Stormwater Control Plan
for
Patterson Place

August 26, 2021

Owner:
Patterson Apartments, L.P.
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prepared by:

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This Stormwater Control Plan was prepared using the template dated January 2017.

I. Project Data

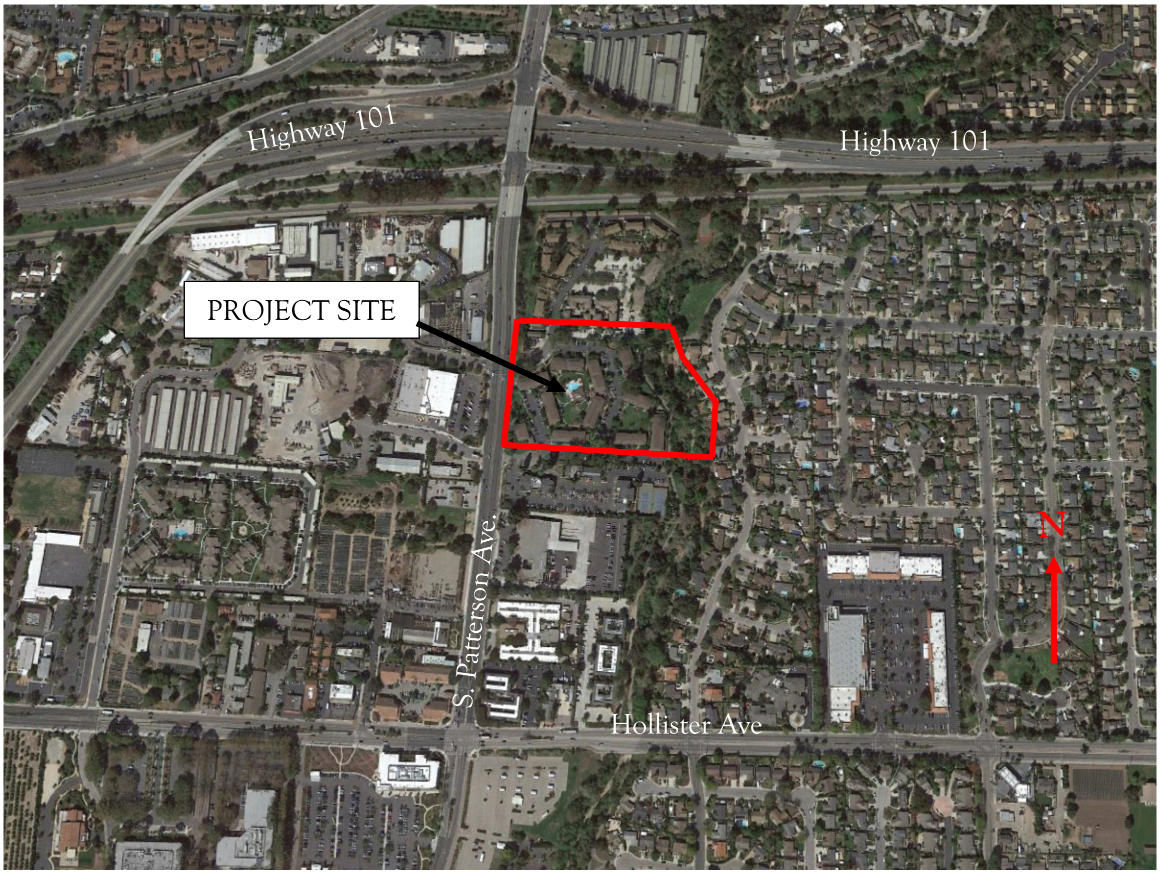
Table 1. Project Data

Project Name/Project Case Number	Patterson Place Apartments
Project Location	50-120 S. Patterson Ave., Santa Barbara, CA APN # 065-050-030
Project Phase No.	NA
Project Type and Description	Residential Apartment Complex – Exterior renovations including new patio area, pathways, and landscaping.
New Impervious Surface Area (sf)	9,479 SF
Replaced Impervious Surface Area (sf)	20,273 SF
New Pervious Surface Area (sf)	16,362 SF
Pre-Project Impervious Surface Area (sf)	195,845 SF
Post-Project Impervious Surface Area (sf)	209,235 SF
"Net Impervious" Area, if applicable	Only applies to redevelopment that results in smaller impervious footprint, and only for Tier 2 or Tier 3 SFH. Net Impervious = 29,752 [(New + Replaced) – (Pre-Project – Post-Project). If Pre-Project –Post-Project is less than zero, Net Impervious = New + Replaced
Watershed Management Zone(s)	Goleta, CA (WMZ Zone 1)
Tier	Tier 4
Design Storm Frequency Used (85^{th} or 95^{th} percentile) and Design Storm Depth (in)	2.3 in (95^{th} Percentile)
Urban Sustainability Area, if applicable	NA

II. Setting

II.A. Project Location and Description

The 8.40-Acre project site is located east of S. Patterson Ave., north of Hollister Avenue, and south of Highway 101 in Goleta, CA and includes 50-120 S. Patterson Ave., Goleta, CA (APN # 065-050-030). Proposed improvements include constructing new pathways, additional parking stalls, and renovating the pool area. See the project vicinity map, Figure 1, below.



II.B. Existing Site Features and Conditions

The 8.40-Acre project site is irregular in shape. The majority of the site is sloped at about 2%. The existing site contains 10 apartment buildings, parking areas, pathways, a clubhouse, and pool. The site is underlain by Elder Sandy Loam, belonging to Hydrologic Soil Group A. Site drainage is irregular, but runoff generally flows to the southeast.

II.C. Opportunities and Constraints for Stormwater Control

Opportunities for the site include a relatively flat slope, permeable soils, and open areas to be used for bioretention.

Constraints include existing buildings and hardscape.

II.D. Summary of Design Approach for Meeting the Post-Construction Requirements

The proposed project creates over 22,500 square feet of net impervious area and is required to meet Tier 4 requirements. Stormwater will be drained away from the proposed buildings and into a series of proposed bioretention facilities and one underground infiltration facility.

- Tier 1 requirements are met by limiting the disturbance to natural drainage features, limiting the clearing, grading, and soil compaction, and minimizing impervious surfaces, and dispersing runoff to bioretention facilities.
- Tier 2 requirements are met by treating runoff in bioretention areas.
- Tier 3 requirements are met by preventing offsite discharge from events up to the 95th percentile using the proposed bioretention facilities and an underground infiltration facility. See the Stormwater Control Measures Sizing Calculator in Attachment 5.
- Tier 4 requirements are met by reducing the pre-project peak flows for the 2-year through 10-year storm events.

III. Low Impact Development Design Strategies

III.A. Site Design and Runoff Reduction (Performance Requirement No.1)

III.A.1. Limit disturbance to creeks and natural drainage features, if applicable

III.A.2. Minimize compaction of highly permeable soils, if applicable

III.A.3. Limit of clearing and grading of native vegetation to minimum area needed, if applicable

The proposed improvements preserve the existing grade and drainage pattern to the maximum extent possible.

III.A.4. Apply setbacks from creeks, wetlands, and riparian habitats, if applicable

III.A.5. Minimize stormwater runoff using one or more of the following site design measures

Runoff will be directed onto vegetated areas safely away from building foundations and footings, and bioretention areas will be used throughout the site.

III.A.6. Consideration of drainage as a design element within the project

III.A.7. Tier 3 projects must include:

- Definition of the development envelope and protected areas: A buffer of open space is provided around the boundary of the site and vegetated areas are provided where possible.
- Conservation of natural areas: 80,889 square feet of landscaping is preserved in the design.
- The site is conformed to natural landforms.
- The natural grading of the site is preserved to the maximum extent possible.
- Disturbance to vegetation and topsoil is limited

III.B. Site Constraints

III.B.1. Limitation of development envelope due to site constraints including:

Limitations of development include existing site improvements and site topography.

III.C. Dispersal of Runoff to Pervious Areas

III.C.1. Reduce amount of runoff for which Structural Control Measures are required.

Landscaped areas throughout the site are used as self-retaining areas.

IV. Documentation of Drainage Design

IV.A. Descriptions of each Drainage Management Area

Table 2. Drainage Management Areas

2. DMA Characterization					
Name	**DMA Type**	**Area (ft2)**	**Surface Type**	**New, Replaced?**	**Connection**
1 New	Drains to SCM	2571	Concrete or asphalt	New	Bioretention 1
1 Replaced	Drains to SCM	714	Concrete or asphalt	Replaced	Bioretention 1
2 New	Drains to SCM	1515	Concrete or asphalt	New	Bioretention 2
2 Replaced	Drains to SCM	1792	Concrete or asphalt	Replaced	Bioretention 2
3 New	Drains to SCM	1847	Concrete or asphalt	New	Bioretention 3
3 Replaced	Drains to SCM	6464	Concrete or asphalt	Replaced	Bioretention 3
4 New	Drains to SCM	1632	Concrete or asphalt	New	Bioretention 4
4 Replaced	Drains to SCM	2408	Concrete or asphalt	Replaced	Bioretention 4
5	Drains to SCM	1476	Concrete or asphalt	Replaced	Bioretention 5
6	Drains to SCM	615	Concrete or asphalt	Replaced	Bioretention 6
7	Drains to SCM	987	Concrete or asphalt	Replaced	Bioretention 7
8	Drains to SCM	1048	Concrete or asphalt	Replaced	Bioretention 8
9 New	Drains to SCM	1914	Concrete or asphalt	New	Bioretention 9
9 Replaced	Drains to SCM	3163	Concrete or asphalt	Replaced	Bioretention 9
10	Drains to SCM	807	Concrete or asphalt	Replaced	Bioretention 10
11	Drains to SCM	799	Concrete or asphalt	Replaced	Bioretention 11

Drainage Management Area Narrative Descriptions

DMA 1, totaling 2,571 SF of new impervious area and 714 SF of replaced impervious area drains overland to the southwest and through a curb cut into a bioretention facility. DMA 1 drains to SCM 1.

DMA 2, totaling 1,515 SF of new impervious area and 1,792 SF of replaced impervious area drains overland to the southwest into a bioretention facility. DMA 2 drains to SCM 2.

DMA 3, totaling 1,847 SF of new impervious area and 6,464 SF of replaced impervious area drains overland to the northwest into a bioretention facility. DMA 3 drains to SCM 3.

DMA 4, totaling 1,632 SF of new impervious area and 2,408 SF of replaced impervious area drains overland to the southwest into a bioretention facility. DMA 4 drains to SCM 4.

DMA 5, totaling 1,476 SF of replaced impervious area drains overland to the west into a bioretention facility. DMA 5 drains to SCM 5.

DMA 6, totaling 615 SF of replaced impervious area drains overland to the east into a bioretention facility. DMA 6 drains to SCM 6.

DMA 7, totaling 987 SF of replaced impervious area drains overland to the east into a bioretention facility. DMA 7 drains to SCM 7.

DMA 8, totaling 1,048 SF of replaced impervious area drains overland to the east into a bioretention facility. DMA 8 drains to SCM 8.

DMA 9, totaling 1,914 SF of new impervious area and 3,163 SF of replaced impervious area drains overland to the east into a bioretention facility. DMA 9 drains to SCM 9.

DMA 10, totaling 807 SF of replaced impervious area drains overland to the southwest through a storm drain inlet and into an underground infiltration facility. DMA 10 drains to SCM 10.

DMA 11, totaling 799 SF replaced impervious area drains overland to the southwest into a bioretention facility. DMA 11 drains to SCM 11.

IV.B. Description of each Stormwater Structural Control Measure

Table 3. Stormwater Control Measures

3. SCM Characterization						Flow Control	Reservoir
Name	SCM Type	Safety Factor	SCM Soil Type	Infilt. Rate (in/hr)	Area (ft2)	Orifice?	Depth (in)
Bioretention 1	Bioretention	1	HSG A/B	0.75	324	No	
Bioretention 2	Bioretention	1	HSG A/B	0.75	305	No	
Bioretention 3	Bioretention	1	HSG A/B	0.75	758	No	
Bioretention 4	Bioretention	1	HSG A/B	0.75	435	No	
Bioretention 5	Bioretention	1	HSG A/B	0.75	116	No	
Bioretention 6	Bioretention	1	HSG A/B	0.75	38	No	
Bioretention 7	Bioretention	1	HSG A/B	0.75	88	No	
Bioretention 8	Bioretention	1	HSG A/B	0.75	58	No	
Bioretention 9	Bioretention	1	HSG A/B	0.75	529	No	
Bioretention 10	Direct Infiltration	2	HSG A/B	0.75	80		
Bioretention 11	Bioretention	1	HSG A/B	0.75	58	No	

SCM 1, totaling 324 square feet, is a Bioretention Facility located to the southwest of a proposed parking addition. SCM 1 treats/retains runoff from DMA 1. Treated water and high flow bypass discharges through overland flow to the south.

SCM 2, totaling 305 square feet, is a Bioretention Facility located to the southwest of Existing Building 120. SCM 2 treats/retains runoff from DMA 2. Treated water and high flow bypass discharges through overland flow to the south.

SCM 3, totaling 758 square feet, is a Bioretention Facility located to the north of the shared pool area. SCM 3 treats/retains runoff from DMA 3. Treated water and high flow bypass discharges through overland flow.

SCM 4, totaling 435 square feet, is a Bioretention Facility located to the south of the shared pool area. SCM 4 treats/retains runoff from DMA 4. Treated water and high flow bypass discharges through overland flow to the south.

SCM 5, totaling 116 square feet, is a Bioretention Facility located between Existing Buildings 112 and 104. SCM 5 treats/retains runoff from DMA 5. Treated water and high flow bypass discharges through overland flow to the east.

SCM 6, totaling 38 square feet, is a Bioretention Facility located to the east Building 104. SCM 6 treats/retains runoff from DMA 6. Treated water and high flow bypass discharges through overland flow to the east.

SCM 7, totaling 88 square feet, is a Bioretention Facility located between Existing Buildings 56 and 98. SCM 7 treats/retains runoff from DMA 7. Treated water and high flow bypass discharges through overland flow to the south.

SCM 8, totaling 58 square feet, is a Bioretention Facility located between Existing Buildings 64 and 72. SCM 1 treats/retains runoff from DMA 1. Treated water and high flow bypass discharges through overland flow to the south.

SCM 9, totaling 529 square feet, is a Bioretention Facility located to the east of a proposed parking addition. SCM 9 treats/retains runoff from DMA 9. Treated water and high flow bypass discharges through overland flow to the west.

SCM 10, totaling 80 square feet, is an Underground Infiltration Facility located to the southwest of a proposed parking addition. SCM 10 treats/retains runoff from DMA 1. Treated water and high flow bypass discharges through overland to the existing public storm drain system

SCM 11, totaling 58 square feet, is a Bioretention Facility located between Existing Building 80 and Existing Building 72. SCM 11 treats/retains runoff from DMA 11. Treated water and high flow bypass discharges through overland flow to the east.

Etc.

IV.C. Tabulation and Sizing Calculations for Structural Control Measures

See Central Coast Region Stormwater Control Measure Sizing Calculator

Include the following note on plans:

Bioretention Areas, an Underground Infiltration Facility, and Vegetated Swales shall be protected during construction from sediment and erosion. Heavy machinery will not compact soils in areas of infiltration. If any sediment discharges into LID facility, contractor shall restore to performance design specifications as verified by civil engineer. Contractor shall notify grading or building inspector 24-hours prior to installation of gravel, bioretention soil, and underground chambers to verify material quality.

V. Source Control Measures

V.A. Site activities and potential sources of pollutants

V.B. Source Control BMPs Table

Table 4. Source Control BMPs

Potential source of runoff pollutants	Permanent source control BMPs	Operational source control BMPs
A. On-site storm drain inlets (unauthorized non-stormwater discharges	Mark all inlets with the words "No Dumping! Flows to Bay" or similar.	Maintain and periodically repaint or replace inlet markings.

and accidental spills or leaks)		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."
D2. Landscape/ Outdoor Pesticide Use/Building and Grounds Maintenance	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 Fact Sheet SC-41, "Building and Grounds Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com Provide IPM information to new owners, lessees and operators.
E. Pools, spas, ponds, decorative fountains, and other water features.	If the local municipality requires pools to be plumbed to the sanitary sewer, place a note on the plans and state in the	See applicable operational BMPs in Fact Sheet SC-72, "Fountain and Pool Maintenance," in the CASQA Stormwater Quality

	narrative that this connection will be made according to local requirements.	Handbooks at www.cabmphandbooks.com
G. Refuse areas	State how site refuse will be handled and provide supporting detail to what is shown on plans. State that signs will be posted on or near dumpsters with the words "Do not dump hazardous materials here" or similar.	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
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.	
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.

VI. Stormwater Facility Maintenance

The owner accepts responsibility for the operation and maintenance of stormwater treatment and flow-control facilities for the life of the project. Any future change or alteration, or the failure to maintain any feature described herein can result in penalties including but not limited to fines, property liens, and other actions for enforcement of a civil judgment.

The maintenance of the bioretention and infiltration facilities shall be conducted at a minimum on an annual basis. Maintenance should follow that as recommended by the manufacturer. Maintenance shall include cleanup of debris, pruning of plants and landscaping, weed control, maintenance of compost mulch areas, graffiti removal from signage, and inspection and/or repair of the storm drain system. Use of harmful fertilizers or synthetic pesticides is prohibited and only operational source control BMPs shall be allowed. Records of maintenance activities shall be maintained by the owner for a minimum of 5 years and made available to the public or County staff upon request.

Final: A **separate** and detailed maintenance plan will be required as part of the recorded Maintenance
Agreement. In the final Stormwater Control Plan, the maintenance plan can be referenced herein.]

VII. Stormwater Control Plan/Construction Documents Cross-Checklist

Table 5. Stormwater Control Plan/Construction Documents Cross-Checklist

Stormwater Control Plan Page #	Source Control or LID Facility	See Plan Sheet #s
6	Storm drain inlet warning labels & maintenance	CIVIL C-2.0
3	Self-treating and self-retaining landscaping and installation procedures; native plant and tree preservation.	LANDSCAPING L-1
8	Trash enclosure delineation and signage	LANDSCAPING L-1
2	Underground Infiltration Facility	CIVIL C-2.0
2	Graded Swales	CIVIL C-2.0
2	Bioretention Facilities	CIVIL C-2.0

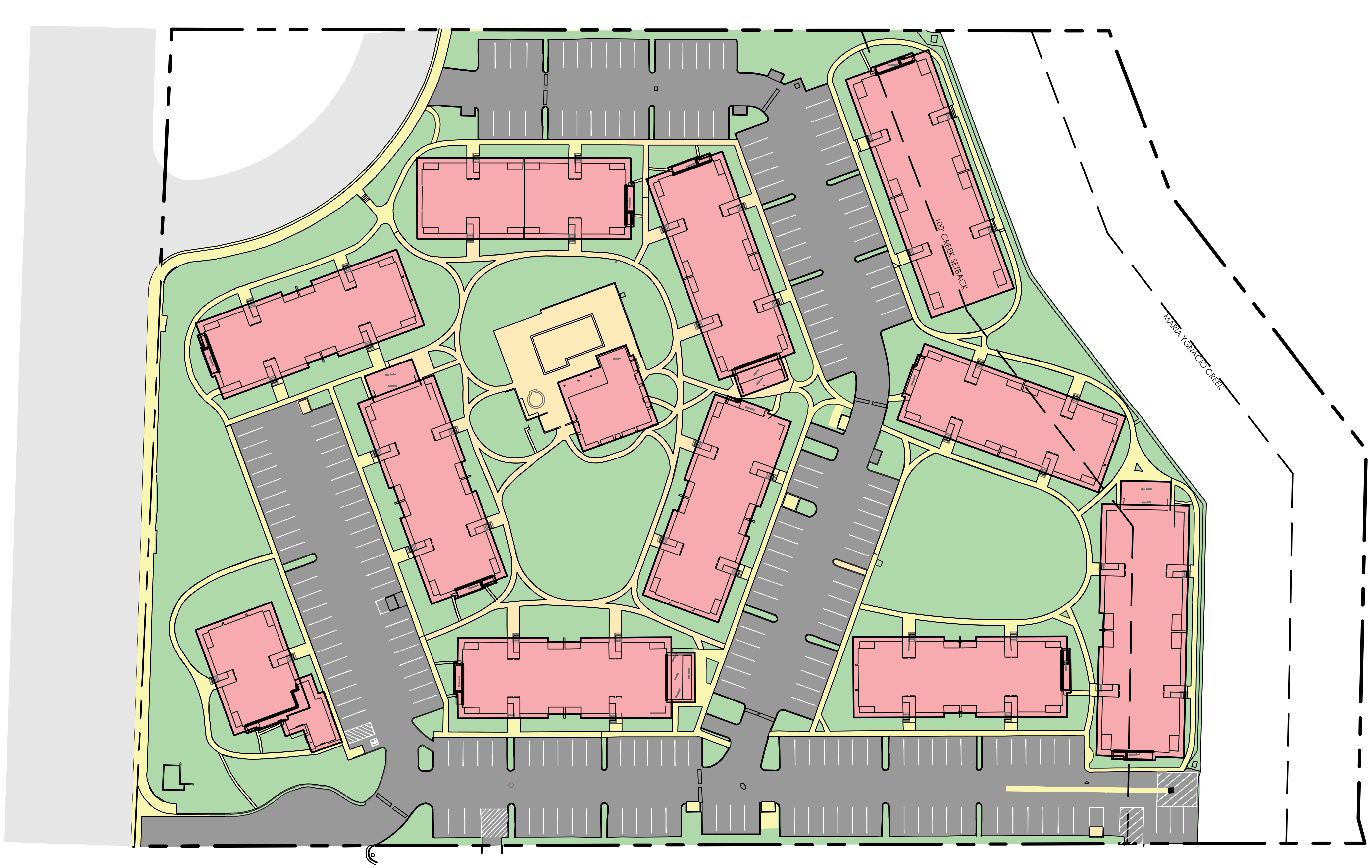
VIII. Certifications

The preliminary design of stormwater treatment facilities 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.

EXHIBITS

EXHIBIT 1

PRE-DEVELOPMENT HYDROLOGY MAP



LEGEND

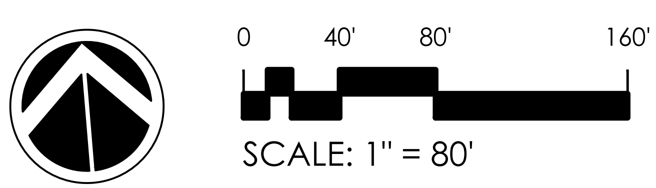
DRAINAGE AREA BOUNDARY

SURFACE FLOW DIRECTION

(A) DRAINAGE AREA NAME

ON-SITE

DESIGNATION	FACILITY	AREA (SF)
	EXISTING BUILDING	80,892
	EXISTING HARDSCAPE	35,375
	EXISTING ASPHALT	79,578
	LANDSCAPE	94,279
	TOTAL IMPERVIOUS	**195,845 (67.5%)**
	TOTAL AREA	**290,124**



SCALE: 1" = 80'

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EXISTING HYDROLOGY EXHIBIT

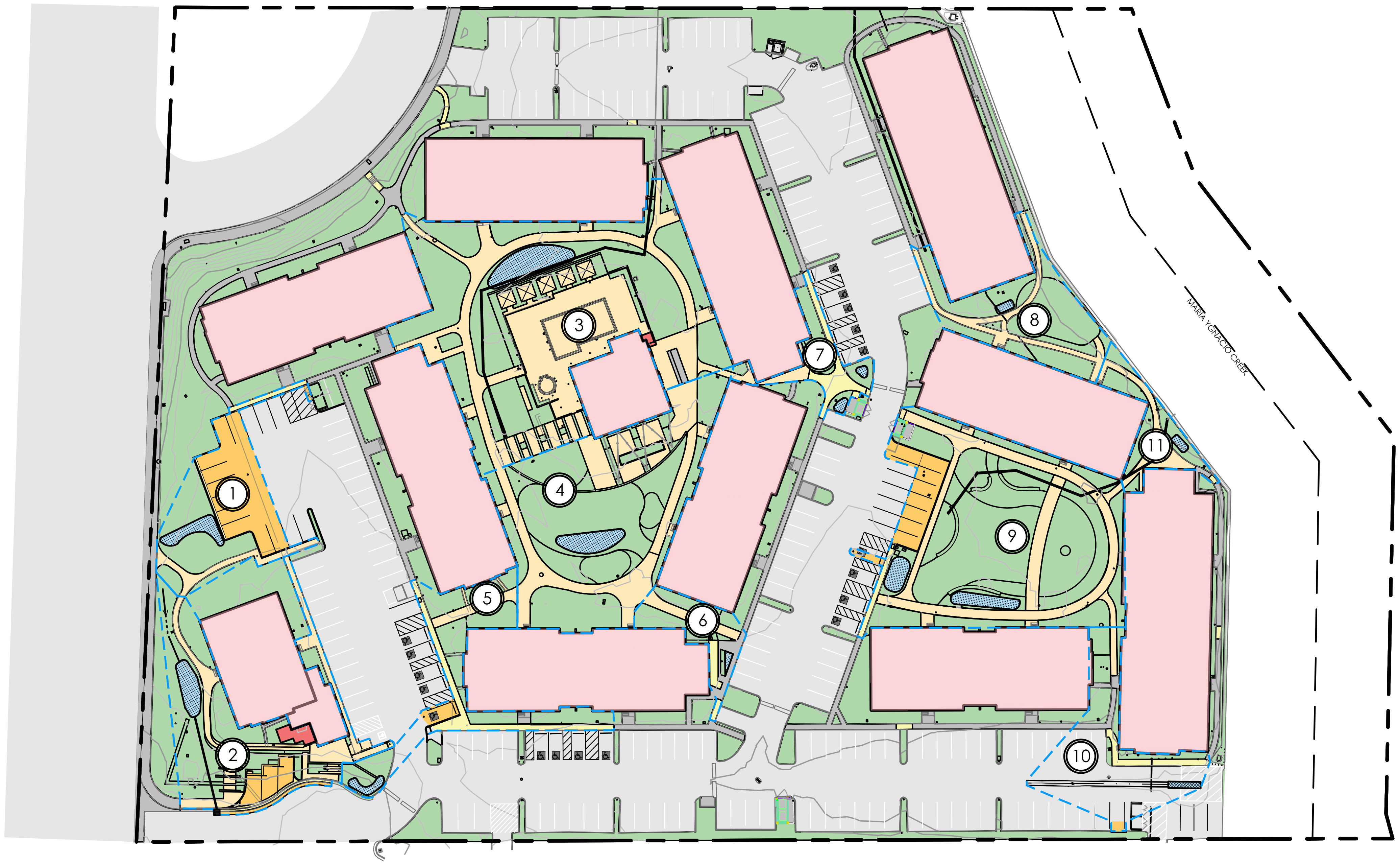
AUGUST 24, 2021

PATTERSON PLACE APARTMENTS

SANTA BARBARA, CA

EXHIBIT 2

POST-DEVELOPMENT HYDROLOGY MAP



LEGEND

DRAINAGE AREA BOUNDARY

SURFACE FLOW DIRECTION

(A) DRAINAGE AREA NAME

ON-SITE

DESIGNATION	FACILITY	AREA (SF)
	PROPOSED HARDSCAPE	24,625
	PROPOSED ASPHALT	4,866
	PROPOSED BUILDING	261
	EXISTING BUILDING	80,892
	EXISTING HARDSCAPE	12,850
	EXISTING ASPHALT	79,578
	LANDSCAPE	80,889
	PROPOSED BIORETENTION	2,709
	PROPOSED UNDERGROUND INFILTRATION	80
	NEW/REPLACED IMPERVIOUS	**29,752**
	TOTAL IMPERVIOUS	**209,235 (72.1%)**
	TOTAL AREA	**290,124**

0 40' 80' 160'

SCALE: 1" = 80'

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PROPOSED HYDROLOGY EXHIBIT

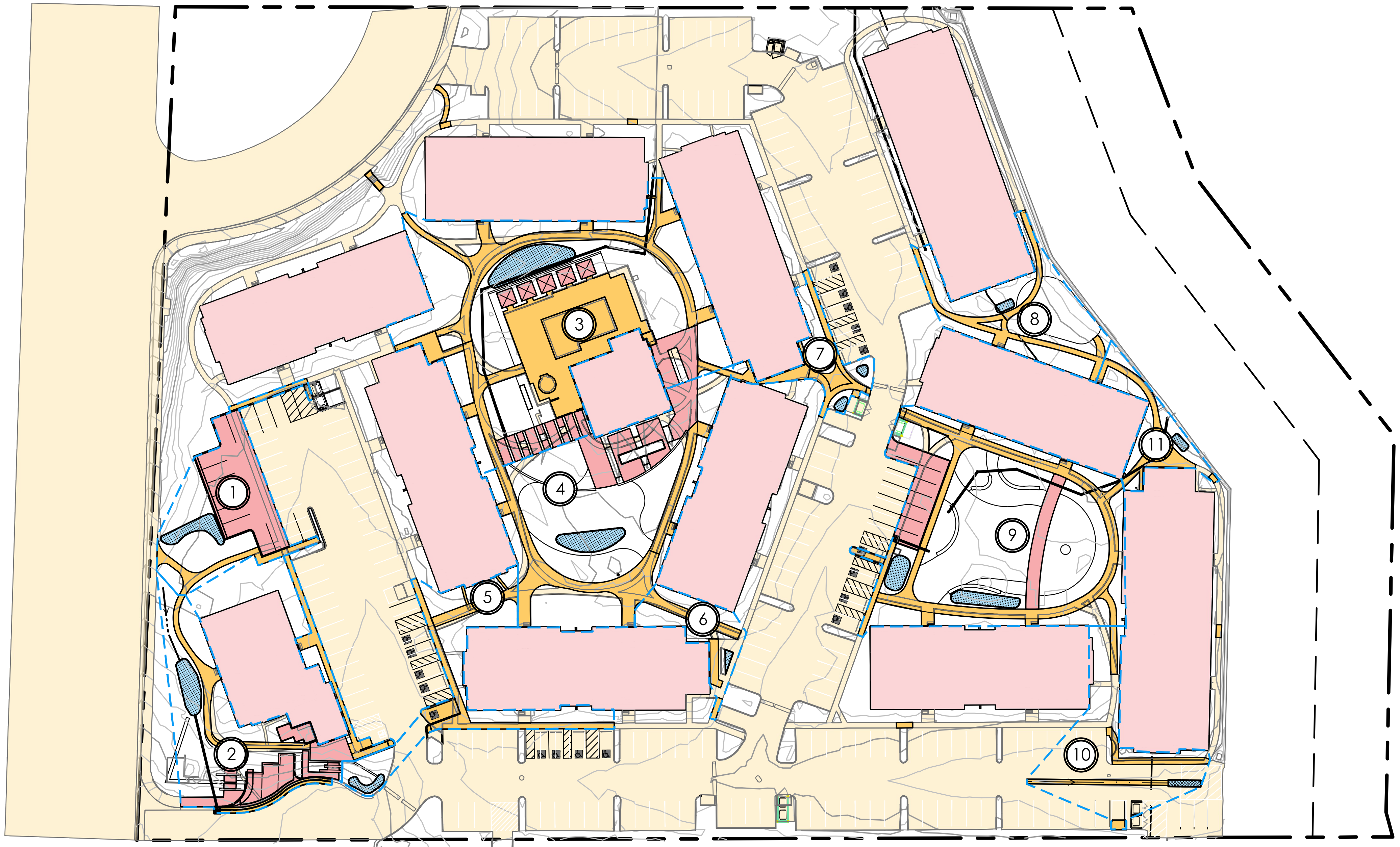
AUGUST 26, 2021

PATTERSON PLACE APARTMENTS

SANTA BARBARA, CA

EXHIBIT 3

STORMWATER CONTROL PLAN EXHIBIT



LEGEND

- DRAINAGE AREA BOUNDARY
- SURFACE FLOW DIRECTION
- (A) DRAINAGE AREA NAME

ON-SITE

DESIGNATION	FACILITY	AREA (SF)
	EXISTING IMPERVIOUS	80,892
	NEW IMPERVIOUS	9,479
	REPLACED IMPERVIOUS	20,273
	PROPOSED BIORETENTION	2,709
	PROPOSED UNDERGROUND INFILTRATION	80
	TOTAL NEW/REPLACED IMPERVIOUS	**29,752**

DMA AREA BREAKDOWN

DMA #	AREA TYPE	AREA (SF)
1	NEW IMPERVIOUS	2,571
	REPLACED IMPERVIOUS	714
2	NEW IMPERVIOUS	1,515
	REPLACED IMPERVIOUS	1,792
3	NEW IMPERVIOUS	1,847
	REPLACED IMPERVIOUS	6,464
4	NEW IMPERVIOUS	1,632
	REPLACED IMPERVIOUS	2,408
5	REPLACED IMPERVIOUS	1,476
6	REPLACED IMPERVIOUS	615
7	REPLACED IMPERVIOUS	987
8	REPLACED IMPERVIOUS	1,048
9	NEW IMPERVIOUS	1,914
	REPLACED IMPERVIOUS	3,163
10	REPLACED IMPERVIOUS	807
11	REPLACED IMPERVIOUS	799

SCM AREA BREAKDOWN

DMA #	SCM TYPE	AREA (SF)
1	BIORETENTION	324
2	BIORETENTION	305
3	BIORETENTION	758
4	BIORETENTION	435
5	BIORETENTION	116
6	BIORETENTION	38
7	BIORETENTION	88
8	BIORETENTION	58
9	BIORETENTION	529
10	DIRECT INFILTRATION	80
11	BIORETENTION	58

0 40' 80' 160'

SCALE: 1" = 80'

rrm design group

STORMWATER CONTROL PLAN

AUGUST 24, 2021

PATTERSON PLACE APARTMENTS

SANTA BARBARA, CA

EXHIBIT 4

SCM SIZING CALCULATOR

Central Coast Region
Stormwater Control Measure
Sizing Calculator

1. Project Information

Project name:	Patterson Place Apartments
Project location:	50-120 S. Patterson Ave.
Tier 2/Tier 3:	Tier 3 - Retention
Design rainfall depth (in):	2.3
Total project area (ft2):	29752
Total DMA area (ft2):	29752
Total new impervious area (ft2):	9479
Total replaced impervious within a USA (ft2):	
Total replaced impervious not in a USA (ft2):	20273
Total pervious/landscape area (ft2):	
Total SCM area (ft2):	2789

Check Total DMA and SCM areas to ensure they match total proj

2. DMA Characterization

Name	DMA Type	Area (ft2)	Surface Type	New, Replaced?	Connection
1 New	Drains to SCM	2571	Concrete or asphalt	New	Bioretention 1
1 Replaced	Drains to SCM	714	Concrete or asphalt	Replaced	Bioretention 1
2 New	Drains to SCM	1515	Concrete or asphalt	New	Bioretention 2
2 Replaced	Drains to SCM	1792	Concrete or asphalt	Replaced	Bioretention 2
3 New	Drains to SCM	1847	Concrete or asphalt	New	Bioretention 3
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10	Drains to SCM	807	Concrete or asphalt	Replaced	Bioretention 10
11	Drains to SCM	799	Concrete or asphalt	Replaced	Bioretention 11

DMA Summary Area	
Total assigned DMA area (ft2):	29752
New impervious area (ft2):	9479
Replaced impervious within a USA (ft2):	0
Replaced impervious not in a USA (ft2):	20273
Total pervious/landscape area (ft2):	0

3. SCM Characterization

Name	SCM Type	Safety Factor	SCM Soil Type	Infilt. Rate (in/hr)	Area (ft2)
Bioretention 1	Bioretention	1	HSG A/B	0.75	324
Bioretention 2	Bioretention	1	HSG A/B	0.75	305
Bioretention 3	Bioretention	1	HSG A/B	0.75	758
Bioretention 4	Bioretention	1	HSG A/B	0.75	435
Bioretention 5	Bioretention	1	HSG A/B	0.75	116
Bioretention 6	Bioretention	1	HSG A/B	0.75	38
Bioretention 7	Bioretention	1	HSG A/B	0.75	88
Bioretention 8	Bioretention	1	HSG A/B	0.75	58
Bioretention 9	Bioretention	1	HSG A/B	0.75	529
Bioretention 10	Direct Infiltration	2	HSG A/B	0.75	80

Bioretention 11	Bioretention	1	HSG A/B	0.75	58

4. Run SBUH Model

5. SCM Minimum Sizing Requirements

SCM Name	Min. Required Storage Vol. (ft3)	Depth Below Underdrain (ft)	Drain Time (hours)	Orifice Diameter (in)
Bioretention 1	227	1.75	8.3	
Bioretention 2	176	1.45	5.5	
Bioretention 3	346	1.14	2.6	
Bioretention 4	191	1.10	2.2	
Bioretention 5	49	1.06	1.8	
Bioretention 6	23	1.49	6.0	
Bioretention 7	35	1.00	0.0	
Bioretention 8	41	1.75	8.3	
Bioretention 9	237	1.12	2.4	
Bioretention 10	38	1.20	13.5	
Bioretention 11	28	1.19	3.1	

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

ATTACHMENTS

ATTACHMENT 1

NRCS SOIL RESOURCE REPORT

United States Department of Agriculture

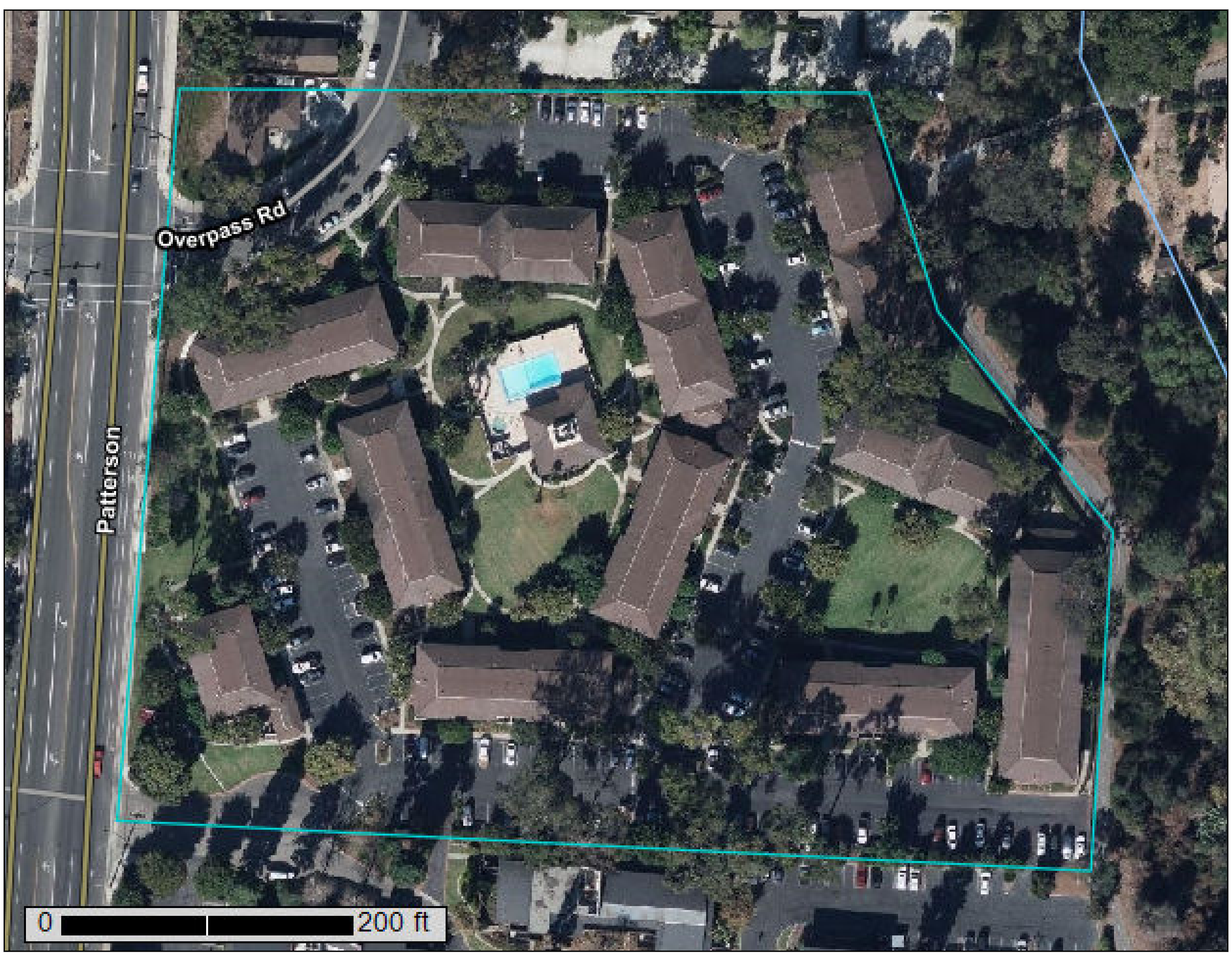
NRCS

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 Santa Barbara County, California, South Coastal Part

Patterson Place Apartments



August 19, 2021

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.

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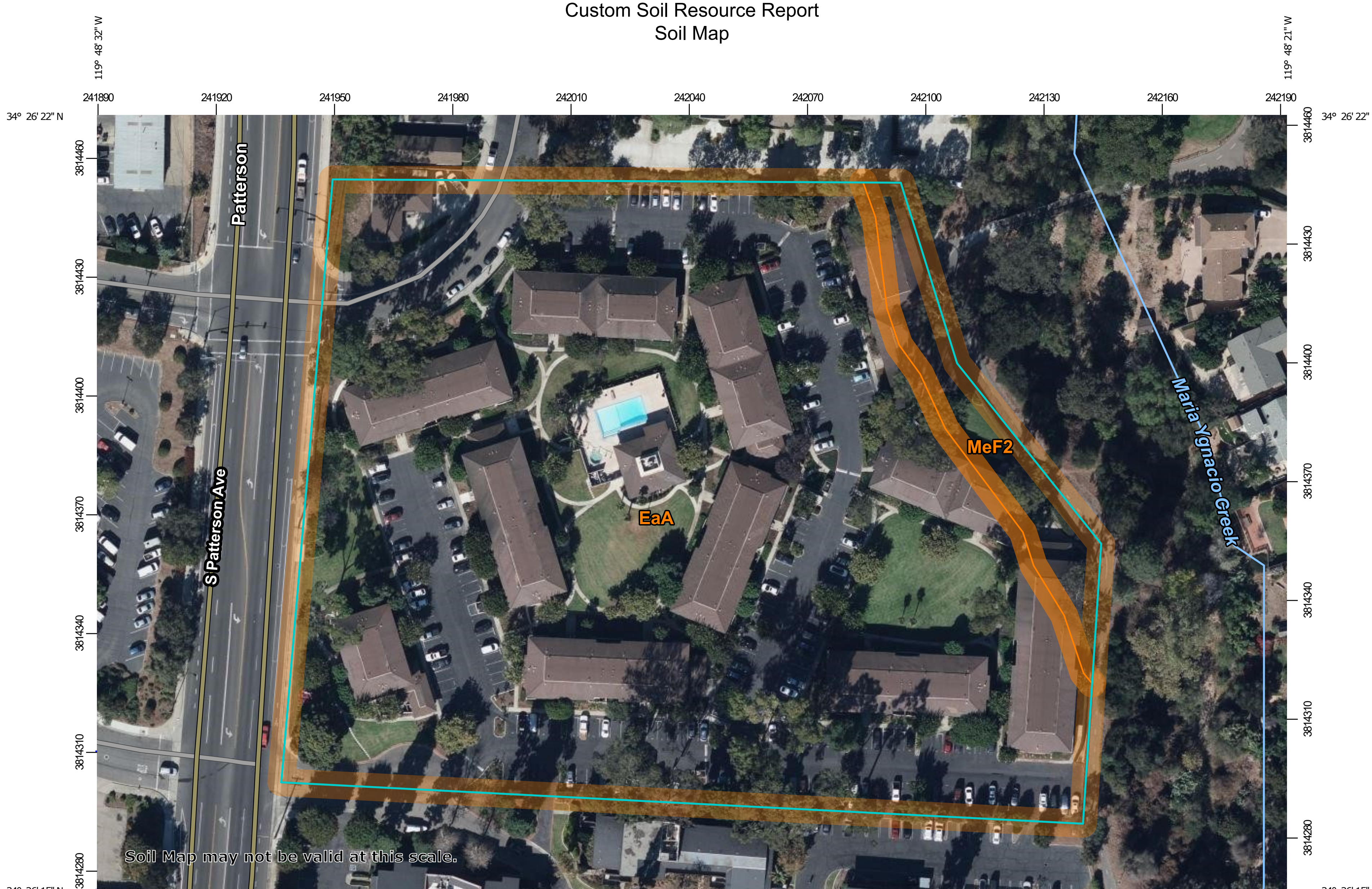
Contents

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.

Soil Map



Map Scale: 1:1,380 if printed on A landscape (11" x 8.5") sheet.

Meters: 0, 20, 40, 80, 120

Feet: 0, 50, 100, 200, 300

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 1:24,000.

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: Santa Barbara County, California, South Coastal Part
Survey Area Data: Version 13, May 29, 2020

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

Date(s) aerial images were photographed: Nov 10, 2020—Nov 16, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND	MAP INFORMATION
	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
EaA	Elder sandy loam, 0 to 2 percent slopes, MLRA 14	6.7	94.5%
MeF2	Milpitas-Positas fine sandy loams, 30 to 50 percent slopes, eroded	0.4	5.5%
Totals for Area of Interest		**7.1**	**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.

Santa Barbara County, California, South Coastal Part

EaA—Elder sandy loam, 0 to 2 percent slopes, MLRA 14

Map Unit Setting

National map unit symbol: 2tyyj
Elevation: 50 to 1,570 feet
Mean annual precipitation: 11 to 29 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 300 to 365 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

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

Description of Elder

Setting

Landform: Alluvial fans, flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium

Typical profile

Ap - 0 to 8 inches: sandy loam
A - 8 to 23 inches: sandy loam
AC - 23 to 31 inches: sandy loam
C - 31 to 60 inches: sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High (2.83 to 9.92 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: Moderate (about 6.6 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 3c
Hydrologic Soil Group: A
Ecological site: R014XY001CA - LOAMY BOTTOMLAND
Hydric soil rating: No

Minor Components

Arroyo seco

Percent of map unit: 4 percent

Landform: Alluvial fans
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Gorgonio

Percent of map unit: 4 percent
Landform: Alluvial fans
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Elkhorn, sandy loam

Percent of map unit: 2 percent
Landform: Marine terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Baywood, loamy sand

Percent of map unit: 1 percent
Landform: Dunes
Landform position (two-dimensional): Backslope, toeslope
Landform position (three-dimensional): Tread, rise
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Hydric soil rating: No

Xerofluvents, sand

Percent of map unit: 1 percent
Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Metz, loamy sand

Percent of map unit: 1 percent
Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

San emigdio, sandy loam

Percent of map unit: 1 percent
Landform: Alluvial fans
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread, talf

Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Watsonville, loam

Percent of map unit: 1 percent
Landform: Marine terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

MeF2—Milpitas-Positas fine sandy loams, 30 to 50 percent slopes, eroded

Map Unit Setting

National map unit symbol: hc66
Elevation: 40 to 630 feet
Mean annual precipitation: 20 to 22 inches
Mean annual air temperature: 60 to 62 degrees F
Frost-free period: 360 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Milpitas and similar soils: 45 percent
Positas and similar soils: 35 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Milpitas

Setting

Landform: Terraces
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium

Typical profile

H1 - 0 to 15 inches: fine sandy loam
H2 - 15 to 54 inches: clay
H3 - 54 to 68 inches: very gravelly sandy loam

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: 12 to 28 inches to abrupt textural change
Drainage class: Moderately 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
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 2.1 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Ecological site: R015XD115CA - CLAYPAN
Hydric soil rating: No

Description of Positas

Setting

Landform: Terraces
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium

Typical profile

H1 - 0 to 19 inches: fine sandy loam
H2 - 19 to 41 inches: clay
H3 - 41 to 68 inches: clay loam

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: 14 to 26 inches to abrupt textural change
Drainage class: Moderately 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
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): 6e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Ecological site: R015XD115CA - CLAYPAN
Hydric soil rating: No

Minor Components

Milpitas, st-fsl

Percent of map unit: 4 percent
Landform: Terraces
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread

Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Zaca

Percent of map unit: 4 percent
Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Ayar

Percent of map unit: 4 percent
Landform: Hills, hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Unnamed

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

Diablo

Percent of map unit: 4 percent
Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No