Preliminary Stormwater Control Plan

For

Richard's Ranch

Union Valley Parkway @ Highway 135
Santa Maria, CA.
APN's 107-250-019, 020, 021 & 022
January 7, 2025

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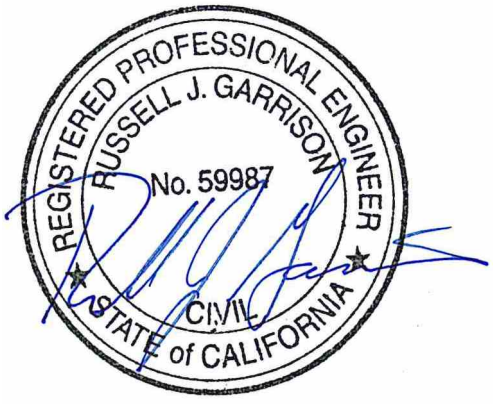

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I. Project Data

Project Name:	Richard's Ranch
Application Submittal Date:	January 07, 2025
Project Location:	Union Valley Parkway @ Highway 135, Santa Maria, CA.
Total Project site area:	1,906,115 S.F. / 43.76 acres
Total New Impervious Surface Area:	1,071,272 S.F. / 24.59 acres
Total Pre-Project Impervious Area:	0 S.F. / 0 acres
Total Post-Project Impervious Area:	1,071,272 S.F. / 24.59 acres
Total Replaced Impervious Area:	0 S.F. / 0 acres
Design Storm Frequency and Depth:	1.4-inch Design Storm

II. Setting

II.A. Project Location and Description

The proposal is a mixed-use project on four vacant legal lots (APNs 107-250-019, 107-250-020, 107-250-021, and 107-250-022) located at the intersection of Union Valley Parkway and Orcutt Road in unincorporated Santa Barbara County. The project proposes a variety of commercial uses including car washes, a gas station, convenience store space, and self-storage. These uses will occur on the northwest, southwest and northeast parcels. The project also proposes 750 residential units (20% lower income affordable) and associated amenities such as a clubhouse, parks and open spaces, and parking throughout. The majority of the residential units (678 units) would occur on southeast parcel, and 72 units would occur on the northeast parcel. The northeast and southeast parcels represent two separate legal parcels that are proposed to be subdivided into 7 lots to accommodate the development. The project will be accessed via both Union Valley Parkway and Orcutt Road.

II.B. Existing Site Features and Conditions

The site is currently undeveloped and is 100% pervious. The site encompasses 4 parcels split by Union Valley Parkway (East-West) and Orcutt Road (North-South). The site slopes to the north west, eventually discharging into a channel and piped west under Highway 135. The USDA, Natural Resources Conservation Service, Web Soil Survey, determines that the site consists of 21.1%± Betteravia loamy sand (BmA), 11.0%± Marina sand (MaA) and 68.0%± Ocean sand (OcD3). The definitions in the Stormwater Technical Guide helped determine the site's soil would fit 89% into HSG A category and 11% into HSG B category (see Appendix C).

II.C. Opportunities and Constraints for the Stormwater Control

The opportunities selected for stormwater control include 4 direct infiltration basins designed to capture water runoff from a 1.4 inch design storm. With this, the grading design will direct / transport the stormwater to the proposed basins on-site via surface drainage and catch basins.

III. Low Impact Development Design Strategies

III.A. Optimization of Site Layout

The site was designed to direct run-off into various infiltration basins spread out to minimize ponding and designed to infiltrate a 1.4 inch design storm. (see Appendix A).

III.A.1. Limitation of Development Envelope

The project has no substantial limitations for proposed development.

III.A.2. Preservation of Natural Drainage Features

The site currently sheet flows to the north west of the site. The proposed project ultimately discharges at the same location.

III.A.3. Setbacks from Creeks, Wetlands and Riparian Habitats

There are no Creeks, Wetlands or Riparian Habitats near the proposed project site.

III.A.4. Minimization of Imperviousness

Care was taken in the design process to minimize impervious to the extent possible.

III.A.5. Use of Drainage as a Design Element

Drainage has been considered in the design to allow drainage and minimize ponding on the hardscaped areas.

III.B. Use of Permeable Pavement

The project does not propose the use of permeable pavement as a control feature of the site.

III.C. Dispersal of Runoff to Pervious areas

Stormwater runoff from impervious surface areas is directed towards permeable surfaces and infiltration systems.

III.D. Stormwater Control Measures

The stormwater control measures (SCMs) are designed to retain and infiltrate stormwater. The Drainage Management Areas (DMAs) drain to the infiltration areas (see Appendix A).

IV. Documentation of Drainage Design

IV.A. Description of each Drainage Management Areas

IV.A.1. Tables

Table 1: DMA Exhibit 1 reference

DMA	AREA (SF)	Drains to
DMA 1	295,260	SCM 1
DMA 2	340,388	SCM 1
DMA 3	472,130	SCM 1
DMA 4	120,611	SCM 2
DMA 5	216,542	SCM 2
DMA 6	202,724	SCM 2

Table 2: SCM Exhibit 1 reference

SCM #	TYPE	AREA (SF)
SCM 1	Infil. Basin	70,122
SCM 2	Infil. Basin	5,470
SCM 3	Infil. Basin	402
SCM 4	Infil. Basin	808

DMA	7	8,600	SCM 3
DMA	8	32,706	SCM 3
DMA	9	39,520	SCM 3
DMA	10	7,692	SCM 4
DMA	11	49,473	SCM 4
DMA	12	43,637	SCM 4

IV.A.2. Drainage Management Area Descriptions

DMA 1, totaling 295,260 square feet, drains building rooftops. DMA 1 flows through roof drains, onto DMA's 2 and 3, then sheet flows into catch basins and into SCM 1.

DMA 2, totaling 340,388 square feet, drains hardscape areas. DMA 2 sheet flows into catch basins and into SCM 1.

DMA 3, totaling 472,130 square feet, drains landscape areas. DMA 3 sheet flows into catch basins and into SCM 1.

DMA 4, totaling 120,611 square feet, drains building rooftops. DMA 4 flows through roof drains, onto DMA's 5 and 6, then sheet flows into catch basins and into SCM 2.

DMA 5, totaling 216,542 square feet, drains hardscape areas. DMA 5 sheet flows into catch basins and into SCM 2.

DMA 6, totaling 202,724 square feet, drains landscape areas. DMA 6 sheet flows into catch basins and into SCM 2.

DMA 7, totaling 8,600 square feet, drains building rooftops. DMA 7 flows through roof drains, onto DMA's 8 and 9, then sheet flows into catch basins and into SCM 3.

DMA 8, totaling 32,706 square feet, drains hardscape areas. DMA 8 sheet flows into catch basins and into SCM 3.

DMA 9, totaling 39,520 square feet, drains landscape areas. DMA 9 sheet flows into catch basins and into SCM 3.

DMA 10, totaling 7,692 square feet, drains building rooftops. DMA 10 flows through roof drains, onto DMA's 11 and 12, then sheet flows into catch basins and into SCM 4.

DMA 11, totaling 49,473 square feet, drains hardscape areas. DMA 11 sheet flows into catch basins and into SCM 4.

DMA 12, totaling 43,637 square feet, drains landscape areas. DMA 12 sheet flows into catch basins and into SCM 4.

SCM 1, totaling 70,122 square feet collects run-off from DMA's 1 thru 3. SCM 1 is a direct infiltration basin and has been sized using HydroCAD software (see Appendix C).

SCM 2, totaling 5,470 square feet collects run-off from DMA's 4 thru 6. SCM 2 is a direct infiltration basin and has been sized using HydroCAD software (see Appendix C).

SCM 3, totaling 402 square feet collects run-off from DMA's 7 thru 9. SCM 3 is a direct infiltration basin and has been sized using HydroCAD software (see Appendix C).

SCM 4, totaling 808 square feet collects run-off from DMA's 10 thru 12. SCM 4 is a direct infiltration basin and has been sized using HydroCAD software (see Appendix C).

IV.A.3. On-Site Retention Requirement

All 95th percentile (1.4 inch) storm event runoff will be retained on-site within the proposed direct infiltration basins (see Appendix A).

IV.A.4. Pre Development Flows for 2-10 Year Storm Events

The summary table below contains the results showing the post development runoff being less than the pre-development runoff (see Appendix D).

	PRE-DEVELOPMENT RUNOFF	POST-DEVELOPMENT RUNOFF
2-YR	0.0 cfs	0.0 cfs
5-YR	0.13 cfs	0.12 cfs
10-YR	0.38 cfs	0.18 cfs

IV.B. Tabulation and Size Calculations

Stormwater control measure sizing was calculated using HydroCAD software.

V. Source Control Measures

V.A. Site Activities and Potential Sources of Pollutants

Any potential sources of pollutants that could be transported to the infiltration basins could also be transported off-site. Pollutants could be from the illegal dumping of chemicals into catch basins as well as pollutants left by vehicles that visit the site. In addition, the materials used to construct and maintain the site could also be possible sources of pollution. Overflow from landscape areas can carry pesticides. Storm water from roofs can carry metals. Drains made of copper or other materials with an unprotected surface may cast-off metal particles to the main basins. Parking areas and hardscapes may contribute litter that can be carried into the basins. All areas should be kept clean to minimize the possibility of litter making its way into the storm water control facilities.

V.B. Source Control Table

Source control table will be included in Final Storm Water Control Plan.

V.C. Features, Materials and Methods of Construction of Source Control BMP's

The stormwater features are to be built per the grading, landscape and architectural plans and material and methods of construction are to be determined by the owner/developer and contractors.

VI. Stormwater Facility Maintenance

VI.A. Ownership and Responsibility for Maintenance in Perpetuity

Signed ownership and responsibility for maintenance agreement to be on file at the City of Solvang Public Works Division.

VI.B. Summary of Maintenance Requirements for Each Stormwater Facility

For maintenance requirements, refer to the Stormwater Maintenance Plan (To be included with final Storm Water Control Plan).

VII. Construction Checklist

Construction Checklist to be included in Final Storm Water Control Plan.

VII.A. Stormwater Control Measures

Stormwater Control Measures will be included in Final Storm Water Control Plan.

VIII. Certifications

The preliminary design of stormwater treatment and other stormwater pollution control measures in this plan are in accordance with the current edition of the Santa Barbara County Project Clean Water's Stormwater Technical Guide.

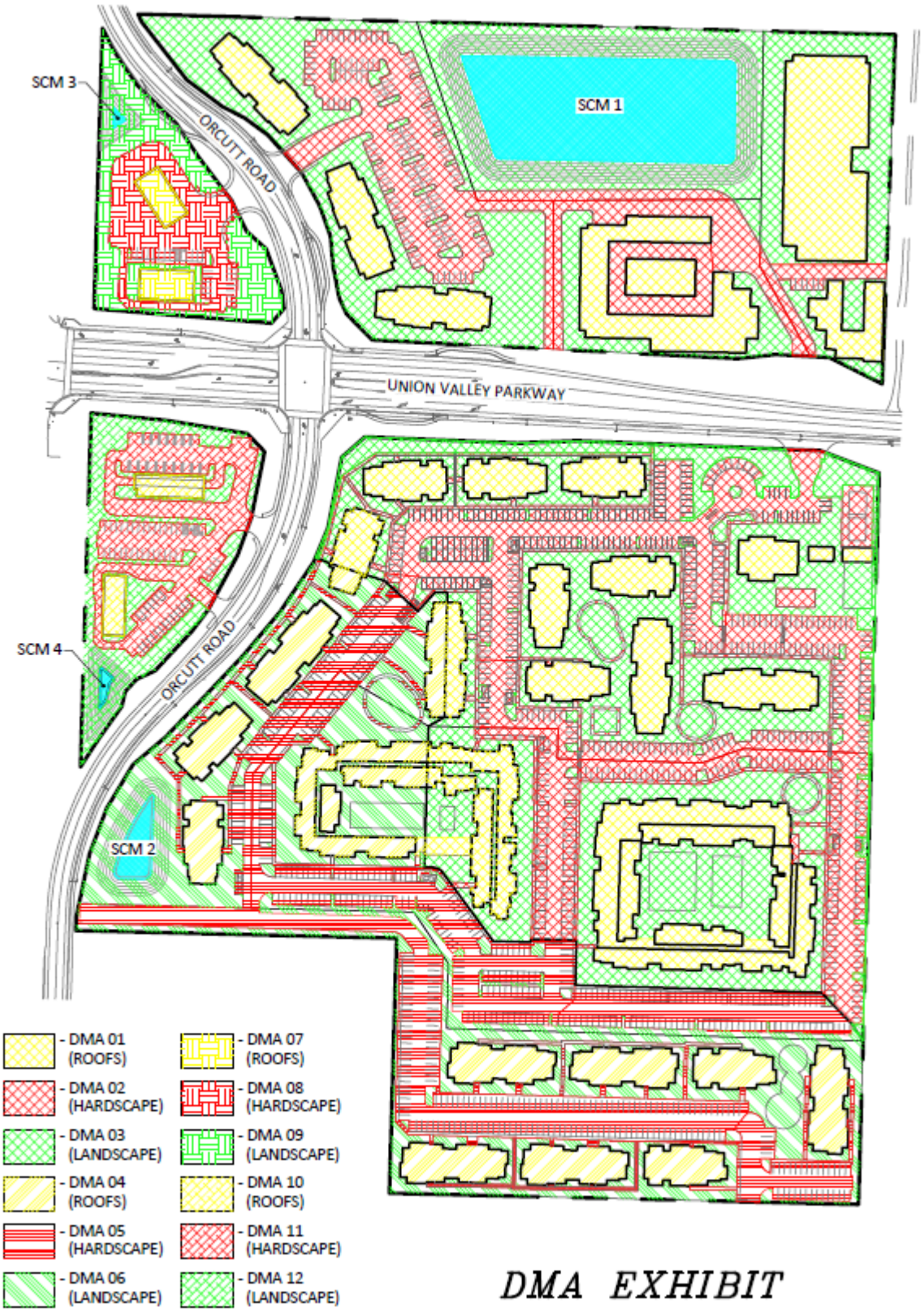
Exhibit / Report Overview

The California Regional Water Quality Control Board of the Central Coast Region adopted the Post-Construction Requirements (PCRs) in July 2013. The County of Santa Barbara obtained a grant to assist designers and municipalities with the implementation of the PCRs. Through this grant, the County has developed, published, and released The Stormwater Technical Guide for Low Impact Development to ensure compliance with the Regional Board's PCRs. The development of the Post-Construction Stormwater Control Measures/LID features throughout the project site will adhere to the Technical Guide as described below.

For the purposes of this report the post construction stormwater requirements the net impervious was calculated as follows
New impervious = 1,071,272 S.F.
Therefore, this project is designated as a Tier 4 project. This development proposes the following:

- Limit the disturbance of natural drainage features
- Limit clearing, grading, and soil compaction
- Minimize impervious surfaces
- Minimize runoff by dispersing/distributing runoff to landscape
- Treat runoff with an approved and appropriately sized LID treatment system prior to discharge from the site (1.4 inch design storm)
- Manage Post-Development Peak Flows for 2-10 year storms

Appendix A: DMA & SCM Map


SCM 3
SCM 1
ORCUTT ROAD
UNION VALLEY PARKWAY
SCM 4
ORCUTT ROAD
SCM 2
- DMA 01 (ROOFS)
- DMA 02 (HARDSCAPE)
- DMA 03 (LANDSCAPE)
- DMA 04 (ROOFS)
- DMA 05 (HARDSCAPE)
- DMA 06 (LANDSCAPE)
- DMA 07 (ROOFS)
- DMA 08 (HARDSCAPE)
- DMA 09 (LANDSCAPE)
- DMA 10 (ROOFS)
- DMA 11 (HARDSCAPE)
- DMA 12 (LANDSCAPE)

DMA EXHIBIT

Appendix B: SCM Sizing Calculator

Central Coast Region Stormwater Control Measure Sizing Calculator

Version: 7/2/2018

1. Project Information

Project name:	Richard's Ranch
Project location:	Union Valley Parkway @ Highway 135
Tier 2/Tier 3:	Tier 3 - Retention
Design rainfall depth (in):	1.4
Total project area (ft2):	1906115
Total DMA area (ft2):	1829283
Total new impervious area (ft2):	1071272
Total replaced impervious within a USA (ft2):	0
Total replaced impervious not in a USA (ft2):	0
Total pervious/landscape area (ft2):	758011
Total SCM area (ft2):	76802

2. DMA Characterization

Add DMA Row | ve DMA Row

Name	DMA Type	Area (ft2)	Surface Type	New, Replaced?	Connection
DMA 1	Drains to SCM	295260	Roof	New	SCM 1
DMA 2	Drains to SCM	340388	Concrete or asphalt	New	SCM 1
DMA 3	Drains to SCM	472130	Landscape	New	SCM 1
DMA 4	Drains to SCM	120611	Roof	New	SCM 2

DMA 5	Drains to SCM	216542	Concrete or asphalt	New	SCM 2
DMA 6	Drains to SCM	202724	Landscape	New	SCM 2
DMA 7	Drains to SCM	8600	Roof	New	SCM 3
DMA 8	Drains to SCM	32706	Concrete or asphalt	New	SCM 3
DMA 9	Drains to SCM	39520	Landscape	New	SCM 3
DMA 10	Drains to SCM	7692	Roof	New	SCM 4
DMA 11	Drains to SCM	49473	Concrete or asphalt	New	SCM 4
DMA 12	Drains to SCM	43637	Landscape	New	SCM 4

DMA Summary Area Check	
Total assigned DMA area (ft2):	1829283
New impervious area (ft2):	1071272
Replaced impervious within a USA (ft2):	0
Replaced impervious not in a USA (ft2):	0
Total pervious/landscape area (ft2):	758011

3. SCM Characterization					Add SCM / Remove SCM Row	Flow Control	Reservoir
Name	SCM Type	Safety Factor	SCM Soil Type	Infilt. Rate (in/hr)	Area (ft2)	Orifice?	Depth (in)
SCM 1	Direct Infiltration	2	HSG A/B	0.75	70122		
SCM 2	Direct Infiltration	2	HSG A/B	0.75	**5470**		
SCM 3	Direct Infiltration	2	HSG A/B	0.75	**402**		
SCM 4	Direct Infiltration	2	HSG A/B	0.75	**808**		

4. Run SBUH Model

Launch Model | Clear Results

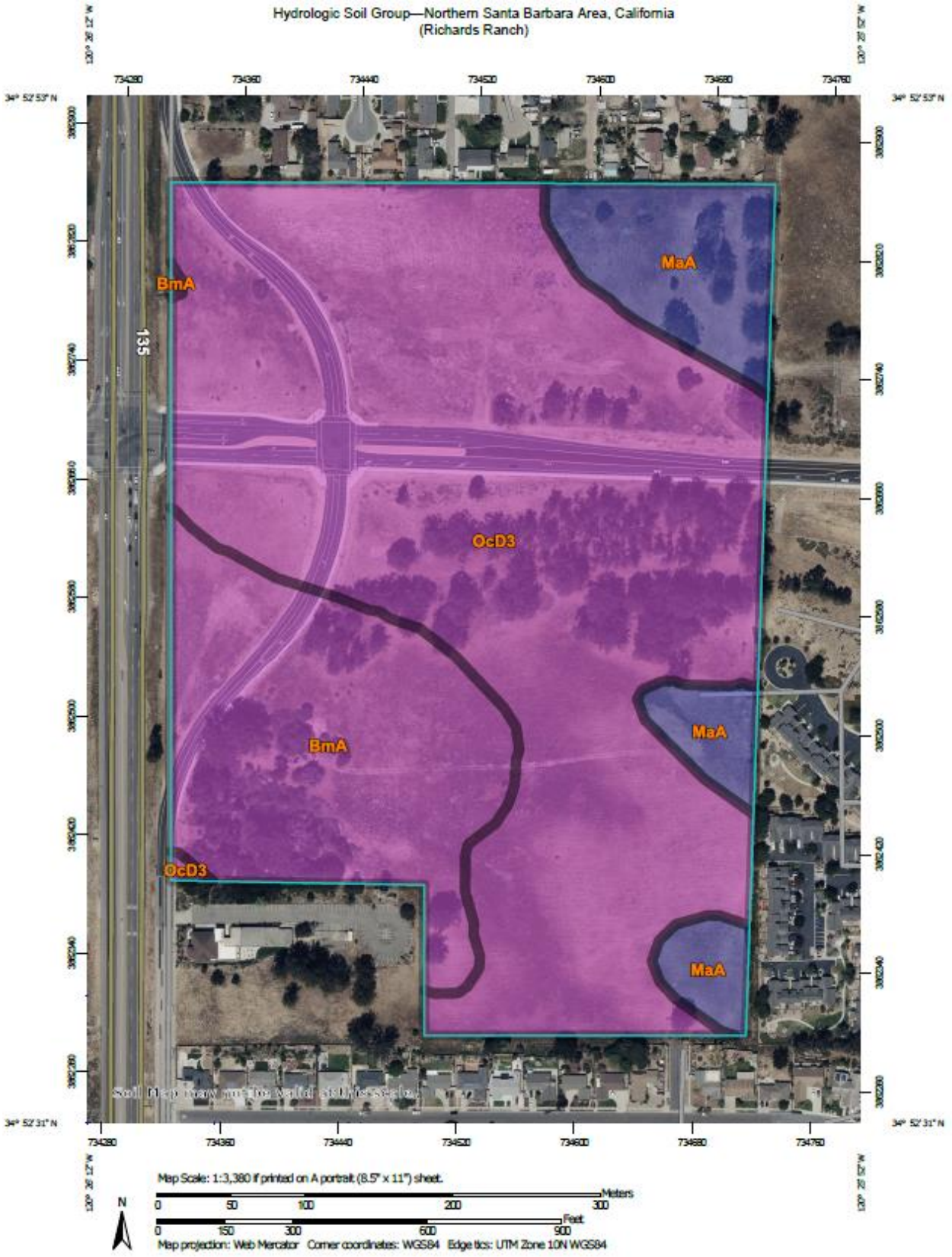
5. SCM Minimum Sizing Requirements

SCM Name	Min. Required Storage Vol. (ft3)	Depth Below Underdrain (ft)	Drain Time (hours)	Orifice Diameter (in)
SCM 1	32326	1.15	13.6	
SCM 2	36773	16.81	178.7	
SCM 3	4751	29.55	313.8	
SCM 4	6358	19.67	209.1	

6. Self-Retaining Area Sizing Checks

Self-Retaining DMA Name	Self-Retaining DMA Area (ft2)	Tributary DMA Name(s)	Eff. Tributary DMA Area (ft2)	Effective Tributary / SRA Area Ratio

Appendix C: Soil Map


Hydrologic Soil Group—Northern Santa Barbara Area, California
(Richards Ranch)
120° 26' 12" W
120° 25' 52" W
734280
734360
734440
734520
734600
734680
734760
34° 52' 53" N
34° 52' 31" N
3862900
3862820
3862740
3862660
3862580
3862500
3862420
3862340
3862260
BmA
MaA
OcD3
135
Soil Map may not be valid at this scale.
Map Scale: 1:3,380 if printed on A portrait (8.5" x 11") sheet.
N
Meters
0
50
100
200
300
Feet
0
150
300
600
900
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BmA	Betteravia loamy sand, 0 to 2 percent slopes	A	11.1	21.1%
MaA	Marina sand, 0 to 2 percent slopes	B	5.8	11.0%
OcD3	Oceano sand, 2 to 15 percent slopes, severely eroded	A	35.7	68.0%
Totals for Area of Interest			**52.6**	**100.0%**

Appendix D: Pre vs. Post (HydroCad)

Pre-Development Flows (2-yr. thru 10-yr.)

	PRE-DEVELOPMENT RUNOFF
2-YR	0.0 cfs
5-YR	0.13 cfs
10-YR	0.38 cfs

Events for Subcatchment PRE: Pre-Development

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2 YEAR	1.81	0.00	0.000	0.00
5 YEAR	2.62	0.13	0.066	0.02
10 YEAR	3.15	0.38	0.298	0.08
25 YEAR	3.81	0.80	0.789	0.22
50 YEAR	4.29	1.31	1.269	0.35
95th Percentile	1.40	0.00	0.000	0.00
100 YEAR	**4.76**	**2.14**	**1.827**	**0.50**

Post-Development Flows (2-yr. thru 10-yr.)

	SCM 1	SCM 2	SCM 3	SCM 4	TOTAL
2-YR	0.0 cfs	0.0 cfs	0.0 cfs	0.0 cfs	0.0 cfs
5-YR	0.0 cfs	0.05 cfs	0.04 cfs	0.03 cfs	0.12 cfs
10-YR	0.0 cfs	0.08 cfs	0.06 cfs	0.04 cfs	0.18

Events for Pond P1: SCM1

Event	Inflow (cfs)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)	Elevation (feet)	Storage (cubic-feet)
2 YEAR	1.90	1.13	1.13	0.00	**0.00**	337.77	1,627
5 YEAR	7.14	2.44	2.44	0.00	0.00	337.86	8,049
10 YEAR	11.61	2.46	2.46	0.00	0.00	338.01	18,135
25 YEAR	17.84	2.50	2.48	0.01	0.00	338.27	37,086
50 YEAR	22.71	2.53	2.51	0.02	0.00	338.51	54,643
95th Percentile	0.54	0.35	0.35	0.00	0.00	337.76	508
100 YEAR	**27.70**	**2.56**	**2.53**	**0.02**	0.00	**338.77**	**74,383**

Events for Pond P2: SCM2

Event	Inflow (cfs)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)	Elevation (feet)	Storage (cubic-feet)
2 YEAR	1.21	0.11	0.11	0.00	0.00	343.92	9,763
5 YEAR	4.06	0.33	0.28	0.05	0.00	345.43	21,095
10 YEAR	6.46	0.39	0.32	0.08	0.00	346.58	32,198
25 YEAR	9.80	0.47	0.36	0.11	0.00	348.03	49,440
50 YEAR	12.40	0.55	0.39	0.12	0.04	349.01	63,324
95th Percentile	0.31	0.08	0.08	0.00	0.00	342.75	3,249
100 YEAR	**15.05**	**1.22**	**0.40**	**0.12**	**0.70**	**349.14**	**65,221**

Events for Pond P3: SCM3

Event	Inflow (cfs)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)	Elevation (feet)	Storage (cubic-feet)
2 YEAR	0.02	0.02	0.02	0.00	0.00	335.06	224
5 YEAR	0.23	0.06	0.02	0.04	0.00	335.65	665
10 YEAR	0.50	0.09	0.03	0.06	0.00	336.25	1,378
25 YEAR	0.90	0.12	0.04	0.07	0.00	336.97	2,661
50 YEAR	1.23	0.26	0.05	0.07	0.14	337.05	2,837
95th Percentile	0.01	0.01	0.01	0.00	0.00	334.77	88
100 YEAR	**1.57**	**0.49**	**0.05**	**0.07**	**0.37**	**337.09**	**2,944**

Events for Pond P4: SCM4

Event	Inflow (cfs)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)	Elevation (feet)	Storage (cubic-feet)
2 YEAR	0.06	0.03	0.03	0.00	0.00	340.37	306
5 YEAR	0.47	0.07	0.04	0.03	0.00	341.41	1,709
10 YEAR	0.85	0.09	0.06	0.04	0.00	342.15	3,274
25 YEAR	1.41	0.12	0.07	0.04	0.00	342.98	5,687
50 YEAR	1.86	0.15	0.08	0.05	0.02	343.51	7,629
95th Percentile	0.02	0.02	0.02	0.00	0.00	340.11	82
100 YEAR	**2.32**	**0.27**	**0.09**	**0.05**	**0.14**	**343.55**	**7,798**