICINITY MAP, LEGAL DESCRIPTION, OWNER/ENGINEER CONTACT INFORMATION, AND UTILITY CONTACT INFORMATION
2. SEE SHEET 2 FOR LEGAL DESCRIPTION, LAND USE/ZONING INFORMATION, AND OTHER GENERAL PROJECT OR LOT INFORMATION
3. SEE SHEETS 4 AND 5 FOR CENTERLINE GRADES
4. SEE SHEET 5 FOR TYPICAL SECTIONS

LETTERED LOT DESCRIPTIONS

LOT "A" WATER QUALITY/RETENTION BASIN AND PUBLIC PARK TO BE MAINTAINED BY THE CITY OF MENIFEE

LOT "B" WATER QUALITY/RETENTION BASIN AND PUBLIC PARK TO BE MAINTAINED BY THE CITY OF MENIFEE

THE TENTATIVE MAP INCLUDES THE ENTIRE CONTINUOUS OWNERSHIP OF THE LAND DIVIDER

EASEMENT NOTES:

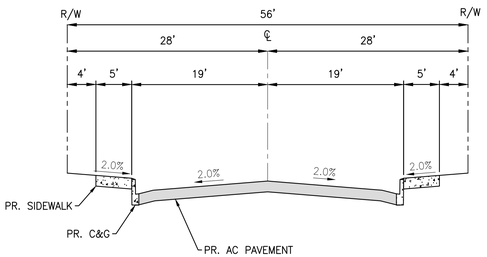
EASEMENTS ARE PLOTTED PER PRELIMINARY TITLE REPORT ORDER NO. 112207320, DATED 04-06-2022

E1 EASEMENT FOR ROADWAY PURPOSES PER INST. NO 2005-0247020, RECORDED MARCH 30,2005, OF OFFICIAL RECORDS

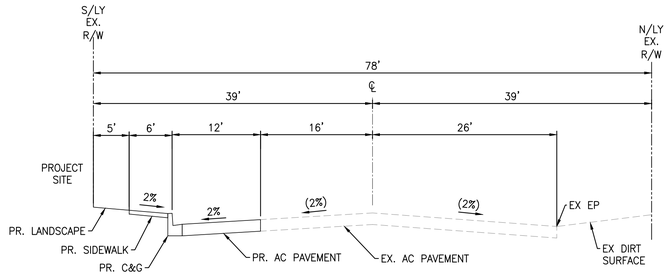
E2 EASEMENT FOR ROADWAY PURPOSES PER INST. NO 2005-0247021 RECORDED SEPTEMBER 21, 2004, OF OFFICIAL RECORDS

LEGEND

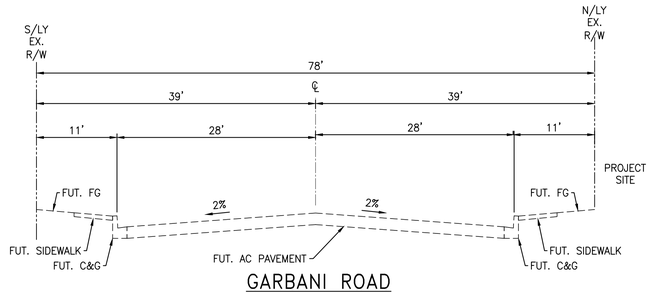
- (2800) EX CONTOURS
- BOUNDARY
- R/W
- LOT LINE
- EX. LOT LINE
- CENTERLINE
- BUILDING SETBACK LINE
- ROAD EASEMENT



BROOKSIDE ROAD
TYPICAL STREET SECTION
N.T.S.



TUPELO ROAD
TYPICAL STREET SECTION
N.T.S.



GARBANI ROAD
FUTURE STREET SECTION
N.T.S.

SCALE
50 0 25 50 100
(FEET)
1 INCH = 50 FT.

DESIGNED BY:	BY	CUP:	
DRAWN BY:	VL	LDP:	
CHECKED BY:	AC	DATE:	February 6, 2023

SEAL-DESIGN ENGINEER
REGISTERED PROFESSIONAL ENGINEER
ANGEL CESAR
No. 87222
CIVIL
STATE OF CALIFORNIA

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PLANS PREPARED UNDER THE SUPERVISION OF:
ANGEL CESAR, P.E. 87222 EXP. 9/30/23 DATE

REV.	REVISION DESCRIPTION	BY	DATE

CITY OF MENIFEE
McCALL BLVD, MENIFEE, CA 92585

REVIEWED BY:

DANIEL PADILLA
P.E. NO. C-67008
EXP. DATE 09-30-2024
DATE

TENTATIVE TRACT MAP

TENTATIVE TRACT MAP No. 38683
RESIDENTIAL DEVELOPMENT

SHEET 3
OF 5 SHEETS
PROJECT NUMBER: 2022199

Plans Prepared On: 2/6/2023

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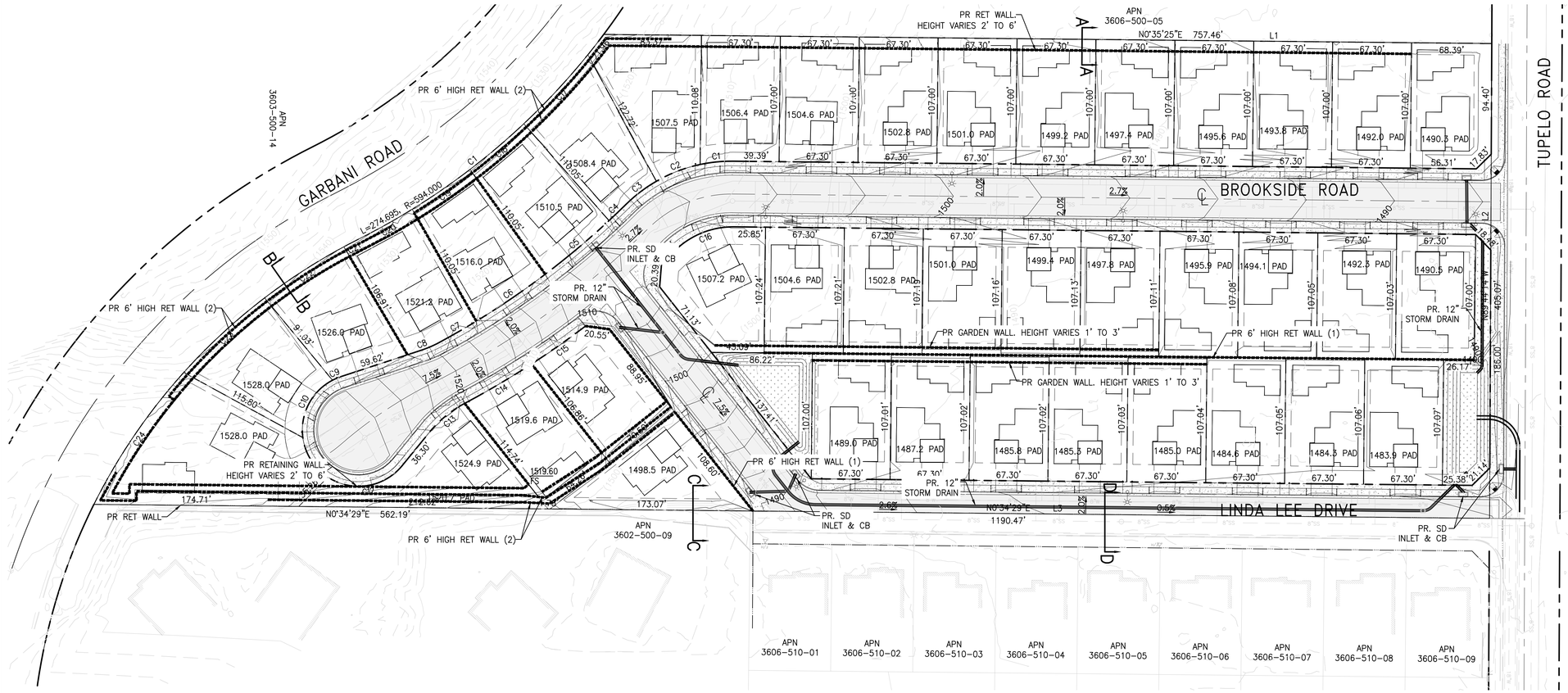

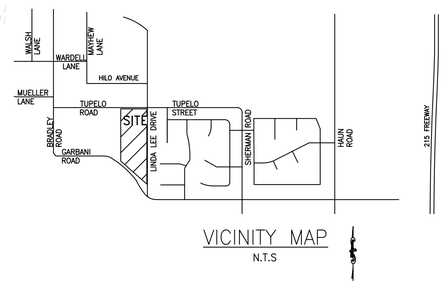

VICINITY MAP
N.T.S

APPLICANT/OWNER

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PHONE: 909-702-8889
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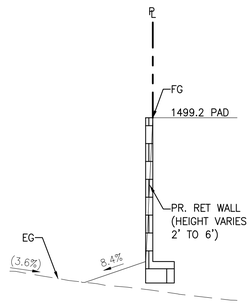
LEGAL DESCRIPTION

PARCEL 3 OF PARCEL MAP NO. 12401, IN THE CITY OF MENIFEE, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 61 PAGE 40 PARCEL MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.
APN: 3602-500-06
PROJECT NAME: GARBANI-NORTH RESIDENTIAL DEVELOPMENT
EARTH WORK: 23,700 CY (RAW CUT)
52,200 CY (RAW FILL)
28,500 CY (IMPORT)
SOURCE OF TOPOGRAPHY: 11/16/2022 BY GEOCULUS, INC.



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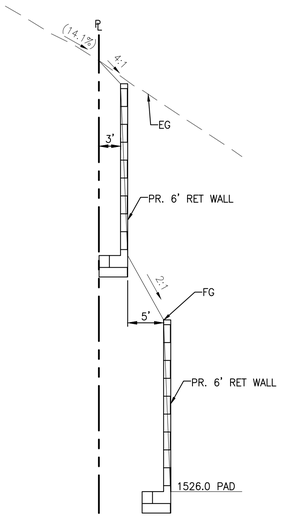

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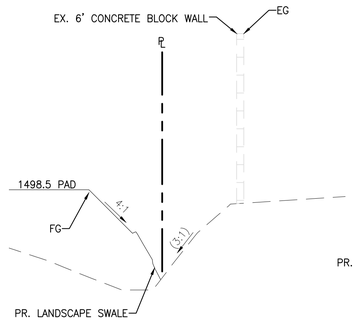

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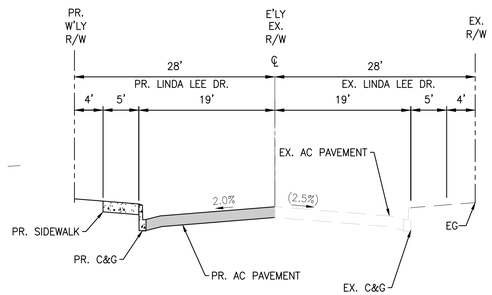

SECTION D-D
N.T.S.

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1 INCH = 50 FT.

DESIGNED BY: BY	SEAL-DESIGN ENGINEER	BLUE ENGINEERING & CONSULTING, INC FOREVER BLUE N.G.	9320 BASELINE RD., STE. D RANCHO CUCAMONGA, CA 91701 909-248-6557 INFO@BLUECIVILENG.COM - WWW.BLUECIVILENG.COM			CUP:	
DRAWN BY: VL	REGISTERED PROFESSIONAL ENGINEER ANGEL CESAR No. 87222 CIVIL STATE OF CALIFORNIA					LDP:	
CHECKED BY: AC		PLANS PREPARED UNDER THE SUPERVISION OF: ANGEL CESAR, P.E. 87222 EXP. 9/30/23 DATE	REV. / REVISION / DESCRIPTION / BY / DATE	CITY OF MENIFEE McCALL BLVD, MENIFEE, CA 92585	CONCEPTUAL GRADING PLAN	DATE: February 6, 2023	
				REVIEWED BY: DANIEL PADILLA P.E. NO. C-67008 EXP. DATE 09-30-2024 DATE	TENTATIVE TRACT MAP No. 38683 RESIDENTIAL DEVELOPMENT	SHEET 4 OF 5 SHEETS	
						PROJECT NUMBER: 2022199	

Plans Prepared On: 2/6/2023

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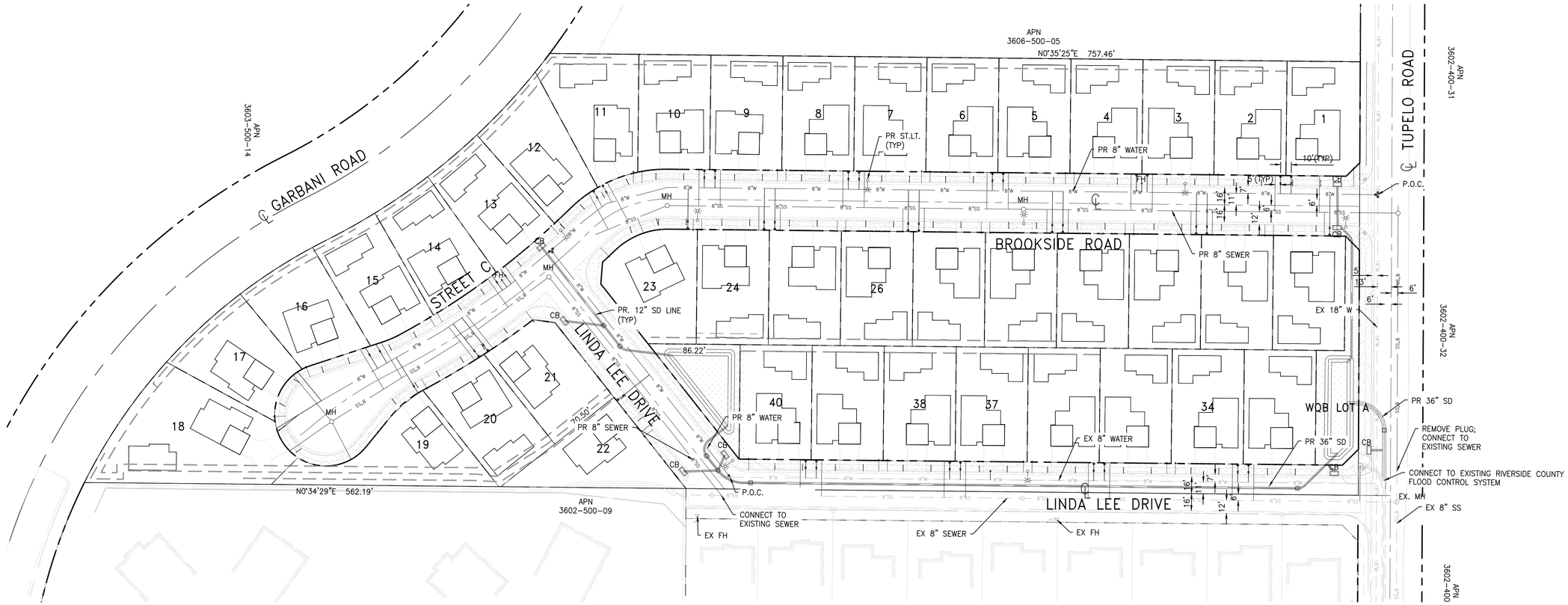

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1 INCH = 50 FT.

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DRAWN BY: VL
CHECKED BY: AC

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PLANS PREPARED UNDER THE SUPERVISION OF: ANGEL CESAR, P.E. 87222 EXP. 9/30/23 DATE

REV.	REVISION DESCRIPTION	BY	DATE

CITY OF MENIFEE
McCALL BLVD, MENIFEE, CA 92585

REVIEWED BY:

DANIEL PADILLA
P.E. NO. C-67008
EXP. DATE 09-30-2024
DATE

CONCEPTUAL UTILITY PLAN

TENTATIVE TRACT MAP No. 38683
RESIDENTIAL DEVELOPMENT

CUP:
LDP:
DATE: February 6, 2023
SHEET 5 OF 5 SHEETS
PROJECT NUMBER: 2022199

Plans Prepared On: 2/6/2023

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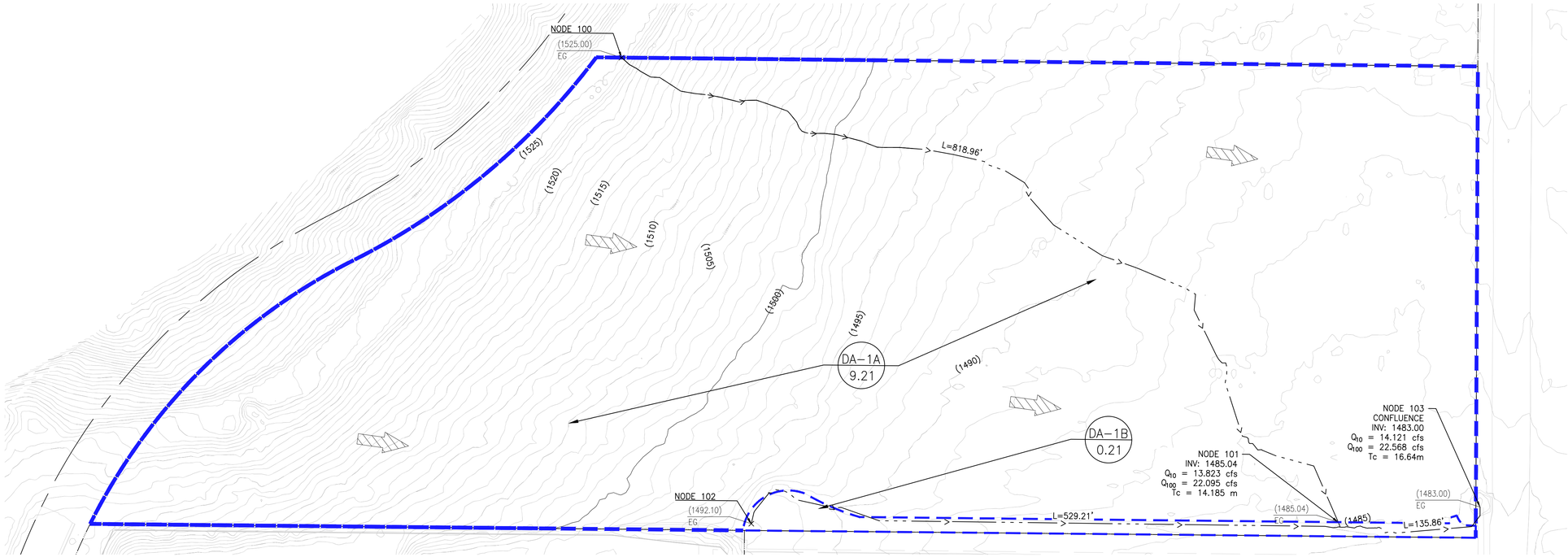

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1 INCH = 50 FT.

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DRAWN BY: VL
CHECKED BY: AC

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ANGEL CESAR, P.E. 87222 EXP. 9/30/23 DATE

REV.	REVISION DESCRIPTION	BY	DATE

CITY OF MENIFEE
McCALL BLVD, MENIFEE, CA 92585

REVIEWED BY:

DANIEL PADILLA
P.E. NO. C-67008
EXP. DATE 09-30-2024
DATE

PRE-DEVELOPMENT HYDROLOGY KEY MAP

TENTATIVE TRACT MAP No. 38683
RESIDENTIAL DEVELOPMENT

CUP:
LDP:
DATE: February 6, 2023
SHEET 1
OF 3 SHEETS
PROJECT NUMBER: 2022199

Plans Prepared On: 2/6/2023

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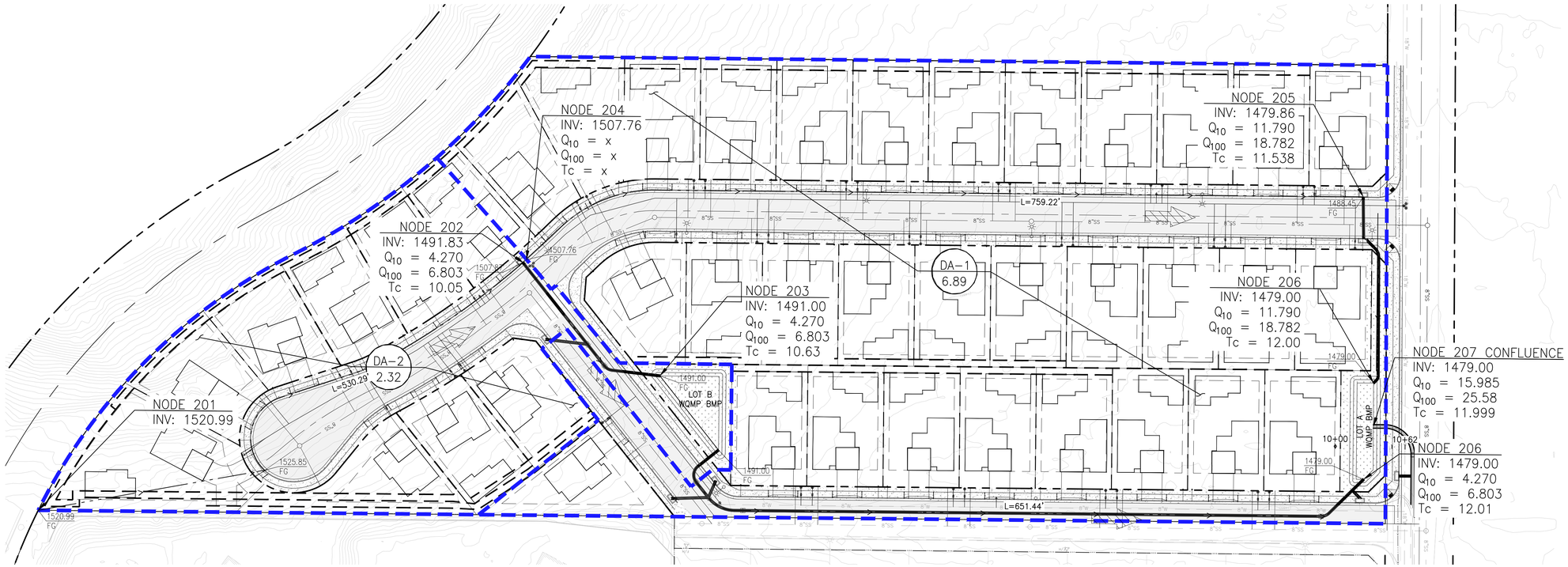

LEGEND

- X / x.xx — DRAINAGE AREA DESIGNATION / AREA IN ACRES
- WATERSHED BOUNDARY
- FLOW LINE
- RIGHT-OF-WAY
- CENTER LINE
- DRAINAGE ARROW

SCALE
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(FEET)
1 INCH = 50 FT.

DESIGNED BY:
DRAWN BY:
CHECKED BY:

SEAL-DESIGN ENGINEER
REGISTERED PROFESSIONAL ENGINEER — ANGEL CESAR — No. 87222 — CIVIL — STATE OF CALIFORNIA

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PLANS PREPARED UNDER THE SUPERVISION OF:
ANGEL CESAR, P.E. 87222 EXP. 9/30/23 — DATE

REV.	REVISION DESCRIPTION	BY	DATE

CITY OF MENIFEE
McCALL BLVD, MENIFEE, CA 92585

REVIEWED BY:
DANIEL PADILLA
P.E. NO. C-67008
EXP. DATE 09-30-2024
DATE

POST-DEVELOPMENT HYDROLOGY KEY MAP

TENTATIVE TRACT MAP No. 38683
RESIDENTIAL DEVELOPMENT

CUP:
LDP:
DATE: February 6, 2023
SHEET 2
OF 3 SHEETS
PROJECT NUMBER:

Plans Prepared On: 2/6/2023

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Appendix 3: Soils Information

Geotechnical Study and Other Infiltration Testing Data

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Western Riverside Area, California

November 2, 2022

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

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WxD2—Wyman fine sandy loam, 8 to 15 percent slopes, eroded.....15
YbC—Yokohl loam, 2 to 8 percent slopes.....16
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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Scale: 1:2,150 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 30 60 120 180

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons

Soil Map Unit Lines

Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Other

Special Line Features

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Western Riverside Area, California
Survey Area Data: Version 15, Sep 6, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 14, 2022—Mar 17, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
LaD2	Las Posas loam, 8 to 15 percent slopes, eroded	1.2	13.2%
LkF3	Las Posas rocky loam, 15 to 50 percent slopes, severely eroded	1.0	10.3%
WxD2	Wyman fine sandy loam, 8 to 15 percent slopes, eroded	2.3	24.4%
YbC	Yokohl loam, 2 to 8 percent slopes	4.9	52.0%
Totals for Area of Interest		**9.3**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Western Riverside Area, California

LaD2—Las Posas loam, 8 to 15 percent slopes, eroded

Map Unit Setting

National map unit symbol: hcwk
Elevation: 200 to 3,000 feet
Mean annual precipitation: 12 to 18 inches
Mean annual air temperature: 63 degrees F
Frost-free period: 240 to 300 days
Farmland classification: Not prime farmland

Map Unit Composition

Las posas and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Las Posas

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from gabbro

Typical profile

H1 - 0 to 12 inches: loam
H2 - 12 to 30 inches: clay loam
H3 - 30 to 54 inches: weathered bedrock

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Ecological site: R019XD029CA - LOAMY
Hydric soil rating: No

Minor Components

Murrieta

Percent of map unit: 5 percent
Hydric soil rating: No

Tumescal

Percent of map unit: 5 percent
Hydric soil rating: No

Cajalco

Percent of map unit: 5 percent
Hydric soil rating: No

LkF3—Las Posas rocky loam, 15 to 50 percent slopes, severely eroded

Map Unit Setting

National map unit symbol: hcwp
Elevation: 200 to 3,000 feet
Mean annual precipitation: 12 to 18 inches
Mean annual air temperature: 63 degrees F
Frost-free period: 240 to 300 days
Farmland classification: Not prime farmland

Map Unit Composition

Las posas and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Las Posas

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from gabbro

Typical profile

H1 - 0 to 6 inches: stony loam
H2 - 6 to 20 inches: clay loam
H3 - 20 to 24 inches: weathered bedrock

Properties and qualities

Slope: 15 to 50 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Ecological site: R019XD060CA - SHALLOW LOAMY
Hydric soil rating: No

Minor Components

Rock outcrop

Percent of map unit: 10 percent
Hydric soil rating: No

Murrieta

Percent of map unit: 5 percent
Hydric soil rating: No

Tumescal

Percent of map unit: 5 percent
Hydric soil rating: No

Cajalco

Percent of map unit: 5 percent
Hydric soil rating: No

WxD2—Wyman fine sandy loam, 8 to 15 percent slopes, eroded

Map Unit Setting

National map unit symbol: hd0d
Elevation: 300 to 2,500 feet
Mean annual precipitation: 9 to 25 inches
Mean annual air temperature: 59 to 63 degrees F
Frost-free period: 200 to 300 days
Farmland classification: Not prime farmland

Map Unit Composition

Wyman and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wyman

Setting

Landform: Alluvial fans
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Alluvium derived from igneous rock

Typical profile

H1 - 0 to 12 inches: fine sandy loam

H2 - 12 to 36 inches: clay loam
H3 - 36 to 60 inches: stratified loam to clay loam

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.1 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: R019XD029CA - LOAMY
Hydric soil rating: No

Minor Components

Honcut

Percent of map unit: 10 percent
Hydric soil rating: No

Buren

Percent of map unit: 5 percent
Hydric soil rating: No

YbC—Yokohl loam, 2 to 8 percent slopes

Map Unit Setting

National map unit symbol: hd0g
Elevation: 500 feet
Mean annual precipitation: 10 to 14 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 260 days
Farmland classification: Not prime farmland

Map Unit Composition

Yokohl and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Yokohl

Setting

Landform: Alluvial fans
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from igneous rock

Typical profile

H1 - 0 to 10 inches: loam
H2 - 10 to 26 inches: clay loam
H3 - 26 to 30 inches: indurated
H4 - 30 to 60 inches: stratified sandy loam to gravelly loam

Properties and qualities

Slope: 2 to 8 percent
Depth to restrictive feature: 20 to 39 inches to duripan
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 2.3 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Ecological site: R019XD061CA - CLAYPAN
Hydric soil rating: No

Minor Components

Wyman

Percent of map unit: 5 percent
Hydric soil rating: No

Porterville

Percent of map unit: 5 percent
Hydric soil rating: No

Buren

Percent of map unit: 4 percent
Hydric soil rating: No

Unnamed

Percent of map unit: 1 percent
Landform: Depressions
Hydric soil rating: Yes

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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

TABLE 3-4. LID BMP Applicability

LID BMP Hierarchy	A	B	C	D
	K_{SAT}> 1.6"/hr., and no restrictions on infiltration	Are Harvest and Use BMPs feasible?	0.3"/hr. < K_{SAT} < 1.6"/hr., or unpredictable or unknown	K_{SAT} < 0.3"/hr.
LID Infiltration BMPs*	✓			
Harvest and Use BMPs		✓		✓
LID Bioretention	✓		✓	✓
LID Biotreatment				✓

Notes for Table 3-5:

***See also** Figure 3-6 for guidance in selecting appropriate BMPs*

***Column A:** Selections from this column may be used in locations where the infiltration rate of underlying soils is at least 1.6" per hour and no restrictions on infiltration apply to these locations.*

***Column B:** Harvest and Use BMPs may be used where it can be shown that there is sufficient demand for harvested water and where LID Infiltration BMPs are not feasible.*

***Column C:** Selections in this column may be used in locations where the measured infiltration rate of underlying soils is between 0.3" and 1.6" per hour or where, in accordance with recommendations of a licensed geotechnical engineer, the post-development saturated hydraulic conductivity is uncertain or unknown or cannot be reliably predicted because of soil disturbance or fill, anisotropic soil characteristics, presence of clay lenses, or other factors.*

***Column D:** Selections in this column may be used in locations where the infiltration rate of underlying soils is 0.3" per hour or less. See Chapter 2 for more information.*

** Permeable Pavement, when designed with a maximum of a 2:1 ratio of impervious area to pervious pavement areas, or less, is considered a self-retaining area, and is not considered an LID BMP for the purposes of this table. This table focuses on the 'special case' included in the discussion of 'areas draining to self-retaining areas' above, where a project proponent can choose to design the pervious pavement as a LID BMP in accordance with an approved design, such as the LID BMP Design handbook, and in return drain additional impervious area onto the pervious pavement beyond the 2:1 ratio.*

3.4.2.a. Laying out your LID BMPs

Finding the right location for LID BMPs on your site involves a careful and creative integration of several factors:

- ✓ To make the most efficient use of the site and to maximize aesthetic value, **integrate BMPs with site landscaping**. Many local zoning codes may require landscape setbacks or buffers, or may specify that a minimum portion of the site be landscaped. It may be possible to locate some or all of your site's Stormwater BMPs within this same area, or within utility easements or other non-buildable areas.

- ✓ Bioretention BMPs must be **level or nearly level** all the way around. When configured in a linear fashion (similar to swales) bioretention BMPs may be gently sloped end to end, but opposite sides must be at the same

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	Blue Engineering & Consulting, Inc.	Date	1/30/2023
Designed by	Angel Cesar	Case No	
Company Project Number/Name			

BMP Identification

BMP NAME / ID: BMP A

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} = 0.61 inches

Drainage Management Area Tabulation

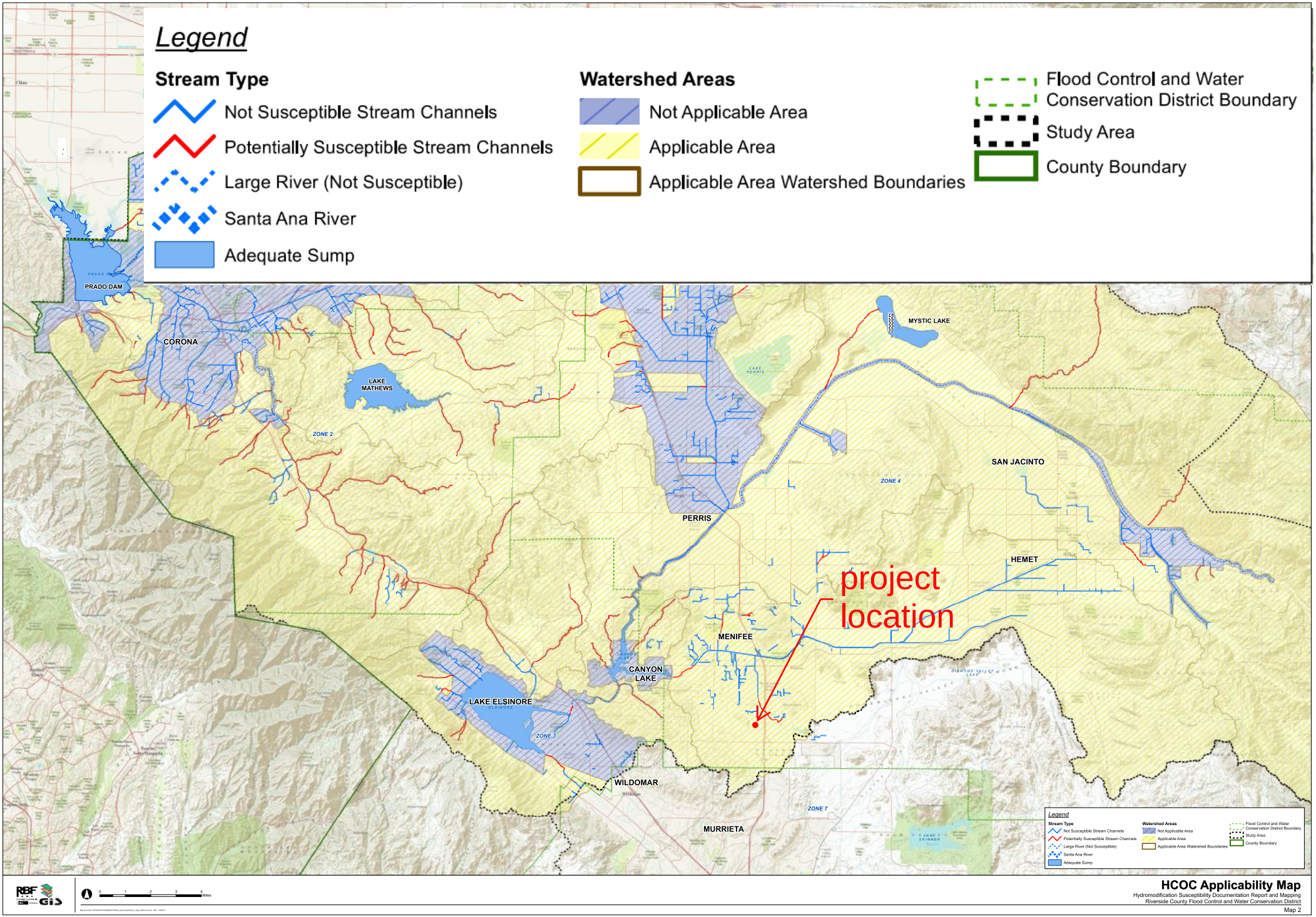
Insert additional rows if needed to accommodate all DMAs draining to the BMP

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)
A	91394	Roofs	1	0.89	81523.4			
A	104314	Concrete or Asphalt	1	0.89	93048.1			
A	202218	Ornamental Landscaping	0.1	0.11	22336.6			
	397926	Total			196908.1	0.61	10009.5	11272

Notes:

Appendix 7: Hydromodification

Supporting Detail Relating to Hydrologic Conditions of Concern


Legend
Stream Type
Not Susceptible Stream Channels
Potentially Susceptible Stream Channels
Large River (Not Susceptible)
Santa Ana River
Adequate Sump
Watershed Areas
Not Applicable Area
Applicable Area
Applicable Area Watershed Boundaries
Flood Control and Water Conservation District Boundary
Study Area
County Boundary
PRADO DAM
CORONA
LAKE MATHEWS
ZONE 2
MYSTIC LAKE
LAKE PERRIS
ZONE 4
SAN JACINTO
PERRIS
HEMET
project location
MENIFEE
CANYON LAKE
LAKE ELSINORE
ZONE 3
WILDOMAR
ZONE 7
MURRIETA
0 1 2 3 4 Miles
HCOC Applicability Map
Hydromodification Susceptibility Documentation Report and Mapping
Riverside County Flood Control and Water Conservation District
Map 2

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.

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**
❑ **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

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**
❑ **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/

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**
❑ **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

Appendix 10: Educational Materials

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

Saltwater Pools

- Salt water pools, although different from regular pools, are in fact, sanitized using chlorine. A salt-chlorine generator separates the chlorine and sodium molecules in salt and reintroduces them into the pool water. The same harmful effects of chlorine still apply.
- A salt water pool is still maintained with chemicals such as Muriatic acid, soda ash and sodium carbonate to help keep a proper pH, total Alkalinity, Calcium Hardness and Stabilizer levels.

- It may be illegal to discharge salt water to land. The salt may kill plants and the build-up of salt in soil puts animals, plants, and groundwater at risk. Consult your city representatives to determine local requirements regarding salt water drainage.

NEVER put unused chemicals into the trash, onto the ground or down a storm drain.

IMPORTANT: The discharge of pollutants into the street, gutter, storm drain system or waterways - without a permit or waiver - is strictly prohibited by local ordinances, state and federal law. Violations may result in monetary fines and enforcement actions.

Helpful telephone numbers and links

Riverside County Water Agencies:

City of Banning	(951) 922-3130
City of Beaumont/Cherry Valley	(951) 845-9581
City of Blythe	(760) 922-6161
City of Coachella	(760) 398-3502
City of Corona	(951) 736-2263
City of Hemet	(951) 765-3710
City of Norco	(951) 270 5607
City of Riverside Public Works	(951) 351-6140
City of San Jacinto	(951) 654-4041
Coachella Valley Water District	(760) 398-2651
Desert Water Agency (Palm Springs)	(760) 323-4971
Eastern Municipal Water District	(951) 928-3777
Elsinore Valley Municipal Water District	(951) 674 3146
Elsinore Water District	(951) 674-2168
Farm Mutual Water Company	(951) 244-4198
Idyllwild Water District	(951) 659-2143
Indio Water Authority	(760) 391-4129
Jurupa Community Services District	(951) 685-7434
Lee Lake Water	(951) 658-3241
Mission Springs Water	(760) 329-6448
Rancho California Water District	(951) 296-6900
Ripley, CSA #62	(760) 922-4951
Riverside Co. Service Area #51	(760) 227-3203
Rubidoux Community Services District	(951) 684-7580
Valley Sanitary District	(760) 347-2356
Western Municipal Water District	(951) 789-5000
Yucaipa Valley Water District	(909) 797-5117

CALL 1-800-506-2555 to:

- Report clogged storm drains or illegal storm drain disposal from residential, industrial, construction and commercial sites into public streets, storm drains and/or water bodies.
- Find out about our various storm drain pollution prevention materials.
- Locate the dates and times of Household Hazardous Waste (HHW) Collection Events.
- Request adult, neighborhood, or classroom presentations.
- Locate other County environmental services.
- Receive grasscycling information and composting workshop information.

Or visit our
Riverside County Flood Control and Water Conservation District
website at: www.rcflood.org

Other links to additional storm drain pollution information:

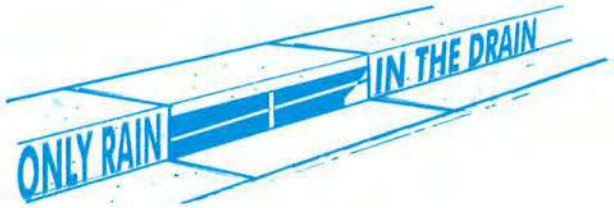
- County of Riverside Environmental Health: www.rivcoeh.org
- State Water Resources Control Board: www.waterboards.ca.gov
- California Stormwater Quality Association: www.casqa.org
- United States Environmental Protection Agency (EPA): www.epa.gov/compliance/assistance (compliance assistance information)

Riverside County's, "Only Rain Down the Storm Drain" Pollution Prevention Program gratefully acknowledges the Bay Area Stormwater Management Agencies Association and the Cleaning Equipment Trade Association for information provided in this brochure.

Guidelines for Maintaining your...

Swimming Pool, Jacuzzi and Garden Fountain

Where does the water go?



Pool, Jacuzzi and Fountain wastewater and rain water runoff (also called stormwater) that reach streets can enter the storm drain and be conveyed directly into local streams, rivers and lakes.

A storm drain's purpose is to prevent flooding by carrying rain water away from developed areas. Storm drains are not connected to sanitary sewers systems and treatment plants!

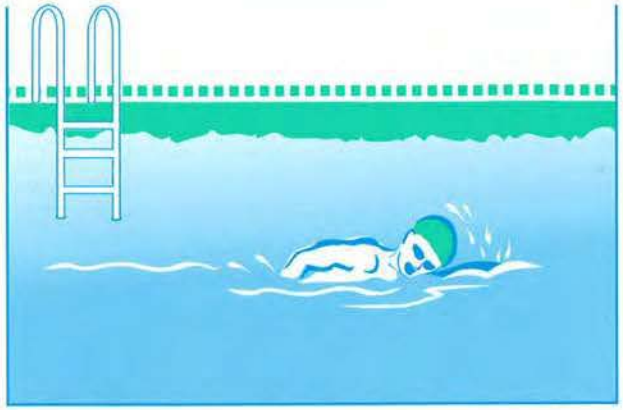
Wastewater, from residential swimming pools, Jacuzzis, fishponds and fountains, often contains chemicals used for sanitizing or cleansing purposes. Toxic chemicals (such as chlorine or copper-based algaecides) may pollute the environment when discharged into a storm drain system.

The Cities and County of Riverside have adopted ordinances that prohibit the discharge of wastewater to the street and storm drain system.

Discharge Regulations

Regulatory requirements for discharging wastewater from your pool may differ from city to city. Chlorinated water should not be discharged into the street, storm drain or surface waters. Check with your water agency to see if disposal to the sanitary sewer line is allowed for pool discharges (see reverse for Riverside County sewer agencies).

If allowed, a hose can be run from the pool Jacuzzi, or fountain to the private sewer cleanout, washing machine drain or a sink or bathtub.



If you cannot discharge to the sewer, you may drain your fountain, pool, or jacuzzi to your landscaping by following these guidelines:

First, reduce or eliminate solids (e.g. debris, leaves or dirt) in the pool water and allow the chemicals in the pool water to dissipate before draining the pool (this could take up to 7 days, verify using a home pool test kit).

Second, slowly drain to a landscaped area away from buildings or structures. Control the flow to prevent soil erosion; it may take more than one day to empty. Do not allow sediment to enter the street, gutter or storm drain.

Maintenance & Chemicals

Cleaning Filters

Filter rinse water and backwash must be discharged to the sanitary sewer, on-site septic tank and drain field system (if properly designed and adequately sized), or a seepage pit. Alternatively, rinse water or backwash may be diverted to landscaped or dirt areas. Filter media and other non-hazardous solids should be picked up and disposed of in the trash.

Algaecides

Avoid using copper-based algaecides unless absolutely necessary. Control algae with chlorine, organic polymers or other alternatives to copper-based pool chemicals. Copper is a heavy metal that can be toxic to aquatic life when you drain your pool.

Chemical Storage and Handling

- Use only the amount indicated on product labels
- Store chlorine and other chemicals in a covered area to prevent runoff. Keep out of reach of children and pets.
- Chlorine kits, available at retail swimming pool equipment and supply stores, should be used to monitor the chlorine and pH levels before draining your pool.
- Chlorine and other pool chemicals should never be allowed to flow into the gutter or storm drain system.

Take unwanted chemicals to a Household Hazardous Waste (HHW) Collection Event. There's no cost for taking HHW items to collection events – it's FREE! Call **1-800-506-2555** for a schedule of HHW events in your community.

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

Used Oil and 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:

water efficient
L A N D S C A P E S

In California, the largest use of all urban water is watering landscapes. When a landscape or irrigation system is poorly designed or poorly maintained, or the landscape consists of plants not suited to the dry and often hot California climate, water demand increases as a result of excessive evaporation, leaks, and runoff. Water consumption can be greatly reduced with careful planning, good plant selection, efficient irrigation systems, and good water management and maintenance practices.

Since California experiences frequent and sometimes prolonged droughts together with an ever increasing demand, there is a great need for us to use water efficiently. But this doesn't mean we have to give up our gardens. We can use water more efficiently and still have colorful, esthetically pleasing landscapes—including some turf areas for recreation.

This brochure is intended to help you create a landscape that is not only water efficient, but attractive, colorful, and low maintenance. The designs illustrated here are typical back yards, but the principles of water efficient gardening apply to front yards as well.

Planning ahead

Planning is the key to a successful water wise landscape. It is very tempting to go to a garden center and buy plants because they catch your eye, but not knowing where to place them and how much water they need are the beginnings of an unnecessarily high water using landscape. By planning ahead, costly mistakes can be avoided.

Contact your local water provider to see if they offer any services such as water audits or landscape planning. Some agencies offer landscaping classes and provide water conservation devices. Some also have demonstration gardens where you can witness water efficient gardens in person, see how attractive they can be, and get ideas for your own site.

To get started, measure the landscape and draw the area and any existing landscape features to scale. This will give you an idea of the numbers of plants you will need, the size of the lawn and how much irrigation pipe, sprinkler heads, and mulch you will need to buy.

Consider the size, sun exposure, and slope of the area to be landscaped. Avoid lawns on slopes that are difficult to mow and water. If possible, reduce slopes in the landscape that encourage runoff and waste water.

Think about who will use the landscape and how they will use it. These factors determine the type of plants required and how it will be maintained. Don't forget the need for shade and privacy screening.

When drawing the actual planting plan, avoid the temptation to place too many plants for the area. A crowded garden will use more water, cost more, be prone to diseases, and require more maintenance.

Consult books such as *Sunset Western Landscaping Book* about garden design. Many books available are very good for useful advice and ideas. Some are written with the dry west in mind and focus on landscaping with the proper types of plants for warm, dry climates.

If this phase of the project is too difficult, hire a licensed landscape architect or designer. A landscape architect might be able to design the irrigation system for you or you can consult with an irrigation design specialist. Be sure to keep a copy of the landscape plans for future reference.

How much grass do you need?

Lawns use more water than any other part of a landscape and they cover large amounts of acreage statewide. Oftentimes lawns are installed because an alternative was never considered. There are alternatives to lawns, so in the planning stage decide if lawn is really a requirement in your yard. Think of who will use it and how often, who will mow it, fertilize it, remove the thatch, etc.

Perhaps a lawn is not needed at all. If a grass area is really just space filler, consider alternatives such as hardscapes, rock gardens or an unthirsty groundcover. This is especially important on areas with slopes that tend to shed water faster than it can soak in. Water draining into street gutters and storm drains often discharges directly into streams and this runoff from landscapes frequently contains fertilizers, pesticides, and other pollutants.

If you choose to plant a turf area after considering these factors, minimize the size of the lawn and choose a grass type that doesn't require lots of water and fertilizer.

Warm season grasses such as Hybrid Bermuda Grass and St. Augustine Grass use much less water than cool-season grass such as Kentucky Bluegrass. Certain Dwarf Tall Fescues use somewhat less water than Bluegrass.

Warm season grasses typically have a short winter dormant period, but winter dormancy occurs when many people are not actively using their gardens and even dormant, warm season grass provides a usable surface for people and pets. If the look of dormant grass is objectionable, it can be overseeded with another type of grass for the winter.

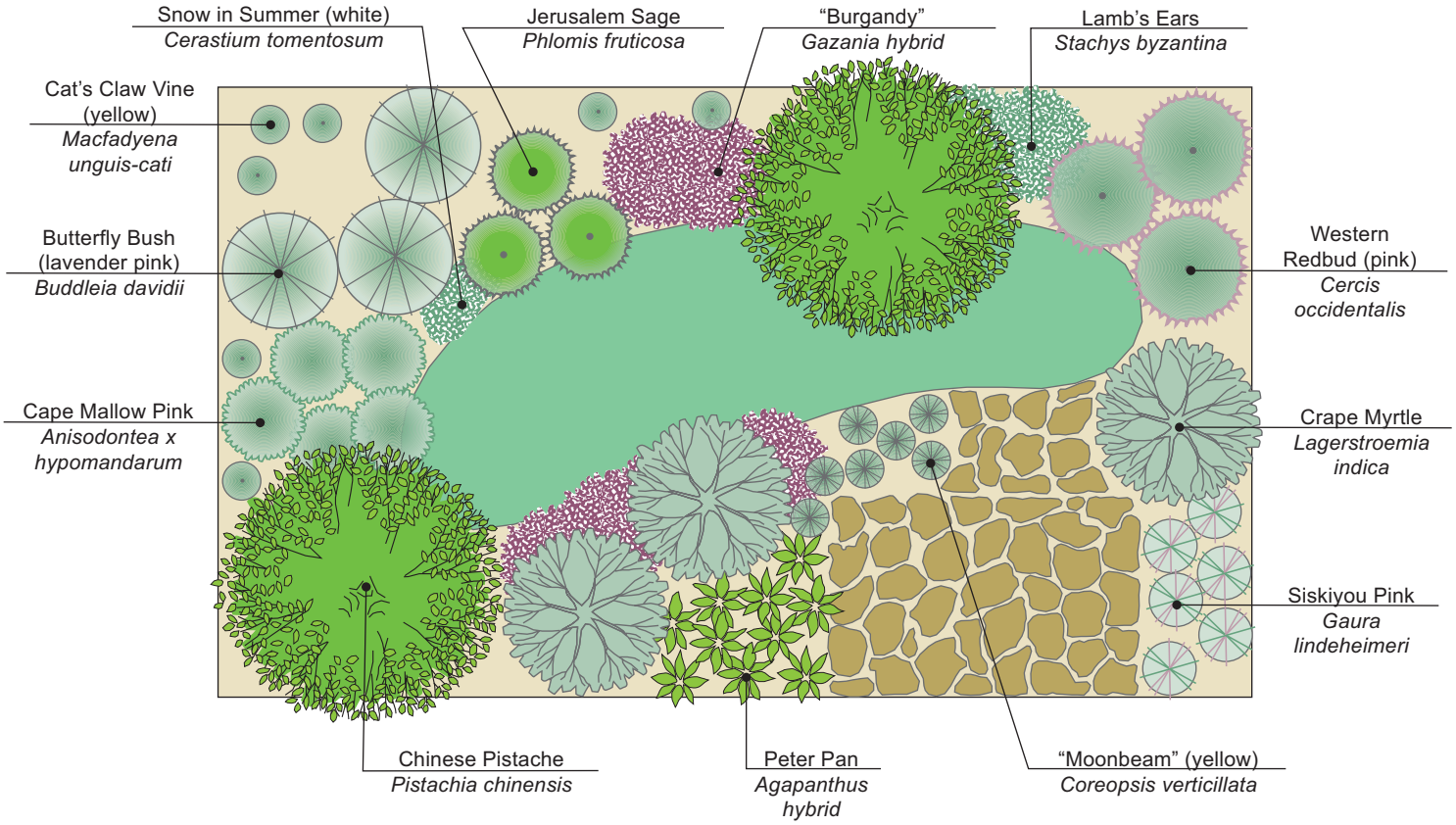
Good choices make good landscapes

Once a decision regarding the turf area has been made, choose trees and large shrubs next. Make these choices carefully, they are the "backbone" of any landscape and poor choices will result in high water use, poor performance, and frequently costly maintenance or removal.

When selecting trees and large shrubs, choose varieties that will still fit into your yard when they mature. Learn what your climate zone is and buy plants that are suited to it. Choose deciduous trees for shade and evergreen trees for screening.

water efficient landscape

What's right about this landscape?
Warm-season grass, permeable surface patio, water efficient plants with nearly year-round color, mulch in shrub areas, deciduous trees for summer shade and winter sun, a California native, shrubs attractive to hummingbirds and butterflies. This garden, with a landscaped area of 1,800 sq. ft., requires about 5,800 gallons of water to irrigate for the month of July in the Central Valley. A smaller lawn would make this landscape even more water efficient. A landscape of the same size with thirsty plants and a bluegrass lawn would require an additional 2,000 to 3,000 gallons of water for the month of July.



Try to group plants by water requirements, such as very low (e.g. drought tolerant California natives, such as Blue Oaks, Western Redbud), low (e.g. Rosemary, Lavender), medium (e.g. Photinia, Euonymus), and high (e.g. Australian Tree Fern, Umbrella Sedge). Keep the high water-using plants to a minimum as focal points.

For help with selecting trees, shrubs, and groundcovers consult a good gardening encyclopedia such as *Sunset Western Garden Book*, your local Cooperative Extension, or a reputable nursery. Your local Urban Forester or tree foundation can give valuable advice about which trees grow well in your area.

Another excellent reference is *A Guide to Estimating Irrigation Water Needs of Landscape Plantings in California*, which is available on the Department of Water Resources Web site at:
http://www.owue.water.ca.gov/docs/wucols00.pdf

Beginning on page 45, this publication gives the water needs of landscape plants in the six major climate regions of California. Guides of this type are valuable in the design stage by aiding in the selection of plants for groupings with similar water needs. These groupings of plants of similar water requirements are also known as hydrozones.

Irrigation

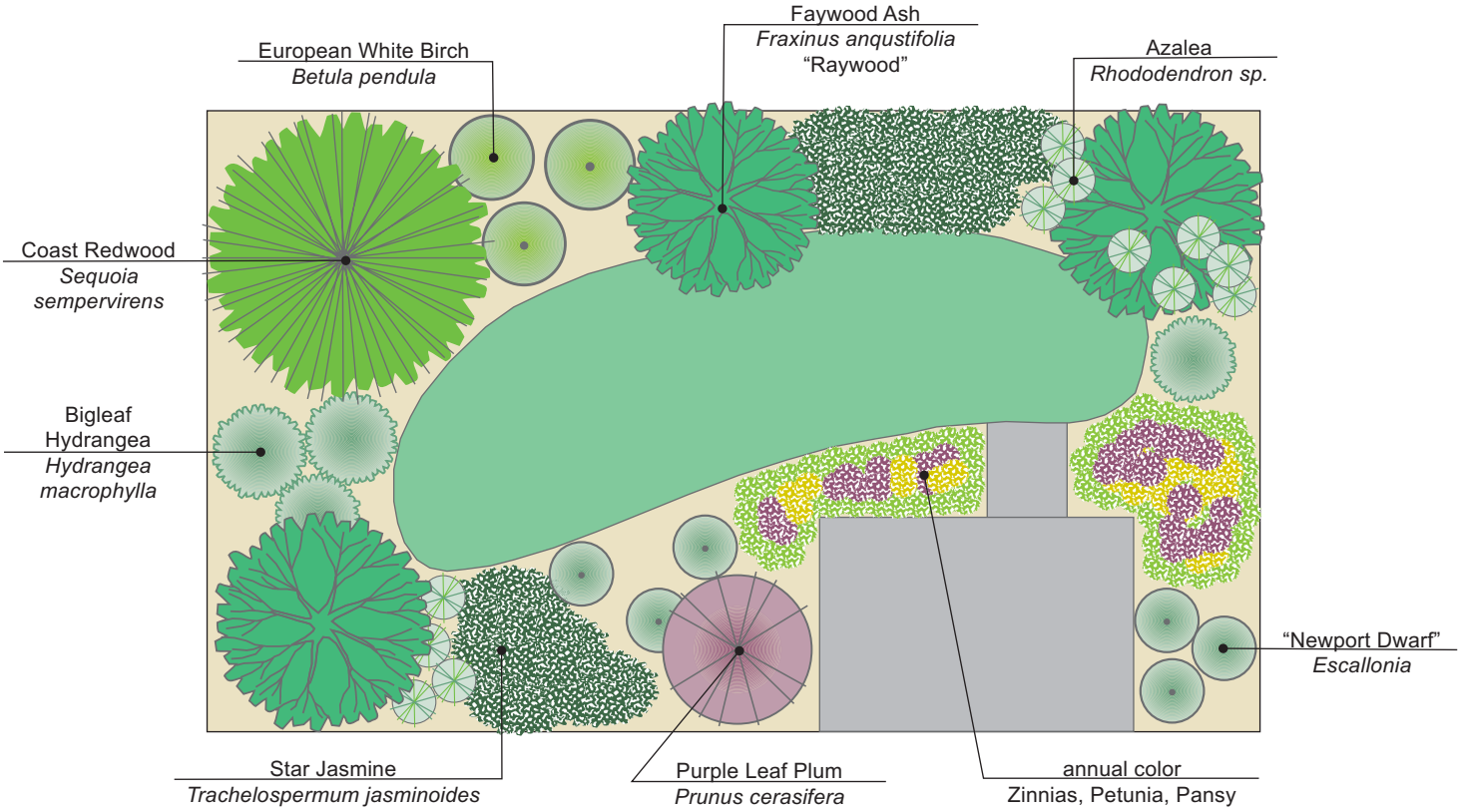
After the plants are chosen, design and install an efficient irrigation system—one that will deliver a sufficient amount of water where it's needed. If you need information or help to design an irrigation system, ask at an irrigation supply store or hire a licensed landscape contractor who specializes in irrigation systems to design and install it.

Several of the major irrigation equipment manufacturers sell inexpensive irrigation design manuals online and at supply stores. A good irrigation design manual will

typical landscape

What's wrong with this landscape? (from a water conservation point of view)
Large lawn with cool-season grass, impervious patio, and a lot of high water using plants (Hydrangea, Azaleas, Birches, Annual color and Coast Redwood). This garden, with a 1,600 sq. ft. landscaped area, requires about 8,400 gallons of water to irrigate for the month of July in the Central Valley. This landscape requires over 2,500 gallons of water more per month (in July) than the previous example.

What could be a better version?
Although this landscape uses several water efficient plants, the water use is still high. Smaller lawn, warm season grass, less high water using plants, mulch, and avoiding large trees in smaller yards make landscapes much more resource efficient. For example, Redwoods need a lot of moisture and grow too large.



address important aspects of sprinkler design such as sprinkler layout, water pressure, choosing the right sprinkler for the job, head to head coverage, and matching precipitation rates. Some manufacturers offer free irrigation design services.

Always be sure to keep a drawing of the sprinkler layout and a list of parts used (including brand names and model numbers) for future reference. This will make any future repairs or additions much easier.

Use sprinklers that will apply water evenly. Use stream rotors on lawns and bubblers in shrub and tree areas. The better quality pop-up spray sprinklers work well in smaller areas, but avoid using sprinklers that create a fine mist because much of that water is lost to evaporation and overspray.

Check the operating pressure with a pressure gauge at an outdoor faucet so that you can select the right sprinkler for the job. Sprinklers are labeled to show how far they spray at different pressures. Operation at too high of pressure will create a lot of water-wasting mist and too little pressure will cause uneven coverage.

Microspray and drip irrigation are other good choices for tree and shrub areas. Microspray and drip also work well on container gardens and window boxes. Microspray and drip systems apply water slowly and just where it's needed.

When you water, apply it infrequently, deeply (throughout the root zone), and evenly. This will encourage deep rooting, which will make plants better able to withstand hot, dry spells.

Lawns require water about once or twice a week in warm weather. Trees and shrubs require watering less frequently. Because of this shrubs and trees should always be on separate zones from turf.

In the spring, fall, and winter all plants need much less water than is required in summer. Consequently, watering time should be much shorter and less frequently in the off peak seasons.

One way to make watering much easier is by using an irrigation controller, also called a sprinkler timer or clock. Timers can save gardeners a lot of time by watering automatically, but they can waste a lot of water if not reprogrammed to water less as the seasons change.

If an irrigation controller is to be used, be sure to purchase one with multiple functions. Buy one with extra stations in case you need to add irrigation zones later. Most importantly, adjust the timer monthly, weekly if needed, so that the irrigation time set for the summer is not set during the rest of the year.

During hot or cool spells most controllers can be easily adjusted without disturbing the original program. By using the "seasonal adjust" or "budget adjust" feature, frequent changes to the amount of time watering can easily be accomplished simply by pushing a button.

The amount of water applied can be increased or decreased in 10% increments. When considering that July is usually the peak demand for water, it can be considered to be the 100% mark.

For example, during April the irrigation could be turned on and the controller set for 60% of the amount it will be watered in July. This can be accomplished by pushing the seasonal adjust button until the display shows 60%. The controller can be adjusted upwards gradually as the weather warms.

Likewise in fall, the season adjust can be adjusted downward beginning in August for most areas of California. This can continue through October or November. By November the irrigation system can be turned off in most places in the state.

Rainfall may be enough for most areas, but if supplemental irrigation is required during the winter, use the manual “on” switch to run the irrigation when the landscape shows signs of water stress. The controller can also be reprogrammed to run less frequently than it would during the rest of the year. Consider installing a rain shut-off switch to prevent watering while it’s raining.

Use a soil probe or large screwdriver to check the soil moisture. It may look dry on the surface, but be moist underneath. If the soil is still moist, plants probably won’t need to be irrigated yet. Always observe how a change in the irrigation schedule affects the landscape.

water wise plants

There are many water wise plants to choose from that thrive in California’s mostly moderate climate. These include both many attractive natives and plants introduced from other Mediterranean-like climates. These unthirsty plants enable any gardener to create a water conserving landscape. In addition to the plants shown in these water efficient landscape designs, here is a list of a few more of the many water wise plants available.

SHRUBS

Blue Hibiscus, *Alyogyne huegelii*
Coyote Brush, *Baccharis pilularis*
Barberry, *Berberis x stenophylla*
Bush Anemone, *Carpenteria californica*
Bush Morning Glory, *Convolvulus cneorum*
Smoke Tree, *Cotinus coggygria*
Euryops, *Euryops pectinatus*
Pineapple Guava, *Feijoa sellowiana*
Texas Ranger, *Leucophyllum sp.*
Pomegranate, *Punica granatum*

TREES

Madrone, *Arbutus menziesii*
Bottle Tree, *Brachychiton populneus*
Pindo Palm, *Butia capitata*
Australian Beefwood, *Casuarina stricta*
Honey Locust, *Gleditsia triacanthos*
Sweet Bay, *Laurus nobilis*
Interior Live Oak, *Quercus wislizenii*
Locust, *Robinia x ambigua*
Texas Mountain Laurel, *Sophora secundiflora*
Chaste Tree, *Vitex agnus-castus*

GROUNDCOVERS

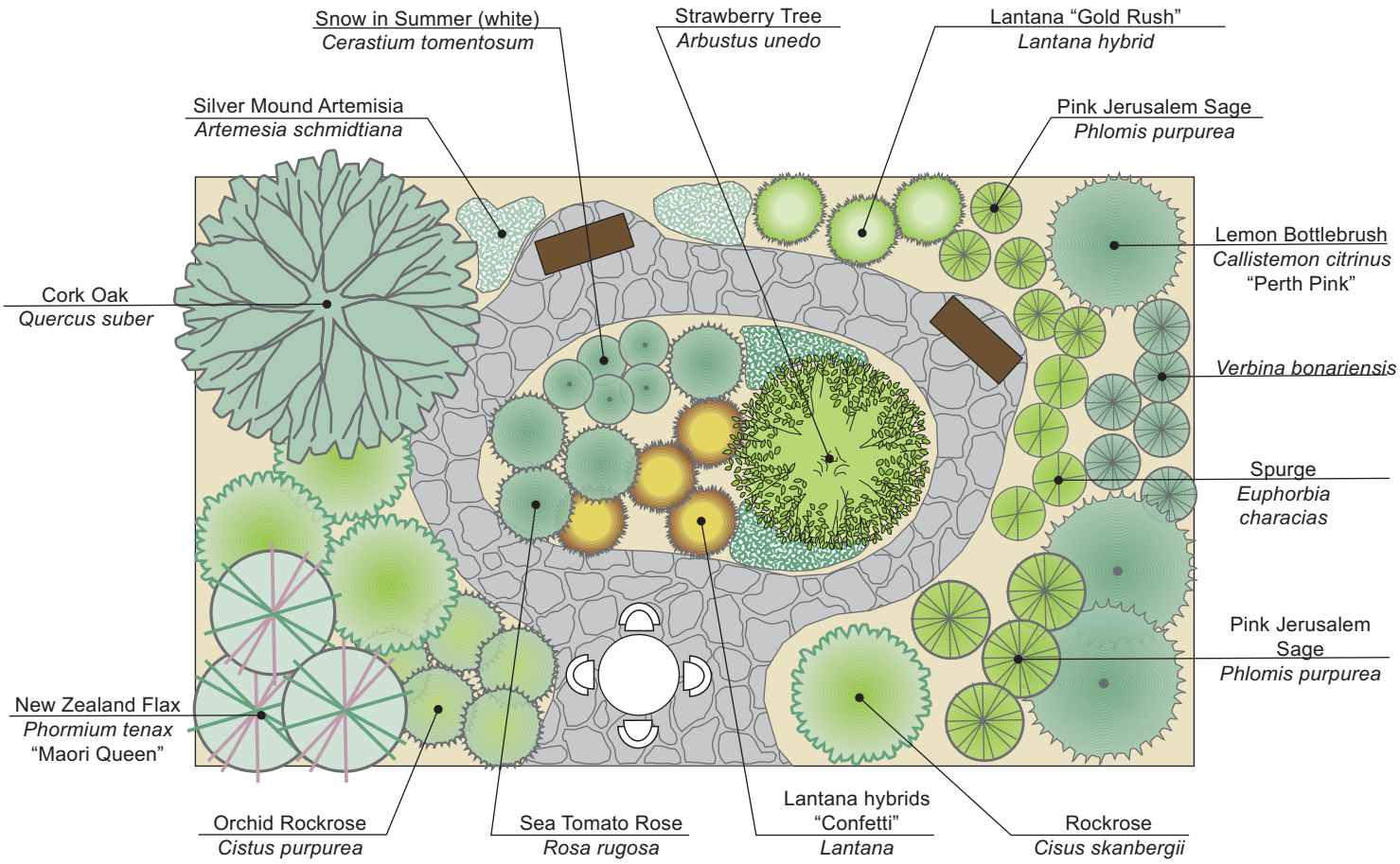
Bearberry, *Arctostaphylos uva-ursi*
Carmel Creeper, *Ceanthous griseus horizontalis*
Red Spike Ice Plant, *Cephalophylum sp.*
Chamomile, *Chamaemelum nobile*
Creeping Coprosma, *Coprosma x kirkii*
Trailing Lantana, *Lantana montedivensis*
Creeping Mahonia, *Mahonia repens*
Pork and Beans, *Sedum rubrotinctum*
Australian Bluebell Creeper, *Sollya heterophylla*
Wooly Thyme, *Thymus pseudolanuginosus*

PERENNIALS

Yarrow, *Achillea millefolium*
Columbine, *Aquilegia hybrids*
Wormwood, *Artemisia* "Powis Castle"
Italian Arum, *Arum italicum*
Cast Iron Plant, *Aspidistra elatior*
Fortnight Lily, *Dietes iridioides*
Siberian Wallflower, *Erysimum x allionii*
Blanketflower, *Gaillardia grandiflora*
Sunrose, *Helianthemum nummularium*
Crown Pink, *Lychnis coronaria*

strolling garden

Turfless is effortless—well, almost.
If you don't need grass, just a quiet place to enjoy nature and be outside, try installing a strolling garden. Many water efficient plants are not fussy and don't require a lot of maintenance. Occasional pruning to rejuvenate and improve shape is all that many of these plants need. Unthirsty plants, organic mulch, and a permeable gravel path make this garden a real water saver. This garden, with a landscaped area of about 900 sq. ft., requires about 1,550 gallons for July in the Central Valley and only about 1,000 gallons on the Coast during July.



Some features to look for in irrigation controllers are:

- multiple independent programs (for different types of plant zones)
- several start times, cycle and soak (for heavy or compacted soil or sloped areas)
- nonvolatile memory and battery backup (to keep the schedule current after a power failure)
- water budgeting in percentage (%) increments (to water according to what the plants really need)
- rain shut-off device (to save water when the landscape is watered by rain)

These irrigation guidelines are general and may not always reflect the needs of your particular site.

The fun part

Once the irrigation system is installed, the lawn, trees, and shrubs can be planted. If your site has very sandy or heavy clay soil, amend the soil to increase the fertility and water holding capacity or to improve drainage. Plant shrubs according to the plan so that their leaves will just touch once they become established. This will ensure that the ground will be shaded by foliage but there will be adequate air circulation. This "room to breathe" will make appreciating the foliage and flowers much easier.

Set all shrubs and tree root balls somewhat high in the planting hole so that the top of the root ball will not settle below grade.

If young trees need staking, use two or three stakes tied loosely and just high enough on the trunk to keep the trunk from bending over. Remove them once the trees can stand on their own. While stakes can support a newly planted tree, if left too long, they will actually cause the tree to grow weakly. Shorten the staking poles so that they will not rub the bark of the new tree.

New lawns can be seeded, hydroseeded or planted with sod. There are advantages to all of these methods; therefore, budget, time of year, and availability of products will determine the right grass planting method for your landscape. A good landscaping book will outline the steps to preparing, planting, and maintaining a lawn.

After the plants are planted, cover the ground around trees and shrubs with a two-to-three-inch layer of organic mulch, keeping it away from the plant stems. Mulch will keep the soil cool and moist in warm weather and insulate it during winter. Mulch also has the added benefit of controlling weeds and enriching the soil by adding organic matter.

Routine maintenance keeps a landscape looking great

Regular maintenance of a landscape will keep it looking great and resource efficient. By working on small tasks on a continuous basis the large tasks will be limited.

- Check the irrigation system frequently for leaks, broken sprinklers, and clogged emitters; repair with the correct parts.
- Adjust the sprinklers as needed. If water runs off the landscaped area before the irrigation cycle is complete, adjust the timer to run several times with a shorter duration each time. For example, instead of running it for 15 minutes continuously, adjust the timer to run three times that day for 5 minutes each time, with an interval in between to let the water soak in. This is especially important on slopes and high traffic areas.
- Check the soil moisture depth with a soil probe or large screwdriver. If you use a screwdriver, push it in to the soil until you feel resistance. That is the approximate depth of where the soil is dry. If the moisture extends well below the root zone cut back on the water somewhat by shortening the time of an irrigation cycle or adding more time between cycles.
- Observe how a decrease in water affects the landscape and make adjustments as needed.
- Refresh the mulch layer in the spring.
- Prune only when necessary to shape the plant or remove dead or diseased parts.
- If fertilizer is necessary, use a balanced fertilizer, avoiding high Nitrogen mixtures that will cause excessive growth and could impact groundwater quality.
- When you mow, "grasscycle" the clippings. The clippings left behind on the grass will break down without causing a buildup of thatch.
- Aerate lawns occasionally to improve water infiltration.
- In times of drought, deep soak shrubs and trees only after they show signs of water stress, and water only in off peak hours. If a drought becomes severe, community leaders may ask people to stop watering their lawns, but any trees planted in lawn areas will still need an occasional soaking to survive. Deep soak these trees as you would any other tree in the landscape by drip, bubbler or garden hose.

If a garden is comprised mostly of water efficient plants, the landscape can be sustained on minimal irrigation through a drought and will be able to recover when water conditions improve.

The big picture

If good horticultural practices are followed, the dependence on chemicals in the garden can be reduced significantly. Mulching and grasscycling can greatly reduce the need for chemical fertilizers. Likewise, when less water is used, fertilizers and pesticides are not washed away. Less water controls excessive growth and reduces the amount of succulent new growth that is attractive to insect pests.

Since too much water causes many problems with plants, it makes sense to be water wise. It will save money and time, as well as give the gardener the satisfaction of doing his or her part in solving California’s real water challenge.

State of California
The Resources Agency
Department of Water Resources
OFFICE OF WATER USE EFFICIENCY
P.O. Box 942836
Sacramento, CA 94236-0001

Phone: (916) 651-9676
Web site: www.owue.water.ca.gov/landscape
e-mail: landscape@water.ca.gov

(A copy of this brochure is available in PDF format at
www.owue.water.ca.gov/landscape/pubs/pubs.cfm)

This brochure was written by Julie Saare-Edmonds, landscape specialist for DWR's Office of Water Use Efficiency. Design and layout was provided by Alice Dyer of DWR's Division of Planning and Local Assistance.

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For Information:

To report illegal dumping or a clogged storm drain
1-800-506-2555

Hazardous Materials Disposal,
Recycling/Disposal Vendors call:
951-486-3200 or 1-800-506-2555

County Code Enforcement Offices
(unincorporated area)
Lake Elsinore/Mead Valley.....951-245-3186
Jurupa Valley.....951-275-8739
Moreno Valley/Banning 951-485-5840
Murrieta So. County 951-600-6140
Thousand Palms District 760-343-4150

Environmental Crimes
1-800-304-6100

Spill Response Agency
1-800-304-2226 or 951-358-5172

Recycling and Hazardous Waste Disposal
1-800-366-SAVE

For pollution prevention brochures or to obtain information on other County Environmental Services, call 1-800-506-2555

Popular links:
www.rcflood.org
www.cabmphandbooks.com
www.cfpub.epa.gov/npdes

ONLY RAIN DOWN THE STORM DRAIN
POLLUTION PREVENTION PROGRAM
1-800-506-2555

Riverside County's "Only Rain Down the Storm Drain" Pollution Prevention Program members include:

Banning
Beaumont
Calimesa
Canyon Lake
Cathedral City
City of Riverside
Corona
Coachella
Coachella Valley Water District
Desert Hot Springs
Hemet
Indian Wells
Indio
Lake Elsinore
La Quinta
Menifee
Murrieta
Moreno Valley
Norco
Palm Desert
Palm Springs
Perris
Rancho Mirage
Riverside County
San Jacinto
Temecula
Wildomar

Stormwater Pollution

What you should know for...

Automotive Maintenance and Car Care

Best Management Practices (BMPS) for:

- Auto Body Shops
- Auto Repair Shops
- Car Dealerships
- Gas Stations
- Fleet Service Operations

Stormwater Pollution...What You Should Know

Riverside County has three major river systems, or watersheds, that are important to our communities and the environment. Improper automotive maintenance, storage and washing activities can cause pollution that endangers the health of these rivers.

Pollutants that can collect on the ground from automotive repair, storage and washing areas such as antifreeze, oil, grease, gas, lubricants, soaps and dirt can be washed into the street by rain, over-irrigation or wash water runoff. Once these pollutants are in the streets they can be carried to these rivers by the storm drain system. Unlike the sewer system, the storm drain system carries water (and pollution) to our rivers without treatment. Pollution from storm drains is a form of storm water pollution.

A common storm water pollution problem associated with automotive shops and businesses is the activity of hosing down service bays without proper capture of runoff water, illegal dumping of fluids to the street or storm drain inlets and not properly storing hazardous materials. Examples of pollutants that can be mobilized by these activities include oil and grease from cars, copper and asbestos from worn break linings, zinc from tires and toxics from spilled fluids.

The Cities and County of Riverside have adopted ordinances, in accordance with state and federal law, which prohibit the discharge of pollutants into the storm drain system or local lakes, rivers or streams. This brochure provides common practices that can prevent storm water pollution and keep your shop in compliance with the law.

Best Management Practices for Auto Body & Repair Shops, Car Dealerships, Gas Stations and Fleet Service Operations

Changing Automotive Fluids

- Locate storm drains on or near your property. Do not allow material to flow to these drains.
- Collect, and separately recycle motor oil, antifreeze, transmission fluid and gear oil. Combining waste fluid prevents recycling.
- Drain brake fluid and other non-recyclables into a proper container and handle as a hazardous waste.
- Use a recyclable radiator flushing fluid and discard safely.

Only rain is allowed down the storm drain! Don't be an offender!! Violations of local ordinances are prosecuted to the fullest extent of the law.

Identify specific activities with the potential to cause spills or release pollutants such as oil, grease, fuel, etc. Post signs and train employees on how to prevent and clean up spills during activities.

YOU can prevent Stormwater Pollution following these practices...

Working on Transmissions, Engines and Miscellaneous Repairs

- Keep a drip pan or a wide low-rimmed container under vehicles to catch fluids whenever you unclip hoses, unscrew filters, or change parts, to contain unexpected leaks.
- Drain all fluids from wrecked vehicles into proper containers before disassembly or repair.
- Store batteries indoors, on an open rack.
- Return used batteries to a battery vendor.
- Contain cracked batteries to prevent hazardous spills.
- Catch metal filings in an enclosed unit or on a tarpaulin.
- Sweep filing areas to prevent washing metals into floor drains.

Cleaning Parts

- Clean parts in a self-contained unit, solvent sink, or parts washer to prevent solvents and grease from entering a storm drain.

Fueling Vehicles

- Clean-up minor spills with a dry absorbent, rather than allowing them to evaporate.
- Use a damp cloth and a damp mop to keep the area clean rather than a hose or a wet mop.

Keeping your shop or work area pollutant clean and environmentally safe

- Never hose down your work area, as pollutants could be washed into the storm drain.
- Sweep or vacuum the shop floor frequently.
- Routinely check equipment. Wipe up spills and repair leaks.
- Use large pans or an inflatable portable berm under wrecked cars.
- Avoid spills by emptying and wiping drip pans, when they are half-full.
- Keep dry absorbent materials and/or a wet/dry vacuum cleaner on hand for mid-sized spills.
- Train your employees to be familiar with hazardous spill response plans and emergency procedures.
- Immediately report hazardous material spills that have entered the street or storm drain to OES and local authorities.

Outdoor Parking and Auto Maintenance

- Use covered or controlled areas to prevent offsite spills.
- Sweep-up trash and dirt from outdoor parking and maintenance areas. Do not hose down areas. All non-stormwater discharges to the street of storm drain are prohibited.

Storing and Disposing of Waste

- Store recyclable and non-recyclable waste separately.
- Place liquid waste (hazardous or otherwise) in proper containers with secondary containment.
- Cover outdoor storage areas to prevent contact with rain water.
- Collect used parts for delivery to a scrap metal dealer.

Washing vehicles and steam cleaning equipment

- For car washing, minimize wash water used and use designated areas. Never discharge wash water to the street, gutters or storm drain.
- Be sure to keep waste water from engine parts cleaning or steam cleaning from being discharged to the street, gutter or storm drain.
- Wash vehicles and steam clean with environmentally friendly soaps and polishes.

Selecting and Controlling Inventory

- Purchase recyclable or non-toxic materials.
- Select “closed-loop” suppliers and purchase supplies in bulk.


Caltrans
I Pledge to Protect Every Drop
ILLEGAL DUMPING IS RUBBISH
Properly dump your garbage to reduce California's stormwater pollution!
Five easy tips to reduce pollutants:
APPLIANCES
When illegally dumped, appliances can release toxins that get washed away with rain and end up in our water bodies, polluting our water.
TIP 1: Donate or recycle appliances.
TIP 2: Properly dispose at your local dump.
FURNITURE
When dumped on the side of the roadway all furniture not only causes a safety hazard, but can also breakdown and get into local water bodies, causing pollution.
TIP 3: Contact local waste management for bulky pick-up or locate a dump for drop-off.
VEGETATION
Improperly dumped vegetation can flow to waterways, creating an imbalance of nitrates in water and thus harm aquatic life.
TIP 4: Tarp loads to reduce biodegradable waste on highways.
TIP 5: Use a green waste bin or consider composting biodegradable waste.
Don't risk a $10k fine & up to 6 months in jail
Simple changes in disposal of rubbish can help keep California's highways, waterways and bodies of water clean!
FOLLOW US ON SOCIAL MEDIA
#ProtectEveryDrop
FIND US ONLINE
www.protecteverydrop.com

Caltrans

I Pledge to Protect Every Drop

STORMWATER POLLUTION

Metal Pollution Is More Common Than You Think

- Clean waterways start with clean storm drains.
- Clean storm drains start with clean highways.
- Clean highways start with you.

DID YOU KNOW?

- Metals add to stormwater pollution by entering our waterways via stormwater runoff. They can cause a variety of negative effects on our health and the environment.
- Vehicle tires and brakes are a source of metal pollution.
- Road and highway runoff flow into storm drains often leading directly to waterways.

COMMON METALS IN HIGHWAY RUNOFF

- Lead: leaded gasoline, lubricating oils and grease
- Zinc: tire wear, motor oil and grease
- Copper: brakes and engine wear

REDUCE POLLUTION AT THE SOURCE

Take steps to reduce metal pollution from stormwater

- Maintain your vehicle and protect the quality of our water. Well-maintained vehicles pollute less; even a small leak of oil, antifreeze or other toxic auto fluids can find their way into a storm drain.
- Consider alternative transportation. Exercise your commuting options by carpooling, using public transportation or riding a bicycle. Fewer vehicles on California's highways and roadways reduce pollution that can flow into storm drains.
- Learn More! Go online and check out tips and simple solutions to prevent stormwater pollution at www.protecteverydrop.com.

WWW.PROTECTEVERYDROP.COM

Caltrans

I Pledge to Protect Every Drop

-A CLEAN CAR GOES FAR-

WASH YOUR CAR TO
KEEP OUR WATERWAYS CLEAN &
PROTECT WATER QUALITY

PROTECT OUR WATER

Pollutants from storm drains make their way to our waterways, including streams, rivers, lakes & the ocean.

SPOT THE SPOTS

Dirty vehicles carry pollutants.

WHEN IT RAINS

Rain washes pollutants off your vehicle & onto roadways. These pollutants go into storm drains & flow into waterways.

WASH GRIME AWAY

Washing your car regularly at a facility that recycles water helps reduce pollutants from entering the storm drain and ultimately our water ways.

WASH, PROTECT, REPEAT

Do your part to reduce pollution & protect water quality!

WWW.PROTECTEVERYDROP.COM

rcwatershed.org

RIVERSIDE COUNTY

WATERSHED PROTECTION

27 Cities + One County + Two Districts = A Team Effort.

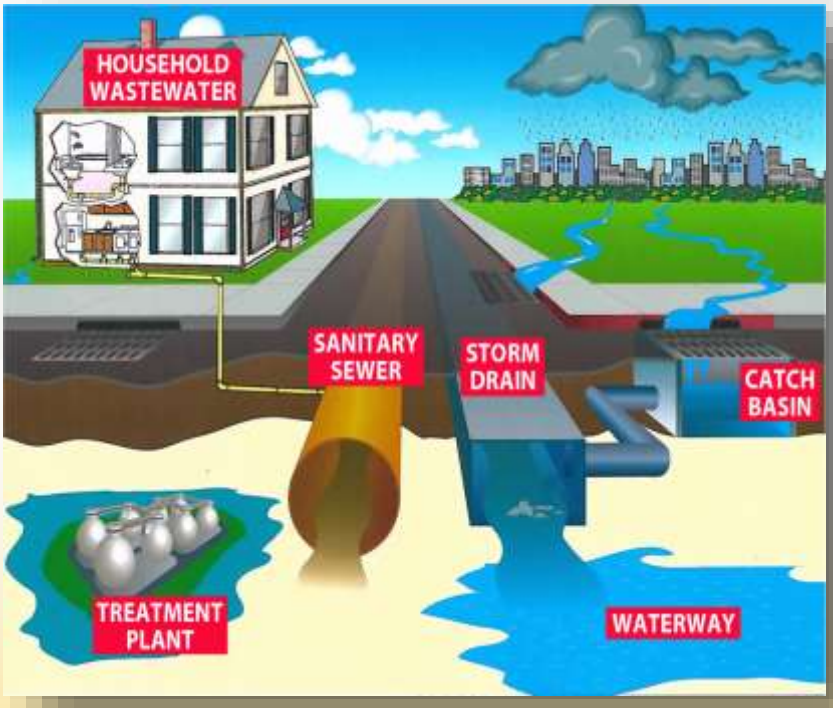
Water pollution degrades surface waters which can cause them to be unsafe for drinking, fishing, swimming, and other activities. The Riverside County Watershed Protection program was established to reduce the pollution carried by stormwater into local creeks and waterways that lead to the ocean. The program is managed by the Riverside County Flood Control & Water Conservation District in partnership with 27 Cities, the County of Riverside and the Coachella Valley Water District.

What is a watershed and how do I affect it?

A watershed is an area of land that catches and drains water into a creek, stream or tributary and eventually ends up in a large body of water such as our lakes, rivers or the ocean. As stormwater flows over land and across the watershed into a waterway, it carries urban runoff such as used motor oil and grease, pesticides, trash and other harmful debris. This is where the public comes in. The more we can prevent polluting the watershed, the healthier our waterways will be and the habitat it supports.

What is stormwater?

Stormwater runoff is any water, either through rain, sprinklers, or irrigation of yards/gardens, that falls and is transported over land and pavement into local waterbodies through the storm drain system. All water that flows into a storm drain is deposited into creeks, rivers or the ocean without treatment.



Is there a difference between the storm drain and sewer system?

Yes, an important difference. Stormwater and all the pollutants that flow from our homes, parking lots and streets to the gutter into the storm drains flow directly into our creeks and other water bodies untreated. Water and pollutants that flow into the sanitary sewer, such as water from our sinks, bathtubs and toilets, are sent to a wastewater treatment facility before the water is discharged to the Bay or Ocean.

Doo Good

Pick up dog doo. Protect streams

Dog doo can pollute our waterways. Rain flows across yards and trails, collecting in storm drains that lead directly to streams without being treated!

Bacteria Problems

A single gram of dog doo can contain 23 million fecal coliform bacteria and can spread diseases like Giardia and Salmonella.

Bacteria from dog doo accounts for up to **20%** of the bacteria in urban waterways.

Nutrient Problems

Nutrients like nitrogen and phosphorus that are found in dog doo act like a fertilizer in streams. They cause algae to grow which reduces the available oxygen for fish. The more poop, the bigger the potential problem. Locally there are over **90,000** dogs that make **11,700 tons** of poop a year.

Be a "Doo Gooder"

You can make a difference by being a responsible pet owner. Being a "Doo Gooder" means being a model for others and picking up your dog doo. Here are **5 tips** every dog owner should know:

- Be prepared: carry poop bags with you.
- Take extra bags so you don't run out and you can help someone else in need.
- Make sure the bag ends up in a trash can.
- When you hike, never leave a bag on the trail – take it with you.
- Scoop your poop at home or hire someone to keep your yard healthy and to protect streams.

rcwatershed.org

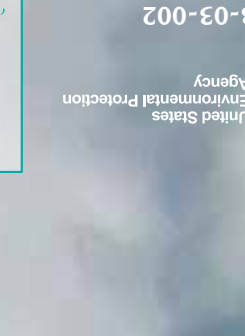
RIVERSIDE COUNTY
WATERSHED PROTECTION

OUR MISSION

"To protect, preserve and enhance the quality of Riverside County Watersheds by fostering a community-wide commitment to clean water."

@RivCoWatershed

After the Storm



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.

Why is stormwater runoff a problem?

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.

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.

A Citizen's Guide to Understanding Stormwater

THE YEAR OF CLEAN WATER
Celebrating the Environment

EPA United States Environmental Protection Agency

EPA 833-B-03-002

January 2003

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For more information contact:

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

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.

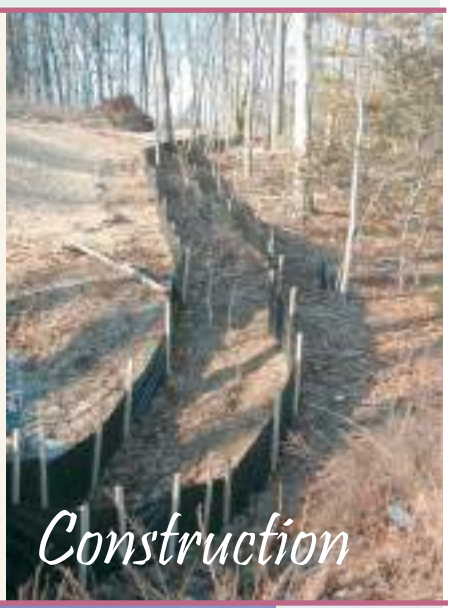
Rain Gardens and Grassy Swales—Specially designed areas planted with native plants can provide natural places for rainwater to collect and soak into the ground. Rain from rooftop areas or paved areas can be diverted into these areas rather than into storm drains.

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.

Tips for Horse Care and Barn Keeping

Stormwater Pollution What you should know…

If not properly managed, rainfall and runoff that come into contact with manure, horse care products, and wash water can carry nutrients, sediment, bacteria, salts, and toxic pollutants to storm drains and streams, negatively affecting water quality and the environment. Listed below are some environmentally responsible steps to keep in mind when caring for your horses, barns and pastures.

Grooming

- Only use pest control and grooming products *(saddle and tack cleaning and conditioning products, shampoos and conditioners, show shine, hoof polish, etc.)* where needed and avoid use in areas exposed to runoff. Spot-apply pesticides and fungicides to avoid over use and keep from areas exposed to stormwater. Follow instructions on products, use sparingly and clean up spills.
- Store all pest control, grooming, and horse and tack care products in covered areas where they will not come into contact with stormwater, and post signs reminding boarders and staff not to dump any excess products. For proper disposal of unused horse care products, please call **1-800-304-2226** or visit the Riverside County Waste Management Department at **www.rivcowm.org.**
- For indoor wash stalls, ensure that floor drains are connected to septic system or drain to areas where the washwater can soak into the ground. Outside, ensure that washwater can seep into the ground. Always prevent washwater from entering a storm drain or stream. Creating a small berm around the area can prevent washwater from leaving the area.
- Conserving water is an important way to protect streams. Conserve water by using a spray nozzle with an automatic shut-off. Turn off the water when not in use.

Manure Management

Store manure in a covered, enclosed compost bin located in an area that will not result in any drainage or runoff. Where enclosed bins aren't feasible, manure storage sites should be located under a covered area on a nearly flat surface, 50 - 100 feet from any stream or storm drain.

Pasture Management

- Sweep or shovel horse holding areas daily to reduce the tracking of manure and soil. ***Do not wash down these areas!***
- Fencing horses out of streams is important to protect surface waters. Locate paddock areas and fencing so horses are kept away from streams. Wherever possible, choose paddock areas where runoff will drain into the ground.
- Plant or allow vegetation to grow around the perimeter of paddock areas to provide for natural filtration of runoff.

Grazing

Over-grazing in a paddock or pasture can lead to exposed soil and soil erosion, which increases runoff to streams and surface waters; allow about one acre per horse and rotate pasturing where possible.

Responsibility for water quality begins with **YOU**

Using and Disposing of Manure and Bedding

- Compost used bedding and manure. See ***http://compostingcouncil.org*** for more information.
- Composted bedding and manure may be donated to local greenhouses, nurseries, botanical parks, topsoil companies or composting centers.
- Contact your municipality regarding disposal programs and requirements.
- Always protect stables, storage, and compost stockpiles from runoff by keeping them out of stream courses.

Barn and Stable Design

Have your engineer check with your City or County building department for information about stable design requirements and best practices, such as good surfacing materials, manure and care product storage areas, and locating wash and storage areas away from areas that could affect water quality.

Resources

Contact your city or county stormwater representative for any applicable local ordinances.

For more information, Please call Riverside County's "Only Rain Down the Storm Drain" at 1-800-506-2555 or visit the website at rcstormwater.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.

Landscaping and garden maintenance activities can be major contributors to water pollution. Soils, yard wastes, over-watering and garden chemicals become part of the urban runoff mix that winds its way through streets, gutters and storm drains before entering lakes, rivers, streams, etc. Urban runoff pollution contaminates water and harms aquatic life!

In Riverside County, report illegal discharges into the storm drain, call
1-800-506-2555
"Only Rain Down the Storm Drain"

Important Links:

Riverside County Household Hazardous Waste Collection Information
1-800-304-2226 or www.rivcowm.org

Riverside County Backyard Composting Program
1-800-366-SAVE

Integrated Pest Management (IPM) Solutions
www.ipm.ucdavis.edu

California Master Gardener Programs
www.mastergardeners.org
www.camastergardeners.ucdavis.edu

California Native Plant Society
www.cnps.org

The Riverside County "Only Rain Down the Storm Drain" Pollution Prevention Program gratefully acknowledges Orange County's Storm Water Program for their contribution to this brochure.

...Only Rain Down ...the Storm Drain

What you should know for... Landscape and Gardening

Best Management tips for:

- Professionals
- Novices
- Landscapers
- Gardeners
- Cultivators

Tips for Landscape & Gardening

This brochure will help you to get the most of your lawn and gardening efforts and keep our waterways clean. Clean waterways provide recreation, establish thriving fish habitats, secure safe sanctuaries for wildlife, and add beauty to our communities. NEVER allow gardening products or waste water to enter the street, gutter or storm drain.

General Landscaping Tips

- Protect stockpiles and materials from wind and rain by storing them under tarps or secured plastic sheeting.
- Prevent erosion of slopes by planting fast-growing, dense ground covering plants. These will shield and bind the soil.

- Plant native vegetation to reduce the amount of water, fertilizers and pesticides applied to the landscape.
- Never apply pesticides or fertilizers when rain is predicted within the next 48 hours.

Garden & Lawn Maintenance

- Do not overwater. Use irrigation practices such as drip irrigation, soaker hoses or micro-spray systems. Periodically inspect and fix leaks and misdirected sprinklers.
- Do not rake or blow leaves, clippings or pruning waste into the street, gutter or storm drain. Instead, dispose of green waste by composting, hauling it to a permitted landfill, or recycling it through your city's program.

- Consider recycling your green waste and adding "nature's own fertilizer" to your lawn or garden.
- Read labels and use only as directed. Do not over-apply pesticides or fertilizers. Apply to spots as needed, rather than blanketing an entire area.
- Store pesticides, fertilizers and other chemicals in a dry covered area to prevent exposure that may result in the deterioration of containers and packaging.
- Rinse empty pesticide containers and re-use rinse water as you would use the product. Do not dump rinse water down storm drains or sewers. Dispose of empty containers in the trash.
- When available, use non-toxic alternatives to traditional pesticides, and use pesticides specifically designed to control the pest you are targeting.
- Try natural long-term common sense solutions first. Integrated Pest Management (IPM) can provide landscaping guidance and solutions, such as:
  - **Physical Controls** - Try hand picking, barriers, traps or caulking holes to control weeds and pests.
  - **Biological Controls** - Use predatory insects to control harmful pests.
  - **Chemical Controls** - Check out www.ipm.ucdavis.edu before using chemicals. Remember, all chemicals should be used cautiously and in moderation.
- If fertilizer is spilled, sweep up the spill before irrigating. If the spill is liquid, apply an absorbent material such as cat litter, and then sweep it up and dispose of it in the trash.
- Take unwanted pesticides to a Household Waste Collection Center to be recycled.
- *Dumping toxics into the street, gutter or storm drain is illegal!*

www.bewaterwise.com Great water conservation tips and drought tolerant garden designs.

www.ourwaterourworld.com Learn how to safely manage home and garden pests.

Additional information can also be found on the back of this brochure.

Helpful telephone numbers and links:

Riverside County Stormwater Protection Partners

Flood Control District	(951) 955-1200
County of Riverside	(951) 955-1000
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
Cathedral City	(760) 770-0327
City of Coachella	(760) 398-4978
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 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) 361-0900
City of San Jacinto	(951) 654-7337
City of Temecula	(951) 694-6444
City of Wildomar	(951) 677-7751

REPORT ILLEGAL STORM DRAIN DISPOSAL
1-800-506-2555 or e-mail us at
fcnpdes@rcflood.org

- Riverside County Flood Control and Water Conservation District
  www.rcflood.org

Online resources include:

- California Storm Water Quality Association
  www.casqa.org
- State Water Resources Control Board
  www.waterboards.ca.gov
- Power Washers of North America
  www.thepwna.org

Stormwater Pollution

What you should know for...

Outdoor Cleaning Activities and Professional Mobile Service Providers

Storm drain pollution prevention information for:

- Car Washing / Mobile Detailers
- Window and Carpet Cleaners
- Power Washers
- Waterproofers / Street Sweepers
- Equipment cleaners or degreasers and all mobile service providers

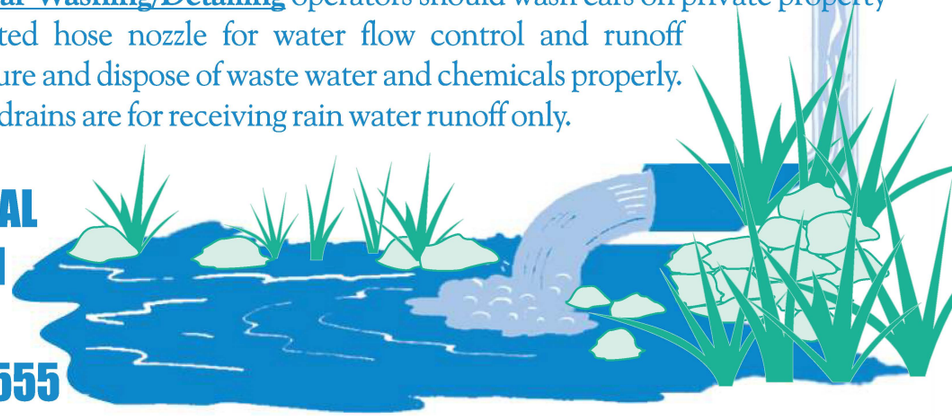
Do you know where street flows actually go?

Storm drains are NOT connected to sanitary sewer systems and treatment plants!

The primary purpose of storm drains is to carry *rain* water away from developed areas to prevent flooding. Pollutants discharged to storm drains are transported directly into rivers, lakes and streams. Soaps, degreasers, automotive fluids, litter and a host of materials are washed off buildings, sidewalks, plazas and parking areas. Vehicles and equipment must be properly managed to prevent the pollution of local waterways.

Unintentional spills by mobile service operators can flow into storm drains and pollute our waterways. **Avoid mishaps.** *Always* have a **Spill Response Kit** on hand to clean up unintentional spills. Only emergency **Mechanical** repairs should be done in City streets, using drip pans for spills. **Plumbing** should be done on private property. Always store chemicals in a leak-proof container and keep covered when not in use. **Window/Power Washing** waste water shouldn't be released into the streets, but should be disposed of in a sanitary sewer, landscaped area or in the soil. Soiled **Carpet Cleaning** wash water should be filtered before being discharged into the sanitary sewer. Dispose of all filter debris properly. **Car Washing/Detailing** operators should wash cars on private property and use a regulated hose nozzle for water flow control and runoff prevention. Capture and dispose of waste water and chemicals properly. Remember, storm drains are for receiving rain water runoff only.

REPORT ILLEGAL STORM DRAIN DISPOSAL
1-800-506-2555



Help Protect Our Waterways!

Use these guidelines for Outdoor Cleaning Activities and Wash Water Disposal

Did you know that disposing of pollutants into the street, gutter, storm drain or body of water is *PROHIBITED* by law and can result in stiff penalties?

Best Management Practices

Waste wash water from Mechanics, Plumbers, Window/Power Washers, Carpet Cleaners, Car Washing and Mobile Detailing activities may contain significant quantities of motor oil, grease, chemicals, dirt, detergents, brake pad dust, litter and other materials.

Best Management Practices, or BMPs as they are known, are guides to prevent pollutants from entering the storm drains. ***Each of us*** can do our part to keep stormwater clean by using the suggested BMPs below:

Simple solutions for both light and heavy duty jobs:

Do...consider dry cleaning methods first such as a mop, broom, rag or wire brush. Always keep a spill response kit on site.

Do...prepare the work area before power cleaning by using sand bags, rubber mats, vacuum booms, containment pads or temporary berms to keep wash water away from the gutters and storm drains.

Do...use vacuums or other machines to remove and collect loose debris or litter before applying water.

Do...obtain the property owner's permission to dispose of ***small amounts*** of power washing waste water on to landscaped, gravel or unpaved surfaces.

Do...check your local sanitary sewer agency's policies on wash water disposal regulations before disposing of wash water into the sewer. (See list on reverse side)

Do...be aware that if discharging to landscape areas, soapy wash water may damage landscaping. Residual wash water may remain on paved surfaces to evaporate. Sweep up solid residuals and dispose of properly. Vacuum booms are another option for capturing and collecting wash water.

Do...check to see if local ordinances prevent certain activities.

Do not let...wash or waste water from sidewalk, plaza or building cleaning go into a street or storm drain.

Report illegal storm drain disposal
Call Toll Free
1-800-506-2555

Using Cleaning Agents

Try using biodegradable/phosphate-free products. They are easier on the environment, but don't confuse them with being toxic free. Soapy water entering the storm drain system can impact the delicate aquatic environment.

When cleaning surfaces with a ***high-pressure washer*** or ***steam cleaner***, additional precautions should be taken to prevent the discharge of pollutants into the storm drain system. These two methods of surface cleaning can loosen additional material that can contaminate local waterways.

Think Water Conservation

Minimize water use by using high pressure, low volume nozzles. Be sure to check all hoses for leaks. Water is a precious resource, don't let it flow freely and be sure to shut it off in between uses.

Screening Wash Water

Conduct thorough dry cleanup before washing exterior surfaces, such as buildings and decks ***with loose paint***, sidewalks or plaza areas. Keep debris from entering the storm drain after cleaning by first passing the wash water through a "20 mesh" or finer screen to catch the solid materials, then dispose of the mesh in a refuse container. Do not let the remaining wash water enter a street, gutter or storm drain.

Drain Inlet Protection & Collection of Wash Water

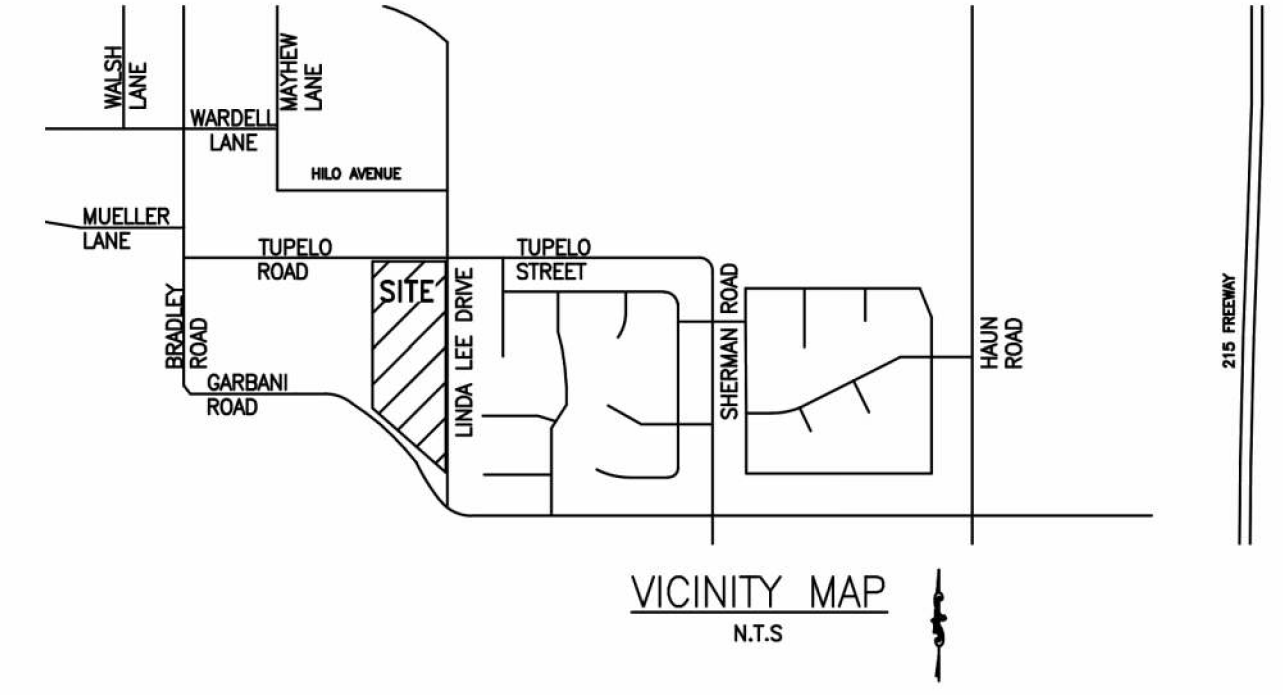
- Prior to any washing, block all storm drains with an impervious barrier such as sandbags or berms, or seal the storm drain with plugs or other appropriate materials.
- Create a containment area with berms and traps or take advantage of a low spot to keep wash water contained.
- Wash vehicles and equipment on grassy or gravel areas so that the wash water can seep into the ground.
- Pump or vacuum up all wash water in the contained area.

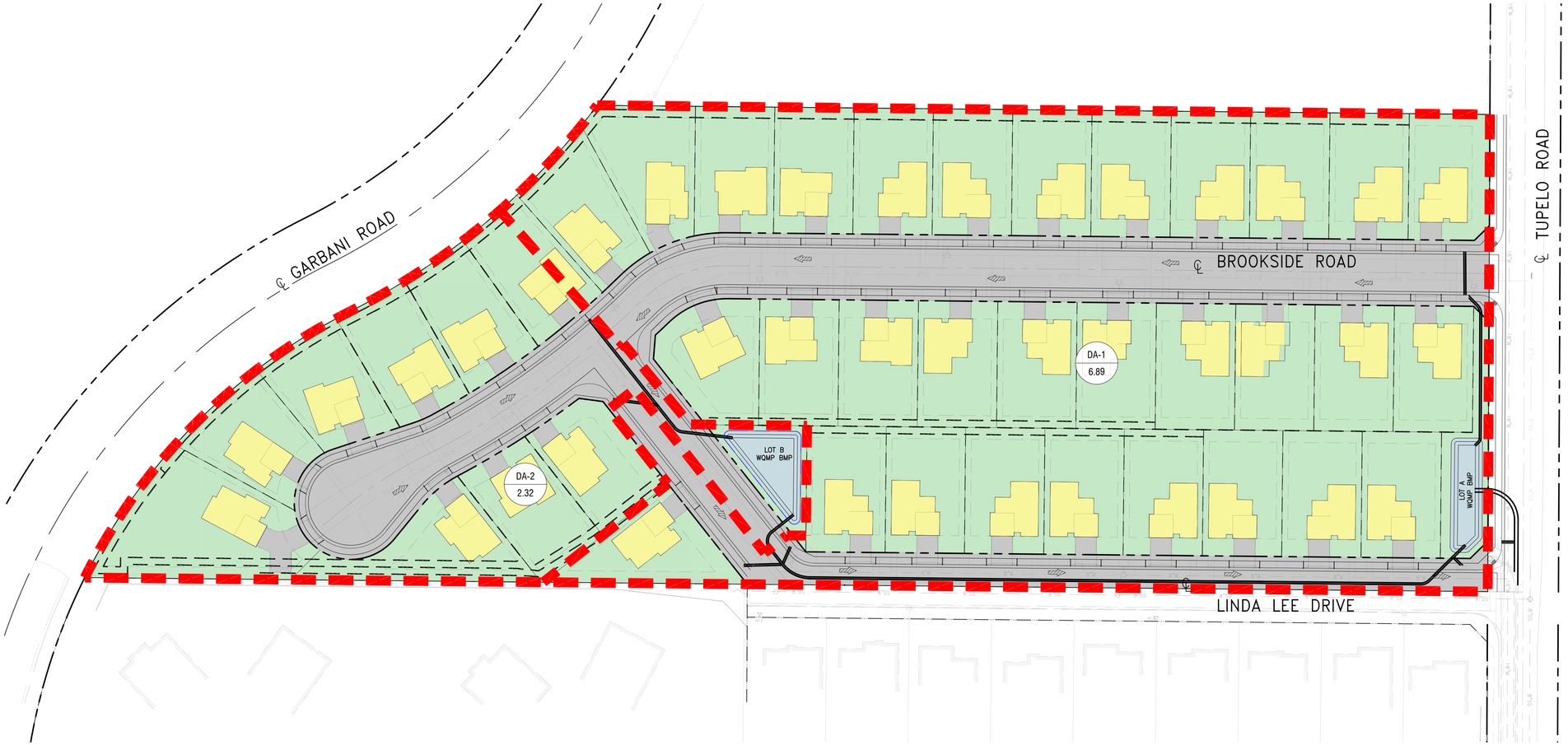
Concrete/Coring/Saw Cutting and Drilling Projects

Protect any down-gradient inlets by using dry activity techniques whenever possible. If water is used, minimize the amount of water used during the coring/drilling or saw cutting process. Place a barrier of sandbags and/or absorbent berms to protect the storm drain inlet or watercourse. Use a shovel or wet vacuum to remove the residue from the pavement. Do not wash residue or particulate matter into a storm drain inlet or watercourse.

Appendix 1: Maps and Site Plans

Location Map, WQMP Site Plan and Receiving Waters Map





LEGEND:

- PROPOSED WQMP BASINS
- ROOF AREA
- ROADWAY / SIDEWALK / PATIO AREA
- LANDSCAPING AREA
- DMA 1A / 3.31 — DMA NUMBER / TRIBUTARY AREA (ACRES)
- WQMP BASIN TRIBUTARY AREA BOUNDARY
- PROPOSED >18" HDPE STORM DRAIN
- PROPOSED <18" PVC STORM DRAIN
- — R — RIDGE LINE
- AD/GI AREA DRAIN/GATE INLET
- RD/DS ROOF DRAIN/DOWNSPOUT
- FLOW DIRECTION
- EXISTING STORM DRAIN
- EXISTING U.G. BMP
- PERCOLATION TEST LOCATION

PROJECT BMP CONFORMANCE ANALYSIS

NAME	AREA (SF)	IMPERVIOUS	PERVIOUS	i	C	V_{BMP}	BMP	$A_{PROVIDED}$	$V_{PROVIDED}$
ROOFS	64,732	–	–	1	0.89	–	–	–	–
CONCRETE OR ASPHALT	104,314	–	–	1	0.89	–	–	–	–
ORNAMENTAL LANDSCAPING	232,195	–	–	0.1	0.11	–	–	–	–
TOTAL	401,241	169,046	232,195	–	–	10,010	BIORETENTION	5,569	11,272

PROJECT AREA BREAKDOWN

PROJECT TOTAL AREA	401,241	SF
PROJECT ROOF AREA	64,732	SF
PROJECT PAVEMENT AREA	104,314	SF
PROJECT LANDSCAPE AREA	232,195	SF
PROJECT BMP AREA	5,569	SF

SCALE
50 0 25 50 100
(FEET)
1 INCH = 50 FT.

DESIGNED BY:
DRAWN BY:
CHECKED BY:

SEAL-DESIGN ENGINEER
REGISTERED PROFESSIONAL ENGINEER · ANGEL CESAR · No. 87222 · CIVIL · STATE OF CALIFORNIA

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RANCHO CUCAMONGA, CA 91701
909-248-6557
INFO@BLUECIVILENG.COM – WWW.BLUECIVILENG.COM

PLANS PREPARED UNDER THE SUPERVISION OF:
ANGEL CESAR, P.E. 87222 EXP. 9/30/23 — DATE

REV.	REVISION DESCRIPTION	BY	DATE

CITY OF MENIFEE
McCALL BLVD, MENIFEE, CA 92585

REVIEWED BY:
DANIEL PADILLA
P.E. NO. C-67008
EXP. DATE 09-30-2024
DATE

PRELIMINARY WATER QUALITY MANAGEMENT PLAN

TENTATIVE TRACT MAP No. 38683
RESIDENTIAL DEVELOPMENT

CUP:
LDP:
DATE: February 6, 2023
SHEET 3
OF 3 SHEETS
PROJECT NUMBER:

Plans Prepared On: 2/6/2023

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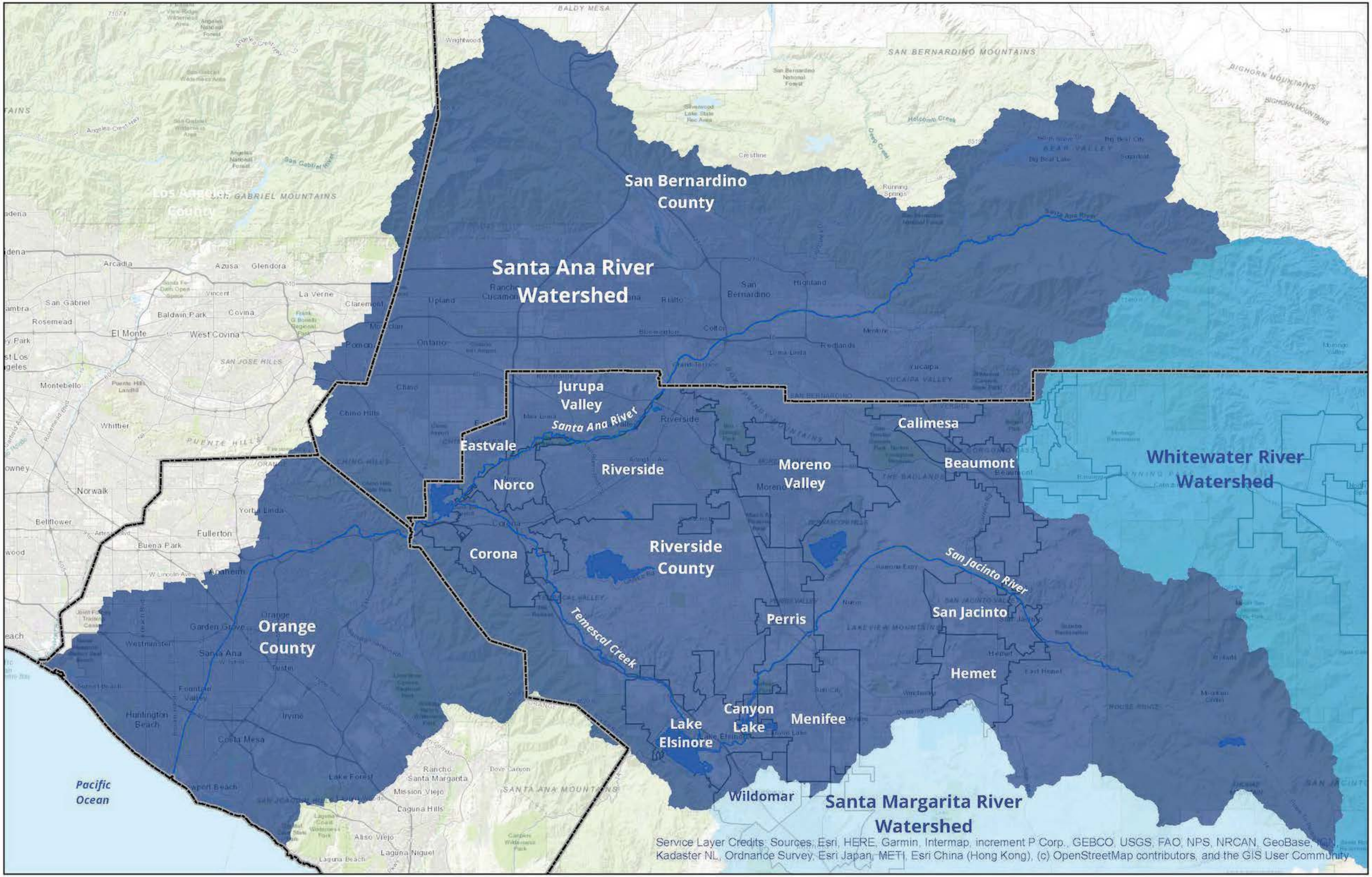

San Bernardino County
Santa Ana River Watershed
Jurupa Valley
Santa Ana River
Eastvale
Norco
Riverside
Moreno Valley
Calimesa
Beaumont
Whitewater River Watershed
Corona
Riverside County
Perris
San Jacinto River
San Jacinto
Hemet
Temescal Creek
Lake Elsinore
Canyon Lake
Menifee
Wildomar
Orange County
Pacific Ocean
Santa Margarita River Watershed
Los Angeles County
SAN BERNARDINO MOUNTAINS
SAN GABRIEL MOUNTAINS
SAN JOSE HILLS
PUENTE HILLS
SANTA ANA MOUNTAINS
Service Layer Credits: Sources, Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

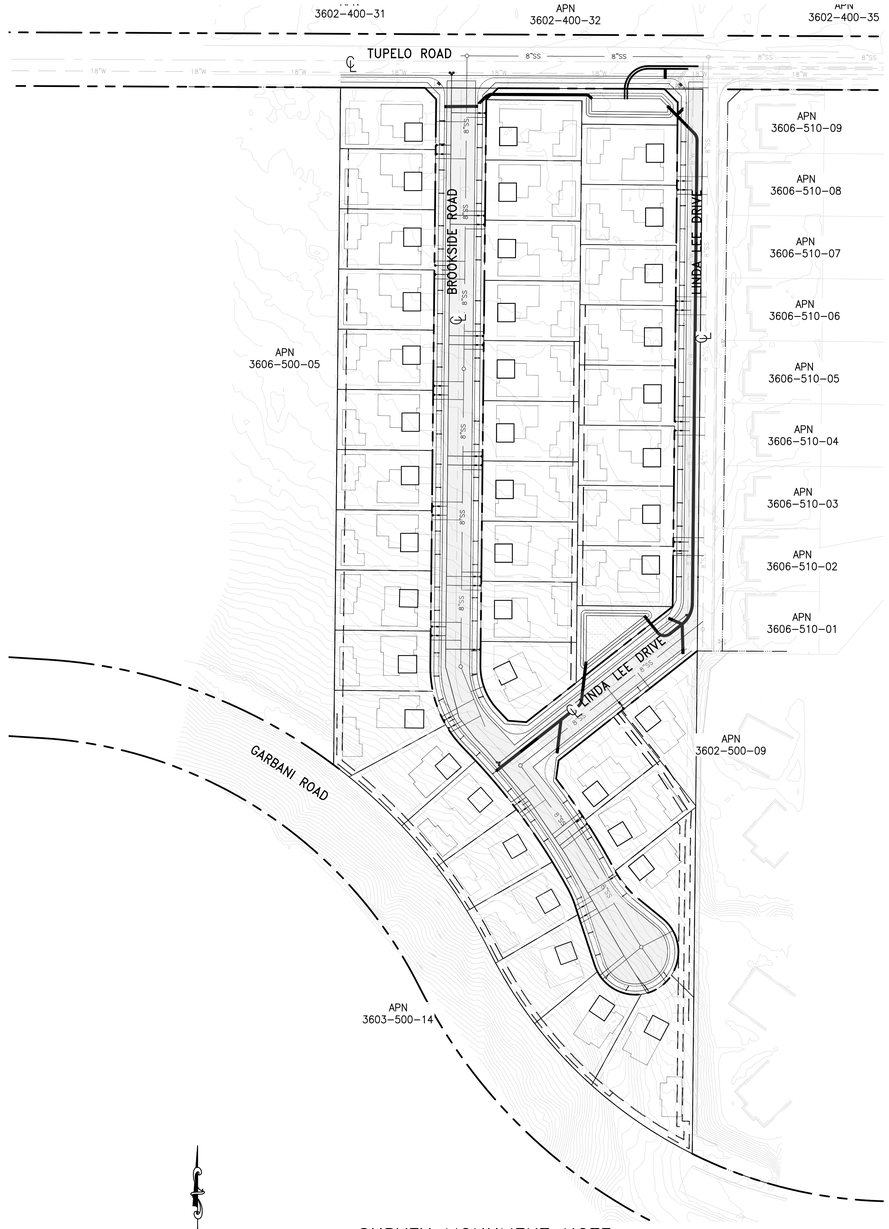
CITY OF MENIFEE

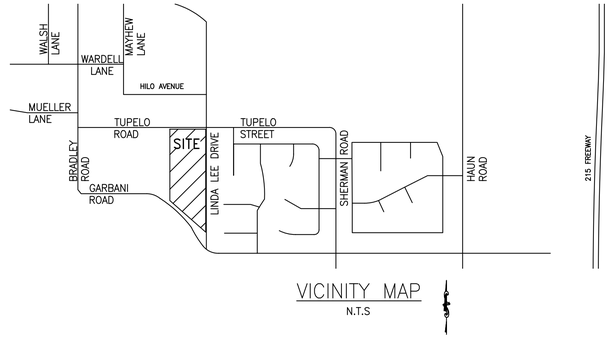
SAN BERNARDINO COUNTY, CALIFORNIA

APN: 3602-500-06

TENTATIVE TRACT MAP NO. 38683

ENTITLEMENT PLAN SET





VICINITY MAP

N.T.S

UTILITY PURVEYORS

WATER	EASTERN MUNICIPAL WATER DISTRICT 2270 TRUMBLE ROAD PERRIS, CA 92570 951-928-3777
SEWER	EASTERN MUNICIPAL WATER DISTRICT 2270 TRUMBLE ROAD PERRIS, CA 92570 951-928-3777
ELECTRIC	SOUTHERN CALIFORNIA EDISON 26100 MENIFEE ROAD MENIFEE, CA 92585 800-655-4555
GAS	SOUTHERN CALIFORNIA GAS COMPANY 25200 TRUMBLE ROAD PERRIS, CA 92571 800-427-2200
TELEPHONE	FRONTIER COMMUNICATIONS 29310 BRADLEY ROAD SUN CITY, CA 92586 1-877-530-0911
SCHOOL DISTRICT	MENIFEE UNION SCHOOL DISTRICT 29775 HAUN ROAD MENIFEE, CA 92586 951-672-1851

APPLICANT/OWNER

168 BUILDERS, INC
TONY ZENG
1211 CENTER COURT DR. #200
COVINA, CA 91724
PHONE: 909-702-8889
EMAIL: TONYZENG@SBCGLOBAL.NET

ARCHITECT

LC WANG
1420 NORTHWOOD RD. #241G
SEAL BEACH,CA 90740
PHONE: 626-232-2256
EMAIL: LCWANG.2021@GMAIL.COM

PREPARED BY:

BLUE ENGINEERING & CONSULTING, INC
9320 BASELINE ROAD, SUITE D
RANCHO CUCAMONGA, CA 91701
PHONE: 909-970-5654
EMAIL: INFO@BLUECIVILENG.COM

LEGAL DESCRIPTION

PARCEL 3 OF PARCEL MAP NO. 12401, IN THE CITY OF MENIFEE, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 61 PAGE 40 PARCEL MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.
APN: 3602-500-06

ABBREVIATIONS

AC	ACRE
BOT	BOTTOM OF BASIN ELEVATION
BSL	BUILDING SETBACK LINE
CB	CATCH BASIN
CO	CLEAN OUT
EVC	END OF VERTICAL CURVE
EX	EXISTING
FF	FINISHED FLOOR
FH	FIRE HYDRANT
FS	FINISHED SURFACE
FL	FLOW LINE
LP	LOW POINT
HP	HIGH POINT
GB	GRADE BREAK
PAD	PAD ELEVATION
POC	POINT OF CONNECTION
PR	PROPOSED
R	RADIUS
R/W	RIGHT OF WAY
RCP	REINFORCED CONCRETE PIPE
SD	STORM DRAIN
SF	SQUARE FEET
SS	SEWER
W	WATER

LEGEND

(2800)	EX CONTOURS
8"W	EX WTR LINE
8"SS	EX SWR LINE
G	EX GAS LINE
W	PR WATER LINE
SS	PR SEWER LINE
RCP	PR STORM DRAIN LINE
	BOUNDARY
	R/W
	LOT LINE
	EX. LOT LINE
	CENTERLINE
	EASEMENT
	BUILDING SETBACK LINE
	PR AC PAVEMENT

SHEET LIST TABLE

SHEET NUMBER	SHEET TITLE
ENTITLEMENT PLAN SET: CONCEPTUAL SITE PLAN	
1	TITLE SHEET
2	SITE PLAN
3	TENTATIVE TRACT MAP
4	CONCEPTUAL GRADING PLAN
5	CONCEPTUAL UTILITY PLAN
ENTITLEMENT PLAN SET: PRELIMINARY HYDROLOGY STUDY	
1	PRE-DEVELOPMENT HYDROLOGY KEY MAP
2	POST-DEVELOPMENT HYDROLOGY KEY MAP
3	PRELIMINARY WATER QUALITY MANAGEMENT PLAN

SCALE
80 0 40 80 160
(FEET)
1 INCH = 80 FT.

SURVEY MONUMENT NOTE

SURVEY MONUMENTS THAT EXIST AS SHOWN ON RECORDED MAPS, HIGHWAY MAPS, OR POINTS THAT PROVIDE SURVEY CONTROL WITHIN THE CONSTRUCTION AREA, SHALL BE LOCATED AND REFERENCED BY A LICENSED LAND SURVEYOR OR REGISTERED CIVIL ENGINEER (AUTHORIZED TO PRACTICE LAND SURVEYING). BEFORE THE START OF CONSTRUCTION, CORNER RECORDS SHALL BE FILED WITH THE COUNTY SURVEYOR. THESE CORNER RECORDS SHALL DESCRIBE THE MONUMENTS FOUND WITH TIE DISTANCES TO REFERENCE POINTS FOR THE RESETTING OF A SURVEY MONUMENT. WHEN CONSTRUCTION IS COMPLETED, MONUMENTS SHALL BE SET AND CORNER RECORDS SHALL BE FILED WITH THE COUNTY SURVEYOR SHOWING THE NEW MONUMENTS.

DESIGNED BY: BY
DRAWN BY: VL
CHECKED BY: AC

SEAL-DESIGN ENGINEER

REGISTERED PROFESSIONAL ENGINEER — ANGEL CESAR — No. 87222 — CIVIL — STATE OF CALIFORNIA

BLUE ENGINEERING & CONSULTING, INC
FOREVER BLUE N.G.
9320 BASELINE RD., STE. D
RANCHO CUCAMONGA, CA 91701
909-248-6557
INFO@BLUECIVILENG.COM - WWW.BLUECIVILENG.COM

PLANS PREPARED UNDER THE SUPERVISION OF:
ANGEL CESAR, P.E. 87222 EXP. 9/30/23 — DATE

REV.	REVISION DESCRIPTION	BY	DATE

CITY OF MENIFEE
McCALL BLVD, MENIFEE, CA 92585

REVIEWED BY:
DANIEL PADILLA
P.E. NO. C-67005
EXP. DATE 09-30-2024
DATE

TITLE SHEET

TENTATIVE TRACT MAP No. 38683
RESIDENTIAL DEVELOPMENT

CUP:
LDP:
DATE: February 6, 2023
SHEET 1
OF 5 SHEETS
PROJECT NUMBER: 2022199

Plans Prepared On: 2/6/2023

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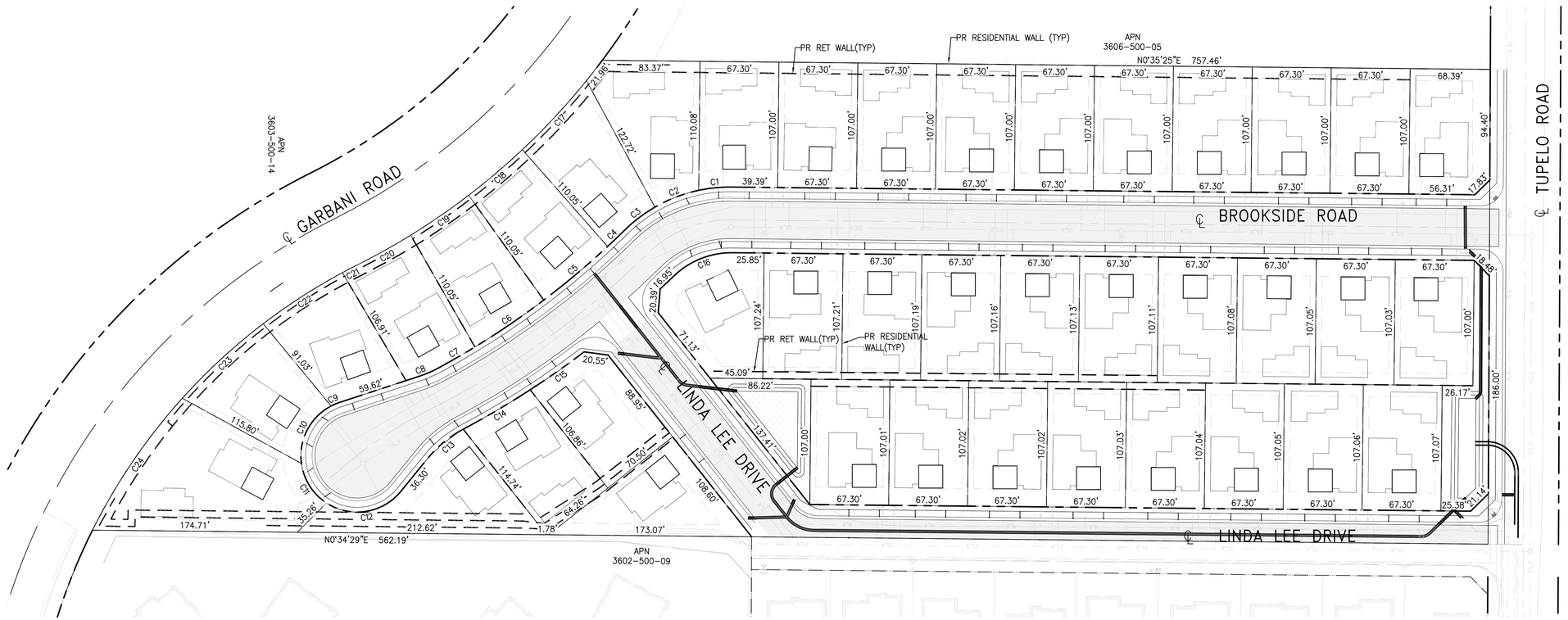
CITY OF MENIFEE

SAN BERNARDINO COUNTY, CALIFORNIA

APN: 3602-500-06

TENTATIVE TRACT MAP NO. 38683

SITE PLAN



2/6/2023 DATE SITE PLAN PREPARED

NOTES (THIS SHEET ONLY)

2. SEE SHEET 1 FOR VICINITY MAP, LEGAL DESCRIPTION, OWNER/ENGINEER CONTACT INFORMATION, AND UTILITY CONTACT INFORMATION
3. SEE SHEET 3 FOR LOT TABLE/AREAS
4. SEE SHEETS 4 AND 5 FOR CENTERLINE GRADES
5. SEE SHEET 5 FOR TYPICAL SECTIONS

GENERAL NOTES:

1. ACCESSOR'S PARCEL NUMBER: 3602-500-06
2. THE PROPERTY SHOWN HEREIN CONTAINS THE ENTIRE CONTIGUOUS OWNERSHIP.
3. TOTAL GROSS AREA = 9.211 AC.
   TOTAL NET AREA = 8.796 AC.
   TOTAL AREA TO BE DEDICATED FOR R/W = X.XX AC.
4. STREETS A – C ARE STREETS FOR PUBLIC DEDICATION.
5. LOTS 1 THROUGH 40 ARE 5,000 SF MIN. (RESIDENTIAL LOTS)
6. GROSS DENSITY: 4 /AC
   NET DENSITY: 4 DU/AC
   MINIMUM LOT SIZE: 5,000 SF
   MAXIMUM LOT SIZE: X,XXX SF
7. TOTAL NUMBER OF RESIDENTIAL LOTS = 37
   TOTAL NUMBER OF LETTERED LOTS = 1
8. LINEAR FEET OF STREETS:
   BROOKSIDE ROAD = 1059'
   LINDA LEE DR= 868'
9. ALL FRONT YARD BUILDING SETBACK LINES (BSL) ARE SHOWN TO AN AVERAGE DEPTH. MINIMUM FRONT YARD BSL=15'.
10. TOPOGRAPHY SOURCE: CALIFORNIA COORDINATE SYSTEM (CCS83) ZONE 6, NAD 1983. (2010.0000 EPOCH)
    CONTOUR INTERVAL: 1 FOOT
11. ALL SLOPES ARE 2:1 OR FLATTER UNLESS OTHERWISE NOTED.
12. LOT DIMENSION SHOWN HEREIN ARE APPROXIMATE.
13. FEMA 100 YEAR FLOOD ZONE "X". (0.2 PCT ANNUAL CHANCE FLOOD HAZARD)
14. THIS MAP IS COMPILED FROM RECORD INFORMATION ONLY AND IS NOT TO BE USED AS A BOUNDARY SURVEY.
15. THE LOCATIONS OF ALL EXISTING UTILITIES ARE APPROXIMATE. (NO RECORDS AVAILABLE)
16. ADD 1400 FEET TO ALL ELEVATIONS SHOWN HEREIN TO OBTAIN TRUE DATUM.
17. MINIMUM SIDE YARD SETBACK=5'
    MINIMUM REAR YARD SETBACK=15'
    MINIMUM DISTANCE BETWEEN BUILDINGS=10'

LAND USE/ZONING INFORMATION

ADJACENT LAND USE:
NORTH.....SINGLE FAMILY RESIDENTIAL
SOUTH.....VACANT
EAST.....VACANT
WEST.....VACANT
ADJACENT EXISTING ZONING:
NORTH.....LDR-2
SOUTH.....EDC-SG
EAST.....EDC-SG
WEST.....LDR-2

EXISTING ZONING: SINGLE FAMILY RESIDENTIAL (EDC-SG)
PROPOSED ZONING: SINGLE FAMILY RESIDENTIAL (LDR-2)
FIRE HAZARD CLASSIFICATION: NOT IN A FIRE HAZARD ZONE
PROPERTY OR PORTION OF THE PROPERTY IS NOT WITHIN ANY WETLAND, AS DEFINED IN UNITED STATES FISH AND WILDLIFE SERVICES MANUAL, PART 660 FW 2 (JUNE 21,1993)

CURVE DATA			
CURVE #	RADIUS	LENGTH	DELTA
C1	128.00'	28.14'	12°35'47"
C2	128.00'	40.16'	17°58'43"
C3	128.00'	32.62'	14°36'08"
C4	704.00'	20.06'	1°37'56"
C5	704.00'	71.12'	5°47'16"
C6	704.00'	71.12'	5°47'16"
C7	704.00'	35.88'	2°55'13"
C8	143.81'	29.74'	11°50'52"
C9	48.00'	7.90'	9°26'09"
C10	48.00'	58.73'	70°06'29"
C11	48.00'	41.26'	49°14'55"
C12	48.00'	70.23'	83°49'39"

CURVE DATA			
C13	160.47'	39.34'	14°02'44"
C14	763.44'	66.28'	4°58'28"
C15	564.02'	56.33'	5°43'21"
C16	71.37'	55.41'	44°29'12"
C17	594.00'	80.40'	7°45'17"
C18	594.00'	60.16'	5°48'11"
C19	594.00'	60.00'	5°47'16"
C20	594.00'	52.17'	5°01'56"
C21	506.00'	14.34'	1°37'26"
C22	506.00'	80.51'	9°06'59"
C23	506.00'	93.98'	10°38'30"
C24	506.00'	136.56'	15°27'49"

SCALE
50 0 25 50 100
(FEET)
1 INCH = 50 FT.

DESIGNED BY: BY
DRAWN BY: VL
CHECKED BY: AC

SEAL-DESIGN ENGINEER
REGISTERED PROFESSIONAL ENGINEER ANGEL CESAR No. 87222 CIVIL STATE OF CALIFORNIA

BLUE ENGINEERING & CONSULTING, INC
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PLANS PREPARED UNDER THE SUPERVISION OF: ANGEL CESAR, P.E. 87222 EXP. 9/30/23 DATE

REV.	REVISION DESCRIPTION	BY	DATE

CITY OF MENIFEE
McCALL BLVD, MENIFEE, CA 92585

REVIEWED BY:
DANIEL PADILLA
P.E. NO. C-67008
EXP. DATE 09-30-2024
DATE

SITE PLAN

TENTATIVE TRACT MAP No. 38683
RESIDENTIAL DEVELOPMENT

CUP:
LDP:
DATE: February 6, 2023
SHEET 2 OF 5 SHEETS
PROJECT NUMBER: 2022199

Plans Prepared On: 2/6/2023

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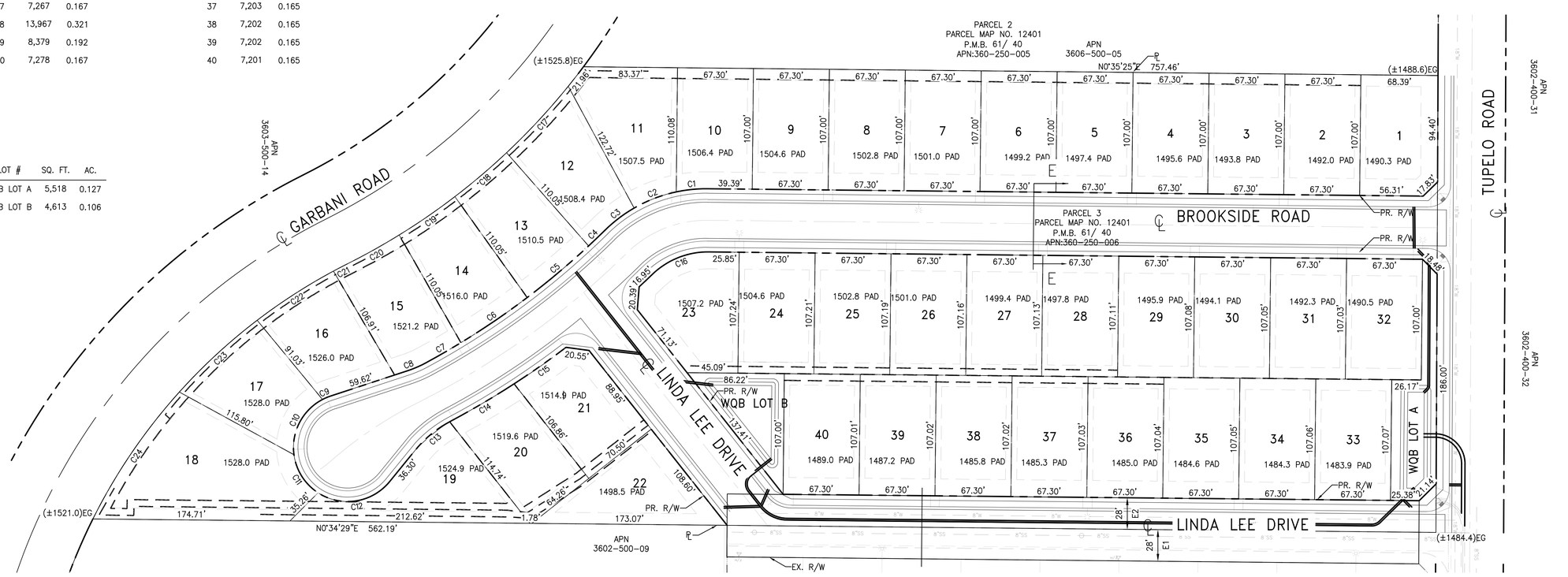
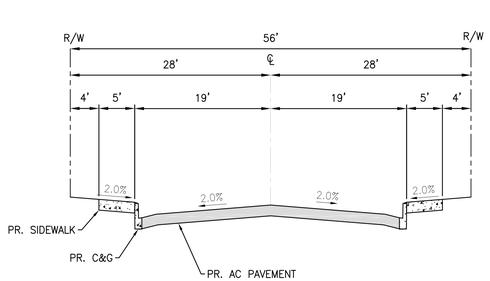
CITY OF MENIFEE
SAN BERNARDINO COUNTY, CALIFORNIA
APN: 3602-500-06
TENTATIVE TRACT MAP

LOT #	SQ. FT.	AC.
1	7,270	0.167
2	7,201	0.165
3	7,201	0.165
4	7,201	0.165
5	7,201	0.165
6	7,201	0.165
7	7,201	0.165
8	7,201	0.165
9	7,201	0.165
10	7,230	0.166
11	8,442	0.194
12	7,426	0.170
13	7,220	0.166
14	7,212	0.166
15	7,212	0.166
16	7,233	0.166
17	7,267	0.167
18	13,967	0.321
19	8,379	0.192
20	7,278	0.167

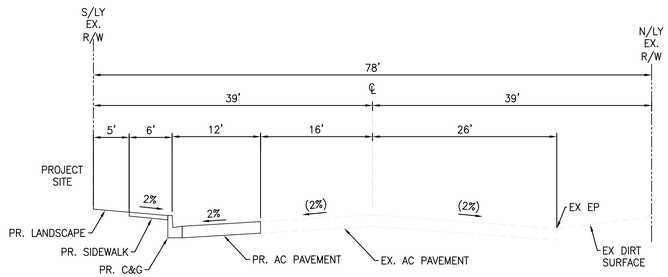
LOT #	SQ. FT.	AC.
21	7,269	0.167
22	7,317	0.168
23	7,712	0.177
24	7,216	0.166
25	7,215	0.166
26	7,213	0.166
27	7,211	0.166
28	7,209	0.166
29	7,207	0.165
30	7,206	0.165
31	7,204	0.165
32	7,201	0.165
33	7,205	0.165
34	7,205	0.165
35	7,204	0.165
36	7,204	0.165
37	7,203	0.165
38	7,202	0.165
39	7,202	0.165
40	7,201	0.165

LOT #	SQ. FT.	AC.
WQB LOT A	5,518	0.127
WQB LOT B	4,613	0.106

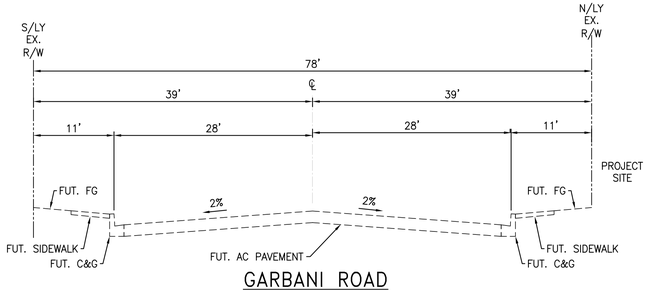




BROOKSIDE ROAD
TYPICAL STREET SECTION
N.T.S.



TUPELO ROAD
TYPICAL STREET SECTION
N.T.S.



GARBANI ROAD
FUTURE STREET SECTION
N.T.S.

NOTES (THIS SHEET ONLY)

1. SEE SHEET 1 FOR VICINITY MAP, LEGAL DESCRIPTION, OWNER/ENGINEER CONTACT INFORMATION, AND UTILITY CONTACT INFORMATION
2. SEE SHEET 2 FOR LEGAL DESCRIPTION, LAND USE/ZONING INFORMATION, AND OTHER GENERAL PROJECT OR LOT INFORMATION
3. SEE SHEETS 4 AND 5 FOR CENTERLINE GRADES
4. SEE SHEET 5 FOR TYPICAL SECTIONS

LETTERED LOT DESCRIPTIONS

LOT "A" WATER QUALITY/RETENTION BASIN AND PUBLIC PARK TO BE MAINTAINED BY THE CITY OF MENIFEE

LOT "B" WATER QUALITY/RETENTION BASIN AND PUBLIC PARK TO BE MAINTAINED BY THE CITY OF MENIFEE

THE TENTATIVE MAP INCLUDES THE ENTIRE CONTINUOUS OWNERSHIP OF THE LAND DIVIDER

EASEMENT NOTES:

EASEMENTS ARE PLOTTED PER PRELIMINARY TITLE REPORT ORDER NO. 112207320, DATED 04-06-2022

E1 EASEMENT FOR ROADWAY PURPOSES PER INST. NO 2005-0247020, RECORDED MARCH 30,2005, OF OFFICIAL RECORDS

E2 EASEMENT FOR ROADWAY PURPOSES PER INST. NO 2005-0247021 RECORDED SEPTEMBER 21, 2004, OF OFFICIAL RECORDS

LEGEND

- (2800) EX CONTOURS
- BOUNDARY
- R/W
- LOT LINE
- EX. LOT LINE
- CENTERLINE
- BUILDING SETBACK LINE
- ROAD EASEMENT

SCALE
50 0 25 50 100
(FEET)
1 INCH = 50 FT.

DESIGNED BY: BY
DRAWN BY: VL
CHECKED BY: AC

SEAL-DESIGN ENGINEER
REGISTERED PROFESSIONAL ENGINEER ANGEL CESAR No. 87222 CIVIL STATE OF CALIFORNIA

BLUE ENGINEERING & CONSULTING, INC
FOREVER BLUE N.G.
9320 BASELINE RD., STE. D
RANCHO CUCAMONGA, CA 91701
909-248-6557
INFO@BLUECIVILENG.COM - WWW.BLUECIVILENG.COM

PLANS PREPARED UNDER THE SUPERVISION OF:
ANGEL CESAR, P.E. 87222 EXP. 9/30/23 DATE

REV.	REVISION DESCRIPTION	BY	DATE

CITY OF MENIFEE
McCALL BLVD, MENIFEE, CA 92585

REVIEWED BY:
DANIEL PADILLA
P.E. NO. C-57208
EXP. DATE 09-30-2024
DATE

TENTATIVE TRACT MAP

TENTATIVE TRACT MAP No. 38683
RESIDENTIAL DEVELOPMENT

CUP:
LDP:
DATE: February 6, 2023
SHEET 3 OF 5 SHEETS
PROJECT NUMBER: 2022199

Plans Prepared On: 2/6/2023

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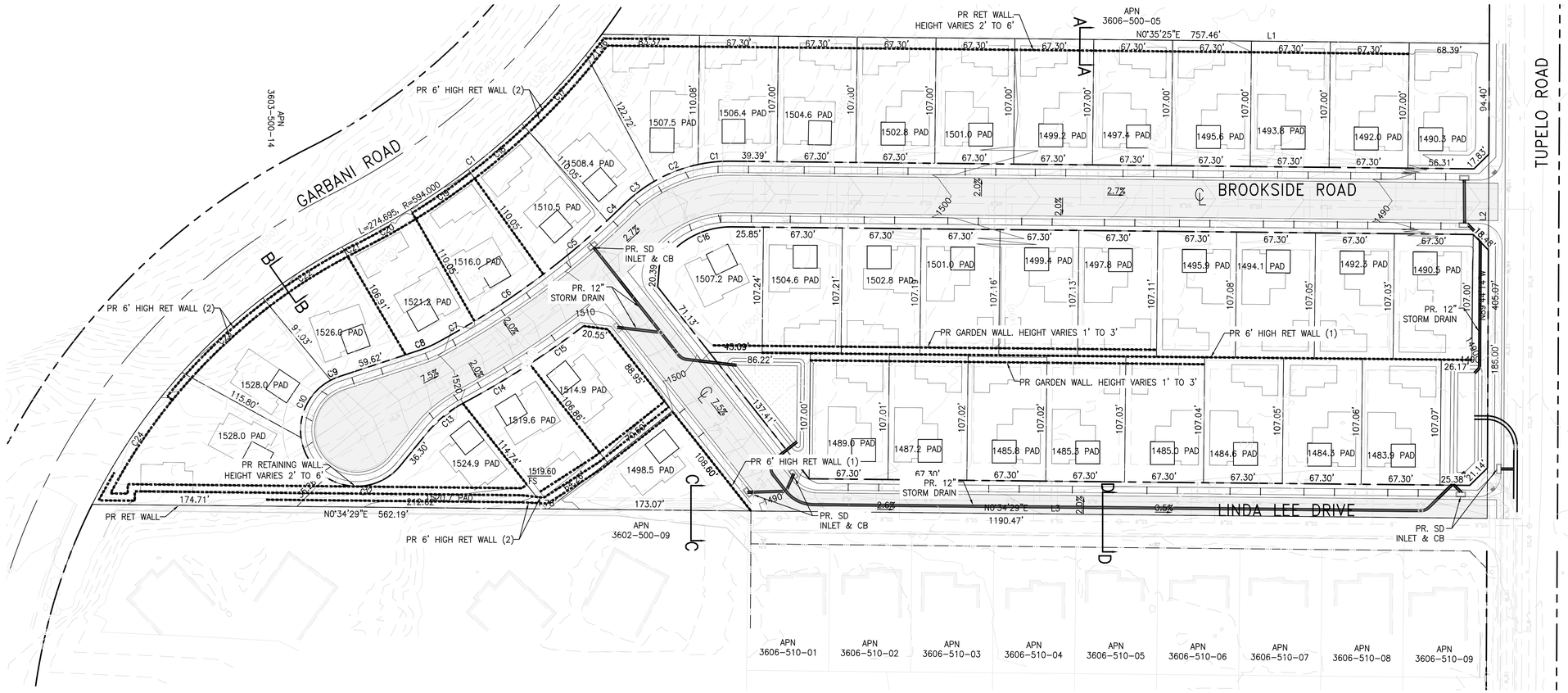
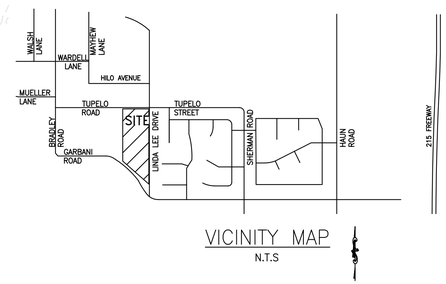




VICINITY MAP
N.T.S

APPLICANT/OWNER

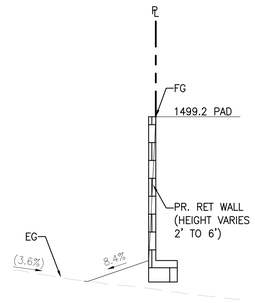
168 BUILDERS, INC
TONY ZENG
1211 CENTER COURT DR. #200
COVINA, CA 91724
PHONE: 909-702-8889
EMAIL: TONYZENG@SBCGLOBAL.NET

PREPARED BY:

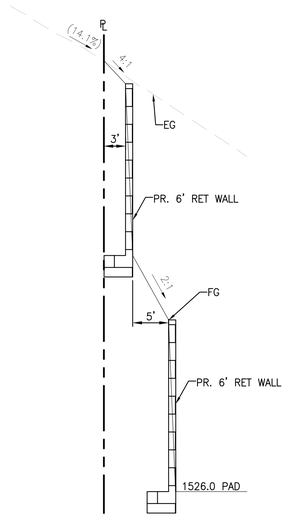
BLUE ENGINEERING & CONSULTING, INC
9320 BASELINE ROAD, SUITE D
RANCHO CUCAMONGA, CA 91701
PHONE: 909-970-5654
EMAIL: INFO@BLUECIVILENG.COM

LEGAL DESCRIPTION

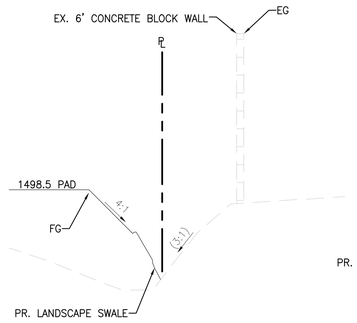
PARCEL 3 OF PARCEL MAP NO. 12401, IN THE CITY OF MENIFEE, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 61 PAGE 40 PARCEL MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.
APN: 3602-500-06
PROJECT NAME: GARBANI-NORTH RESIDENTIAL DEVELOPMENT
EARTH WORK: 23,700 CY (RAW CUT)
52,200 CY (RAW FILL)
28,500 CY (IMPORT)
SOURCE OF TOPOGRAPHY: 11/16/2022 BY GEOCULUS, INC.



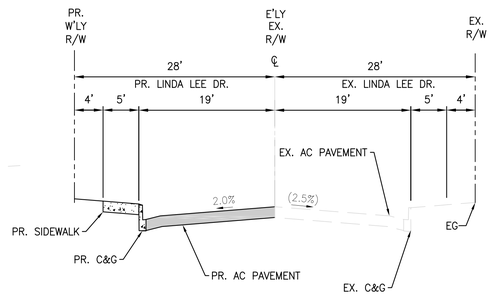
SECTION A-A
N.T.S.



SECTION B-B
N.T.S.



SECTION C-C
N.T.S.



SECTION D-D
N.T.S.

SCALE
50 0 25 50 100
(FEET)
1 INCH = 50 FT.

DESIGNED BY: BY	SEAL-DESIGN ENGINEER	BLUE ENGINEERING & CONSULTING, INC FOREVER BLUE N.G.	9320 BASELINE RD., STE. D RANCHO CUCAMONGA, CA 91701 909-248-6557 INFO@BLUECIVILENG.COM - WWW.BLUECIVILENG.COM		**CITY OF MENIFEE** McCALL BLVD, MENIFEE, CA 92585	CONCEPTUAL GRADING PLAN	CUP: / LDP: / DATE: February 6, 2023
DRAWN BY: VL	REGISTERED PROFESSIONAL ENGINEER ANGEL CESAR No. 87222 CIVIL STATE OF CALIFORNIA				REVIEWED BY: DATE		SHEET 4 OF 5 SHEETS
CHECKED BY: AC		PLANS PREPARED UNDER THE SUPERVISION OF: ANGEL CESAR, P.E. 87222 EXP. 9/30/23 DATE	REV. / REVISION / DESCRIPTION / BY / DATE		DANIEL PADILLA P.E. NO. C-67008 EXP. DATE 09-30-2024 DATE	**TENTATIVE TRACT MAP No. 38683 RESIDENTIAL DEVELOPMENT**	PROJECT NUMBER: 2022199

Plans Prepared On: 2/6/2023

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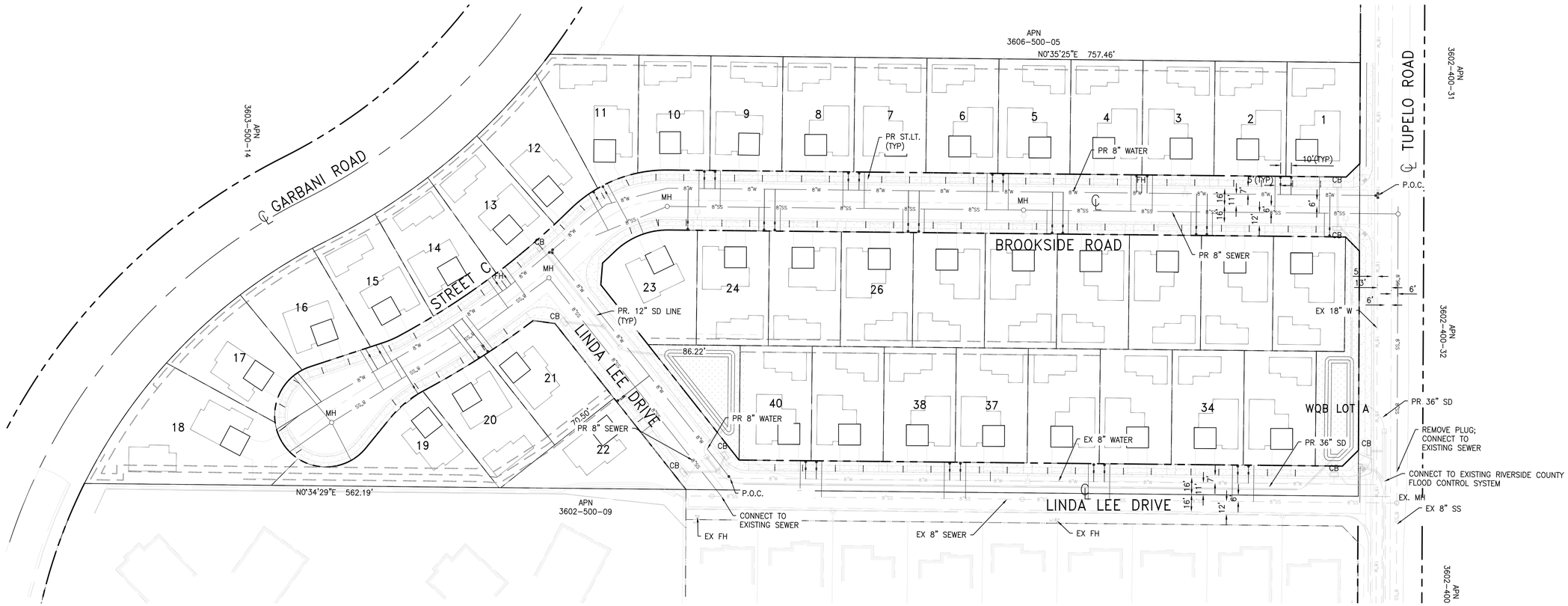

SCALE
50 0 25 50 100
(FEET)
1 INCH = 50 FT.

DESIGNED BY: BY	SEAL-DESIGN ENGINEER	BLUE ENGINEERING & CONSULTING, INC FOREVER BLUE N.G.	9320 BASELINE RD., STE. D RANCHO CUCAMONGA, CA 91701 909-248-6557 INFO@BLUECIVILENG.COM – WWW.BLUECIVILENG.COM
DRAWN BY: VL	REGISTERED PROFESSIONAL ENGINEER ANGEL CESAR No. 87222 CIVIL STATE OF CALIFORNIA	PLANS PREPARED UNDER THE SUPERVISION OF: ANGEL CESAR, P.E. 87222 EXP. 9/30/23 DATE	
CHECKED BY: AC			

REV.	REVISION DESCRIPTION	BY	DATE

CITY OF MENIFEE
McCALL BLVD, MENIFEE, CA 92585

REVIEWED BY:

DANIEL PADILLA
P.E. NO. C-67005
EXP. DATE 09-30-2024
DATE

CONCEPTUAL UTILITY PLAN

TENTATIVE TRACT MAP No. 38683
RESIDENTIAL DEVELOPMENT

CUP:	
LDP:	
DATE:	February 6, 2023
SHEET	5
OF	5 SHEETS
PROJECT NUMBER:	2022199

Plans Prepared On: 2/6/2023

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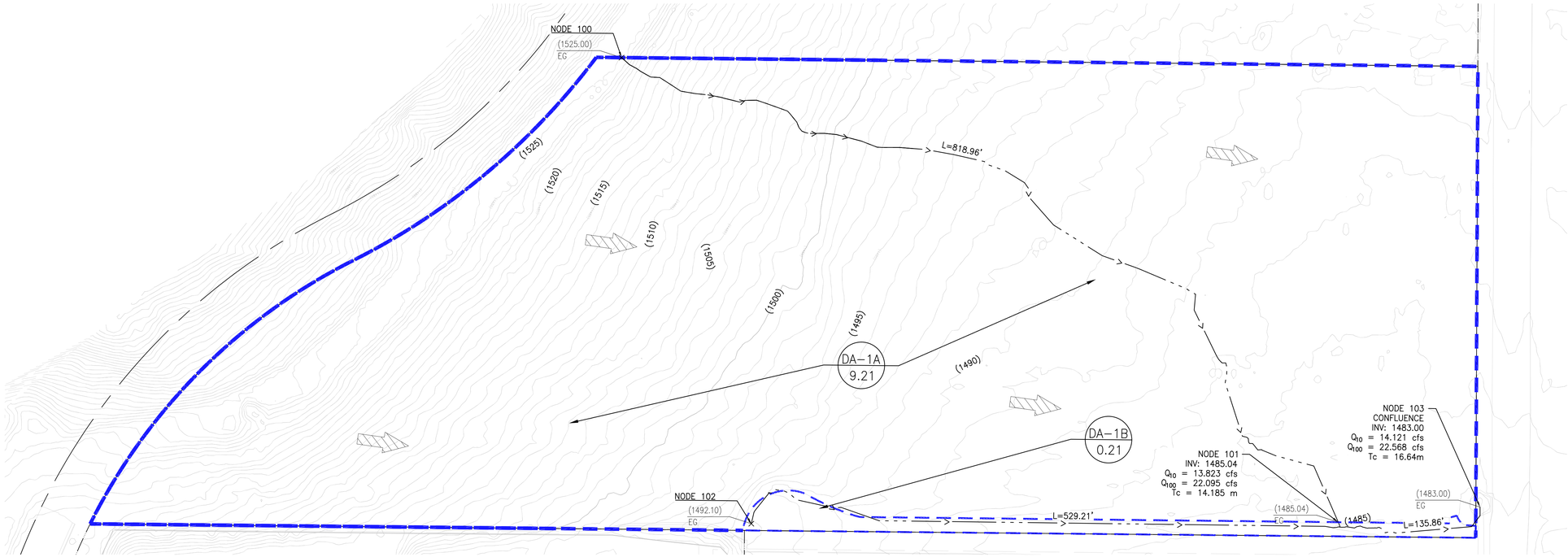

LEGEND

- X / x.xx — DRAINAGE AREA DESIGNATION / AREA IN ACRES
- WATERSHED BOUNDARY
- FLOW LINE
- RIGHT-OF-WAY
- CENTER LINE
- DRAINAGE ARROW

SCALE

50 0 25 50 100

(FEET)

1 INCH = 50 FT.

DESIGNED BY: BY

DRAWN BY: VL

CHECKED BY: AC

SEAL-DESIGN ENGINEER

REGISTERED PROFESSIONAL ENGINEER — ANGEL CESAR — No. 87222 — CIVIL — STATE OF CALIFORNIA

BLUE
ENGINEERING & CONSULTING, INC
FOREVER BLUE N.G.
9320 BASELINE RD., STE. D
RANCHO CUCAMONGA, CA 91701
909-248-6557
INFO@BLUECIVILENG.COM - WWW.BLUECIVILENG.COM

PLANS PREPARED UNDER THE SUPERVISION OF:
ANGEL CESAR, P.E. 87222 EXP. 9/30/23 — DATE

REV.	REVISION DESCRIPTION	BY	DATE

CITY OF MENIFEE
McCALL BLVD, MENIFEE, CA 92585

REVIEWED BY:

DANIEL PADILLA
P.E. NO. C-67008
EXP. DATE 09-30-2024 — DATE

PRE-DEVELOPMENT HYDROLOGY KEY MAP

TENTATIVE TRACT MAP No. 38683
RESIDENTIAL DEVELOPMENT

CUP:

LDP:

DATE: February 6, 2023

SHEET 1 OF 3 SHEETS

PROJECT NUMBER: 2022199

Plans Prepared On: 2/6/2023

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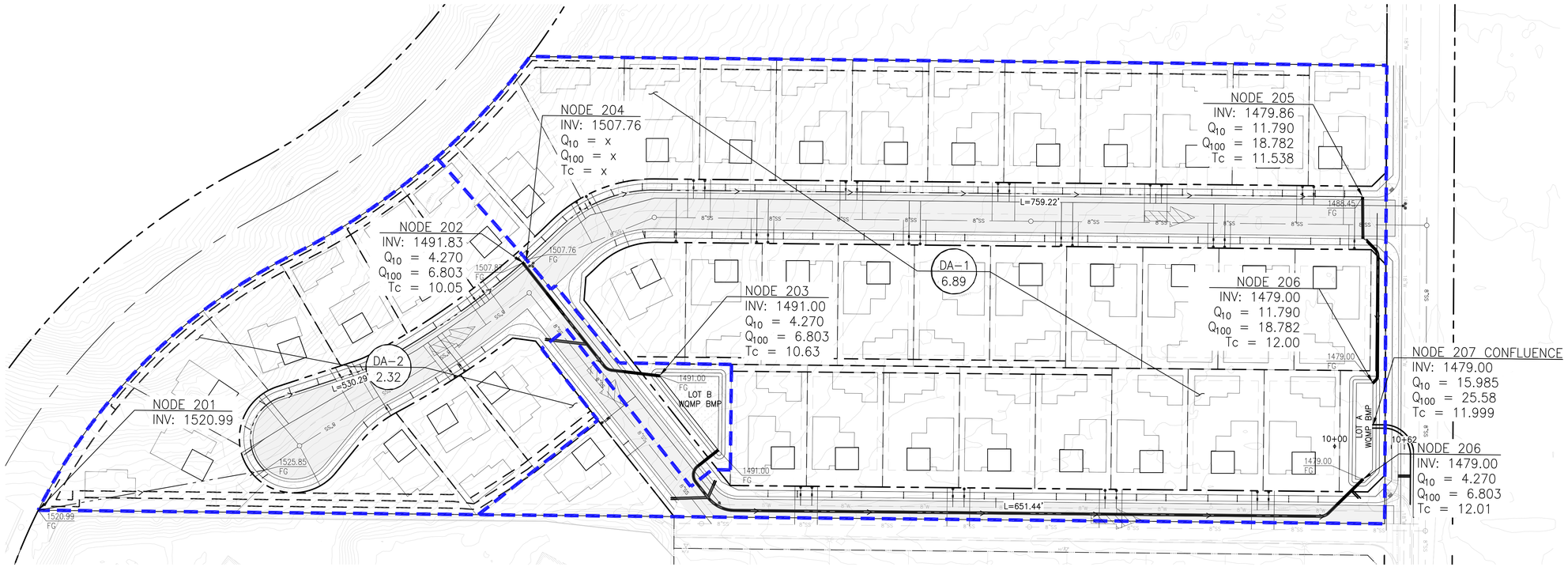

SCALE
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(FEET)
1 INCH = 50 FT.

DESIGNED BY:
DRAWN BY:
CHECKED BY:

SEAL-DESIGN ENGINEER
REGISTERED PROFESSIONAL ENGINEER ANGEL CESAR No. 87222 CIVIL STATE OF CALIFORNIA

BLUE ENGINEERING & CONSULTING, INC
FOREVER BLUE N.G.
9320 BASELINE RD., STE. D
RANCHO CUCAMONGA, CA 91701
909-248-6557
INFO@BLUECIVILENG.COM – WWW.BLUECIVILENG.COM

PLANS PREPARED UNDER THE SUPERVISION OF:
ANGEL CESAR, P.E. 87222 EXP. 9/30/23 DATE

REV.	REVISION DESCRIPTION	BY	DATE

CITY OF MENIFEE
McCALL BLVD, MENIFEE, CA 92585

REVIEWED BY:
DANIEL PADILLA
P.E. NO. C-67008
EXP. DATE: 09-30-2024
DATE

POST-DEVELOPMENT HYDROLOGY KEY MAP

TENTATIVE TRACT MAP No. 38683
RESIDENTIAL DEVELOPMENT

CUP:
LDP:
DATE: February 6, 2023
SHEET 2
OF 3 SHEETS
PROJECT NUMBER:

Plans Prepared On: 2/6/2023

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United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Western Riverside Area, California

November 2, 2022

Custom Soil Resource Report
Soil Map

Map Scale: 1:2,150 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 30 60 120 180

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

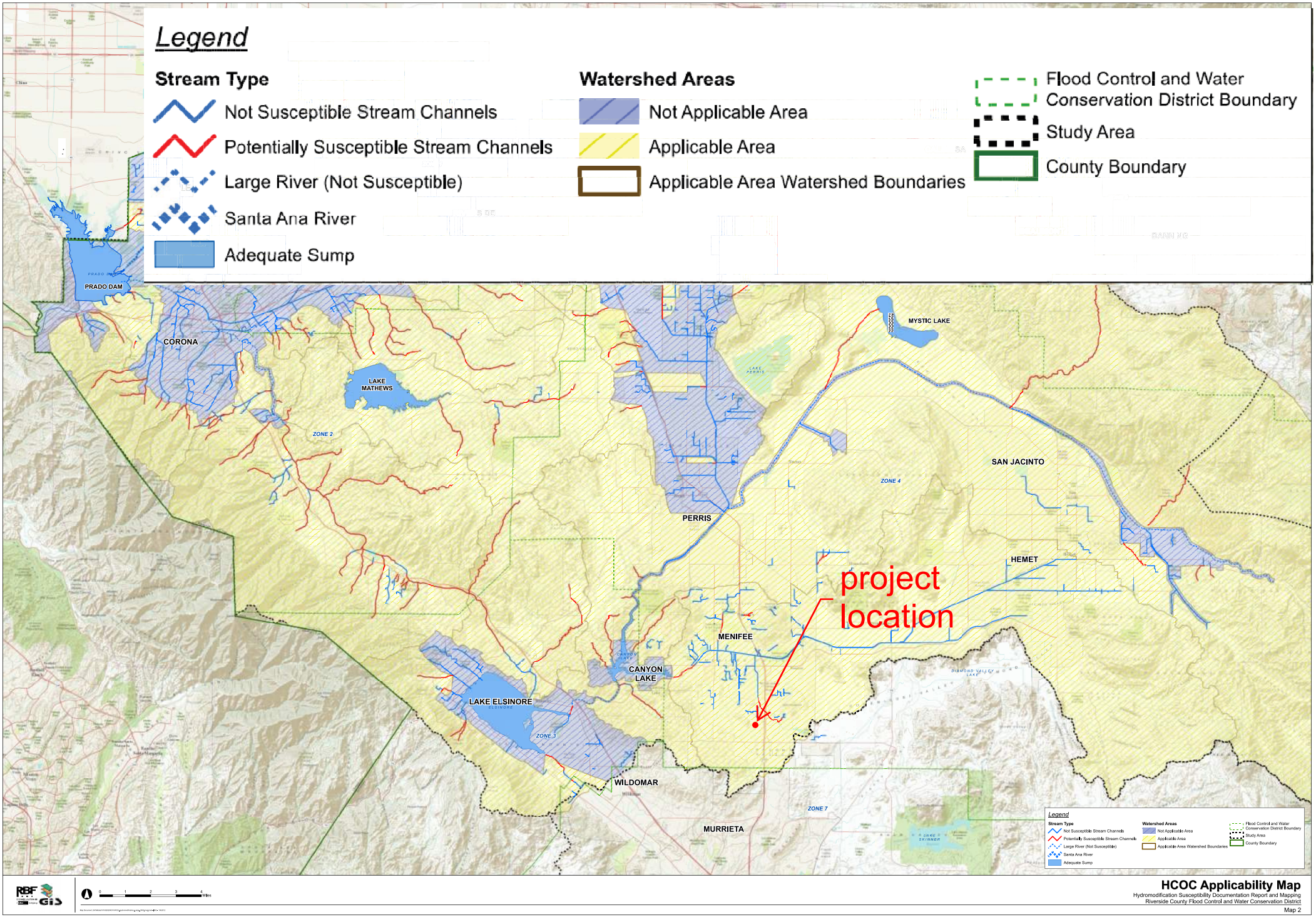
This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Western Riverside Area, California
Survey Area Data: Version 15, Sep 6, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 14, 2022—Mar 17, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.


Legend
Stream Type
Not Susceptible Stream Channels
Potentially Susceptible Stream Channels
Large River (Not Susceptible)
Santa Ana River
Adequate Sump
Watershed Areas
Not Applicable Area
Applicable Area
Applicable Area Watershed Boundaries
Flood Control and Water Conservation District Boundary
Study Area
County Boundary
PRADO DAM
CORONA
LAKE MATHEWS
ZONE 2
MYSTIC LAKE
LAKE PERRIS
ZONE 4
SAN JACINTO
PERRIS
HEMET
project location
MENIFEE
CANYON LAKE
LAKE ELSINORE
ZONE 3
WILDOMAR
ZONE 7
MURRIETA
HCOC Applicability Map
Hydromodification Susceptibility Documentation Report and Mapping
Riverside County Flood Control and Water Conservation District
Map 2

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

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

Used Oil and 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:

For Information:

To report illegal dumping or a clogged storm drain
1-800-506-2555

Hazardous Materials Disposal,
Recycling/Disposal Vendors call:
951-486-3200 or 1-800-506-2555

County Code Enforcement Offices
(unincorporated area)
Lake Elsinore/Mead Valley.....951-245-3186
Jurupa Valley.....951-275-8739
Moreno Valley/Banning 951-485-5840
Murrieta So. County 951-600-6140
Thousand Palms District 760-343-4150

Environmental Crimes
1-800-304-6100

Spill Response Agency
1-800-304-2226 or 951-358-5172

Recycling and Hazardous Waste Disposal
1-800-366-SAVE

For pollution prevention brochures or to obtain information on other County Environmental Services, call 1-800-506-2555

Popular links:
www.rcflood.org
www.cabmphandbooks.com
www.cfpub.epa.gov/npdes

ONLY RAIN DOWN THE STORM DRAIN
POLLUTION PREVENTION PROGRAM
1-800-506-2555

Riverside County's "Only Rain Down the Storm Drain" Pollution Prevention Program members include:

Banning
Beaumont
Calimesa
Canyon Lake
Cathedral City
City of Riverside
Corona
Coachella
Coachella Valley Water District
Desert Hot Springs
Hemet
Indian Wells
Indio
Lake Elsinore
La Quinta
Menifee
Murrieta
Moreno Valley
Norco
Palm Desert
Palm Springs
Perris
Rancho Mirage
Riverside County
San Jacinto
Temecula
Wildomar

Stormwater Pollution

What you should know for...

Automotive Maintenance and Car Care

Best Management Practices (BMPS) for:

- Auto Body Shops
- Auto Repair Shops
- Fleet Service Operations

Stormwater Pollution...What You Should Know

Riverside County has three major river systems, or watersheds, that are important to our communities and the environment. Improper automotive maintenance, storage and washing activities can cause pollution that endangers the health of these rivers.

Pollutants that can collect on the ground from automotive repair, storage and washing areas such as antifreeze, oil, grease, gas, lubricants, soaps and dirt can be washed into the street by rain, over-irrigation or wash water runoff. Once these pollutants are in the streets they can be carried to these rivers by the storm drain system. Unlike the sewer system, the storm drain system carries water (and pollution) to our rivers without treatment. Pollution from storm drains is a form of storm water pollution.

A common storm water pollution problem associated with automotive shops and businesses is the activity of hosing down service bays without proper capture of runoff water, illegal dumping of fluids to the street or storm drain inlets and not properly storing hazardous materials. Examples of pollutants that can be mobilized by these activities include oil and grease from cars, copper and asbestos from worn break linings, zinc from tires and toxics from spilled fluids.

The Cities and County of Riverside have adopted ordinances, in accordance with state and federal law, which prohibit the discharge of pollutants into the storm drain system or local lakes, rivers or streams. This brochure provides common practices that can prevent storm water pollution and keep your shop in compliance with the law.

Best Management Practices for Auto Body & Repair Shops, Car Dealerships, Gas Stations and Fleet Service Operations

Changing Automotive Fluids

- Locate storm drains on or near your property. Do not allow material to flow to these drains.
- Collect, and separately recycle motor oil, antifreeze, transmission fluid and gear oil. Combining waste fluid prevents recycling.
- Drain brake fluid and other non-recyclables into a proper container and handle as a hazardous waste.
- Use a recyclable radiator flushing fluid and discard safely.

Only rain is allowed down the storm drain! Don't be an offender!! Violations of local ordinances are prosecuted to the fullest extent of the law.

Identify specific activities with the potential to cause spills or release pollutants such as oil, grease, fuel, etc. Post signs and train employees on how to prevent and clean up spills during activities.

YOU can prevent Stormwater Pollution following these practices...

Working on Transmissions, Engines and Miscellaneous Repairs

- Keep a drip pan or a wide low-rimmed container under vehicles to catch fluids whenever you unclip hoses, unscrew filters, or change parts, to contain unexpected leaks.
- Drain all fluids from wrecked vehicles into proper containers before disassembly or repair.
- Store batteries indoors, on an open rack.
- Return used batteries to a battery vendor.
- Contain cracked batteries to prevent hazardous spills.
- Catch metal filings in an enclosed unit or on a tarpaulin.
- Sweep filing areas to prevent washing metals into floor drains.

Cleaning Parts

- Clean parts in a self-contained unit, solvent sink, or parts washer to prevent solvents and grease from entering a storm drain.

Fueling Vehicles

- Clean-up minor spills with a dry absorbent, rather than allowing them to evaporate.
- Use a damp cloth and a damp mop to keep the area clean rather than a hose or a wet mop.

Keeping your shop or work area pollutant clean and environmentally safe

- Never hose down your work area, as pollutants could be washed into the storm drain.
- Sweep or vacuum the shop floor frequently.
- Routinely check equipment. Wipe up spills and repair leaks.
- Use large pans or an inflatable portable berm under wrecked cars.
- Avoid spills by emptying and wiping drip pans, when they are half-full.
- Keep dry absorbent materials and/or a wet/dry vacuum cleaner on hand for mid-sized spills.
- Train your employees to be familiar with hazardous spill response plans and emergency procedures.
- Immediately report hazardous material spills that have entered the street or storm drain to OES and local authorities.

Outdoor Parking and Auto Maintenance

- Use covered or controlled areas to prevent offsite spills.
- Sweep-up trash and dirt from outdoor parking and maintenance areas. Do not hose down areas. All non-stormwater discharges to the street of storm drain are prohibited.

Storing and Disposing of Waste

- Store recyclable and non-recyclable waste separately.
- Place liquid waste (hazardous or otherwise) in proper containers with secondary containment.
- Cover outdoor storage areas to prevent contact with rain water.
- Collect used parts for delivery to a scrap metal dealer.

Washing vehicles and steam cleaning equipment

- For car washing, minimize wash water used and use designated areas. Never discharge wash water to the street, gutters or storm drain.
- Be sure to keep waste water from engine parts cleaning or steam cleaning from being discharged to the street, gutter or storm drain.
- Wash vehicles and steam clean with environmentally friendly soaps and polishes.

Selecting and Controlling Inventory

- Purchase recyclable or non-toxic materials.
- Select “closed-loop” suppliers and purchase supplies in bulk.


Caltrans
I Pledge to Protect Every Drop
ILLEGAL DUMPING IS RUBBISH
Properly dump your garbage to reduce California's stormwater pollution!
Five easy tips to reduce pollutants.
APPLIANCES
When illegally dumped, appliances can release toxins that get washed away with rain and end up in our water bodies, polluting our water.
TIP 1: Donate or recycle appliances.
TIP 2: Properly dispose at your local dump.
FURNITURE
When dumped on the side of the roadway all furniture not only causes a safety hazard, but can also breakdown and get into local water bodies, causing pollution.
TIP 3: Contact local waste management for bulky pick-up or locate a dump for drop-off.
VEGETATION
Improperly dumped vegetation can flow to waterways, creating an imbalance of nitrates in water and thus harm aquatic life.
TIP 4: Tarp loads to reduce biodegradable waste on highways.
TIP 5: Use a green waste bin or consider composting biodegradable waste.
Don't risk a $10k fine & up to 6 months in jail
Simple changes in disposal of rubbish can help keep California's highways, waterways and bodies of water clean!
FOLLOW US ON SOCIAL MEDIA
#ProtectEveryDrop
FIND US ONLINE
www.protecteverydrop.com

Caltrans

I Pledge to Protect Every Drop

STORMWATER POLLUTION

Metal Pollution Is More Common Than You Think

- Clean waterways start with clean storm drains.
- Clean storm drains start with clean highways.
- Clean highways start with you.

DID YOU KNOW?

- Metals add to stormwater pollution by entering our waterways via stormwater runoff. They can cause a variety of negative effects on our health and the environment.
- Vehicle tires and brakes are a source of metal pollution.
- Road and highway runoff flow into storm drains often leading directly to waterways.

COMMON METALS IN HIGHWAY RUNOFF

- Lead: leaded gasoline, lubricating oils and grease
- Zinc: tire wear, motor oil and grease
- Copper: brakes and engine wear

REDUCE POLLUTION AT THE SOURCE

Take steps to reduce metal pollution from stormwater

- Maintain your vehicle and protect the quality of our water. Well-maintained vehicles pollute less; even a small leak of oil, antifreeze or other toxic auto fluids can find their way into a storm drain.
- Consider alternative transportation. Exercise your commuting options by carpooling, using public transportation or riding a bicycle. Fewer vehicles on California's highways and roadways reduce pollution that can flow into storm drains.
- Learn More! Go online and check out tips and simple solutions to prevent stormwater pollution at www.protecteverydrop.com.

WWW.PROTECTEVERYDROP.COM

Caltrans

I Pledge to Protect Every Drop

-A CLEAN CAR GOES FAR-

WASH YOUR CAR TO
KEEP OUR WATERWAYS CLEAN &
PROTECT WATER QUALITY

PROTECT OUR WATER

Pollutants from storm drains make their way to our waterways, including streams, rivers, lakes & the ocean.

SPOT THE SPOTS

Dirty vehicles carry pollutants.

WHEN IT RAINS

Rain washes pollutants off your vehicle & onto roadways. These pollutants go into storm drains & flow into waterways.

WASH GRIME AWAY

Washing your car regularly at a facility that recycles water helps reduce pollutants from entering the storm drain and ultimately our water ways.

WASH, PROTECT, REPEAT

Do your part to reduce pollution & protect water quality!

WWW.PROTECTEVERYDROP.COM

rcwatershed.org

RIVERSIDE COUNTY

WATERSHED PROTECTION

27 Cities + One County + Two Districts = A Team Effort.

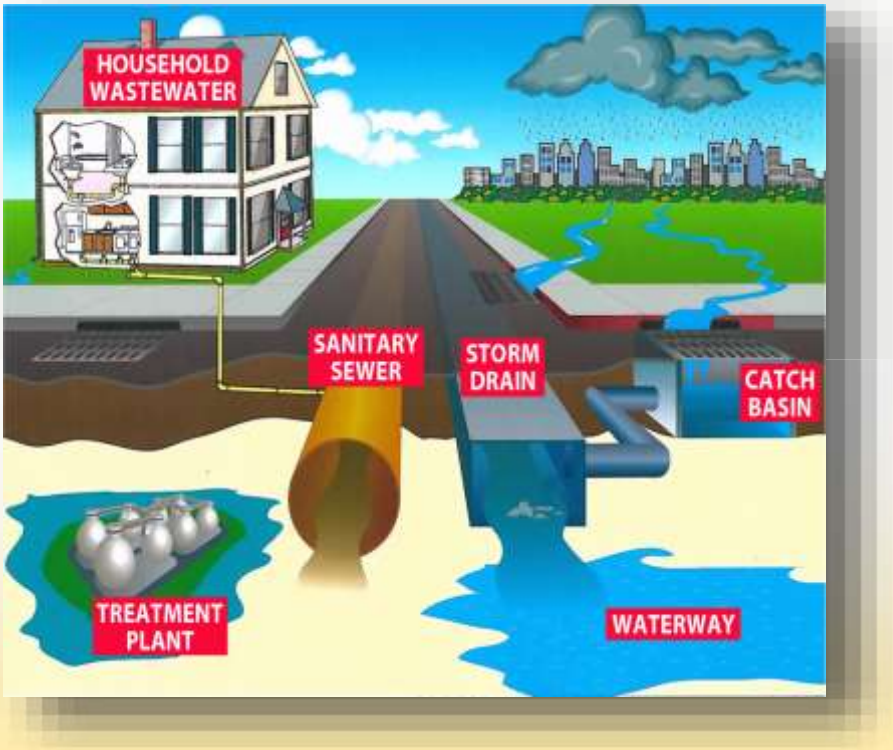
Water pollution degrades surface waters which can cause them to be unsafe for drinking, fishing, swimming, and other activities. The Riverside County Watershed Protection program was established to reduce the pollution carried by stormwater into local creeks and waterways that lead to the ocean. The program is managed by the Riverside County Flood Control & Water Conservation District in partnership with 27 Cities, the County of Riverside and the Coachella Valley Water District.

What is a watershed and how do I affect it?

A watershed is an area of land that catches and drains water into a creek, stream or tributary and eventually ends up in a large body of water such as our lakes, rivers or the ocean. As stormwater flows over land and across the watershed into a waterway, it carries urban runoff such as used motor oil and grease, pesticides, trash and other harmful debris. This is where the public comes in. The more we can prevent polluting the watershed, the healthier our waterways will be and the habitat it supports.

What is stormwater?

Stormwater runoff is any water, either through rain, sprinklers, or irrigation of yards/gardens, that falls and is transported over land and pavement into local waterbodies through the storm drain system. All water that flows into a storm drain is deposited into creeks, rivers or the ocean without treatment.



Is there a difference between the storm drain and sewer system?

Yes, an important difference. Stormwater and all the pollutants that flow from our homes, parking lots and streets to the gutter into the storm drains flow directly into our creeks and other water bodies untreated. Water and pollutants that flow into the sanitary sewer, such as water from our sinks, bathtubs and toilets, are sent to a wastewater treatment facility before the water is discharged to the Bay or Ocean.

Doo Good

Pick up dog doo. Protect streams

Dog doo can pollute our waterways. Rain flows across yards and trails, collecting in storm drains that lead directly to streams without being treated!

Bacteria Problems

A single gram of dog doo can contain 23 million fecal coliform bacteria and can spread diseases like Giardia and Salmonella.

Bacteria from dog doo accounts for up to **20%** of the bacteria in urban waterways.

Nutrient Problems

Nutrients like nitrogen and phosphorus that are found in dog doo act like a fertilizer in streams. They cause algae to grow which reduces the available oxygen for fish. The more poop, the bigger the potential problem. Locally there are over **90,000** dogs that make **11,700 tons** of poop a year.

Be a "Doo Gooder"

You can make a difference by being a responsible pet owner. Being a "Doo Gooder" means being a model for others and picking up your dog doo. Here are **5 tips** every dog owner should know:

- Be prepared: carry poop bags with you.
- Take extra bags so you don't run out and you can help someone else in need.
- Make sure the bag ends up in a trash can.
- When you hike, never leave a bag on the trail – take it with you.
- Scoop your poop at home or hire someone to keep your yard healthy and to protect streams.

rcwatershed.org

RIVERSIDE COUNTY
WATERSHED PROTECTION

OUR MISSION

"To protect, preserve and enhance the quality of Riverside County Watersheds by fostering a community-wide commitment to clean water."

@RivCoWatershed

Tips for Horse Care and Barn Keeping

Stormwater Pollution What you should know…

If not properly managed, rainfall and runoff that come into contact with manure, horse care products, and wash water can carry nutrients, sediment, bacteria, salts, and toxic pollutants to storm drains and streams, negatively affecting water quality and the environment. Listed below are some environmentally responsible steps to keep in mind when caring for your horses, barns and pastures.

Grooming

- Only use pest control and grooming products *(saddle and tack cleaning and conditioning products, shampoos and conditioners, show shine, hoof polish, etc.)* where needed and avoid use in areas exposed to runoff. Spot-apply pesticides and fungicides to avoid over use and keep from areas exposed to stormwater. Follow instructions on products, use sparingly and clean up spills.
- Store all pest control, grooming, and horse and tack care products in covered areas where they will not come into contact with stormwater, and post signs reminding boarders and staff not to dump any excess products. For proper disposal of unused horse care products, please call **1-800-304-2226** or visit the Riverside County Waste Management Department at **www.rivcowm.org.**
- For indoor wash stalls, ensure that floor drains are connected to septic system or drain to areas where the washwater can soak into the ground. Outside, ensure that washwater can seep into the ground. Always prevent washwater from entering a storm drain or stream. Creating a small berm around the area can prevent washwater from leaving the area.
- Conserving water is an important way to protect streams. Conserve water by using a spray nozzle with an automatic shut-off. Turn off the water when not in use.

Manure Management

Store manure in a covered, enclosed compost bin located in an area that will not result in any drainage or runoff. Where enclosed bins aren't feasible, manure storage sites should be located under a covered area on a nearly flat surface, 50 - 100 feet from any stream or storm drain.

Pasture Management

- Sweep or shovel horse holding areas daily to reduce the tracking of manure and soil. ***Do not wash down these areas!***
- Fencing horses out of streams is important to protect surface waters. Locate paddock areas and fencing so horses are kept away from streams. Wherever possible, choose paddock areas where runoff will drain into the ground.
- Plant or allow vegetation to grow around the perimeter of paddock areas to provide for natural filtration of runoff.

Grazing

Over-grazing in a paddock or pasture can lead to exposed soil and soil erosion, which increases runoff to streams and surface waters; allow about one acre per horse and rotate pasturing where possible.

Responsibility for water quality begins with **YOU**

Using and Disposing of Manure and Bedding

- Compost used bedding and manure. See ***http://compostingcouncil.org*** for more information.
- Composted bedding and manure may be donated to local greenhouses, nurseries, botanical parks, topsoil companies or composting centers.
- Contact your municipality regarding disposal programs and requirements.
- Always protect stables, storage, and compost stockpiles from runoff by keeping them out of stream courses.

Barn and Stable Design

Have your engineer check with your City or County building department for information about stable design requirements and best practices, such as good surfacing materials, manure and care product storage areas, and locating wash and storage areas away from areas that could affect water quality.

Resources

Contact your city or county stormwater representative for any applicable local ordinances.

For more information, Please call Riverside County's "Only Rain Down the Storm Drain" at 1-800-506-2555 or visit the website at rcstormwater.org

IRRIGATION RUNOFF

STORMWATER FACT SHEET

RIVERSIDE COUNTY
WATERSHED PROTECTION

Report Irrigation Runoff or Stormwater Pollution:
800.506.2555

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.

Helpful telephone numbers and links:

Riverside County Stormwater Protection Partners

Flood Control District	(951) 955-1200
County of Riverside	(951) 955-1000
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
Cathedral City	(760) 770-0327
City of Coachella	(760) 398-4978
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 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) 361-0900
City of San Jacinto	(951) 654-7337
City of Temecula	(951) 694-6444
City of Wildomar	(951) 677-7751

REPORT ILLEGAL STORM DRAIN DISPOSAL
1-800-506-2555 or e-mail us at
fcnpdes@rcflood.org

- Riverside County Flood Control and Water Conservation District
  www.rcflood.org

Online resources include:

- California Storm Water Quality Association
  www.casqa.org
- State Water Resources Control Board
  www.waterboards.ca.gov
- Power Washers of North America
  www.thepwna.org

Stormwater Pollution

What you should know for...

Outdoor Cleaning Activities and Professional Mobile Service Providers

Storm drain pollution prevention information for:

- Car Washing / Mobile Detailers
- Window and Carpet Cleaners
- Power Washers
- Waterproofers / Street Sweepers
- Equipment cleaners or degreasers and all mobile service providers

Do you know where street flows actually go?

Storm drains are NOT connected to sanitary sewer systems and treatment plants!

The primary purpose of storm drains is to carry *rain* water away from developed areas to prevent flooding. Pollutants discharged to storm drains are transported directly into rivers, lakes and streams. Soaps, degreasers, automotive fluids, litter and a host of materials are washed off buildings, sidewalks, plazas and parking areas. Vehicles and equipment must be properly managed to prevent the pollution of local waterways.

Unintentional spills by mobile service operators can flow into storm drains and pollute our waterways. **Avoid mishaps.** *Always* have a **Spill Response Kit** on hand to clean up unintentional spills. Only emergency **Mechanical** repairs should be done in City streets, using drip pans for spills. **Plumbing** should be done on private property. Always store chemicals in a leak-proof container and keep covered when not in use. **Window/Power Washing** waste water shouldn't be released into the streets, but should be disposed of in a sanitary sewer, landscaped area or in the soil. Soiled **Carpet Cleaning** wash water should be filtered before being discharged into the sanitary sewer. Dispose of all filter debris properly. **Car Washing/Detailing** operators should wash cars on private property and use a regulated hose nozzle for water flow control and runoff prevention. Capture and dispose of waste water and chemicals properly. Remember, storm drains are for receiving rain water runoff only.

REPORT ILLEGAL STORM DRAIN DISPOSAL
1-800-506-2555

Help Protect Our Waterways!

Use these guidelines for Outdoor Cleaning Activities and Wash Water Disposal

Did you know that disposing of pollutants into the street, gutter, storm drain or body of water is *PROHIBITED* by law and can result in stiff penalties?

Best Management Practices

Waste wash water from Mechanics, Plumbers, Window/Power Washers, Carpet Cleaners, Car Washing and Mobile Detailing activities may contain significant quantities of motor oil, grease, chemicals, dirt, detergents, brake pad dust, litter and other materials.

Best Management Practices, or BMPs as they are known, are guides to prevent pollutants from entering the storm drains. ***Each of us*** can do our part to keep stormwater clean by using the suggested BMPs below:

Simple solutions for both light and heavy duty jobs:

Do...consider dry cleaning methods first such as a mop, broom, rag or wire brush. Always keep a spill response kit on site.

Do...prepare the work area before power cleaning by using sand bags, rubber mats, vacuum booms, containment pads or temporary berms to keep wash water away from the gutters and storm drains.

Do...use vacuums or other machines to remove and collect loose debris or litter before applying water.

Do...obtain the property owner's permission to dispose of ***small amounts*** of power washing waste water on to landscaped, gravel or unpaved surfaces.

Do...check your local sanitary sewer agency's policies on wash water disposal regulations before disposing of wash water into the sewer. (See list on reverse side)

Do...be aware that if discharging to landscape areas, soapy wash water may damage landscaping. Residual wash water may remain on paved surfaces to evaporate. Sweep up solid residuals and dispose of properly. Vacuum booms are another option for capturing and collecting wash water.

Do...check to see if local ordinances prevent certain activities.

Do not let...wash or waste water from sidewalk, plaza or building cleaning go into a street or storm drain.

Report illegal storm drain disposal
Call Toll Free
1-800-506-2555

Using Cleaning Agents

Try using biodegradable/phosphate-free products. They are easier on the environment, but don't confuse them with being toxic free. Soapy water entering the storm drain system can impact the delicate aquatic environment.

When cleaning surfaces with a ***high-pressure washer*** or ***steam cleaner***, additional precautions should be taken to prevent the discharge of pollutants into the storm drain system. These two methods of surface cleaning can loosen additional material that can contaminate local waterways.

Think Water Conservation

Minimize water use by using high pressure, low volume nozzles. Be sure to check all hoses for leaks. Water is a precious resource, don't let it flow freely and be sure to shut it off in between uses.

Screening Wash Water

Conduct thorough dry cleanup before washing exterior surfaces, such as buildings and decks ***with loose paint***, sidewalks or plaza areas. Keep debris from entering the storm drain after cleaning by first passing the wash water through a "20 mesh" or finer screen to catch the solid materials, then dispose of the mesh in a refuse container. Do not let the remaining wash water enter a street, gutter or storm drain.

Drain Inlet Protection & Collection of Wash Water

- Prior to any washing, block all storm drains with an impervious barrier such as sandbags or berms, or seal the storm drain with plugs or other appropriate materials.
- Create a containment area with berms and traps or take advantage of a low spot to keep wash water contained.
- Wash vehicles and equipment on grassy or gravel areas so that the wash water can seep into the ground.
- Pump or vacuum up all wash water in the contained area.

Concrete/Coring/Saw Cutting and Drilling Projects

Protect any down-gradient inlets by using dry activity techniques whenever possible. If water is used, minimize the amount of water used during the coring/drilling or saw cutting process. Place a barrier of sandbags and/or absorbent berms to protect the storm drain inlet or watercourse. Use a shovel or wet vacuum to remove the residue from the pavement. Do not wash residue or particulate matter into a storm drain inlet or watercourse.