Priority Development Project (PDP)
Storm Water Quality Management Plan (SWQMP)

ROMERO DRIVE TENTATIVE MAP

PRJ-1063767

SDP NO. 1050407 / TENTATIVE MAP NO. 1050354 / CDP NO. 1050394

☐ Check if electing for offsite alternative compli

Engineer of Work:

Son P. Nguyen RCE 86249

Provide Wet Signature and Stamp Above Line

Prepared For:

La Jolla Reserve, LLC

10452 Coyote Hill Lane

Escondido, CA 92026

(619) 446-5000

Prepared By:

Son-Engineering

P.O. Box 1707

Alpine, CA 91903

(619) 770-9339

Date:

December 16, 2023

SON2307-03

Approved by: City of San Diego Date

The City of SAN DIEGO

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- Attachment 3: Structural BMP Maintenance Plan
    - Maintenance Agreement (Form DS-3247) (when applicable)
- Attachment 4: Copy of Plan Sheets Showing Permanent Storm Water BMPs
- Attachment 5: Project's Drainage Report
- Attachment 6: Project's Geotechnical and Groundwater Investigation Report

Acronyms

APN	Assessor's Parcel Number
ASBS	Area of Special Biological Significance
BMP	Best Management Practice
CEQA	California Environmental Quality Act
CGP	Construction General Permit
DCV	Design Capture Volume
DMA	Drainage Management Areas
ESA	Environmentally Sensitive Area
GLU	Geomorphic Landscape Unit
GW	Ground Water
HMP	Hydromodification Management Plan
HSG	Hydrologic Soil Group
HU	Harvest and Use
INF	Infiltration
LID	Low Impact Development
LUP	Linear Underground/Overhead Projects
MS4	Municipal Separate Storm Sewer System
N/A	Not Applicable
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
PDP	Priority Development Project
PE	Professional Engineer
POC	Pollutant of Concern
SC	Source Control
SD	Site Design
SDRWQCB	San Diego Regional Water Quality Control Board
SIC	Standard Industrial Classification
SWPPP	Stormwater Pollutant Protection Plan
SWQMP	Storm Water Quality Management Plan
TMDL	Total Maximum Daily Load
WMAA	Watershed Management Area Analysis
WPCP	Water Pollution Control Program
WQIP	Water Quality Improvement Plan

Certification Page

Project Name: Romero Drive Tentative Map
Permit Application PRJ-1063767

I hereby declare that I am the Engineer in Responsible Charge of design of storm water BMPs for this project, and that I have exercised responsible charge over the design of the project as defined in Section 6703 of the Business and Professions Code, and that the design is consistent with the requirements of the Storm Water Standards, which is based on the requirements of SDRWQCB Order No. R9-2013-0001 as amended by R9-2015-0001 and R9-2015-0100 (MS4 Permit).

I have read and understand that the City Engineer has adopted minimum requirements for managing urban runoff, including storm water, from land development activities, as described in the Storm Water Standards. I certify that this PDP SWQMP has been completed to the best of my ability and accurately reflects the project being proposed and the applicable source control and site design BMPs proposed to minimize the potentially negative impacts of this project's land development activities on water quality. I understand and acknowledge that the plan check review of this PDP SWQMP by the City Engineer is confined to a review and does not relieve me, as the Engineer in Responsible Charge of design of storm water BMPs for this project, of my responsibilities for project design.

Engineer of Work's Signature

86249 — PE#

3-31-2025 — Expiration Date

Son P. Nguyen

Print Name

Son-Engineering

Company

December 16, 2023

Date

Engineer's Stamp

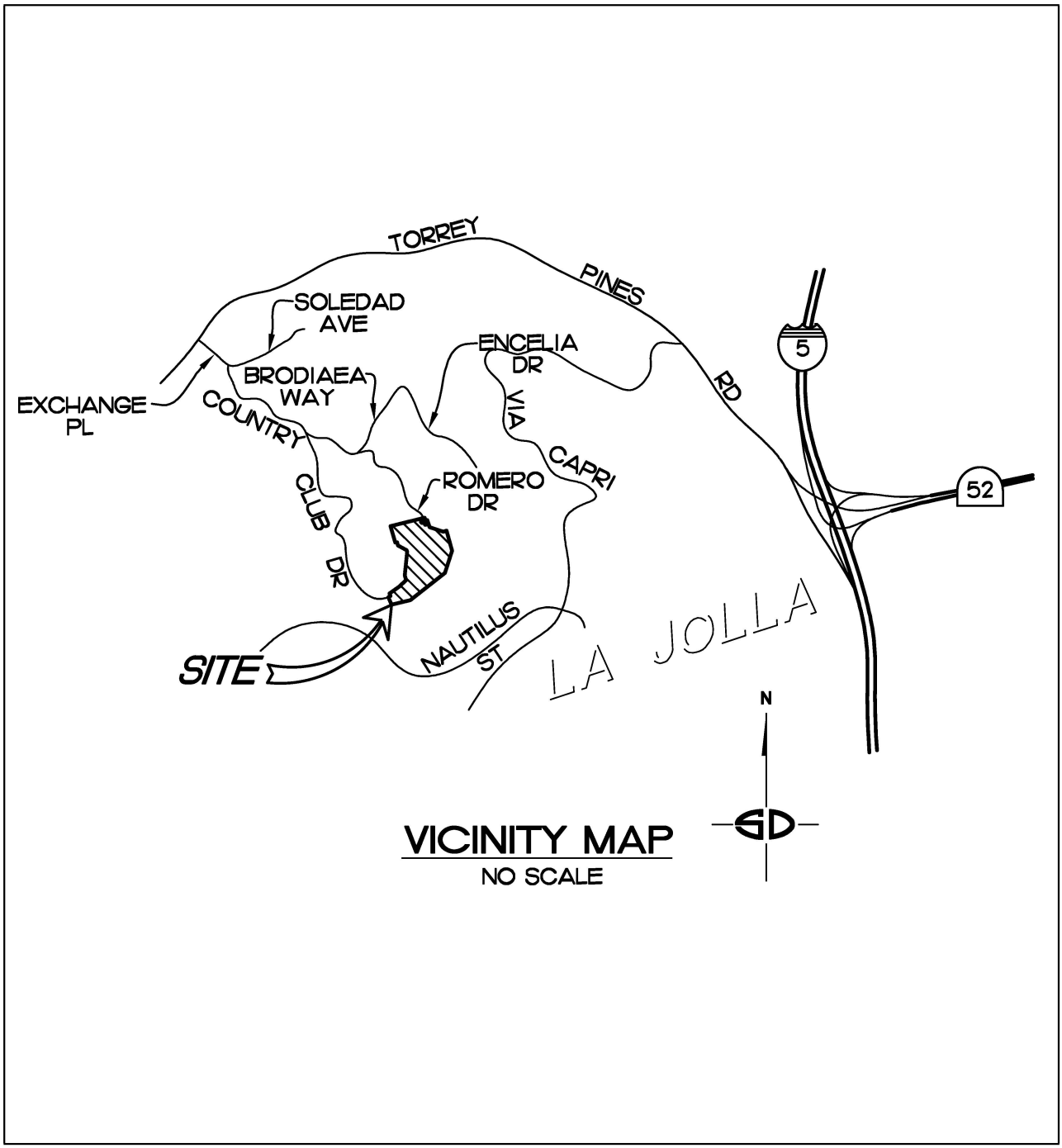
Submittal Record

Use this Table to keep a record of submittals of this PDP SWQMP. Each time the PDP SWQMP is re-submitted, provide the date and status of the project. In last column indicate changes that have been made or indicate if response to plancheck comments is included. When applicable, insert response to plancheck comments.

Submittal Number	Date	Project Status	Changes
1	June 7, 2019	☑ Preliminary Design/Planning/CEQA ☐ Final Design	**Initial Submittal**
2	March 08, 2023	☑ Preliminary Design/Planning/CEQA ☐ Final Design	Second Submittal
3	December 16, 2023	☑ Preliminary Design/Planning/CEQA ☐ Final Design	Third Submittal
4		☐ Preliminary Design/Planning/CEQA ☐ Final Design	

Project Vicinity Map

Project Name: Romero Drive Tentative Map
Permit Application PRJ-1063767



City of San Diego Form DS-560 Storm Water Requirements Applicability Checklist

Attach DS-560 form.

Development Services

THE CITY OF SAN DIEGO

FORM
DS-560
September 2021

Stormwater Requirements Applicability Checklist

Project Address: 6850 Country Club Drive, La Jolla, CA 92037 **Project Number:** PRJ-1063767

SECTION 1: Construction Stormwater Best Management Practices (BMP) Requirements

All construction sites are required to implement construction BMPs per the performance standards in the Stormwater Standards Manual. Some sites are also required to obtain coverage under the State Construction General Permit (CGP)[1], administered by the California State Water Resources Control Board.

For all projects, complete Part A - If the project is required to submit a Stormwater Pollution Prevention Plan (SWPPP) or Water Pollution Control Plan (WPCP), continue to Part B.

PART A – Determine Construction Phase Stormwater Requirements

1. Is the project subject to California's statewide General National Pollutant Discharge Elimination System (NPDES) permit for Stormwater Discharges Associated with Construction Activities, also known as the State Construction General Permit (CGP)? (Typically projects with land disturbance greater than or equal to 1 acre.)

   ◉ Yes, SWPPP is required; skip questions 2-4. ○ No; proceed to the next question.

2. Does the project propose construction or demolition activity, including but not limited to, clearing, grading, grubbing, excavation, or any other activity resulting in ground disturbance and/or contact with stormwater?

   ○ Yes, WPCP is required; skip questions 3-4. ○ No; proceed to the next question.

3. Does the project propose routine maintenance to maintain the original line and grade, hydraulic capacity, or original purpose of the facility? (Projects such as pipeline/utility replacement)

   ○ Yes, WPCP is required; skip question 4. ○ No; proceed to the next question.

4. Does the project only include the following Permit types listed below?

   - Electrical Permit, Fire Alarm Permit, Fire Sprinkler Permit, Plumbing Permit, Sign Permit, Mechanical Permit, Spa Permit.
   - Individual Right of Way Permits that exclusively include only ONE of the following activities: water service, sewer lateral, or utility service.
   - Right of Way Permits with a project footprint less than 150 linear feet that exclusively include only ONE of the following activities: curb ramp, sidewalk and driveway apron replacement, potholing, curb and gutter replacement, and retaining wall encroachments.

   ☐ Yes, no document is required.

Check one of the boxes below and continue to Part B

◉ **If you checked "Yes" for question 1,** an SWPPP is REQUIRED – **continue to Part B**

○ **If you checked "No" for question 1 and checked "Yes" for question 2 or 3,** a WPCP is REQUIRED. If the project proposes less than 5,000 square feet of ground disturbance AND has less than a 5-foot elevation change over the entire project area, a Minor WPCP may be required instead. **Continue to Part B**

○ **If you check "No" for all questions 1-3 and checked "Yes" for question 4,** Part B does not apply, and no document is required. **Continue to Section 2.**

[1] More information on the City's construction BMP requirements as well as CGP requirements can be found at http://www.sandiego.gov/stormwater/regulations/index.shtml

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PART B – Determine Construction Site Priority

This prioritization must be completed within this form, noted on the plans, and included in the SWPPP or WPCP. The city reserves the right to adjust the priority of projects both before and after construction. Construction projects are assigned an inspection frequency based on if the project has a "high threat to water quality." The City has aligned the local definition of "high threat to water quality" to the risk determination approach of the State Construction General Permit (CGP). The CGP determines risk level based on project specific sediment risk and receiving water risk. Additional inspection is required for projects within the Areas of Special Biological Significance (ASBS) watershed. **NOTE:** The construction priority does **NOT** change construction BMP requirements that apply to projects; rather, it determines the frequency of inspections that will be conducted by city staff.

Complete Part B and continue to Section 2

☐ **1. ASBS**

A. Projects located in the ASBS watershed.

☐ **2. High Priority**

A. Projects that qualify as Risk Level 2 or Risk Level 3 per the Construction General Permit (CGP) and are not located in the ASBS watershed.
B. Projects that qualify as LUP Type 2 or LUP Type 3 per the CGP and are not located in the ASBS watershed.

☑ **3. Medium Priority**

A. Projects that are not located in an ASBS watershed or designated as a High priority site.
B. Projects that qualify as Risk Level 1 or LUP Type 1 per the CGP and are not located in an ASBS watershed.
C. WPCP projects (>5,000 square feet of ground disturbance) located within the Los Peñasquitos watershed management area.

☐ **4. Low Priority**

A. Projects not subject to a Medium or High site priority designation and are not located in an ASBS watershed.

Section 2: Construction Stormwater BMP Requirements

Additional information for determining the requirements is found in the Stormwater Standards Manual.

PART C – Determine if Not Subject to Permanent Stormwater Requirements

Projects that are considered maintenance or otherwise not categorized as "new development projects" or "redevelopment projects" according to the Stormwater Standards Manual are not subject to Permanent Stormwater BMPs.

- **If "yes" is checked for any number in Part C**: Proceed to Part F and check "Not Subject to Permanent Stormwater BMP Requirements."
- **If "no" is checked for all the numbers in Part C:** Continue to Part D.

1. Does the project only include interior remodels and/or is the project entirely within an existing enclosed structure and does not have the potential to contact stormwater?

   ○ Yes ◉ No

2. Does the project only include the construction of overhead or underground utilities without creating new impervious surfaces?

   ○ Yes ◉ No

3. Does the project fall under routine maintenance? Examples include but are not limited to roof or exterior structure surface replacement, resurfacing or reconfiguring surface parking lots or existing roadways without expanding the impervious footprint, and routine replacement of damaged pavement (grinding, overlay and pothole repair).

   ○ Yes ◉ No

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PART D – PDP Exempt Requirements

PDP Exempt projects are required to implement site design and source control BMPs.

- **If "yes" is checked for any questions in Part D**, continue to Part F and check the box labeled "PDP Exempt."
- **If "no" is checked for all questions in Part D**, continue to Part E.

1. Does the project ONLY include new or retrofit sidewalks, bicycle lanes, or trails that:
   - Are designed and constructed to direct stormwater runoff to adjacent vegetated areas, or other non-erodible permeable areas? Or;
   - Are designed and constructed to be hydraulically disconnected from paved streets and roads? Or;
   - Are designed and constructed with permeable pavements or surfaces in accordance with the Green Streets guidance in the City's Stormwater Standards manual?

   ○ Yes, PDP exempt requirements apply ◉ No, proceed to next question

2. Does the project ONLY include retrofitting or redeveloping existing paved alleys, streets or roads designed and constructed in accordance with the Green Streets guidance in the City's Stormwater Standards Manual?

   ○ Yes, PDP exempt requirements apply ◉ No, proceed to next question

PART E – Determine if Project is a Priority Development Project (PDP)

Projects that match one of the definitions below are subject to additional requirements, including preparation of a Stormwater Quality Management Plan (SWQMP).

- **If "yes" is checked for any number in Part E**, continue to Part F and check the box labeled "Priority Development Project."
- **If "no" is checked for every number in Part E**, continue to Part F and check the box labeled "Standard Development Project."

1. **New development that creates 10,000 square feet or more of impervious surfaces collectively over the project site.** This includes commercial, industrial, residential, mixed-use, and public development projects on public or private land. ◉ Yes ○ No

2. **Redevelopment project that creates and/or replaces 5,000 square feet or more of impervious surfaces on an existing site of 10,000 square feet or more of impervious surfaces.** This includes commercial, industrial, residential, mixed-use, and public development projects on public or private land. ○ Yes ◉ No

3. **New development or redevelopment of a restaurant.** Facilities that sell prepared foods and beverages for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (Standard Industrial Classification (SIC) 5812), and where the land development creates and/or replaces 5,000 square feet or more of impervious surface. ○ Yes ◉ No

4. **New development or redevelopment on a hillside.** The project creates and/or replaces 5,000 square feet or more of impervious surface (collectively over the project site) and where the development will grade on any natural slope that is twenty-five percent or greater. ○ Yes ◉ No

5. **New development or redevelopment of a parking lot that creates and/or replaces 5,000 square feet or more of impervious surface (collectively over the project site).** ○ Yes ◉ No

6. **New development or redevelopment of streets, roads, highways, freeways, and driveways.** The project creates and/or replaces 5,000 square feet or more of impervious surface (collectively over the project site). ◉ Yes ○ No

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7. **New development or redevelopment discharging directly to an environmentally sensitive area.** The project creates and/or replaces 2,500 square feet of impervious surface (collectively over the project site), and discharges directly to an Environmentally Sensitive Area (ESA). "Discharging directly to" includes flow that is conveyed overland a distance of 200 feet or less from the project to the ESA, or conveyed in a pipe or open channel any distance as an isolated flow from the project to the ESA (i.e. not commingled with flows from adjacent lands). ○ Yes ◉ No

8. **New development or redevelopment projects of retail gasoline outlet (RGO) that create and/or replaces 5,000 square feet of impervious surface.** The development project meets the following criteria: (a) 5,000 square feet or more or (b) has a projected Average Daily Traffic (ADT) of 100 or more vehicles per day. ○ Yes ◉ No

9. **New development or redevelopment projects of an automotive repair shop that creates and/or replaces 5,000 square feet or more of impervious surfaces.** Development projects categorized in any one of Standard Industrial Classification (SIC) codes 5013, 5014, 5541, 7532-7534 or 7536-7539. ○ Yes ◉ No

10. **Other Pollutant Generating Project.** These projects are not covered in any of the categories above but involve the disturbance of one or more acres of land and are expected to generate post-construction phase pollutants, including fertilizers and pesticides. This category does not include projects creating less than 5,000 square feet of impervious area and projects containing landscaping without a requirement for the regular use of fertilizers and pesticides (such as a slope stabilization project using native plants). Impervious area calculations need not include linear pathways for infrequent vehicle use, such as emergency maintenance access or bicycle and pedestrian paths if the linear pathways are built with pervious surfaces or if runoff from the pathway sheet flows to adjacent pervious areas. ○ Yes ◉ No

PART F – Select the appropriate category based on the outcomes of Part C through Part E

1. The project is **NOT SUBJECT TO PERMANENT STORMWATER REQUIREMENTS** ○ Yes ◉ No

2. The project is a **STANDARD DEVELOPMENT PROJECT**. Site design and source control BMP requirements apply. See the Stormwater Standards Manual for guidance. ○ Yes ◉ No

3. The Project is **PDP EXEMPT**. Site design and source control BMP requirements apply. Refer to the Stormwater Standards Manual for guidance. ○ Yes ◉ No

4. The project is a **PRIORITY DEVELOPMENT PROJECT**. Site design, source control and structural pollutant control BMP requirements apply. Refer to the Stormwater Standards Manual for guidance on determining if the project requires hydromodification plan management. ◉ Yes ○ No

SON P. NGUYEN, P.E.
Name of Owner or Agent


Signature

CIVIL ENGINEER
Title

12/16/2023
Date

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Applicability of Permanent, Post-Construction Storm Water BMP Requirements		Form I-1
Project Identification		
Project Name: Romero Drive Tentative Map		
Permit Application Number: PRJ-1063767		Date: 12-16-2023
Determination of Requirements		
The purpose of this form is to identify permanent, post-construction requirements that apply to the project. This form serves as a short summary of applicable requirements, in some cases referencing separate forms that will serve as the backup for the determination of requirements. Answer each step below, starting with **Step 1** and progressing through each step until reaching "Stop". Refer to the manual sections and/or separate forms referenced in each step below.		
Step	**Answer**	**Progression**
Step 1: Is the project a "development project"? See Section 1.3 of the manual (Part 1 of Storm Water Standards) for guidance.	☑ Yes	Go to **Step 2**.
	☐ No	**Stop**. Permanent BMP requirements do not apply. No SWQMP will be required. Provide discussion below.
Discussion / justification if the project is not a "development project" (e.g., the project includes *only* interior remodels within an existing building):		
Step 2: Is the project a Standard Project, PDP, or PDP Exempt? To answer this item, see Section 1.4 of the manual in its entirety for guidance AND complete Form DS-560, Storm Water Requirements Applicability Checklist.	☐ Standard Project	**Stop.** Standard Project requirements apply
	☑ PDP	PDP requirements apply, including PDP SWQMP. Go to **Step 3**.
	☐ PDP Exempt	**Stop.** Standard Project requirements apply. Provide discussion and list any additional requirements below.
Discussion / justification, and additional requirements for exceptions to PDP definitions, if applicable:		

Project Name: Romero Drive Tentative Map

Form I-1 Page 2 of 2		
Step	**Answer**	**Progression**
Step 3. Is the project subject to earlier PDP requirements due to a prior lawful approval? See Section 1.10 of the manual (Part 1 of Storm Water Standards) for guidance.	☐ Yes	Consult the City Engineer to determine requirements. Provide discussion and identify requirements below. Go to **Step 4**.
	☑ No	BMP Design Manual PDP requirements apply. Go to **Step 4**.
Discussion / justification of prior lawful approval, and identify requirements (not required if prior lawful approval does not apply):		
Step 4. Do hydromodification control requirements apply? See Section 1.6 of the manual (Part 1 of Storm Water Standards) for guidance.	☑ Yes	PDP structural BMPs required for pollutant control (Chapter 5) and hydromodification control (Chapter 6). Go to **Step 5**.
	☐ No	**Stop**. PDP structural BMPs required for pollutant control (Chapter 5) only. Provide brief discussion of exemption to hydromodification control below.
Discussion / justification if hydromodification control requirements do not apply:		
Step 5. Does protection of critical coarse sediment yield areas apply? See Section 6.2 of the manual (Part 1 of Storm Water Standards) for guidance.	☐ Yes	Management measures required for protection of critical coarse sediment yield areas (Chapter 6.2). **Stop**.
	☑ No	Management measures not required for protection of critical coarse sediment yield areas. Provide brief discussion below. **Stop**.
Discussion / justification if protection of critical coarse sediment yield areas does not apply: There is no CCSYAs on site nor upstream of the project site.		

HMP Exemption Exhibit

Attach a HMP Exemption Exhibit that shows direct storm water runoff discharge from the project site to HMP exempt area. Include project area, applicable underground storm drain line and/or concrete lined channels, outfall information and exempt waterbody.
Reference applicable drawing number(s).

Exhibit must be provided on 11"x17" or larger paper.

NOT APPLICABLE

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Site Information Checklist For PDPs	Form I-3B
Project Summary Information	
Project Name	Romero Drive Tentative Map
Project Address	6850 Country Club Dr., La Jolla, CA 92037
Assessor's Parcel Number(s) (APN(s))	352-300-11
Permit Application Number	PRJ-1063767
Project Watershed	Select One: ☐ San Dieguito River ☐ Penasquitos ☑ Mission Bay ☐ San Diego River ☐ San Diego Bay ☐ Tijuana River
Hydrologic subarea name with Numeric Identifier up to two decimal places (9XX.XX)	Scripps (906.30)
Project Area (total area of Assessor's Parcel(s) associated with the project or total area of the right-of-way)	22.21 Acres (967,558 Square Feet)
Area to be disturbed by the project (Project Footprint)	3.54 Acres (154,083 Square Feet)
Project Proposed Impervious Area (subset of Project Footprint)	1.91 Acres (83,232 Square Feet)
Project Proposed Pervious Area (subset of Project Footprint)	20.30 Acres (813,475 Square Feet)
Note: Proposed Impervious Area + Proposed Pervious Area = Area to be Disturbed by the Project. This may be less than the Project Area.	
The proposed increase or decrease in impervious area in the proposed condition as compared to the pre-project condition	229 %

Form I-3B Page 2 of 11

Description of Existing Site Condition and Drainage Patterns

Current Status of the Site (select all that apply):

- ☐ Existing development
- ☑ Previously graded but not built out
- ☐ Agricultural or other non-impervious use
- ☐ Vacant, undeveloped/natural

Description / Additional Information:

The site currently consists of an existing two story single-family residence over a partial basement with a single-story pavilion, a pool house, an apartment unit with garage, a tennis court, a fitness studio, a green house, a detached garage, and an asphalt access driveway.

Existing Land Cover Includes (select all that apply):

- ☑ Vegetative Cover
- ☑ Non-Vegetated Pervious Areas
- ☑ Impervious Areas

Description / Additional Information:

The impervious areas at the site consist of building rooftops, asphalt paved driveway, concrete pavement, and a hard surface tennis court. The non-vegetated pervious areas consists of dirt and decomposed granite pathways. Approximately more than half of the site is covered with landscape and trees.

Underlying Soil belongs to Hydrologic Soil Group (select all that apply):

- ☐ NRCS Type A
- ☐ NRCS Type B
- ☐ NRCS Type C
- ☑ NRCS Type D

Approximate Depth to Groundwater:

- ☐ Groundwater Depth < 5 feet
- ☐ 5 feet < Groundwater Depth < 10 feet
- ☐ 10 feet < Groundwater Depth < 20 feet
- ☑ Groundwater Depth > 20 feet

Existing Natural Hydrologic Features (select all that apply):

- ☐ Watercourses
- ☐ Seeps
- ☐ Springs
- ☐ Wetlands
- ☑ None

Description / Additional Information:

Form I-3B Page 3 of 11

Description of Existing Site Topography and Drainage

How is storm water runoff conveyed from the site? At a minimum, this description should answer:

1. Whether existing drainage conveyance is natural or urban;
2. If runoff from offsite is conveyed through the site? If yes, quantification of all offsite drainage areas, design flows, and locations where offsite flows enter the project site and summarize how such flows are conveyed through the site;
3. Provide details regarding existing project site drainage conveyance network, including storm drains, concrete channels, swales, detention facilities, storm water treatment facilities, and natural and constructed channels;
4. Identify all discharge locations from the existing project along with a summary of the conveyance system size and capacity for each of the discharge locations. Provide summary of the pre-project drainage areas and design flows to each of the existing runoff discharge locations.

Descriptions/Additional Information

The existing site currently is a golf course with an existing concrete paved driveway along the middle portion of the site which is accessed via Romero Drive near the northwest corner of the site. The existing drainage within the site is divided up into two drainage basins (refer to Pre-Development Drainage Map located in this report). Drainage Basin A consists of natural sheet flow in the general east direction that is directed toward an existing detention basin. The peak 100-year storm event discharge for Drainage Basin A is 0.77 cfs. Drainage Basin B consists of natural sheet flows in a general southeasterly direction that is directed towards an existing biofiltration basin. The peak 100-year storm event discharge for Drainage Basin B is 4.42 cfs. The total pre-development 100-year peak discharge for the project area is 5.19 cfs.

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Description of Proposed Site Development and Drainage Patterns

Project Description / Proposed Land Use and/or Activities:

The runoff form the existing private concrete drive located at the end of Romero Drive is collected in the existing biofiltration basin located at the southeasterly end of the private drive and permitted under Grading PTS 498706. Runoff from proposed Lot 1 is discharged into the proposed Biofiltration Basins # 1A & 1B. Runoff from proposed Lot 2 is discharged into the proposed Biofiltration Basin # 2. Runoff from proposed Lot 3 is discharged into the proposed Biofiltration Basin # 3. Runoff from proposed Lot 4 is discharged into the proposed Biofiltration Basin # 4. Runoffs from a portion of the existing private concrete, new concrete drive and imprevious surface areas on Lot 5 is collected and routed to the proposed Biofiltration Basin # 5 located on the southwest portion of Lot 5. The discharges from the new 5 biofiltration basins are conveyed in new storm drain pipe system and discharged to the downstream natural drainage swale located at the northerly boundary of Lot 5. Total peak discharge of the development area is 5.00 cfs.

List/describe proposed impervious features of the project (e.g., buildings, roadways, parking lots, courtyards, athletic courts, other impervious features):

Building rooftops, concrete paved walkways, and concrete paved driveway.

List/describe proposed pervious features of the project (e.g., landscape areas):

Landscaped slopes and natural vegetated areas.

Does the project include grading and changes to site topography?

☑ Yes

☐ No

Description / Additional Information:

The project includes grading to construct 5 single family homes, access driveway and road.

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Does the project include changes to site drainage (e.g., installation of new storm water conveyance systems)?

☑ Yes

☐ No

If yes, provide details regarding the proposed project site drainage conveyance network, including storm drains, concrete channels, swales, detention facilities, storm water treatment facilities, natural and constructed channels, and the method for conveying offsite flows through or around the proposed project site. Identify all discharge locations from the proposed project site along with a summary of the conveyance system size and capacity for each of the discharge locations. Provide a summary of pre and post-project drainage areas and design flows to each of the runoff discharge locations. Reference the drainage study for detailed calculations.

Description / Additional Information:

A new private storm drain system is collected the discharges from the new 6 biofiltration basins, one per lot, and discharged to the downstream natural vegetated drainage swale located onsite within the new Lot A, at the north boundary of new Lot 5.

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Identify whether any of the following features, activities, and/or pollutant source areas will be present (select all that apply):

- [x] Onsite storm drain inlets
- [ ] Interior floor drains and elevator shaft sump pumps
- [ ] Interior parking garages
- [x] Need for future indoor & structural pest control
- [x] Landscape/outdoor pesticide use
- [ ] Pools, spas, ponds, decorative fountains, and other water features
- [ ] Food service
- [ ] Refuse areas
- [ ] Industrial processes
- [ ] Outdoor storage of equipment or materials
- [ ] Vehicle and equipment cleaning
- [ ] Vehicle/equipment repair and maintenance
- [ ] Fuel dispensing areas
- [ ] Loading docks
- [x] Fire sprinkler test water
- [x] Miscellaneous drain or wash water
- [ ] Plazas, sidewalks, and parking lots

Description/Additional Information:

Use of non-toxic roofing materials.

Form I-3B Page 7 of 11
Identification and Narrative of Receiving Water
Narrative describing flow path from discharge location(s), through urban storm conveyance system, to receiving creeks, rivers, and lagoons and ultimate discharge location to Pacific Ocean (or bay, lagoon, lake or reservoir, as applicable) Site runoff discharges into the natural drainage swale located at the northerly portion of the site, then flows westerly along the swale and direction onto Carrizo Drive, where it enters the existing municipal storm drain system. Flow is then directed westerly to the Pacific Ocean.
Provide a summary of all beneficial uses of receiving waters downstream of the project discharge locations Pacific Ocean (Scripps HA - 906.30): Industrial Service Supply (IND), Navigation (NAV), Contact Water Recreation (REC1), Non-Contact Water Recreation (REC2), Commercial and Sport Fishing (COMM), Preservation of Biological Habitats of Special Significance (BIOL), Wildlife Habitat (WILD), Rare Threatened, or Endangered Species (RARE), Marine Habitat (MAR), Aquaculture (AQUA), Migration of Aquatic Organisms (MIGR), Spawning, Reproduction, and/or Early Development (SPWN), and Shellfish Harvesting (SHELL).
Identify all ASBS (areas of special biological significance) receiving waters downstream of the project discharge locations The subject site does not discharge into an area of special biological significance.
Provide distance from project outfall location to impaired or sensitive receiving waters The project is approximately 1.5 miles east from the Pacific Ocean at Windansea Beach.
Summarize information regarding the proximity of the permanent, post-construction storm water BMPs to the City's Multi-Habitat Planning Area and environmentally sensitive lands The proposed biofiltration basin is located outside of the City's Multi-Habitat Planning Area and enviromentally sensitive lands.

Form I-3B Page 8 of 11

Identification of Receiving Water Pollutants of Concern

List any 303(d) impaired water bodies within the path of storm water from the project site to the Pacific Ocean (or bay, lagoon, lake or reservoir, as applicable), identify the pollutant(s)/stressor(s) causing impairment, and identify any TMDLs and/or Highest Priority Pollutants from the WQIP for the impaired water bodies:

303(d) Impaired Water Body (Refer to Appendix K)	Pollutant(s)/Stressor(s) (Refer to Appendix K)	TMDLs/WQIP Highest Priority Pollutant (Refer to Table 1-4 in Chapter 1)
Direct discharge into Pacific Ocean shoreline, Scripps HA, at North Lane at Windansea Beach According to CA 2018 INtegrated Report, Trash is a listed pollutant. Appendix K does not list this outfall or pollutant/stressor.		

Identification of Project Site Pollutants*

*Identification of project site pollutants is only required if flow-thru treatment BMPs are implemented onsite in lieu of retention or biofiltration BMPs (note the project must also participate in an alternative compliance program unless prior lawful approval to meet earlier PDP requirements is demonstrated)

Identify pollutants anticipated from the project site based on all proposed use(s) of the site (see Appendix B.6):

Pollutant	Not Applicable to the Project Site	Anticipated from the Project Site	Also a Receiving Water Pollutant of Concern
Sediment	☑	☐	☐
Nutrients	☑	☐	☐
Heavy Metals	☑	☐	☐
Organic Compounds	☑	☐	☐
Trash & Debris	☑	☐	☐
Oxygen Demanding Substances	☑	☐	☐
Oil & Grease	☑	☐	☐
Bacteria & Viruses	☑	☐	☐
Pesticides	☑	☐	☐

Form I-3B Page 9 of 11

Hydromodification Management Requirements

Do hydromodification management requirements apply (see Section 1.6)?

☑ Yes, hydromodification management flow control structural BMPs required.

☐ No, the project will discharge runoff directly to existing underground storm drains discharging directly to water storage reservoirs, lakes, enclosed embayments, or the Pacific Ocean.

☐ No, the project will discharge runoff directly to conveyance channels whose bed and bank are concrete-lined all the way from the point of discharge to water storage reservoirs, lakes, enclosed embayments, or the Pacific Ocean.

☐ No, the project will discharge runoff directly to an area identified as appropriate for an exemption by the WMAA for the watershed in which the project resides.

Description / Additional Information (to be provided if a 'No' answer has been selected above):

Note: If "No" answer has been selected the SWQMP must include an exhibit that shows the storm water conveyance system from the project site to an exempt water body. The exhibit should include details about the conveyance system and the outfall to the exempt water body.

Critical Coarse Sediment Yield Areas*
*This Section only required if hydromodification management requirements apply

Based on Section 6.2 and Appendix H does CCSYA exist on the project footprint or in the upstream area draining through the project footprint?

☐ Yes

☑ No

Discussion / Additional Information:

N/A

Form I-3B Page 10 of 11

Flow Control for Post-Project Runoff*

***This Section only required if hydromodification management requirements apply**

List and describe point(s) of compliance (POCs) for flow control for hydromodification management (see Section 6.3.1). For each POC, provide a POC identification name or number correlating to the project's HMP Exhibit and a receiving channel identification name or number correlating to the project's HMP Exhibit.

The project has one POC located at the southwest corner of the site, and consists of the proposed biofiltration basin outlet structure. See attachment 1A for POC location. The receiving water is the Pacific Ocean (906.30), which is approximately 1.5 miles to the west of the site.

Has a geomorphic assessment been performed for the receiving channel(s)?

☑ No, the low flow threshold is $0.1Q_2$ (default low flow threshold)

☐ Yes, the result is the low flow threshold is $0.1Q_2$

☐ Yes, the result is the low flow threshold is $0.3Q_2$

☐ Yes, the result is the low flow threshold is $0.5Q_2$

If a geomorphic assessment has been performed, provide title, date, and preparer:

Discussion / Additional Information: (optional)

Form I-3B Page 11 of 11

Other Site Requirements and Constraints

When applicable, list other site requirements or constraints that will influence storm water management design, such as zoning requirements including setbacks and open space, or local codes governing minimum street width, sidewalk construction, allowable pavement types, and drainage requirements.

N/A. There are no other site requirements or constraints influencing storm water management.

Optional Additional Information or Continuation of Previous Sections As Needed

This space provided for additional information or continuation of information from previous sections as needed.

Source Control BMP Checklist for PDPs	Form I-4B

Source Control BMPs

All development projects must implement source control BMPs where applicable and feasible. See Chapter 4 and Appendix E of the BMP Design Manual (Part 1 of the Storm Water Standards) for information to implement source control BMPs shown in this checklist.

Answer each category below pursuant to the following.

- "Yes" means the project will implement the source control BMP as described in Chapter 4 and/or Appendix E of the BMP Design Manual. Discussion / justification is not required.
- "No" means the BMP is applicable to the project but it is not feasible to implement. Discussion / justification must be provided.
- "N/A" means the BMP is not applicable at the project site because the project does not include the feature that is addressed by the BMP (e.g., the project has no outdoor materials storage areas). Discussion / justification may be provided.

Source Control Requirement	Applied?		
4.2.1 Prevention of Illicit Discharges into the MS4	☑ Yes	☐ No	☐ N/A
Discussion / justification if 4.2.1 not implemented:			
4.2.2 Storm Drain Stenciling or Signage	☑ Yes	☐ No	☐ N/A
Discussion / justification if 4.2.2 not implemented:			
4.2.3 Protect Outdoor Materials Storage Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	☐ Yes	☐ No	☑ N/A
Discussion / justification if 4.2.3 not implemented:			
4.2.4 Protect Materials Stored in Outdoor Work Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	☐ Yes	☐ No	☑ N/A
Discussion / justification if 4.2.4 not implemented:			
4.2.5 Protect Trash Storage Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	☐ Yes	☐ No	☑ N/A
Discussion / justification if 4.2.5 not implemented:			

Project Name: Romero Drive Tentative Map

Form I-4B Page 2 of 2			
Source Control Requirement	**Applied?**		
4.2.6 Additional BMPs Based on Potential Sources of Runoff Pollutants (must answer for each source listed below)			
On-site storm drain inlets	☑ Yes	☐ No	☐ N/A
Interior floor drains and elevator shaft sump pumps	☐ Yes	☐ No	☑ N/A
Interior parking garages	☐ Yes	☐ No	☑ N/A
Need for future indoor & structural pest control	☑ Yes	☐ No	☐ N/A
Landscape/Outdoor Pesticide Use	☑ Yes	☐ No	☐ N/A
Pools, spas, ponds, decorative fountains, and other water features	☑ Yes	☐ No	☐ N/A
Food service	☐ Yes	☐ No	☑ N/A
Refuse areas	☐ Yes	☐ No	☑ N/A
Industrial processes	☐ Yes	☐ No	☑ N/A
Outdoor storage of equipment or materials	☐ Yes	☐ No	☑ N/A
Vehicle/Equipment Repair and Maintenance	☐ Yes	☐ No	☑ N/A
Fuel Dispensing Areas	☐ Yes	☐ No	☑ N/A
Loading Docks	☐ Yes	☐ No	☑ N/A
Fire Sprinkler Test Water	☑ Yes	☐ No	☐ N/A
Miscellaneous Drain or Wash Water	☐ Yes	☐ No	☑ N/A
Plazas, sidewalks, and parking lots	☐ Yes	☐ No	☑ N/A
SC-6A: Large Trash Generating Facilities	☐ Yes	☐ No	☑ N/A
SC-6B: Animal Facilities	☐ Yes	☐ No	☑ N/A
SC-6C: Plant Nurseries and Garden Centers	☐ Yes	☐ No	☑ N/A
SC-6D: Automotive Facilities	☐ Yes	☐ No	☑ N/A
Discussion / justification if 4.2.6 not implemented. Clearly identify which sources of runoff pollutants are discussed. Justification must be provided for all "No" answers shown above.			
All above items selected as "N/A" are not proposed.			

Site Design BMP Checklist for PDPs	Form I-5B

Site Design BMPs

All development projects must implement site design BMPs where applicable and feasible. See Chapter 4 and Appendix E of the BMP Design Manual (Part 1 of Storm Water Standards) for information to implement site design BMPs shown in this checklist.

Answer each category below pursuant to the following.

- "Yes" means the project will implement the site design BMP as described in Chapter 4 and/or Appendix E of the BMP Design Manual. Discussion / justification is not required.
- "No" means the BMP is applicable to the project but it is not feasible to implement. Discussion / justification must be provided.
- "N/A" means the BMP is not applicable at the project site because the project does not include the feature that is addressed by the BMP (e.g., the project site has no existing natural areas to conserve). Discussion / justification may be provided.

A site map with implemented site design BMPs must be included at the end of this checklist.

Site Design Requirement	Applied?		
4.3.1 Maintain Natural Drainage Pathways and Hydrologic Features	☑ Yes	☐ No	☐ N/A
Discussion / justification if 4.3.1 not implemented:			
1-1 Are existing natural drainage pathways and hydrologic features mapped on the site map?	☑ Yes	☐ No	☐ N/A
1-2 Are trees implemented? If yes, are they shown on the site map?	☐ Yes	☐ No	☑ N/A
1-3 Implemented trees meet the design criteria in 4.3.1 Fact Sheet (e.g. soil volume, maximum credit, etc.)?	☐ Yes	☐ No	☑ N/A
1-4 Is tree credit volume calculated using Appendix B.2.2.1 and SD-1 Fact Sheet in Appendix E?	☐ Yes	☐ No	☑ N/A
4.3.2 Have natural areas, soils and vegetation been conserved?	☑ Yes	☐ No	☐ N/A
Discussion / justification if 4.3.2 not implemented:			

Form I-5B Page 2 of 4			
Site Design Requirement	**Applied?**		
4.3.3 Minimize Impervious Area	☑ Yes	☐ No	☐ N/A
Discussion / justification if 4.3.3 not implemented:			
4.3.4 Minimize Soil Compaction	☑ Yes	☐ No	☐ N/A
Discussion / justification if 4.3.4 not implemented:			
4.3.5 Impervious Area Dispersion	☑ Yes	☐ No	☐ N/A
Discussion / justification if 4.3.5 not implemented:			
5-1 Is the pervious area receiving runon from impervious area identified on the site map?	☐ Yes	☐ No	☑ N/A
5-2 Does the pervious area satisfy the design criteria in 4.3.5 Fact Sheet in Appendix E (e.g. maximum slope, minimum length, etc.)	☐ Yes	☐ No	☑ N/A
5-3 Is impervious area dispersion credit volume calculated using Appendix B.2.1.1 and 4.3.5 Fact Sheet in Appendix E?	☐ Yes	☐ No	☑ N/A

Form I-5B Page 3 of 4			
Site Design Requirement	**Applied?**		
4.3.6 Runoff Collection	☐ Yes	☐ No	☑ N/A
Discussion / justification if 4.3.6 not implemented: Runoff collection features are not proposed.			
6a-1 Are green roofs implemented in accordance with design criteria in 4.3.6A Fact Sheet? If yes, are they shown on the site map?	☐ Yes	☐ No	☑ N/A
6a-2 Is the green roof credit volume calculated using Appendix B.2.1.2 and 4.3.6A Fact Sheet in Appendix E?	☐ Yes	☐ No	☑ N/A
6b-1 Are permeable pavements implemented in accordance with design criteria in 4.3.6B Fact Sheet? If yes, are they shown on the site map?	☐ Yes	☐ No	☑ N/A
6b-2 Is the permeable pavement credit volume calculated using Appendix B.2.1.3 and 4.3.6B Fact Sheet in Appendix E?	☐ Yes	☐ No	☑ N/A
4.3.7 Landscaping with Native or Drought Tolerant Species	☑ Yes	☐ No	☐ N/A
Discussion / justification if 4.3.7 not implemented:			
4.3.8 Harvest and Use Precipitation	☐ Yes	☐ No	☑ N/A
Discussion / justification if 4.3.8 not implemented: The project does not propose harvest and use of elements.			
8-1 Are rain barrels implemented in accordance with design criteria in 4.3.8 Fact Sheet? If yes, are they shown on the site map?	☐ Yes	☐ No	☑ N/A
8-2 Is the rain barrel credit volume calculated using Appendix B.2.2.2 and 4.3.8 Fact Sheet in Appendix E?	☐ Yes	☐ No	☑ N/A

Form I-5B Page 4 of 4

Insert Site Map with all site design BMPs identified:

Refer to DMA Exhibit in Attachment 1

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Project Name: Romero Drive Tentative Map

Summary of PDP Structural BMPs	Form I-6

PDP Structural BMPs

All PDPs must implement structural BMPs for storm water pollutant control (see Chapter 5 of the BMP Design Manual, Part 1 of Storm Water Standards). Selection of PDP structural BMPs for storm water pollutant control must be based on the selection process described in Chapter 5. PDPs subject to hydromodification management requirements must also implement structural BMPs for flow control for hydromodification management (see Chapter 6 of the BMP Design Manual). Both storm water pollutant control and flow control for hydromodification management can be achieved within the same structural BMP(s).

PDP structural BMPs must be verified by the City at the completion of construction. This includes requiring the project owner or project owner's representative to certify construction of the structural BMPs (complete Form DS-563). PDP structural BMPs must be maintained into perpetuity (see Chapter 7 of the BMP Design Manual).

Use this form to provide narrative description of the general strategy for structural BMP implementation at the project site in the box below. Then complete the PDP structural BMP summary information sheet (page 3 of this form) for each structural BMP within the project (copy the BMP summary information page as many times as needed to provide summary information for each individual structural BMP).

Describe the general strategy for structural BMP implementation at the site. This information must describe how the steps for selecting and designing storm water pollutant control BMPs presented in Section 5.1 of the BMP Design Manual were followed, and the results (type of BMPs selected). For projects requiring hydromodification flow control BMPs, indicate whether pollutant control and flow control BMPs are integrated or separate.

Step 1A: Evaluated drainage management areas within site (DMA-B1 to DMA-B5).

Step 1B: Estimated DCV for DMA-B1 to DMA-B5.

Step 2: Harvest and Use was determined not to be feasible.

Step 3A/B: Determination of infiltration feasibility using Form I-8 “Categorization of Infiltration Feasibility Condition”. Infiltration was determined to be infeasible. Selected BMPs to comply with pollutant control and flow control requirements.

Step 4: Biofiltration basins (BMP-1 to BMP-5) were sized to meet combined treatment control and hydromodification management flow control requirements, in accordance to the City of San Diego BMP Design Manual.

(Continue on page 2 as necessary.)

Form I-6 Page 2 of 8

(Continued from page 1)

Form I-6 Page 3 of 8 (Copy as many as needed)	
Structural BMP Summary Information	
Structural BMP ID No. BMP #1A & 1B	
Construction Plan Sheet No.	
Type of Structural BMP: ☐ Retention by harvest and use (e.g. HU-1, cistern) ☐ Retention by infiltration basin (INF-1) ☐ Retention by bioretention (INF-2) ☐ Retention by permeable pavement (INF-3) ☐ Partial retention by biofiltration with partial retention (PR-1) ☑ Biofiltration (BF-1) ☐ Flow-thru treatment control with prior lawful approval to meet earlier PDP requirements (provide BMP type/description in discussion section below) ☐ Flow-thru treatment control included as pre-treatment/forebay for an onsite retention or biofiltration BMP (provide BMP type/description and indicate which onsite retention or biofiltration BMP it serves in discussion section below) ☐ Flow-thru treatment control with alternative compliance (provide BMP type/description in discussion section below) ☐ Detention pond or vault for hydromodification management ☐ Other (describe in discussion section below)	
Purpose: ☐ Pollutant control only ☐ Hydromodification control only ☑ Combined pollutant control and hydromodification control ☐ Pre-treatment/forebay for another structural BMP ☐ Other (describe in discussion section below)	
Who will certify construction of this BMP? Provide name and contact information for the party responsible to sign BMP verification form DS-563	Son P. Nguyen, RCE 86249 P.O. Box 1707 Alpine, CA 91903 (619) 770-9339, son@soncivil.com
Who will be the final owner of this BMP?	La Jolla Reserve, LLC
Who will maintain this BMP into perpetuity?	La Jolla Reserve, LLC or Future Property Owner
What is the funding mechanism for maintenance?	Property Owner

Form I-6 Page 4 of 8 (Copy as many as needed)
Structural BMP ID No. BMP #1A & 1B
Construction Plan Sheet No.
Discussion (as needed; must include worksheets showing BMP sizing calculations in the SWQMPs):

Form I-6 Page 5 of 8 (Copy as many as needed)	
Structural BMP Summary Information	
Structural BMP ID No. BMP #2	
Construction Plan Sheet No.	
Type of Structural BMP: ☐ Retention by harvest and use (e.g. HU-1, cistern) ☐ Retention by infiltration basin (INF-1) ☐ Retention by bioretention (INF-2) ☐ Retention by permeable pavement (INF-3) ☐ Partial retention by biofiltration with partial retention (PR-1) ☑ Biofiltration (BF-1) ☐ Flow-thru treatment control with prior lawful approval to meet earlier PDP requirements (provide BMP type/description in discussion section below) ☐ Flow-thru treatment control included as pre-treatment/forebay for an onsite retention or biofiltration BMP (provide BMP type/description and indicate which onsite retention or biofiltration BMP it serves in discussion section below) ☐ Flow-thru treatment control with alternative compliance (provide BMP type/description in discussion section below) ☐ Detention pond or vault for hydromodification management ☐ Other (describe in discussion section below)	
Purpose: ☐ Pollutant control only ☐ Hydromodification control only ☑ Combined pollutant control and hydromodification control ☐ Pre-treatment/forebay for another structural BMP ☐ Other (describe in discussion section below)	
Who will certify construction of this BMP? Provide name and contact information for the party responsible to sign BMP verification form DS-563	Son P. Nguyen, RCE 86249 P.O. Box 1707 Alpine, CA 91903 (619) 770-9339, son@soncivil.com
Who will be the final owner of this BMP?	La Jolla Reserve, LLC
Who will maintain this BMP into perpetuity?	La Jolla Reserve, LLC or Future Property Owner
What is the funding mechanism for maintenance?	Property Owner

Form I-6 Page 6 of 8 (Copy as many as needed)
Structural BMP ID No. BMP #2
Construction Plan Sheet No.
Discussion (as needed; must include worksheets showing BMP sizing calculations in the SWQMPs):

Form I-6 Page 7 of 8 (Copy as many as needed)	
Structural BMP Summary Information	
Structural BMP ID No. BMP #3	
Construction Plan Sheet No.	
Type of Structural BMP: ☐ Retention by harvest and use (e.g. HU-1, cistern) ☐ Retention by infiltration basin (INF-1) ☐ Retention by bioretention (INF-2) ☐ Retention by permeable pavement (INF-3) ☐ Partial retention by biofiltration with partial retention (PR-1) ☑ Biofiltration (BF-1) ☐ Flow-thru treatment control with prior lawful approval to meet earlier PDP requirements (provide BMP type/description in discussion section below) ☐ Flow-thru treatment control included as pre-treatment/forebay for an onsite retention or biofiltration BMP (provide BMP type/description and indicate which onsite retention or biofiltration BMP it serves in discussion section below) ☐ Flow-thru treatment control with alternative compliance (provide BMP type/description in discussion section below) ☐ Detention pond or vault for hydromodification management ☐ Other (describe in discussion section below)	
Purpose: ☐ Pollutant control only ☐ Hydromodification control only ☑ Combined pollutant control and hydromodification control ☐ Pre-treatment/forebay for another structural BMP ☐ Other (describe in discussion section below)	
Who will certify construction of this BMP? Provide name and contact information for the party responsible to sign BMP verification form DS-563	Son P. Nguyen, RCE 86249 P.O. Box 1707 Alpine, CA 91903 (619) 770-9339, son@soncivil.com
Who will be the final owner of this BMP?	La Jolla Reserve, LLC
Who will maintain this BMP into perpetuity?	La Jolla Reserve, LLC or Future Property Owner
What is the funding mechanism for maintenance?	Property Owner

Form I-6 Page 8 of 8 (Copy as many as needed)
Structural BMP ID No. BMP #3
Construction Plan Sheet No.
Discussion (as needed; must include worksheets showing BMP sizing calculations in the SWQMPs):

Form I-6 Page 7 of 8 (Copy as many as needed)	
Structural BMP Summary Information	
Structural BMP ID No. BMP #4	
Construction Plan Sheet No.	
Type of Structural BMP: ☐ Retention by harvest and use (e.g. HU-1, cistern) ☐ Retention by infiltration basin (INF-1) ☐ Retention by bioretention (INF-2) ☐ Retention by permeable pavement (INF-3) ☐ Partial retention by biofiltration with partial retention (PR-1) ☑ Biofiltration (BF-1) ☐ Flow-thru treatment control with prior lawful approval to meet earlier PDP requirements (provide BMP type/description in discussion section below) ☐ Flow-thru treatment control included as pre-treatment/forebay for an onsite retention or biofiltration BMP (provide BMP type/description and indicate which onsite retention or biofiltration BMP it serves in discussion section below) ☐ Flow-thru treatment control with alternative compliance (provide BMP type/description in discussion section below) ☐ Detention pond or vault for hydromodification management ☐ Other (describe in discussion section below)	
Purpose: ☐ Pollutant control only ☐ Hydromodification control only ☑ Combined pollutant control and hydromodification control ☐ Pre-treatment/forebay for another structural BMP ☐ Other (describe in discussion section below)	
Who will certify construction of this BMP? Provide name and contact information for the party responsible to sign BMP verification form DS-563	Son P. Nguyen, RCE 86249 P.O. Box 1707 Alpine, CA 91903 (619) 770-9339, son@soncivil.com
Who will be the final owner of this BMP?	La Jolla Reserve, LLC
Who will maintain this BMP into perpetuity?	La Jolla Reserve, LLC or Future Property Owner
What is the funding mechanism for maintenance?	Property Owner

Form I-6 Page 8 of 8 (Copy as many as needed)
Structural BMP ID No. BMP #4
Construction Plan Sheet No.
Discussion (as needed; must include worksheets showing BMP sizing calculations in the SWQMPs):

Form I-6 Page 7 of 8 (Copy as many as needed)	
Structural BMP Summary Information	
Structural BMP ID No. BMP #5	
Construction Plan Sheet No.	
Type of Structural BMP: ☐ Retention by harvest and use (e.g. HU-1, cistern) ☐ Retention by infiltration basin (INF-1) ☐ Retention by bioretention (INF-2) ☐ Retention by permeable pavement (INF-3) ☐ Partial retention by biofiltration with partial retention (PR-1) ☑ Biofiltration (BF-1) ☐ Flow-thru treatment control with prior lawful approval to meet earlier PDP requirements (provide BMP type/description in discussion section below) ☐ Flow-thru treatment control included as pre-treatment/forebay for an onsite retention or biofiltration BMP (provide BMP type/description and indicate which onsite retention or biofiltration BMP it serves in discussion section below) ☐ Flow-thru treatment control with alternative compliance (provide BMP type/description in discussion section below) ☐ Detention pond or vault for hydromodification management ☐ Other (describe in discussion section below)	
Purpose: ☐ Pollutant control only ☐ Hydromodification control only ☑ Combined pollutant control and hydromodification control ☐ Pre-treatment/forebay for another structural BMP ☐ Other (describe in discussion section below)	
Who will certify construction of this BMP? Provide name and contact information for the party responsible to sign BMP verification form DS-563	Son P. Nguyen, RCE 86249 P.O. Box 1707 Alpine, CA 91903 (619) 770-9339, son@soncivil.com
Who will be the final owner of this BMP?	La Jolla Reserve, LLC
Who will maintain this BMP into perpetuity?	La Jolla Reserve, LLC or Future Property Owner
What is the funding mechanism for maintenance?	Property Owner

Form I-6 Page 8 of 8 (Copy as many as needed)
Structural BMP ID No. BMP #5
Construction Plan Sheet No.
Discussion (as needed; must include worksheets showing BMP sizing calculations in the SWQMPs):

Attachment 1
Backup For PDP Pollutant Control BMPs

This is the cover sheet for Attachment 1.

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Project Name: Romero Drive Tentative Map

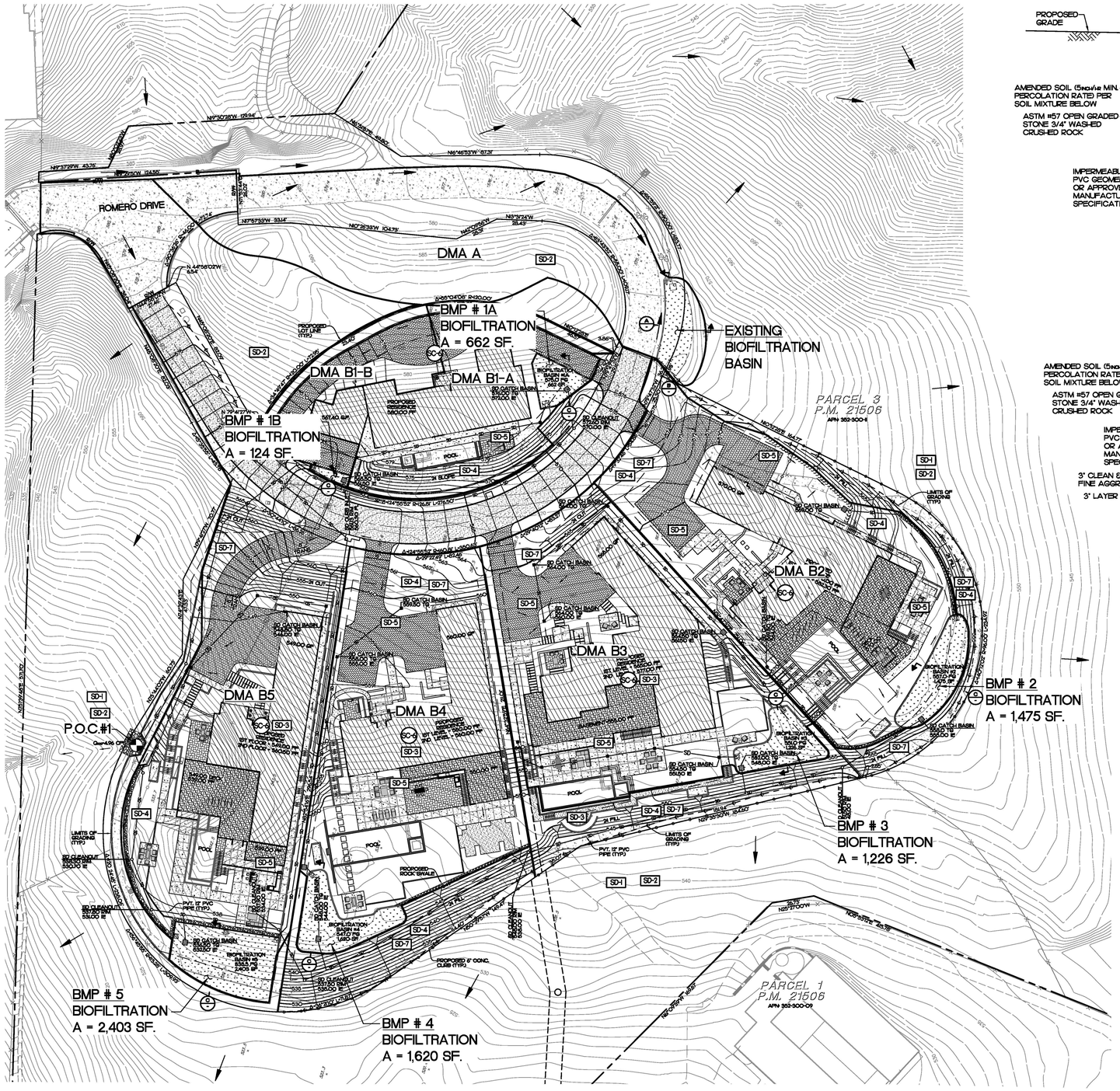
Indicate which Items are Included:

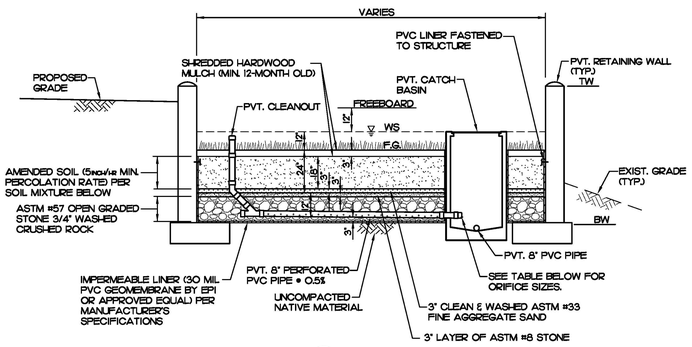
Attachment Sequence	Contents	Checklist
Attachment 1a	DMA Exhibit (Required) See DMA Exhibit Checklist.	☑ Included
Attachment 1b	Tabular Summary of DMAs Showing DMA ID matching DMA Exhibit, DMA Area, and DMA Type (Required)* *Provide table in this Attachment OR on DMA Exhibit in Attachment 1a	☑ Included on DMA Exhibit in Attachment 1a ☐ Included as Attachment 1b, separate from DMA Exhibit
Attachment 1c	Form I-7, Harvest and Use Feasibility Screening Checklist (Required unless the entire project will use infiltration BMPs) Refer to Appendix B.3-1 of the BMP Design Manual to complete Form I-7.	☑ Included ☐ Not included because the entire project will use infiltration BMPs
Attachment 1d	Infiltration Feasibility Information. Contents of Attachment 1d depend on the infiltration condition: • No Infiltration Condition: ○ Infiltration Feasibility Condition Letter (***Note: must be stamped and signed by licensed geotechnical engineer***) ○ Form I-8A (optional) ○ Form I-8B (optional) • Partial Infiltration Condition: ○ Infiltration Feasibility Condition Letter (***Note: must be stamped and signed by licensed geotechnical engineer***) ○ Form I-8A ○ Form I-8B • Full Infiltration Condition: ○ Form I-8A ○ Form I-8B ○ Worksheet C.4-3 ○ Form I-9 Refer to Appendices C and D of the BMP Design Manual for guidance.	☑ Included ☐ Not included because the entire project will use harvest and use BMPs
Attachment 1e	Pollutant Control BMP Design Worksheets / Calculations (Required) Refer to Appendices B and E of the BMP Design Manual for structural pollutant control BMP design guidelines and site design credit calculations	☑ Included

Use this checklist to ensure the required information has been included on the DMA Exhibit:

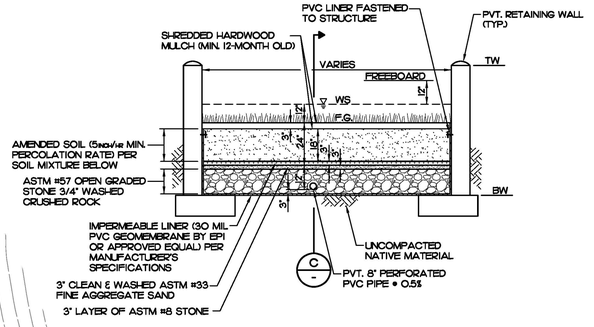
The DMA Exhibit must identify:

- ☑ Underlying hydrologic soil group
- ☑ Approximate depth to groundwater
- ☑ Existing natural hydrologic features (watercourses, seeps, springs, wetlands)
- ☑ Critical coarse sediment yield areas to be protected
- ☑ Existing topography and impervious areas
- ☑ Existing and proposed site drainage network and connections to drainage offsite
- ☑ Proposed grading
- ☑ Proposed impervious features
- ☑ Proposed design features and surface treatments used to minimize imperviousness
- ☑ Drainage management area (DMA) boundaries, DMA ID numbers, and DMA areas (square footage or acreage), and DMA type (i.e., drains to BMP, self-retaining, or self-mitigating)
- ☑ Potential pollutant source areas and corresponding required source controls (see Chapter 4, Appendix E.1, and Form I-3B)
- ☑ Structural BMPs (identify location, type of BMP, size/detail, and include cross-section)





C SECTION
NO SCALE



SOIL MIXTURE:
85% WASHED SAND, 10% FINES (SILT & CLAY), 5% ORGANIC MATTER.
(SEE CITY OF SAN DIEGO STORM WATER STANDARDS, APPENDIX F.)

TYPICAL DETAIL: PVT. BIOFILTRATION BASIN (BF-1)

NO SCALE

LEGEND

- DRAINAGE MANAGEMENT AREA (DMA)
- DIRECTION OF FLOW
- BIOFILTRATION WITH PARTIAL RETENTION BASIN
- PERVIOUS SURFACE
- IMPERVIOUS SURFACES: PROPOSED CONCRETE; ROOFTOPS; EXISTING CONCRETE; DRIVEWAY
- POINT OF COMPLIANCE (P.O.C.)

NOTES

1. SITE IS LOCATED WITHIN OCEANSIDE RAIN GAUGE BASIN.
2. UNDERLYING HYDROLOGIC SOIL GROUP D.
3. SITE HAS MODERATE SLOPE.
4. CHANNEL ASSESSMENT WAS NOT CONDUCTED. LOW FLOW THRESHOLD ASSUMED 10% OF Q_2 ($0.1Q_2$).
5. TWO PROPOSED TCBMPS ARE BIOFILTRATION RETENTION FACILITIES.
6. COUNTY OF SAN DIEGO'S 85TH PERCENTILE ISOPLUVIAL MAP WAS UTILIZED FOR SIZING TCBMP WHICH WILL COMPLY FOR COMBINED POLLUTANT CONTROL AND HYDROMODIFICATION FLOW CONTROL.
7. GROUNDWATER LEVEL HAS NOT BEEN DETERMINED.
8. CRITICAL COURSE SEDIMENT YIELD AREAS (CCSYAS) WERE NOT IDENTIFIED ONSITE OR UPSTREAM OF THE SITE.

SITE DESIGN BMP'S

- SD-1 MAINTAIN NATURAL DRAINAGE PATHWAYS & HYDROLOGIC FEATURES.
- SD-2 CONSERVE NATURAL AREAS, SOILS, AND VEGETATION.
- SD-3 MINIMIZE IMPERVIOUS AREA.
- SD-4 MINIMIZE SOIL COMPACTION.
- SD-5 IMPERVIOUS AREA DISPERSION.
- SD-7 LANDSCAPING WITH NATIVE OR DROUGHT TOLERANT SPECIES.

SOURCE CONTROL BMP'S

- SC-1 PREVENTION OF ILLICIT DISCHARGES INTO MS4.
- SC-9 ADDITIONAL BMPS TO MINIMIZE POLLUTANT GENERATION
  - FUTURE INDOOR & PEST CONTROL.
  - LANDSCAPE/OUTDOOR PESTICIDE USE SHALL BE KEPT TO A MINIMUM.
  - FIRE SPRINKLER TEST WATER SHALL BE PLUMBED TO THE SANITARY SEWER.
  - MISCELLANEOUS DRAIN OR WASH WATER SHALL BE PLUMBED TO THE SANITARY SEWER.

SELF-MITIGATING DMAs NOTES

SELF-MITIGATING DMAS CONSIST OF NATURAL OR LANDSCAPED AREAS THAT DRAIN DIRECTLY OFFSITE OR TO THE PUBLIC STORM DRAIN SYSTEM. SELF-MITIGATING DMAS MUST MEET ALL OF THE FOLLOWING TO BE ELIGIBLE FOR EXCLUSION:

- VEGETATION IN THE NATURAL OR LANDSCAPED AREA IS NATIVE AND/OR NON-NATIVE/NON-INVASIVE DROUGHT TOLERANT SPECIES THAT DO NOT REQUIRE REGULAR APPLICATION OF FERTILIZERS AND PESTICIDES.
- SOILS ARE UNDISTURBED NATIVE TOPSOIL, OR DISTURBED SOILS THAT HAVE BEEN AMENDED AND AERATED TO PROMOTE WATER RETENTION CHARACTERISTICS EQUIVALENT TO UNDISTURBED NATIVE TOPSOIL.
- THE INCIDENTAL IMPERVIOUS AREAS ARE LESS THAN 5 PERCENT OF THE SELF-MITIGATING AREA.
- IMPERVIOUS AREA WITHIN THE SELF-MITIGATED AREA SHOULD NOT BE HYDRAULICALLY CONNECTED TO OTHER IMPERVIOUS AREAS UNLESS IT IS A STORM WATER CONVEYANCE SYSTEM (SUCH AS A BROW DITCH).
- THE SELF-MITIGATING AREA IS HYDRAULICALLY SEPARATE FROM DMAS THAT CONTAIN PERMANENT STORM WATER POLLUTANT CONTROL BMPS.

HYDROMODIFICATION MANAGEMENT

THIS DMA EXHIBIT IS ALSO A HYDROMODIFICATION EXHIBIT AS ALL STRUCTURAL BMP'S ACT AS COMBINED POLLUTANT CONTROL AND HYDROMODIFICATION CONTROL BMP'S.

BIOFILTRATION SIZING FOR HYDROMODIFICATION REQUIREMENTS

	MIN. BMP SIZE (SF)	PROPOSED BMP SIZE (SF)	MAX. ORIFICE DIA. (IN)	PROPOSED ORIFICE DIA. (IN)
BMP #1A	649	662	0.50	0.50
BMP #1B	121	124	0.26	0.25
BMP #2	938	1,475	0.82	0.80
BMP #3	1,196	1,226	0.79	0.75
BMP #4	973	1,620	0.78	0.75
BMP #5	2,194	2,403	1.01	1.00

DRAINAGE MANAGEMENT AREAS - ROMERO DRIVE TM

DESCRIPTION (DMA)	TRIBUTARY TO BMP	BMP TYPE	BMP SURFACE AREA (SF)	SOIL TYPE	DEPTH TO GROUNDWATER	PRE-PROJECT SLOPE	IMPERVIOUS DMAS		PERVIOUS DMAS	
							POST-PROJECT SURFACE TYPE	POST-PROJECT SURFACE AREA (AC)	POST-PROJECT SURFACE TYPE	POST-PROJECT SURFACE AREA (AC)
A	EX. BIOFILTRATION	BIOFILTRATION BASIN (BF-1)	--	D	>20 FEET	MODERATE	CONC. PAVEMENT	0.18	LANDSCAPING	0.35
B1-A	BMP #1A	BIOFILTRATION BASIN (BF-1)	662	D	>20 FEET	MODERATE	ROOFTOPS & CONC. PAVEMENT	0.21	LANDSCAPING	0.03
B1-B	BMP #1B	BIOFILTRATION BASIN (BF-1)	124	D	>20 FEET	MODERATE	ROOFTOPS & CONC. PAVEMENT	0.04	LANDSCAPING	0.02
B2	BMP #2	BIOFILTRATION BASIN (BF-1)	1,475	D	>20 FEET	MODERATE	ROOFTOPS & CONC. PAVEMENT	0.27	LANDSCAPING	0.37
B3	BMP #3	BIOFILTRATION BASIN (BF-1)	1,226	D	>20 FEET	MODERATE	ROOFTOPS & CONC. PAVEMENT	0.37	LANDSCAPING	0.22
B4	BMP #4	BIOFILTRATION BASIN (BF-1)	1,620	D	>20 FEET	MODERATE	ROOFTOPS & CONC. PAVEMENT	0.29	LANDSCAPING	0.29
B5	BMP #5	BIOFILTRATION BASIN (BF-1)	2,403	D	>20 FEET	MODERATE	ROOFTOPS & CONC. PAVEMENT	0.69	LANDSCAPING	0.29

POST-CONSTRUCTION BMP FACILITY SUMMARY TABLE

BMP	BMP TYPE	APPROX. DIMENSIONS	PLAN AREA SF	PONDING SURFACE DEPTH (IN.)	MEDIA THICKNESS (IN.)	MULCH LAYER (IN.)	CLEAN & WASHED ASTM #33 FINE AGGREGATE SAND	AGGREGATE STORAGE LAYER ABOVE UNDERDRAIN INCL. 3" ASTM NO. 8 STONE (IN.)	AGGREGATE STORAGE LAYER BELOW UNDERDRAIN (IN.)	TOTAL FACILITY DEPTH INCL. 1'-0" FREEBOARD (FT.)
BMP #1A	BF-1	24'X27.5'	662	12	18	3	3	12	3	5.45
BMP #1B	BF-1	20'X6.2'	124	12	18	3	3	12	3	5.45
BMP #2	BF-1	70'X21'	1,475	12	18	3	3	12	3	5.45
BMP #3	BF-1	50'X25'	1,226	12	18	3	3	12	3	5.45
BMP #4	BF-1	27'X60'	1,620	12	18	3	3	12	3	5.45
BMP #5	BF-1	65'X37'	2,403	12	18	3	3	12	3	5.45

30 15 0 30 60 90
SCALE: 1"=30'

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EXPIRES 03-31-25

REGISTERED PROFESSIONAL ENGINEER — SON P. NGUYEN — C 86249 — Exp. 03-31-25 — CIVIL — STATE OF CALIFORNIA

ROMERO DRIVE TM
DMA / HMP EXHIBIT

NO	DATE	REVISION DESCRIPTION	BY
1	3/11/2023	REVISIONS PER 1ST REVIEW COMMENTS	SDA
2	12/11/2023	REVISIONS PER 1ST REVIEW COMMENTS	SON

DESIGNER SON
DRAWN SON
CHECKED SON
DATE 6-17-2022
SHEET TITLE: DMA / HMP EXHIBIT
JOB NAME: ROMERO DRIVE TM
6850 COUNTRY CLUB DRIVE
LA JOLLA, CA 92037

SHEET 1 OF 1 SHEETS
JOB NO. SON2307-03

SON-ENGINEERING
P.O. BOX 1707, ALPINE, CA 91903 - SON@SONCIVIL.COM - PHONE: (619) 770-9339

Project Name: Romero Drive Tentative Map

Tabular Summary of DMAs								Worksheet B-1	
DMA Unique Identifier	Area (acres)	Impervious Area (acres)	% Imp	HSG	Area Weighted Runoff Coefficient	DCV (cubic feet)	Treated By (BMP ID)	Pollutant Control Type	Drains to (POC ID)
A	0.53	--	--	D	0.50	N/A	Exist. BF-1	Biofiltration	N/A
B1-A	0.24	0.21	0.89%	D	0.98	430	BMP # B1-A	Biofiltration	POC #1
B1-B	0.06	0.037	58%	D	0.58	75	BMP # B1-B	Biofiltration	POC #1
B2	0.64	0.27	42%	D	0.59	543	BMP # B2	Biofiltration	POC #1
B3	0.59	0.37	63%	D	0.65	746	BMP # B3	Biofiltration	POC #1
B4	0.58	0.29	50%	D	0.50	634	BMP # B4	Biofiltration	POC #1
B5	0.98	0.69	70%	D	0.54	1959	BMP # B5	Biofiltration	POC #1
Self-Mitigation	18.59	0	0	D	N/A	N/A	N/A	N/A	N/A

Summary of DMA Information (Must match project description and SWQMP Narrative)									
No. of DMAs	Total DMA Area (acres)	Total Impervious Area (acres)	% Imp		Area Weighted Runoff Coefficient	Total DCV (cubic feet)	Total Area Treated (acres)		No. of POCs
8	22.21	1.87	8.4%		0.62	4,387	3.62		1

Where: DMA = Drainage Management Area; Imp = Imperviousness; HSG = Hydrologic Soil Group; DCV= Design Capture Volume; BMP = Best Management Practice; POC = Point of Compliance; ID = identifier; No. = Number

The City of SAN DIEGO			
		Project Name	ROMERO DRIVE TM
		BMP ID	BMP # B1-A
Sizing Method for Pollutant Removal Criteria		**Worksheet B.5-1**	
1	Area draining to the BMP	10314	sq. ft.
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)	0.98	
3	85th percentile 24-hour rainfall depth	0.51	inches
4	Design capture volume [Line 1 x Line 2 x (Line 3/12)]	430	cu. ft.
BMP Parameters			
5	Surface ponding [6 inch minimum, 12 inch maximum]	12	inches
6	Media thickness [18 inches minimum], also add mulch layer and washed ASTM 33 fine aggregate sand thickness to this line for sizing calculations	18	inches
7	Aggregate storage (also add ASTM No 8 stone) above underdrain invert (12 inches typical) – use 0 inches if the aggregate is not over the entire bottom surface area	12	inches
8	Aggregate storage below underdrain invert (3 inches minimum) – use 0 inches if the aggregate is not over the entire bottom surface area	3	inches
9	Freely drained pore storage of the media	0.2	in/in
10	Porosity of aggregate storage	0.4	in/in
11	Media filtration rate to be used for sizing (maximum filtration rate of 5 in/hr. with no outlet control; if the filtration rate is controlled by the outlet use the outlet controlled rate (includes infiltration into the soil and flow rate through the outlet structure) which will be less than 5 in/hr.)	0.91	in/hr.
Baseline Calculations			
12	Allowable routing time for sizing	6	hours
13	Depth filtered during storm [Line 11 x Line 12]	5.46	inches
14	Depth of Detention Storage [Line 5 + (Line 6 x Line 9) + (Line 7 x Line 10) + (Line 8 x Line 10)]	21.6	inches
15	Total Depth Treated [Line 13 + Line 14]	27.06	inches
Option 1 – Biofilter 1.5 times the DCV			
16	Required biofiltered volume [1.5 x Line 4]	644	cu. ft.
17	Required Footprint [Line 16/ Line 15] x 12	286	sq. ft.
Option 2 - Store 0.75 of remaining DCV in pores and ponding			
18	Required Storage (surface + pores) Volume [0.75 x Line 4]	322	cu. ft.
19	Required Footprint [Line 18/ Line 14] x 12	179	sq. ft.
Footprint of the BMP			
20	BMP Footprint Sizing Factor (Default 0.03 or an alternative minimum footprint sizing factor from Line 11 in Worksheet B.5-4)	0.03	
21	Minimum BMP Footprint [Line 1 x Line 2 x Line 20]	303	sq. ft.
22	Footprint of the BMP = Maximum(Minimum(Line 17, Line 19), Line 21)	303	sq. ft.
23	Provided BMP Footprint	662	sq. ft.
24	Is Line 23 ≥ Line 22?	**Yes, Performance Standard is Met**	

The City of SAN DIEGO	Project Name	ROMERO DRIVE TM	
	BMP ID	BMP # B1-A	
Sizing Method for Volume Retention Criteria		**Worksheet B.5-2**	
1	Area draining to the BMP	10314	sq. ft.
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)	0.98	
3	85th percentile 24-hour rainfall depth	0.51	inches
4	Design capture volume [Line 1 x Line 2 x (Line 3/12)]	430	cu. ft.
Volume Retention Requirement			
5	Measured infiltration rate in the DMA Note: When mapped hydrologic soil groups are used enter 0.10 for NRCS Type D soils and for NRCS Type C soils enter 0.30 When in no infiltration condition and the actual measured infiltration rate is unknown enter 0.0 if there are geotechnical and/or groundwater hazards identified in Appendix C or enter 0.05	0	in/hr.
6	Factor of safety	2	
7	Reliable infiltration rate, for biofiltration BMP sizing [Line 5 / Line 6]	0	in/hr.
8	Average annual volume reduction target (Figure B.5-2) When Line 7 > 0.01 in/hr. = Minimum (40, 166.9 x Line 7 +6.62) When Line 7 ≤ 0.01 in/hr. = 3.5%	3.5	%
9	Fraction of DCV to be retained (Figure B.5-3) When Line 8 > 8% = $0.0000013 \times \text{Line } 8^3 - 0.000057 \times \text{Line } 8^2 + 0.0086 \times \text{Line } 8 - 0.014$ When Line 8 ≤ 8% = 0.023	0.023	
10	Target volume retention [Line 9 x Line 4]	10	cu. ft.

The City of SAN DIEGO	Project Name	ROMERO DRIVE TENTATIVE MAP
	BMP ID	DMA # B1-A

Volume Retention for No Infiltration Condition		Worksheet B.5-6	
1	Area draining to the biofiltration BMP	10314	sq. ft.
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)	0.98	
3	Effective impervious area draining to the BMP [Line 1 x Line 2]	10108	sq. ft.
4	Required area for Evapotranspiration [Line 3 x 0.03]	303	sq. ft.
5	Biofiltration BMP Footprint	662	sq. ft.

Landscape Area (must be identified on DS-3247)

		Identification	1	2	3	4	5
6	Landscape area that meet the requirements in SD-B and SD-F Fact Sheet (sq. ft.)						
7	Impervious area draining to the landscape area (sq. ft.)						
8	Impervious to Pervious Area ratio [Line 7/Line 6]		0.00	0.00	0.00	0.00	0.00
9	Effective Credit Area If (Line 8 >1.5, Line 6, Line 7/1.5]		0	0	0	0	0

10	Sum of Landscape area [sum of Line 9 Id's 1 to 5]	0	sq. ft.
11	Provided footprint for evapotranspiration [Line 5 + Line 10]	662	sq. ft.

Volume Retention Performance Standard

12	Is Line 11 ≥ Line 4?	Volume Retention Performance Standard is Met	
13	Fraction of the performance standard met through the BMP footprint and/or landscaping [Line 11/Line 4]	2.18	
14	Target Volume Retention [Line 10 from Worksheet B.5.2]	10	cu. ft.
15	Volume retention required from other site design BMPs [(1-Line 13) x Line 14]	-11.8	cu. ft.

Site Design BMP

	Identification	Site Design Type	Credit	
16	1			cu. ft.
	2			cu. ft.
	3			cu. ft.
	4			cu. ft.
	5			cu. ft.
	Sum of volume retention benefits from other site design BMPs (e.g. trees; rain barrels etc.). [sum of Line 16 Credits for Id's 1 to 5] Provide documentation of how the site design credit is calculated in the PDP SWQMP.		0	cu. ft.
17	Is Line 16 ≥ Line 15?	Volume Retention Performance Standard is Met		

The City of SAN DIEGO		Project Name	ROMERO DRIVE TM	
		BMP ID	BMP # B1-B	
Sizing Method for Pollutant Removal Criteria			**Worksheet B.5-1**	
1	Area draining to the BMP		2765	sq. ft.
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)		0.64	
3	85th percentile 24-hour rainfall depth		0.51	inches
4	Design capture volume [Line 1 x Line 2 x (Line 3/12)]		75	cu. ft.
BMP Parameters				
5	Surface ponding [6 inch minimum, 12 inch maximum]		12	inches
6	Media thickness [18 inches minimum], also add mulch layer and washed ASTM 33 fine aggregate sand thickness to this line for sizing calculations		18	inches
7	Aggregate storage (also add ASTM No 8 stone) above underdrain invert (12 inches typical) – use 0 inches if the aggregate is not over the entire bottom surface area		12	inches
8	Aggregate storage below underdrain invert (3 inches minimum) – use 0 inches if the aggregate is not over the entire bottom surface area		3	inches
9	Freely drained pore storage of the media		0.2	in/in
10	Porosity of aggregate storage		0.4	in/in
11	Media filtration rate to be used for sizing (maximum filtration rate of 5 in/hr. with no outlet control; if the filtration rate is controlled by the outlet use the outlet controlled rate (includes infiltration into the soil and flow rate through the outlet structure) which will be less than 5 in/hr.)		1.39	in/hr.
Baseline Calculations				
12	Allowable routing time for sizing		6	hours
13	Depth filtered during storm [Line 11 x Line 12]		8.34	inches
14	Depth of Detention Storage [Line 5 + (Line 6 x Line 9) + (Line 7 x Line 10) + (Line 8 x Line 10)]		21.6	inches
15	Total Depth Treated [Line 13 + Line 14]		29.94	inches
Option 1 – Biofilter 1.5 times the DCV				
16	Required biofiltered volume [1.5 x Line 4]		113	cu. ft.
17	Required Footprint [Line 16/ Line 15] x 12		45	sq. ft.
Option 2 - Store 0.75 of remaining DCV in pores and ponding				
18	Required Storage (surface + pores) Volume [0.75 x Line 4]		56	cu. ft.
19	Required Footprint [Line 18/ Line 14] x 12		31	sq. ft.
Footprint of the BMP				
20	BMP Footprint Sizing Factor (Default 0.03 or an alternative minimum footprint sizing factor from Line 11 in Worksheet B.5-4)		0.03	
21	Minimum BMP Footprint [Line 1 x Line 2 x Line 20]		53	sq. ft.
22	Footprint of the BMP = Maximum(Minimum(Line 17, Line 19), Line 21)		53	sq. ft.
23	Provided BMP Footprint		124	sq. ft.
24	Is Line 23 ≥ Line 22?	**Yes, Performance Standard is Met**		

The City of SAN DIEGO	Project Name	ROMERO DRIVE TM	
	BMP ID	BMP # B1-B	
Sizing Method for Volume Retention Criteria		**Worksheet B.5-2**	
1	Area draining to the BMP	2765	sq. ft.
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)	0.64	
3	85th percentile 24-hour rainfall depth	0.51	inches
4	Design capture volume [Line 1 x Line 2 x (Line 3/12)]	75	cu. ft.
Volume Retention Requirement			
5	Measured infiltration rate in the DMA Note: When mapped hydrologic soil groups are used enter 0.10 for NRCS Type D soils and for NRCS Type C soils enter 0.30 When in no infiltration condition and the actual measured infiltration rate is unknown enter 0.0 if there are geotechnical and/or groundwater hazards identified in Appendix C or enter 0.05	0	in/hr.
6	Factor of safety	2	
7	Reliable infiltration rate, for biofiltration BMP sizing [Line 5 / Line 6]	0	in/hr.
8	Average annual volume reduction target (Figure B.5-2) When Line 7 > 0.01 in/hr. = Minimum (40, 166.9 x Line 7 +6.62) When Line 7 ≤ 0.01 in/hr. = 3.5%	3.5	%
9	Fraction of DCV to be retained (Figure B.5-3) When Line 8 > 8% = $0.0000013 \times \text{Line } 8^3 - 0.000057 \times \text{Line } 8^2 + 0.0086 \times \text{Line } 8 - 0.014$ When Line 8 ≤ 8% = 0.023	0.023	
10	Target volume retention [Line 9 x Line 4]	2	cu. ft.

The City of SAN DIEGO	Project Name	ROMERO DRIVE TENTATIVE MAP
	BMP ID	BMP # B1-B

Volume Retention for No Infiltration Condition		Worksheet B.5-6	
1	Area draining to the biofiltration BMP	2765	sq. ft.
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)	0.64	
3	Effective impervious area draining to the BMP [Line 1 x Line 2]	1770	sq. ft.
4	Required area for Evapotranspiration [Line 3 x 0.03]	53	sq. ft.
5	Biofiltration BMP Footprint	124	sq. ft.

Landscape Area (must be identified on DS-3247)

		Identification	1	2	3	4	5
6	Landscape area that meet the requirements in SD-B and SD-F Fact Sheet (sq. ft.)						
7	Impervious area draining to the landscape area (sq. ft.)						
8	Impervious to Pervious Area ratio [Line 7/Line 6]		0.00	0.00	0.00	0.00	0.00
9	Effective Credit Area If (Line 8 >1.5, Line 6, Line 7/1.5]		0	0	0	0	0

10	Sum of Landscape area [sum of Line 9 Id's 1 to 5]	0	sq. ft.
11	Provided footprint for evapotranspiration [Line 5 + Line 10]	124	sq. ft.

Volume Retention Performance Standard

12	Is Line 11 ≥ Line 4?	Volume Retention Performance Standard is Met	
13	Fraction of the performance standard met through the BMP footprint and/or landscaping [Line 11/Line 4]	2.34	
14	Target Volume Retention [Line 10 from Worksheet B.5.2]	2	cu. ft.
15	Volume retention required from other site design BMPs [(1-Line 13) x Line 14]	-2.68	cu. ft.

Site Design BMP

	Identification	Site Design Type	Credit	
16	1			cu. ft.
	2			cu. ft.
	3			cu. ft.
	4			cu. ft.
	5			cu. ft.
	Sum of volume retention benefits from other site design BMPs (e.g. trees; rain barrels etc.). [sum of Line 16 Credits for Id's 1 to 5] Provide documentation of how the site design credit is calculated in the PDP SWQMP.		0	cu. ft.
17	Is Line 16 ≥ Line 15?	Volume Retention Performance Standard is Met		

The City of SAN DIEGO	Project Name	ROMERO DRIVE TM	
	BMP ID	BMP # B2	
Sizing Method for Pollutant Removal Criteria		**Worksheet B.5-1**	
1	Area draining to the BMP	25535	sq. ft.
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)	0.5	
3	85th percentile 24-hour rainfall depth	0.51	inches
4	Design capture volume [Line 1 x Line 2 x (Line 3/12)]	543	cu. ft.
BMP Parameters			
5	Surface ponding [6 inch minimum, 12 inch maximum]	12	inches
6	Media thickness [18 inches minimum], also add mulch layer and washed ASTM 33 fine aggregate sand thickness to this line for sizing calculations	18	inches
7	Aggregate storage (also add ASTM No 8 stone) above underdrain invert (12 inches typical) – use 0 inches if the aggregate is not over the entire bottom surface area	12	inches
8	Aggregate storage below underdrain invert (3 inches minimum) – use 0 inches if the aggregate is not over the entire bottom surface area	3	inches
9	Freely drained pore storage of the media	0.2	in/in
10	Porosity of aggregate storage	0.4	in/in
11	Media filtration rate to be used for sizing (maximum filtration rate of 5 in/hr. with no outlet control; if the filtration rate is controlled by the outlet use the outlet controlled rate (includes infiltration into the soil and flow rate through the outlet structure) which will be less than 5 in/hr.)	1.08	in/hr.
Baseline Calculations			
12	Allowable routing time for sizing	6	hours
13	Depth filtered during storm [Line 11 x Line 12]	6.48	inches
14	Depth of Detention Storage [Line 5 + (Line 6 x Line 9) + (Line 7 x Line 10) + (Line 8 x Line 10)]	21.6	inches
15	Total Depth Treated [Line 13 + Line 14]	28.08	inches
Option 1 – Biofilter 1.5 times the DCV			
16	Required biofiltered volume [1.5 x Line 4]	814	cu. ft.
17	Required Footprint [Line 16/ Line 15] x 12	348	sq. ft.
Option 2 - Store 0.75 of remaining DCV in pores and ponding			
18	Required Storage (surface + pores) Volume [0.75 x Line 4]	407	cu. ft.
19	Required Footprint [Line 18/ Line 14] x 12	226	sq. ft.
Footprint of the BMP			
20	BMP Footprint Sizing Factor (Default 0.03 or an alternative minimum footprint sizing factor from Line 11 in Worksheet B.5-4)	0.03	
21	Minimum BMP Footprint [Line 1 x Line 2 x Line 20]	383	sq. ft.
22	Footprint of the BMP = Maximum(Minimum(Line 17, Line 19), Line 21)	383	sq. ft.
23	Provided BMP Footprint	1475	sq. ft.
24	Is Line 23 ≥ Line 22?	**Yes, Performance Standard is Met**	

The City of SAN DIEGO	Project Name	ROMERO DRIVE TM	
	BMP ID	BMP # B2	
Sizing Method for Volume Retention Criteria		**Worksheet B.5-2**	
1	Area draining to the BMP	25535	sq. ft.
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)	0.5	
3	85th percentile 24-hour rainfall depth	0.51	inches
4	Design capture volume [Line 1 x Line 2 x (Line 3/12)]	543	cu. ft.
Volume Retention Requirement			
5	Measured infiltration rate in the DMA Note: When mapped hydrologic soil groups are used enter 0.10 for NRCS Type D soils and for NRCS Type C soils enter 0.30 When in no infiltration condition and the actual measured infiltration rate is unknown enter 0.0 if there are geotechnical and/or groundwater hazards identified in Appendix C or enter 0.05	0	in/hr.
6	Factor of safety	2	
7	Reliable infiltration rate, for biofiltration BMP sizing [Line 5 / Line 6]	0	in/hr.
8	Average annual volume reduction target (Figure B.5-2) When Line 7 > 0.01 in/hr. = Minimum (40, 166.9 x Line 7 +6.62) When Line 7 ≤ 0.01 in/hr. = 3.5%	3.5	%
9	Fraction of DCV to be retained (Figure B.5-3) When Line 8 > 8% = $0.0000013 \times \text{Line } 8^3 - 0.000057 \times \text{Line } 8^2 + 0.0086 \times \text{Line } 8 - 0.014$ When Line 8 ≤ 8% = 0.023	0.023	
10	Target volume retention [Line 9 x Line 4]	12	cu. ft.

The City of SAN DIEGO	Project Name	ROMERO DRIVE TM
	BMP ID	BMP # B2

Volume Retention for No Infiltration Condition			Worksheet B.5-6
1	Area draining to the biofiltration BMP	25535	sq. ft.
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)	0.5	
3	Effective impervious area draining to the BMP [Line 1 x Line 2]	12768	sq. ft.
4	Required area for Evapotranspiration [Line 3 x 0.03]	383	sq. ft.
5	Biofiltration BMP Footprint	1475	sq. ft.

Landscape Area (must be identified on DS-3247)

		Identification	1	2	3	4	5
6	Landscape area that meet the requirements in SD-B and SD-F Fact Sheet (sq. ft.)						
7	Impervious area draining to the landscape area (sq. ft.)						
8	Impervious to Pervious Area ratio [Line 7/Line 6]		0.00	0.00	0.00	0.00	0.00
9	Effective Credit Area If (Line 8 >1.5, Line 6, Line 7/1.5]		0	0	0	0	0

10	Sum of Landscape area [sum of Line 9 Id's 1 to 5]	0	sq. ft.
11	Provided footprint for evapotranspiration [Line 5 + Line 10]	1475	sq. ft.

Volume Retention Performance Standard

12	Is Line 11 ≥ Line 4?	Volume Retention Performance Standard is Met	
13	Fraction of the performance standard met through the BMP footprint and/or landscaping [Line 11/Line 4]	3.85	
14	Target Volume Retention [Line 10 from Worksheet B.5.2]	12	cu. ft.
15	Volume retention required from other site design BMPs [(1-Line 13) x Line 14]	-34.2	cu. ft.

Site Design BMP

	Identification	Site Design Type	Credit	
16	1			cu. ft.
	2			cu. ft.
	3			cu. ft.
	4			cu. ft.
	5			cu. ft.
	Sum of volume retention benefits from other site design BMPs (e.g. trees; rain barrels etc.). [sum of Line 16 Credits for Id's 1 to 5] Provide documentation of how the site design credit is calculated in the PDP SWQMP.		0	cu. ft.
17	Is Line 16 ≥ Line 15?	Volume Retention Performance Standard is Met		

The City of SAN DIEGO	Project Name	ROMERO DRIVE TM	
	BMP ID	BMP # B3	
Sizing Method for Pollutant Removal Criteria		**Worksheet B.5-1**	
1	Area draining to the BMP	25432	sq. ft.
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)	0.68	
3	85th percentile 24-hour rainfall depth	0.51	inches
4	Design capture volume [Line 1 x Line 2 x (Line 3/12)]	735	cu. ft.
BMP Parameters			
5	Surface ponding [6 inch minimum, 12 inch maximum]	12	inches
6	Media thickness [18 inches minimum], also add mulch layer and washed ASTM 33 fine aggregate sand thickness to this line for sizing calculations	18	inches
7	Aggregate storage (also add ASTM No 8 stone) above underdrain invert (12 inches typical) – use 0 inches if the aggregate is not over the entire bottom surface area	12	inches
8	Aggregate storage below underdrain invert (3 inches minimum) – use 0 inches if the aggregate is not over the entire bottom surface area	3	inches
9	Freely drained pore storage of the media	0.2	in/in
10	Porosity of aggregate storage	0.4	in/in
11	Media filtration rate to be used for sizing (maximum filtration rate of 5 in/hr. with no outlet control; if the filtration rate is controlled by the outlet use the outlet controlled rate (includes infiltration into the soil and flow rate through the outlet structure) which will be less than 5 in/hr.)	1.2	in/hr.
Baseline Calculations			
12	Allowable routing time for sizing	6	hours
13	Depth filtered during storm [Line 11 x Line 12]	7.2	inches
14	Depth of Detention Storage [Line 5 + (Line 6 x Line 9) + (Line 7 x Line 10) + (Line 8 x Line 10)]	21.6	inches
15	Total Depth Treated [Line 13 + Line 14]	28.8	inches
Option 1 – Biofilter 1.5 times the DCV			
16	Required biofiltered volume [1.5 x Line 4]	1102	cu. ft.
17	Required Footprint [Line 16/ Line 15] x 12	459	sq. ft.
Option 2 - Store 0.75 of remaining DCV in pores and ponding			
18	Required Storage (surface + pores) Volume [0.75 x Line 4]	551	cu. ft.
19	Required Footprint [Line 18/ Line 14] x 12	306	sq. ft.
Footprint of the BMP			
20	BMP Footprint Sizing Factor (Default 0.03 or an alternative minimum footprint sizing factor from Line 11 in Worksheet B.5-4)	0.03	
21	Minimum BMP Footprint [Line 1 x Line 2 x Line 20]	519	sq. ft.
22	Footprint of the BMP = Maximum(Minimum(Line 17, Line 19), Line 21)	519	sq. ft.
23	Provided BMP Footprint	1226	sq. ft.
24	Is Line 23 ≥ Line 22?	**Yes, Performance Standard is Met**	

The City of SAN DIEGO	Project Name	ROMERO DRIVE TM	
	BMP ID	BMP # B3	
Sizing Method for Volume Retention Criteria		**Worksheet B.5-2**	
1	Area draining to the BMP	25432	sq. ft.
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)	0.69	
3	85th percentile 24-hour rainfall depth	0.51	inches
4	Design capture volume [Line 1 x Line 2 x (Line 3/12)]	746	cu. ft.
Volume Retention Requirement			
5	Measured infiltration rate in the DMA Note: When mapped hydrologic soil groups are used enter 0.10 for NRCS Type D soils and for NRCS Type C soils enter 0.30 When in no infiltration condition and the actual measured infiltration rate is unknown enter 0.0 if there are geotechnical and/or groundwater hazards identified in Appendix C or enter 0.05	0	in/hr.
6	Factor of safety	2	
7	Reliable infiltration rate, for biofiltration BMP sizing [Line 5 / Line 6]	0	in/hr.
8	Average annual volume reduction target (Figure B.5-2) When Line 7 > 0.01 in/hr. = Minimum (40, 166.9 x Line 7 +6.62) When Line 7 ≤ 0.01 in/hr. = 3.5%	3.5	%
9	Fraction of DCV to be retained (Figure B.5-3) When Line 8 > 8% = $0.0000013 \times \text{Line } 8^3 - 0.000057 \times \text{Line } 8^2 + 0.0086 \times \text{Line } 8 - 0.014$ When Line 8 ≤ 8% = 0.023	0.023	
10	Target volume retention [Line 9 x Line 4]	17	cu. ft.

The City of SAN DIEGO	Project Name	ROMERO DRIVE TM
	BMP ID	BMP # B3

Volume Retention for No Infiltration Condition		Worksheet B.5-6	
1	Area draining to the biofiltration BMP	25535	sq. ft.
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)	0.69	
3	Effective impervious area draining to the BMP [Line 1 x Line 2]	17619	sq. ft.
4	Required area for Evapotranspiration [Line 3 x 0.03]	529	sq. ft.
5	Biofiltration BMP Footprint	1226	sq. ft.

Landscape Area (must be identified on DS-3247)

		Identification	1	2	3	4	5
6	Landscape area that meet the requirements in SD-B and SD-F Fact Sheet (sq. ft.)						
7	Impervious area draining to the landscape area (sq. ft.)						
8	Impervious to Pervious Area ratio [Line 7/Line 6]		0.00	0.00	0.00	0.00	0.00
9	Effective Credit Area If (Line 8 >1.5, Line 6, Line 7/1.5]		0	0	0	0	0

10	Sum of Landscape area [sum of Line 9 Id's 1 to 5]	0	sq. ft.
11	Provided footprint for evapotranspiration [Line 5 + Line 10]	1226	sq. ft.

Volume Retention Performance Standard

12	Is Line 11 ≥ Line 4?	Volume Retention Performance Standard is Met	
13	Fraction of the performance standard met through the BMP footprint and/or landscaping [Line 11/Line 4]	2.32	
14	Target Volume Retention [Line 10 from Worksheet B.5.2]	17	cu. ft.
15	Volume retention required from other site design BMPs [(1-Line 13) x Line 14]	-22.44	cu. ft.

Site Design BMP

	Identification	Site Design Type	Credit	
16	1			cu. ft.
	2			cu. ft.
	3			cu. ft.
	4			cu. ft.
	5			cu. ft.
	Sum of volume retention benefits from other site design BMPs (e.g. trees; rain barrels etc.). [sum of Line 16 Credits for Id's 1 to 5] Provide documentation of how the site design credit is calculated in the PDP SWQMP.		0	cu. ft.
17	Is Line 16 ≥ Line 15?	Volume Retention Performance Standard is Met		

The City of SAN DIEGO	Project Name	ROMERO DRIVE TM	
	BMP ID	BMP # B4	
Sizing Method for Pollutant Removal Criteria		**Worksheet B.5-1**	
1	Area draining to the BMP	27113	sq. ft.
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)	0.55	
3	85th percentile 24-hour rainfall depth	0.51	inches
4	Design capture volume [Line 1 x Line 2 x (Line 3/12)]	634	cu. ft.
BMP Parameters			
5	Surface ponding [6 inch minimum, 12 inch maximum]	12	inches
6	Media thickness [18 inches minimum], also add mulch layer and washed ASTM 33 fine aggregate sand thickness to this line for sizing calculations	24	inches
7	Aggregate storage (also add ASTM No 8 stone) above underdrain invert (12 inches typical) – use 0 inches if the aggregate is not over the entire bottom surface area	12	inches
8	Aggregate storage below underdrain invert (3 inches minimum) – use 0 inches if the aggregate is not over the entire bottom surface area	3	inches
9	Freely drained pore storage of the media	0.2	in/in
10	Porosity of aggregate storage	0.4	in/in
11	Media filtration rate to be used for sizing (maximum filtration rate of 5 in/hr. with no outlet control; if the filtration rate is controlled by the outlet use the outlet controlled rate (includes infiltration into the soil and flow rate through the outlet structure) which will be less than 5 in/hr.)	0.91	in/hr.
Baseline Calculations			
12	Allowable routing time for sizing	6	hours
13	Depth filtered during storm [Line 11 x Line 12]	5.46	inches
14	Depth of Detention Storage [Line 5 + (Line 6 x Line 9) + (Line 7 x Line 10) + (Line 8 x Line 10)]	22.8	inches
15	Total Depth Treated [Line 13 + Line 14]	28.26	inches
Option 1 – Biofilter 1.5 times the DCV			
16	Required biofiltered volume [1.5 x Line 4]	951	cu. ft.
17	Required Footprint [Line 16/ Line 15] x 12	404	sq. ft.
Option 2 - Store 0.75 of remaining DCV in pores and ponding			
18	Required Storage (surface + pores) Volume [0.75 x Line 4]	475	cu. ft.
19	Required Footprint [Line 18/ Line 14] x 12	250	sq. ft.
Footprint of the BMP			
20	BMP Footprint Sizing Factor (Default 0.03 or an alternative minimum footprint sizing factor from Line 11 in Worksheet B.5-4)	0.03	
21	Minimum BMP Footprint [Line 1 x Line 2 x Line 20]	447	sq. ft.
22	Footprint of the BMP = Maximum(Minimum(Line 17, Line 19), Line 21)	447	sq. ft.
23	Provided BMP Footprint	1620	sq. ft.
24	Is Line 23 ≥ Line 22?	**Yes, Performance Standard is Met**	

The City of SAN DIEGO	Project Name	ROMERO DRIVE TM	
	BMP ID	BMP # B4	
Sizing Method for Volume Retention Criteria		**Worksheet B.5-2**	
1	Area draining to the BMP	27113	sq. ft.
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)	0.55	
3	85th percentile 24-hour rainfall depth	0.51	inches
4	Design capture volume [Line 1 x Line 2 x (Line 3/12)]	634	cu. ft.
Volume Retention Requirement			
5	Measured infiltration rate in the DMA Note: When mapped hydrologic soil groups are used enter 0.10 for NRCS Type D soils and for NRCS Type C soils enter 0.30 When in no infiltration condition and the actual measured infiltration rate is unknown enter 0.0 if there are geotechnical and/or groundwater hazards identified in Appendix C or enter 0.05	0	in/hr.
6	Factor of safety	2	
7	Reliable infiltration rate, for biofiltration BMP sizing [Line 5 / Line 6]	0	in/hr.
8	Average annual volume reduction target (Figure B.5-2) When Line 7 > 0.01 in/hr. = Minimum (40, 166.9 x Line 7 +6.62) When Line 7 ≤ 0.01 in/hr. = 3.5%	3.5	%
9	Fraction of DCV to be retained (Figure B.5-3) When Line 8 > 8% = $0.0000013 \times \text{Line } 8^3 - 0.000057 \times \text{Line } 8^2 + 0.0086 \times \text{Line } 8 - 0.014$ When Line 8 ≤ 8% = 0.023	0.023	
10	Target volume retention [Line 9 x Line 4]	15	cu. ft.

The City of SAN DIEGO	Project Name	ROMERO DRIVE TM
	BMP ID	BMP # B4

Volume Retention for No Infiltration Condition			Worksheet B.5-6
1	Area draining to the biofiltration BMP	27113	sq. ft.
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)	0.55	
3	Effective impervious area draining to the BMP [Line 1 x Line 2]	14912	sq. ft.
4	Required area for Evapotranspiration [Line 3 x 0.03]	447	sq. ft.
5	Biofiltration BMP Footprint	1620	sq. ft.

Landscape Area (must be identified on DS-3247)

		Identification	1	2	3	4	5
6	Landscape area that meet the requirements in SD-B and SD-F Fact Sheet (sq. ft.)						
7	Impervious area draining to the landscape area (sq. ft.)						
8	Impervious to Pervious Area ratio [Line 7/Line 6]		0.00	0.00	0.00	0.00	0.00
9	Effective Credit Area If (Line 8 >1.5, Line 6, Line 7/1.5]		0	0	0	0	0

10	Sum of Landscape area [sum of Line 9 Id's 1 to 5]	0	sq. ft.
11	Provided footprint for evapotranspiration [Line 5 + Line 10]	1620	sq. ft.

Volume Retention Performance Standard

12	Is Line 11 ≥ Line 4?	Volume Retention Performance Standard is Met	
13	Fraction of the performance standard met through the BMP footprint and/or landscaping [Line 11/Line 4]	3.62	
14	Target Volume Retention [Line 10 from Worksheet B.5.2]	15	cu. ft.
15	Volume retention required from other site design BMPs [(1-Line 13) x Line 14]	-39.3	cu. ft.

Site Design BMP

	Identification	Site Design Type	Credit	
16	1			cu. ft.
	2			cu. ft.
	3			cu. ft.
	4			cu. ft.
	5			cu. ft.
	Sum of volume retention benefits from other site design BMPs (e.g. trees; rain barrels etc.). [sum of Line 16 Credits for Id's 1 to 5] Provide documentation of how the site design credit is calculated in the PDP SWQMP.		0	cu. ft.
17	Is Line 16 ≥ Line 15?	Volume Retention Performance Standard is Met		

The City of SAN DIEGO	Project Name	ROMERO DRIVE TM	
	BMP ID	BMP # B5	
Sizing Method for Pollutant Removal Criteria		**Worksheet B.5-1**	
1	Area draining to the BMP	59848	sq. ft.
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)	0.77	
3	85th percentile 24-hour rainfall depth	0.51	inches
4	Design capture volume [Line 1 x Line 2 x (Line 3/12)]	1959	cu. ft.
BMP Parameters			
5	Surface ponding [6 inch minimum, 12 inch maximum]	12	inches
6	Media thickness [18 inches minimum], also add mulch layer and washed ASTM 33 fine aggregate sand thickness to this line for sizing calculations	24	inches
7	Aggregate storage (also add ASTM No 8 stone) above underdrain invert (12 inches typical) – use 0 inches if the aggregate is not over the entire bottom surface area	12	inches
8	Aggregate storage below underdrain invert (3 inches minimum) – use 0 inches if the aggregate is not over the entire bottom surface area	3	inches
9	Freely drained pore storage of the media	0.2	in/in
10	Porosity of aggregate storage	0.4	in/in
11	Media filtration rate to be used for sizing (maximum filtration rate of 5 in/hr. with no outlet control; if the filtration rate is controlled by the outlet use the outlet controlled rate (includes infiltration into the soil and flow rate through the outlet structure) which will be less than 5 in/hr.)	1.02	in/hr.
Baseline Calculations			
12	Allowable routing time for sizing	6	hours
13	Depth filtered during storm [Line 11 x Line 12]	6.12	inches
14	Depth of Detention Storage [Line 5 + (Line 6 x Line 9) + (Line 7 x Line 10) + (Line 8 x Line 10)]	22.8	inches
15	Total Depth Treated [Line 13 + Line 14]	28.92	inches
Option 1 – Biofilter 1.5 times the DCV			
16	Required biofiltered volume [1.5 x Line 4]	2938	cu. ft.
17	Required Footprint [Line 16/ Line 15] x 12	1219	sq. ft.
Option 2 - Store 0.75 of remaining DCV in pores and ponding			
18	Required Storage (surface + pores) Volume [0.75 x Line 4]	1469	cu. ft.
19	Required Footprint [Line 18/ Line 14] x 12	773	sq. ft.
Footprint of the BMP			
20	BMP Footprint Sizing Factor (Default 0.03 or an alternative minimum footprint sizing factor from Line 11 in Worksheet B.5-4)	0.03	
21	Minimum BMP Footprint [Line 1 x Line 2 x Line 20]	1382	sq. ft.
22	Footprint of the BMP = Maximum(Minimum(Line 17, Line 19), Line 21)	1382	sq. ft.
23	Provided BMP Footprint	2403	sq. ft.
24	Is Line 23 ≥ Line 22?	**Yes, Performance Standard is Met**	

The City of SAN DIEGO	Project Name	ROMERO DRIVE TM	
	BMP ID	BMP # B5	
Sizing Method for Volume Retention Criteria		**Worksheet B.5-2**	
1	Area draining to the BMP	59848	sq. ft.
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)	0.77	
3	85th percentile 24-hour rainfall depth	0.51	inches
4	Design capture volume [Line 1 x Line 2 x (Line 3/12)]	1959	cu. ft.
Volume Retention Requirement			
5	Measured infiltration rate in the DMA Note: When mapped hydrologic soil groups are used enter 0.10 for NRCS Type D soils and for NRCS Type C soils enter 0.30 When in no infiltration condition and the actual measured infiltration rate is unknown enter 0.0 if there are geotechnical and/or groundwater hazards identified in Appendix C or enter 0.05	0	in/hr.
6	Factor of safety	2	
7	Reliable infiltration rate, for biofiltration BMP sizing [Line 5 / Line 6]	0	in/hr.
8	Average annual volume reduction target (Figure B.5-2) When Line 7 > 0.01 in/hr. = Minimum (40, 166.9 x Line 7 +6.62) When Line 7 ≤ 0.01 in/hr. = 3.5%	3.5	%
9	Fraction of DCV to be retained (Figure B.5-3) When Line 8 > 8% = $0.0000013 \times \text{Line } 8^3 - 0.000057 \times \text{Line } 8^2 + 0.0086 \times \text{Line } 8 - 0.014$ When Line 8 ≤ 8% = 0.023	0.023	
10	Target volume retention [Line 9 x Line 4]	45	cu. ft.

The City of SAN DIEGO	Project Name	ROMERO DRIVE TM
	BMP ID	BMP # B5

Volume Retention for No Infiltration Condition		Worksheet B.5-6	
1	Area draining to the biofiltration BMP	59848	sq. ft.
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)	0.77	
3	Effective impervious area draining to the BMP [Line 1 x Line 2]	46083	sq. ft.
4	Required area for Evapotranspiration [Line 3 x 0.03]	1382	sq. ft.
5	Biofiltration BMP Footprint	2403	sq. ft.

Landscape Area (must be identified on DS-3247)

		Identification	1	2	3	4	5
6	Landscape area that meet the requirements in SD-B and SD-F Fact Sheet (sq. ft.)						
7	Impervious area draining to the landscape area (sq. ft.)						
8	Impervious to Pervious Area ratio [Line 7/Line 6]		0.00	0.00	0.00	0.00	0.00
9	Effective Credit Area If (Line 8 >1.5, Line 6, Line 7/1.5]		0	0	0	0	0

10	Sum of Landscape area [sum of Line 9 Id's 1 to 5]	0	sq. ft.
11	Provided footprint for evapotranspiration [Line 5 + Line 10]	2403	sq. ft.

Volume Retention Performance Standard

12	Is Line 11 ≥ Line 4?	Volume Retention Performance Standard is Met	
13	Fraction of the performance standard met through the BMP footprint and/or landscaping [Line 11/Line 4]	1.74	
14	Target Volume Retention [Line 10 from Worksheet B.5.2]	45	cu. ft.
15	Volume retention required from other site design BMPs [(1-Line 13) x Line 14]	-33.3	cu. ft.

Site Design BMP

	Identification	Site Design Type	Credit	
16	1			cu. ft.
	2			cu. ft.
	3			cu. ft.
	4			cu. ft.
	5			cu. ft.
	Sum of volume retention benefits from other site design BMPs (e.g. trees; rain barrels etc.). [sum of Line 16 Credits for Id's 1 to 5] Provide documentation of how the site design credit is calculated in the PDP SWQMP.		0	cu. ft.
17	Is Line 16 ≥ Line 15?	Volume Retention Performance Standard is Met		

BIOFILTRATION
MEDIA FILTRATION RATE CALCULATIONS

(Input for Item 11 on Worksheet B.5-1)

Job No: SON2307-03 **Date:** 12/16/2023

Project: ROMERO DRIVE TM **Calculated By:** SON

$$\text{Media Filtration Rate (M.F.R.)} = \frac{\text{Avg. Orifice Outflow } (Q_0) \text{ During Surface Ponding}}{\text{BMP Footprint } (A_{BMP})} \times \frac{3600 \text{ sec.}}{1 \text{ Hour}} \times \frac{12 \text{ in.}}{1 \text{ ft.}}$$

BMP #1A:

Q_0= 0.014 CFS A_{BMP}= 663 ft^2 M.F.R. (in./hr) = 0.91 in./hr

BMP #1B:

Q_0= 0.004 CFS A_{BMP}= 124 ft^2 M.F.R. (in./hr) = 1.39 in./hr

BMP #2:

Q_0= 0.037 CFS A_{BMP}= 1475 ft^2 M.F.R. (in./hr) = 1.08 in./hr

BMP #3:

Q_0= 0.034 CFS A_{BMP}= 1226 ft^2 M.F.R. (in./hr) = 1.20 in./hr

BMP #4:

Q_0= 0.034 CFS A_{BMP}= 1620 ft^2 M.F.R. (in./hr) = 0.91 in./hr

BMP #5:

Q_0= 0.057 CFS A_{BMP}= 2403 ft^2 M.F.R. (in./hr) = 1.02 in./hr

APPENDIX A: RATIONAL METHOD AND MODIFIED RATIONAL METHOD

Table A-1. Runoff Coefficients for Rational Method

Land Use	Runoff Coefficient (C) Soil Type [1]
Residential:	
Single Family (Assumed 50% Imperviousness)	0.55
Multi-Units	0.70
Mobile Homes	0.65
Rural (lots greater than ½ acre)	0.45
Commercial [2]	
80% Impervious	0.85
Industrial [2]	
90% Impervious	0.95

Note:

[1] Type D soil to be used for all areas.

[2] Where actual conditions deviate significantly from the tabulated imperviousness values of 80% or 90%, the values given for coefficient C, may be revised by multiplying 80% or 90% by the ratio of actual imperviousness to the tabulated imperviousness. However, in case shall the final coefficient be less than 0.50. For example: Consider commercial property on D soil.

Actual imperviousness	=	60%
Tabulated imperviousness (For Single-Family)	=	50%
Revised C = (60/50) x 0.55	=	0.66

The values in Table A–1 are typical for urban areas. However, if the basin contains rural or agricultural land use, parks, golf courses, or other types of nonurban land use that are expected to be permanent, the appropriate value should be selected based upon the soil and cover and approved by the City.

Post-Development Romero Drive TM

Basin	B1-A	B1-B	B2	B3	B4	B5	A
Impervious Area (SF)	9,160	1,611	11,799	16,122	12,631	30,069	7,841
(Acres)	0.210	0.037	0.271	0.370	0.290	0.690	0.180
Total Basin Area (SF)	10,314	2,765	27,817	25,793	25,384	42,829	23,087
(Acres)	0.237	0.063	0.639	0.592	0.583	0.983	0.530
0.71	89%	58%	42%	63%	50%	70%	34%
Tabulated imperviousness =	50%	50%	50%	50%	50%	50%	50%
For Single-Family: Revised C = (**AI**/50) x 0.55, 0.50 Minimum **For Rural:** C = 0.45	0.98	0.64	0.47	0.69	0.55	0.77	0.37
Use	**0.98**	**0.64**	**0.50**	**0.69**	**0.55**	**0.77**	**0.50**

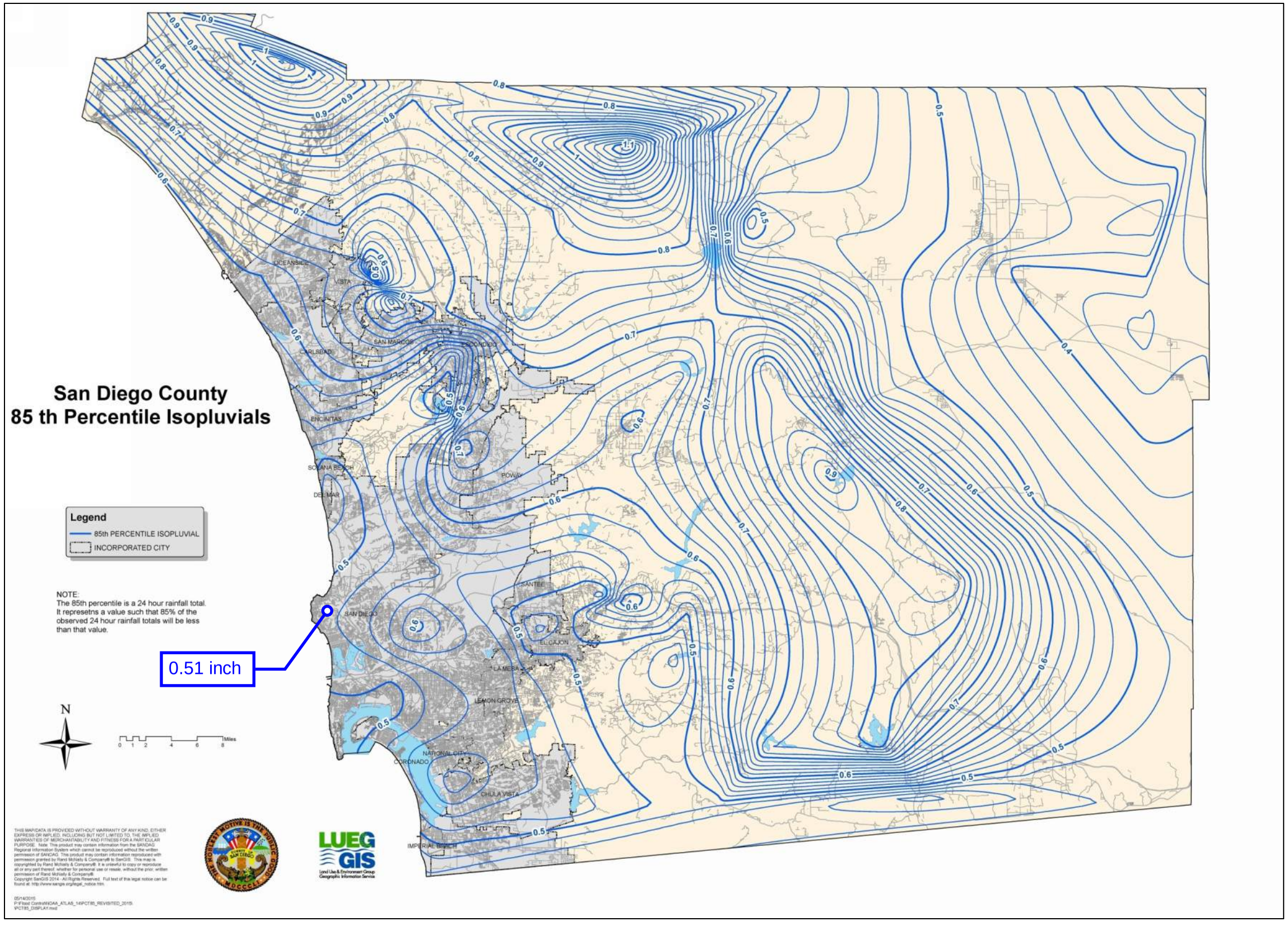


Figure B.1-1: 85th Percentile 24-hour Isopluvial Map

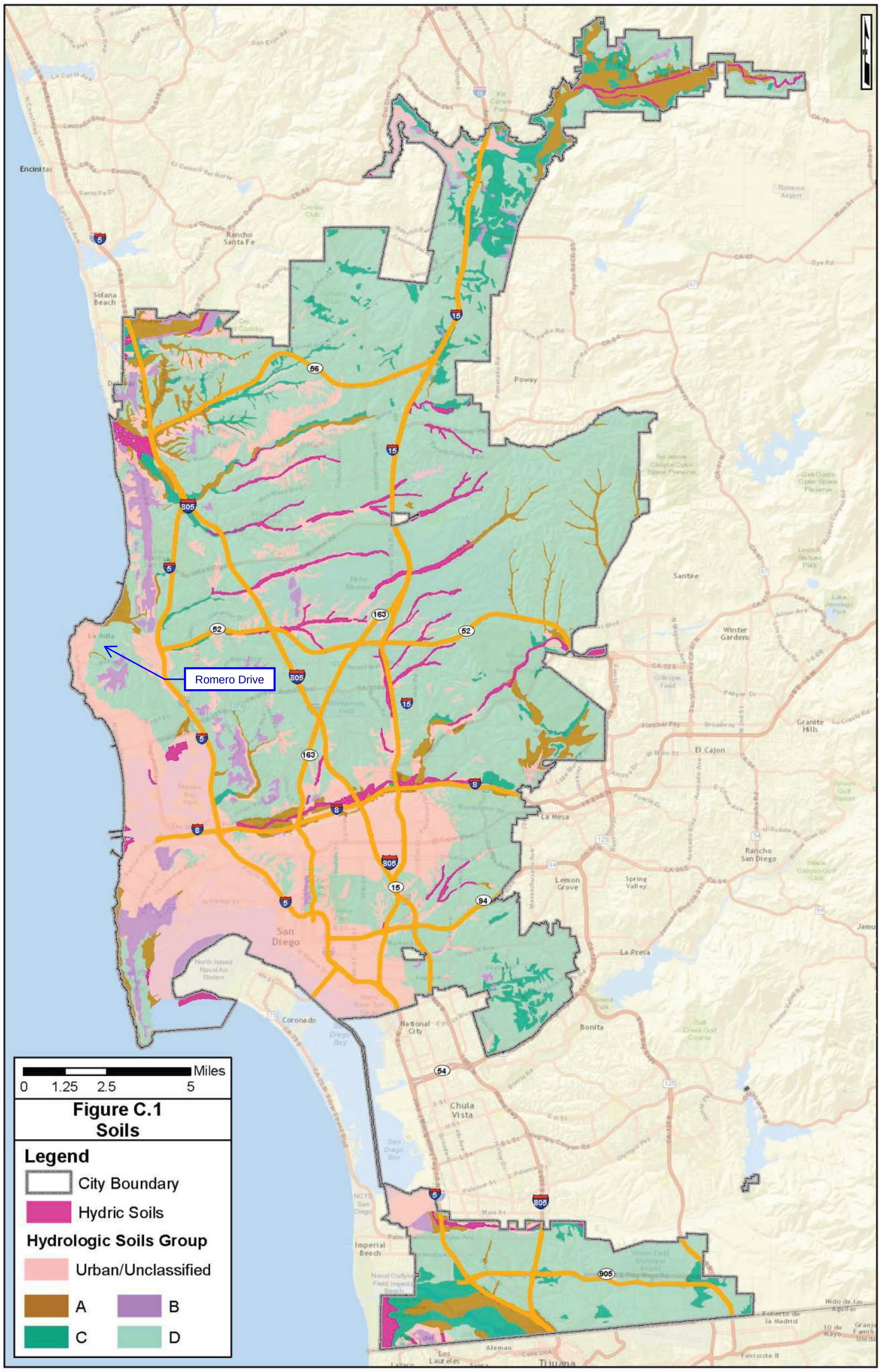


Figure C.4-1: Soils Exhibit

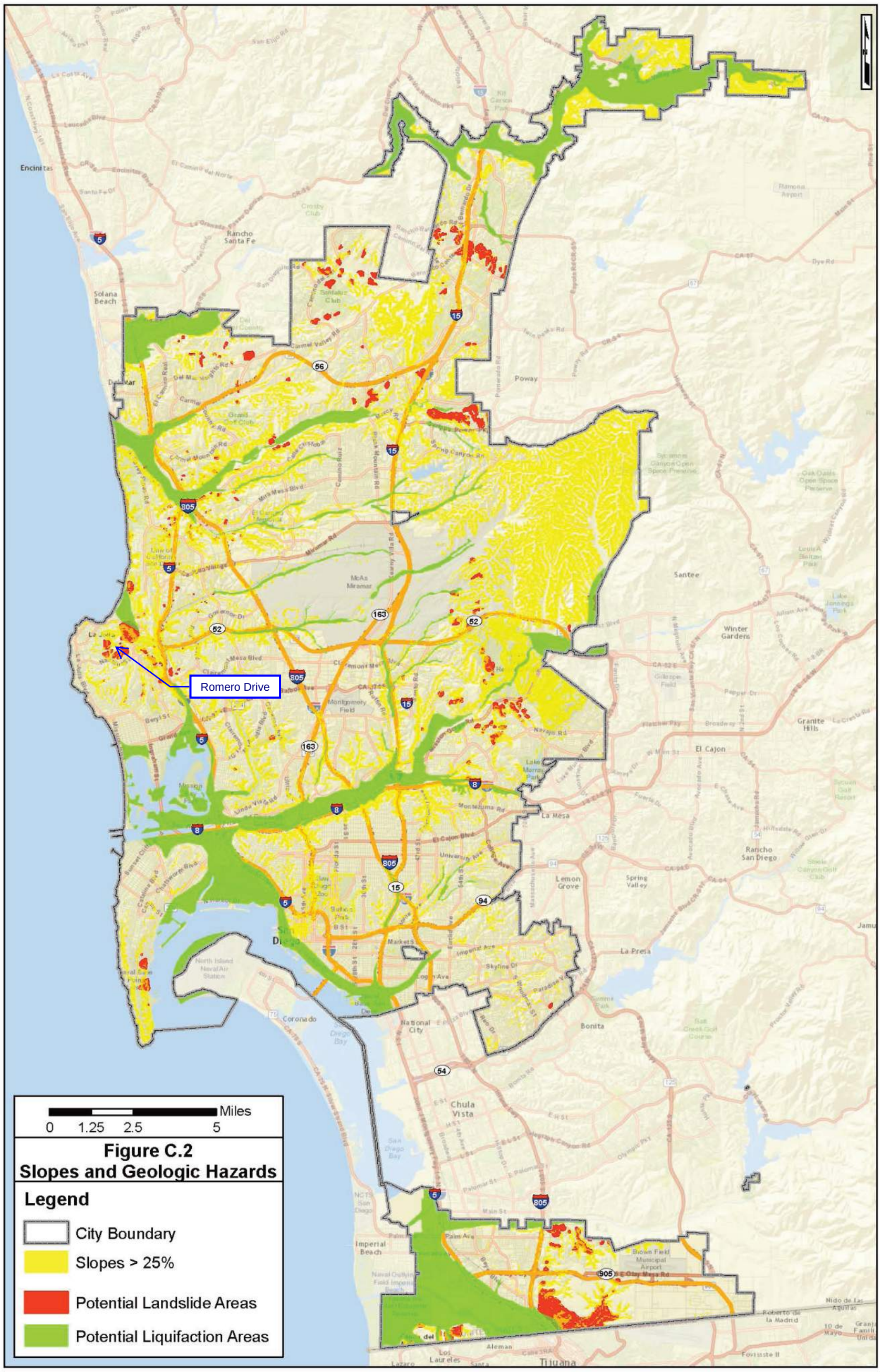


Figure C.4-2 : Slopes and Geologic Hazards Exhibit

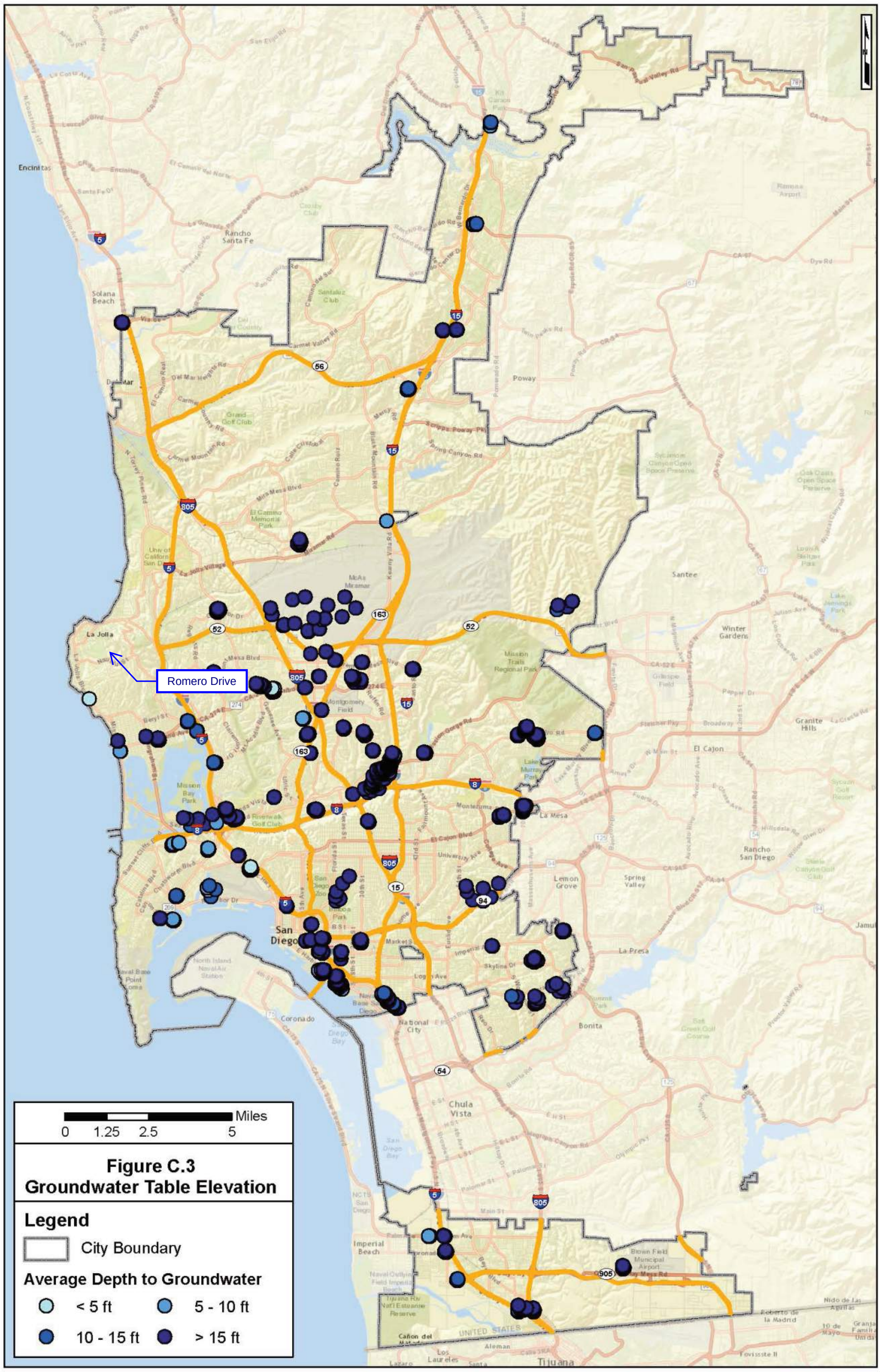


Figure C.4-3 : Groundwater Table Elevation Exhibit

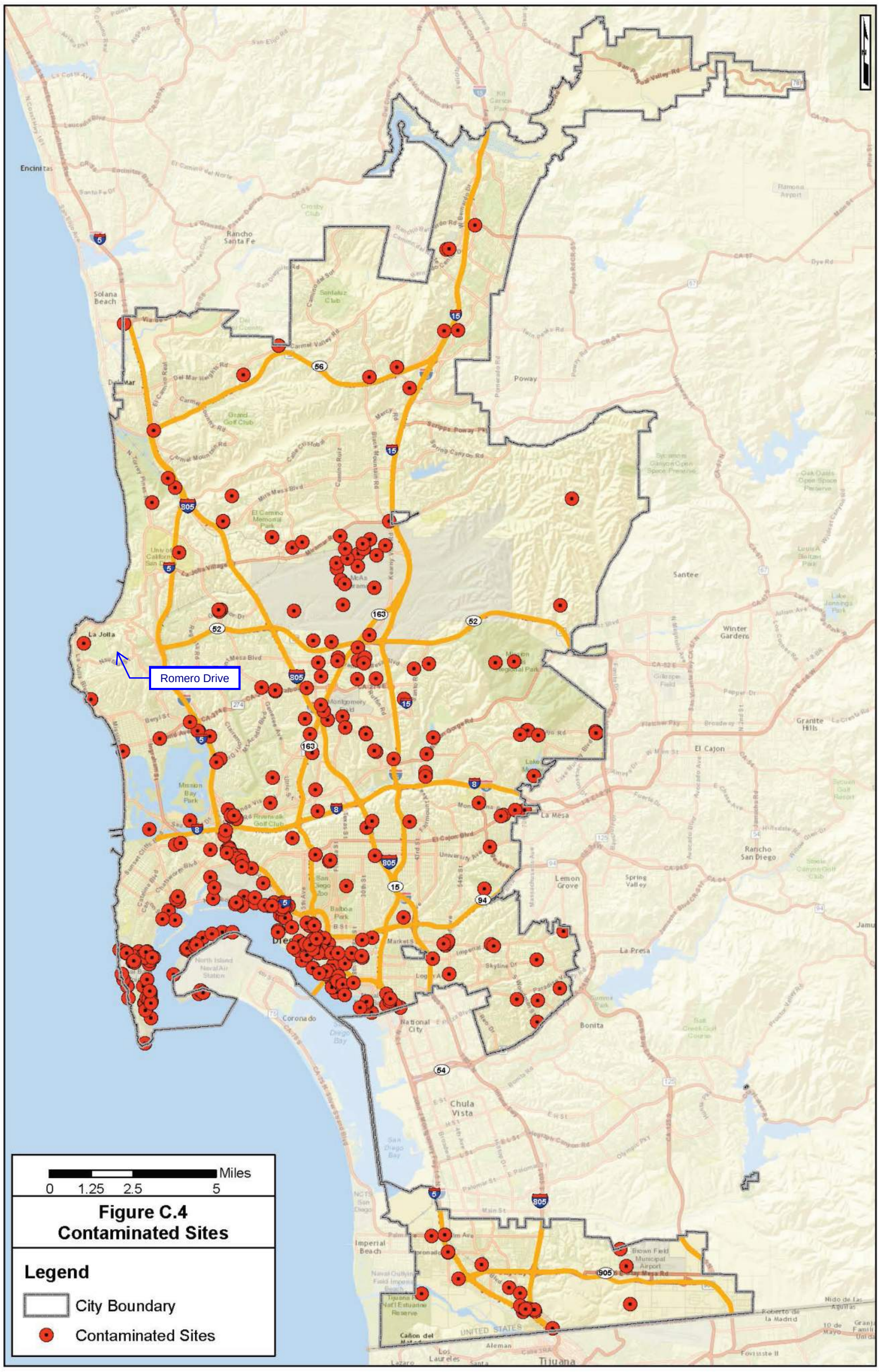
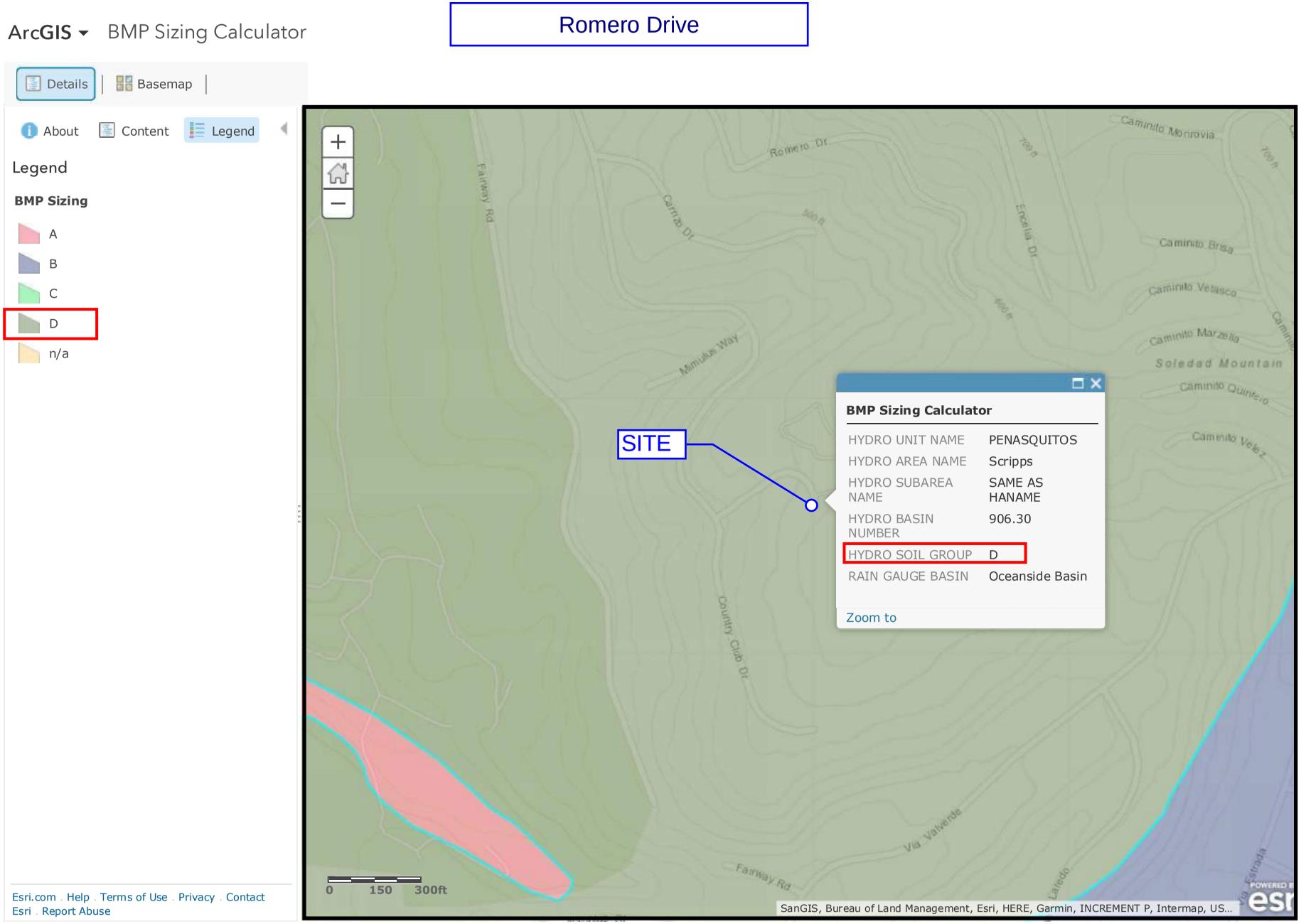


Figure C.4-4 : Contaminated Sites Exhibit

SOIL TYPE

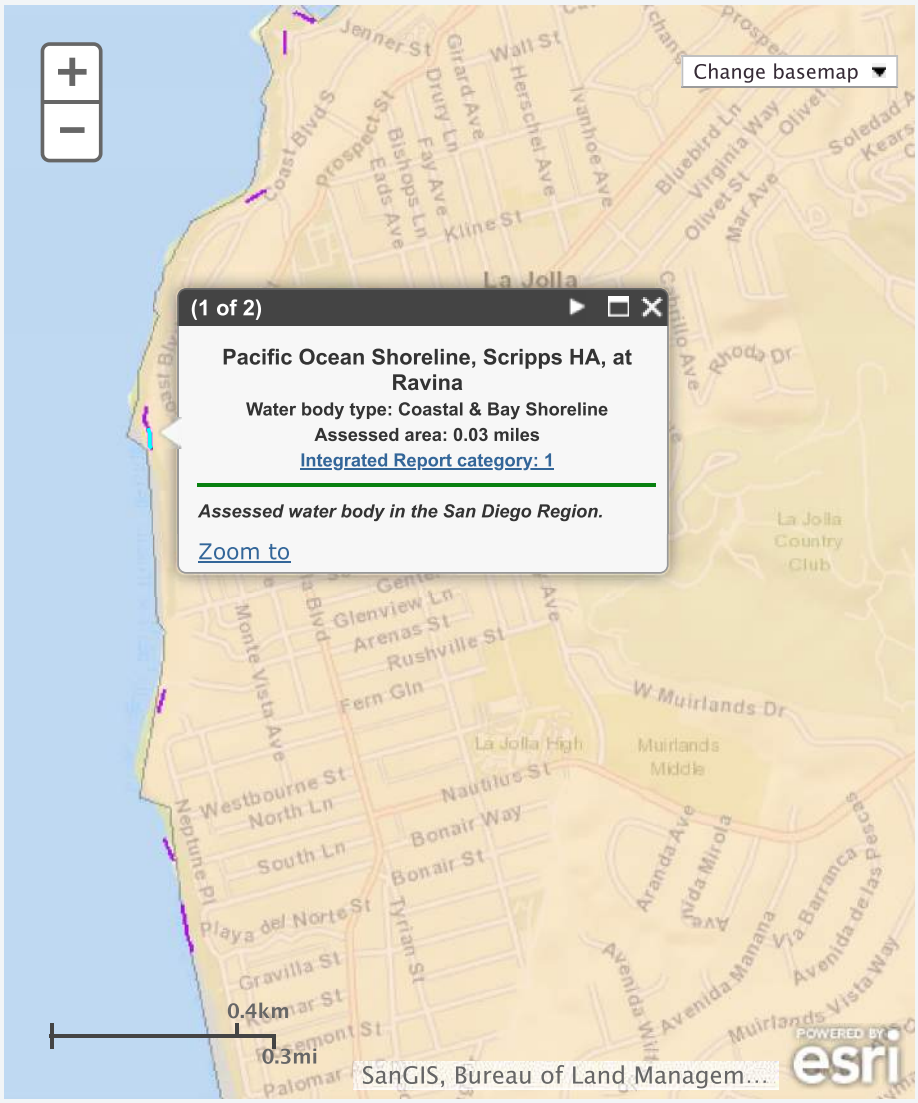
Romero Drive



Final 2014/2016 California Integrated Report (Clean Water Act Section 303(d) List / 305(b) Report)

2014 AND 2016 INTEGRATED REPORT — ALL ASSESSED WATERS

Zoom to county: San Diego
Show county
Zoom to Regional Board: All
Show Regional Board
Map Help
Zoom to water body: *(Filter: All)*
Filter list by:
Reset list



Pacific Ocean Shoreline, Scripps HA, at Ravina Close
Pollutant assessments

Pollutants	Listing Decision	Report Link	Potential Sources	Schedule	*Comments*
Indicator Bacteria	Delist from 303(d) list (being addressed by USEPA approved TMDL)	43594	n/a	USEPA TMDL approval: 2011	

Attachment 2
Backup for PDP Hydromodification Control Measures

This is the cover sheet for Attachment 2.

☐ Mark this box if this attachment is empty because the project is exempt from PDP hydromodification management requirements.

Project Name: Romero Drive Tentative Map

Indicate which Items are Included:

Attachment Sequence	Contents	Checklist
Attachment 2a	Hydromodification Management Exhibit (Required)	☑ Included See Hydromodification Management Exhibit Checklist. SEE DMA EXHIBIT
Attachment 2b	Management of Critical Coarse Sediment Yield Areas (WMAA Exhibit is required, additional analyses are optional) See Section 6.2 of the BMP Design Manual.	☑ Exhibit showing project drainage boundaries marked on WMAA Critical Coarse Sediment Yield Area Map (Required) Optional analyses for Critical Coarse Sediment Yield Area Determination ☐ 6.2.1 Verification of Geomorphic Landscape Units Onsite ☐ 6.2.2 Downstream Systems Sensitivity to Coarse Sediment ☐ 6.2.3 Optional Additional Analysis of Potential Critical Coarse Sediment Yield Areas Onsite
Attachment 2c	Geomorphic Assessment of Receiving Channels (Optional) See Section 6.3.4 of the BMP Design Manual.	☑ Not Performed ☐ Included ☐ Submitted as separate stand-alone document
Attachment 2d	Flow Control Facility Design and Structural BMP Drawdown Calculations (Required) Overflow Design Summary for each structural BMP See Chapter 6 and Appendix G of the BMP Design Manual	☑ Included ☐ Submitted as separate stand-alone document

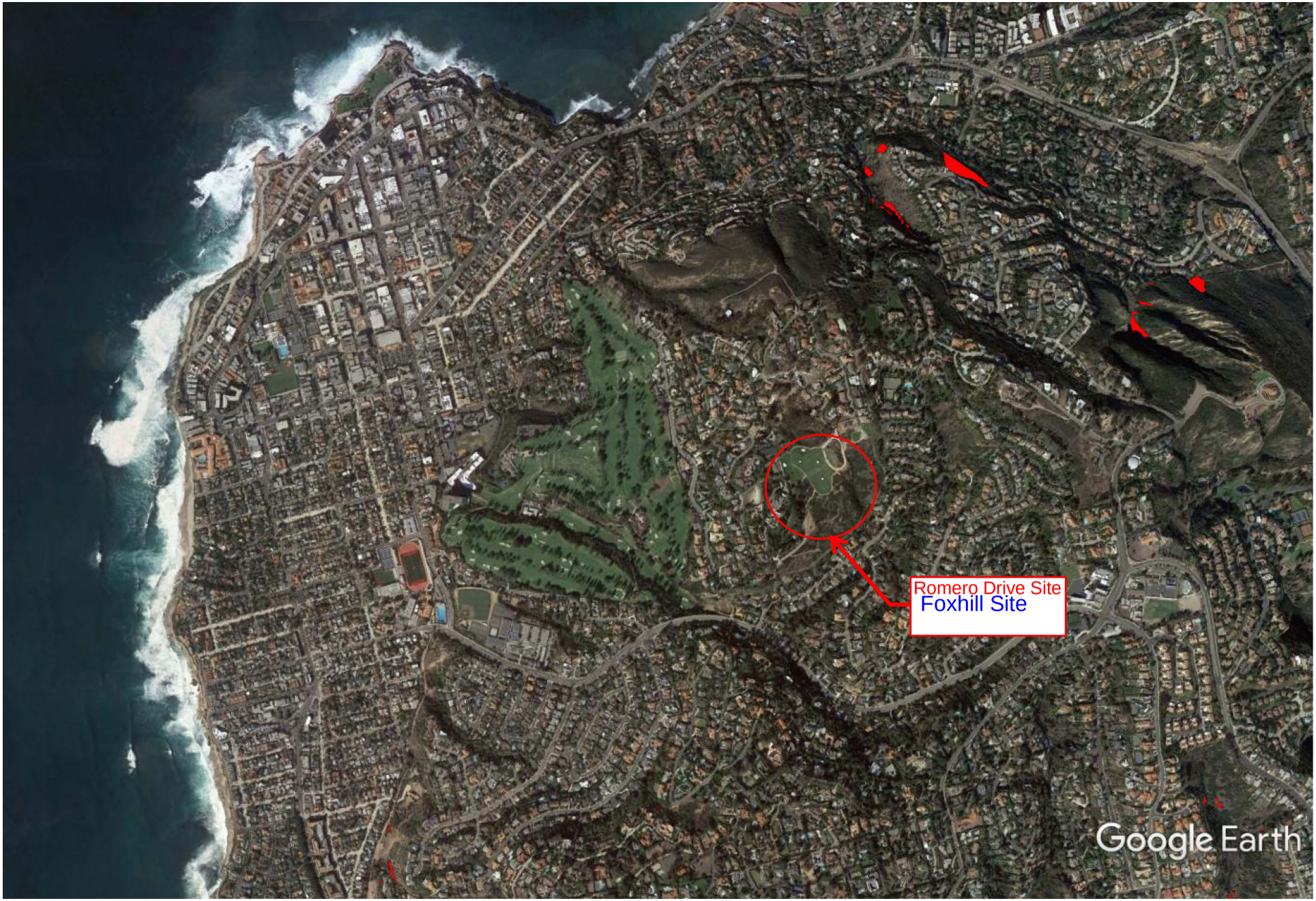
Project Name: Romero Drive Tentative Map

Use this checklist to ensure the required information has been included on the Hydromodification Management Exhibit:

The Hydromodification Management Exhibit must identify:

- [x] Underlying hydrologic soil group
- [x] Approximate depth to groundwater
- [x] Existing natural hydrologic features (watercourses, seeps, springs, wetlands)
- [x] Critical coarse sediment yield areas to be protected OR provide a separate map showing that the project site is outside of any critical coarse sediment yield areas
- [x] Existing topography
- [x] Existing and proposed site drainage network and connections to drainage offsite
- [x] Proposed grading
- [x] Proposed impervious features
- [x] Proposed design features and surface treatments used to minimize imperviousness
- [x] Point(s) of Compliance (POC) for Hydromodification Management
  Existing and proposed drainage boundary and drainage area to each POC (when necessary, create separate exhibits for pre-development and post-project conditions)
- [x] Structural BMPs for hydromodification management (identify location, type of BMP, and size/detail).

Romero Drive Tentative Map



Google Earth

miles 1
km 2

CRITICAL COARSE SEDIMENT AREAS

BMP Sizing Spreadsheet V3.1

Project Name:	ROMERO DRIVE TM
Project Applicant:	La Jolla Reserve, LLC
Jurisdiction:	City of San Diego
Parcel (APN):	352-300-11
Hydrologic Unit:	906.3
Rain Gauge:	Oceanside
Total Project Area (sf):	967,558
Channel Susceptibility:	High

BMP Sizing Spreadsheet V3.1			
Project Name:	ROMERO TM	Hydrologic Unit:	906.3
Project Applicant:	La Jolla Reserve, LLC	Rain Gauge:	Oceanside
Jurisdiction:	City of San Diego	Total Project Area:	967,684
Parcel (APN):	352-300-11	Low Flow Threshold:	0.1Q2
BMP Name:	BMP #B1A	BMP Type:	Biofiltration
BMP Native Soil Type:	D	BMP Infiltration Rate (in/hr):	0.025

Areas Draining to BMP						HMP Sizing Factors	Minimum BMP Size
DMA Name	Area (sf)	Pre Project Soil Type	Pre-Project Slope	Post Project Surface Type	Area Weighted Runoff Factor (Table G.2-1)[1]	Surface Area	Surface Area (SF)
DMA #B1A-A	9,160	D	Moderate	Roofs	1.0	0.07	641
DMA #B1A-B	1,154	D	Moderate	Landscape	0.1	0.07	8
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
BMP Tributary Area	10,314					Minimum BMP Size	649
						Proposed BMP Size*	662

* Assumes standard configuration

Surface Ponding Depth	12.00	in
Bioretention Soil Media Depth	18.00	in
Filter Coarse	6.00	in
Gravel Storage Layer Depth	12	in
Underdrain Offset	3.0	in

Notes:

1. Runoff factors which are used for hydromodification management flow control (Table G.2-1) are different from the runoff factors used for pollutant control BMP sizing (Table B.1-1). Table references are taken from the San Diego Region Model BMP Design Ma

Describe the BMP's in sufficient detail in your PDP SWQMP to demonstrate the area, volume, and other criteria can be met within the constraints of the site.

BMP's must be adapted and applied to the conditions specific to the development project such as unstable slopes or the lack of available head.
Designated Staff have final review and approval authority over the project design.

This BMP Sizing Spreadsheet has been updated in conformance with the San Diego Region Model BMP Design Manual, May 2018. For questions or concerns please contact the jurisdiction in which your project is located.

BMP Sizing Spreadsheet V3.1			
Project Name:	ROMERO TM	Hydrologic Unit:	906.3
Project Applicant:	La Jolla Reserve, LLC	Rain Gauge:	Oceanside
Jurisdiction:	City of San Diego	Total Project Area:	967,684
Parcel (APN):	352-300-11	Low Flow Threshold:	0.1Q2
BMP Name	BMP #B1A	BMP Type:	Biofiltration

DMA Name	Rain Gauge	Pre-developed Condition		Unit Runoff Ratio (cfs/ac)	DMA Area (ac)	Orifice Flow - $\%Q_2$ (cfs)	Orifice Area (in^2)
		Soil Type	Slope				
DMA #B1A-A	Oceanside	D	Moderate	0.575	0.210	0.012	**0.17**
DMA #B1A-B	Oceanside	D	Moderate	0.575	0.026	0.002	**0.02**

3.75	**0.014**	**0.19**	**0.50**
Max Orifice Head (feet)	**Max Tot. Allowable Orifice Flow (cfs)**	**Max Tot. Allowable Orifice Area (in^2)**	**Max Orifice Diameter (in)**

0.013	**0.014**	**0.20**	**0.500**
Average outflow during surface drawdown (cfs)	Max Orifice Outflow (cfs)	Actual Orifice Area (in^2)	Selected Orifice Diameter (in)

Drawdown (Hrs)	14.3

BMP Sizing Spreadsheet V3.1			
Project Name:	ROMERO TM	Hydrologic Unit:	906.3
Project Applicant:	La Jolla Reserve, LLC	Rain Gauge:	Oceanside
Jurisdiction:	City of San Diego	Total Project Area:	967,684
Parcel (APN):	352-300-11	Low Flow Threshold:	0.1Q2
BMP Name:	BMP #B1-2	BMP Type:	Biofiltration
BMP Native Soil Type:	D	BMP Infiltration Rate (in/hr):	0.025

Areas Draining to BMP						HMP Sizing Factors	Minimum BMP Size
DMA Name	Area (sf)	Pre Project Soil Type	Pre-Project Slope	Post Project Surface Type	Area Weighted Runoff Factor (Table G.2-1)[1]	Surface Area	Surface Area (SF)
DMA #B1-2A	1,611	D	Moderate	Roofs	1.0	0.07	113
DMA #B1-2B	1,154	D	Moderate	Landscape	0.1	0.07	8
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
BMP Tributary Area	2,765					Minimum BMP Size	121
						Proposed BMP Size*	124

* Assumes standard configuration

Surface Ponding Depth	12.00	in
Bioretention Soil Media Depth	18.00	in
Filter Coarse	6.00	in
Gravel Storage Layer Depth	12	in
Underdrain Offset	3.0	in

Notes:

1. Runoff factors which are used for hydromodification management flow control (Table G.2-1) are different from the runoff factors used for pollutant control BMP sizing (Table B.1-1). Table references are taken from the San Diego Region Model BMP Design Ma

Describe the BMP's in sufficient detail in your PDP SWQMP to demonstrate the area, volume, and other criteria can be met within the constraints of the site.

BMP's must be adapted and applied to the conditions specific to the development project such as unstable slopes or the lack of available head.
Designated Staff have final review and approval authority over the project design.

This BMP Sizing Spreadsheet has been updated in conformance with the San Diego Region Model BMP Design Manual, May 2018. For questions or concerns please contact the jurisdiction in which your project is located.

BMP Sizing Spreadsheet V3.1			
Project Name:	ROMERO TM	Hydrologic Unit:	906.3
Project Applicant:	La Jolla Reserve, LLC	Rain Gauge:	Oceanside
Jurisdiction:	City of San Diego	Total Project Area:	967,684
Parcel (APN):	352-300-11	Low Flow Threshold:	0.1Q2
BMP Name	BMP #B1-2	BMP Type:	Biofiltration

DMA Name	Rain Gauge	Pre-developed Condition		Unit Runoff Ratio (cfs/ac)	DMA Area (ac)	Orifice Flow - $\%Q_2$ (cfs)	Orifice Area (in^2)
		Soil Type	Slope				
DMA #B1-2A	Oceanside	D	Moderate	0.575	0.037	0.002	**0.03**
DMA #B1-2B	Oceanside	D	Moderate	0.575	0.026	0.002	**0.02**

3.75	**0.004**	**0.05**	**0.26**
Max Orifice Head (feet)	**Max Tot. Allowable Orifice Flow (cfs)**	**Max Tot. Allowable Orifice Area (in^2)**	**Max Orifice Diameter (in)**

0.003	**0.003**	**0.05**	**0.250**
Average outflow during surface drawdown (cfs)	Max Orifice Outflow (cfs)	Actual Orifice Area (in^2)	Selected Orifice Diameter (in)

Drawdown (Hrs)	10.7

BMP Sizing Spreadsheet V3.1			
Project Name:	ROMERO TM	Hydrologic Unit:	906.3
Project Applicant:	La Jolla Reserve, LLC	Rain Gauge:	Oceanside
Jurisdiction:	City of San Diego	Total Project Area:	967,684
Parcel (APN):	352-300-11	Low Flow Threshold:	0.1Q2
BMP Name:	BMP #B2	BMP Type:	Biofiltration
BMP Native Soil Type:	D	BMP Infiltration Rate (in/hr):	0.025

Areas Draining to BMP						HMP Sizing Factors	Minimum BMP Size
DMA Name	Area (sf)	Pre Project Soil Type	Pre-Project Slope	Post Project Surface Type	Area Weighted Runoff Factor (Table G.2-1)[1]	Surface Area	Surface Area (SF)
DMA #B2-A	11,799	D	Moderate	Roofs	1.0	0.07	826
DMA #B2-B	16,018	D	Moderate	Landscape	0.1	0.07	112
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
BMP Tributary Area	27,817					Minimum BMP Size	938
						Proposed BMP Size*	1475

* Assumes standard configuration

Surface Ponding Depth	12.00	in
Bioretention Soil Media Depth	18.00	in
Filter Coarse	6.00	in
Gravel Storage Layer Depth	12	in
Underdrain Offset	3.0	in

Notes:

1. Runoff factors which are used for hydromodification management flow control (Table G.2-1) are different from the runoff factors used for pollutant control BMP sizing (Table B.1-1). Table references are taken from the San Diego Region Model BMP Design Ma

Describe the BMP's in sufficient detail in your PDP SWQMP to demonstrate the area, volume, and other criteria can be met within the constraints of the site.

BMP's must be adapted and applied to the conditions specific to the development project such as unstable slopes or the lack of available head.
Designated Staff have final review and approval authority over the project design.

This BMP Sizing Spreadsheet has been updated in conformance with the San Diego Region Model BMP Design Manual, May 2018. For questions or concerns please contact the jurisdiction in which your project is located.

BMP Sizing Spreadsheet V3.1			
Project Name:	ROMERO TM	Hydrologic Unit:	906.3
Project Applicant:	La Jolla Reserve, LLC	Rain Gauge:	Oceanside
Jurisdiction:	City of San Diego	Total Project Area:	967,684
Parcel (APN):	352-300-11	Low Flow Threshold:	0.1Q2
BMP Name	BMP #B2	BMP Type:	Biofiltration

DMA Name	Rain Gauge	Pre-developed Condition		Unit Runoff Ratio (cfs/ac)	DMA Area (ac)	Orifice Flow - $\%Q_2$ (cfs)	Orifice Area (in^2)
		Soil Type	Slope				
DMA #B2-A	Oceanside	D	Moderate	0.575	0.271	0.016	**0.22**
DMA #B2-B	Oceanside	D	Moderate	0.575	0.368	0.021	**0.30**

3.75	**0.037**	**0.52**	**0.82**
Max Orifice Head (feet)	**Max Tot. Allowable Orifice Flow (cfs)**	**Max Tot. Allowable Orifice Area (in^2)**	**Max Orifice Diameter (in)**

0.033	**0.035**	**0.50**	**0.800**
Average outflow during surface drawdown (cfs)	Max Orifice Outflow (cfs)	Actual Orifice Area (in^2)	Selected Orifice Diameter (in)

Drawdown (Hrs)	12.5

BMP Sizing Spreadsheet V3.1			
Project Name:	ROMERO TM	Hydrologic Unit:	906.3
Project Applicant:	La Jolla Reserve, LLC	Rain Gauge:	Oceanside
Jurisdiction:	City of San Diego	Total Project Area:	967,684
Parcel (APN):	352-300-11	Low Flow Threshold:	0.1Q2
BMP Name:	BMP #B3	BMP Type:	Biofiltration
BMP Native Soil Type:	D	BMP Infiltration Rate (in/hr):	0.025

Areas Draining to BMP						HMP Sizing Factors	Minimum BMP Size
DMA Name	Area (sf)	Pre Project Soil Type	Pre-Project Slope	Post Project Surface Type	Area Weighted Runoff Factor (Table G.2-1)[1]	Surface Area	Surface Area (SF)
DMA #B3-A	16,122	D	Moderate	Roofs	1.0	0.07	1129
DMA #B3-B	9,671	D	Moderate	Landscape	0.1	0.07	68
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
BMP Tributary Area	25,793					Minimum BMP Size	1196
						Proposed BMP Size*	1226

* Assumes standard configuration

Surface Ponding Depth	12.00	in
Bioretention Soil Media Depth	18.00	in
Filter Coarse	6.00	in
Gravel Storage Layer Depth	12	in
Underdrain Offset	3.0	in

Notes:

1. Runoff factors which are used for hydromodification management flow control (Table G.2-1) are different from the runoff factors used for pollutant control BMP sizing (Table B.1-1). Table references are taken from the San Diego Region Model BMP Design Ma

Describe the BMP's in sufficient detail in your PDP SWQMP to demonstrate the area, volume, and other criteria can be met within the constraints of the site.

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Designated Staff have final review and approval authority over the project design.

This BMP Sizing Spreadsheet has been updated in conformance with the San Diego Region Model BMP Design Manual, May 2018. For questions or concerns please contact the jurisdiction in which your project is located.

BMP Sizing Spreadsheet V3.1			
Project Name:	ROMERO TM	Hydrologic Unit:	906.3
Project Applicant:	La Jolla Reserve, LLC	Rain Gauge:	Oceanside
Jurisdiction:	City of San Diego	Total Project Area:	967,684
Parcel (APN):	352-300-11	Low Flow Threshold:	0.1Q2
BMP Name	BMP #B3	BMP Type:	Biofiltration

DMA Name	Rain Gauge	Pre-developed Condition		Unit Runoff Ratio (cfs/ac)	DMA Area (ac)	Orifice Flow - $\%Q_2$ (cfs)	Orifice Area (in^2)
		Soil Type	Slope				
DMA #B3-A	Oceanside	D	Moderate	0.575	0.370	0.021	**0.30**
DMA #B3-B	Oceanside	D	Moderate	0.575	0.222	0.013	**0.18**

3.75	**0.034**	**0.49**	**0.79**
Max Orifice Head (feet)	**Max Tot. Allowable Orifice Flow (cfs)**	**Max Tot. Allowable Orifice Area (in^2)**	**Max Orifice Diameter (in)**

0.029	**0.031**	**0.44**	**0.750**
Average outflow during surface drawdown (cfs)	Max Orifice Outflow (cfs)	Actual Orifice Area (in^2)	Selected Orifice Diameter (in)

Drawdown (Hrs)	11.8

BMP Sizing Spreadsheet V3.1			
Project Name:	ROMERO TM	Hydrologic Unit:	906.3
Project Applicant:	La Jolla Reserve, LLC	Rain Gauge:	Oceanside
Jurisdiction:	City of San Diego	Total Project Area:	967,684
Parcel (APN):	352-300-11	Low Flow Threshold:	0.1Q2
BMP Name:	BMP #B4	BMP Type:	Biofiltration
BMP Native Soil Type:	D	BMP Infiltration Rate (in/hr):	0.025

Areas Draining to BMP						HMP Sizing Factors	Minimum BMP Size
DMA Name	Area (sf)	Pre Project Soil Type	Pre-Project Slope	Post Project Surface Type	Area Weighted Runoff Factor (Table G.2-1)[1]	Surface Area	Surface Area (SF)
DMA #B4-A	12,631	D	Moderate	Roofs	1.0	0.07	884
DMA #B4-B	12,753	D	Moderate	Landscape	0.1	0.07	89
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
BMP Tributary Area	25,384					Minimum BMP Size	973
						Proposed BMP Size*	1620

* Assumes standard configuration

Surface Ponding Depth	12.00	in
Bioretention Soil Media Depth	18.00	in
Filter Coarse	6.00	in
Gravel Storage Layer Depth	12	in
Underdrain Offset	3.0	in

Notes:

1. Runoff factors which are used for hydromodification management flow control (Table G.2-1) are different from the runoff factors used for pollutant control BMP sizing (Table B.1-1). Table references are taken from the San Diego Region Model BMP Design Ma

Describe the BMP's in sufficient detail in your PDP SWQMP to demonstrate the area, volume, and other criteria can be met within the constraints of the site.

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BMP Sizing Spreadsheet V3.1			
Project Name:	ROMERO TM	Hydrologic Unit:	906.3
Project Applicant:	La Jolla Reserve, LLC	Rain Gauge:	Oceanside
Jurisdiction:	City of San Diego	Total Project Area:	967,684
Parcel (APN):	352-300-11	Low Flow Threshold:	0.1Q2
BMP Name	BMP #B4	BMP Type:	Biofiltration

DMA Name	Rain Gauge	Pre-developed Condition		Unit Runoff Ratio (cfs/ac)	DMA Area (ac)	Orifice Flow - $\%Q_2$ (cfs)	Orifice Area (in^2)
		Soil Type	Slope				
DMA #B4-A	Oceanside	D	Moderate	0.575	0.290	0.017	**0.24**
DMA #B4-B	Oceanside	D	Moderate	0.575	0.293	0.017	**0.24**

3.75	**0.034**	**0.48**	**0.78**
Max Orifice Head (feet)	**Max Tot. Allowable Orifice Flow (cfs)**	**Max Tot. Allowable Orifice Area (in^2)**	**Max Orifice Diameter (in)**

0.029	**0.031**	**0.44**	**0.750**
Average outflow during surface drawdown (cfs)	Max Orifice Outflow (cfs)	Actual Orifice Area (in^2)	Selected Orifice Diameter (in)

Drawdown (Hrs)	15.6

BMP Sizing Spreadsheet V3.1			
Project Name:	ROMERO TM	Hydrologic Unit:	906.3
Project Applicant:	La Jolla Reserve, LLC	Rain Gauge:	Oceanside
Jurisdiction:	City of San Diego	Total Project Area:	967,684
Parcel (APN):	352-300-11	Low Flow Threshold:	0.1Q2
BMP Name:	BMP #B5	BMP Type:	Biofiltration
BMP Native Soil Type:	D	BMP Infiltration Rate (in/hr):	0.025

Areas Draining to BMP						HMP Sizing Factors	Minimum BMP Size
DMA Name	Area (sf)	Pre Project Soil Type	Pre-Project Slope	Post Project Surface Type	Area Weighted Runoff Factor (Table G.2-1)[1]	Surface Area	Surface Area (SF)
DMA #B5-A	30,069	D	Moderate	Roofs	1.0	0.07	2105
DMA #B5-B	12,760	D	Moderate	Landscape	0.1	0.07	89
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
BMP Tributary Area	42,829					Minimum BMP Size	2194
						Proposed BMP Size*	2403

* Assumes standard configuration

Surface Ponding Depth	12.00	in
Bioretention Soil Media Depth	18.00	in
Filter Coarse	6.00	in
Gravel Storage Layer Depth	12	in
Underdrain Offset	3.0	in

Notes:

1. Runoff factors which are used for hydromodification management flow control (Table G.2-1) are different from the runoff factors used for pollutant control BMP sizing (Table B.1-1). Table references are taken from the San Diego Region Model BMP Design Ma

Describe the BMP's in sufficient detail in your PDP SWQMP to demonstrate the area, volume, and other criteria can be met within the constraints of the site.

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BMP Sizing Spreadsheet V3.1			
Project Name:	ROMERO TM	Hydrologic Unit:	906.3
Project Applicant:	La Jolla Reserve, LLC	Rain Gauge:	Oceanside
Jurisdiction:	City of San Diego	Total Project Area:	967,684
Parcel (APN):	352-300-11	Low Flow Threshold:	0.1Q2
BMP Name	BMP #B5	BMP Type:	Biofiltration

DMA Name	Rain Gauge	Pre-developed Condition		Unit Runoff Ratio (cfs/ac)	DMA Area (ac)	Orifice Flow - $\%Q_2$ (cfs)	Orifice Area (in^2)
		Soil Type	Slope				
DMA #B5-A	Oceanside	D	Moderate	0.575	0.690	0.040	**0.57**
DMA #B5-B	Oceanside	D	Moderate	0.575	0.293	0.017	**0.24**

3.75	**0.057**	**0.81**	**1.01**
Max Orifice Head (feet)	**Max Tot. Allowable Orifice Flow (cfs)**	**Max Tot. Allowable Orifice Area (in^2)**	**Max Orifice Diameter (in)**

0.051	**0.055**	**0.79**	**1.000**
Average outflow during surface drawdown (cfs)	Max Orifice Outflow (cfs)	Actual Orifice Area (in^2)	Selected Orifice Diameter (in)

Drawdown (Hrs)	13.0

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Attachment 3
Structural BMP Maintenance Information

This is the cover sheet for Attachment 3.

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Indicate which Items are Included:

Attachment Sequence	Contents	Checklist
Attachment 3	Maintenance Agreement (Form DS-3247) (when applicable)	☑ Included ☐ Not applicable

Use this checklist to ensure the required information has been included in the Structural BMP Maintenance Information Attachment:

Attachment 3: For private entity operation and maintenance, Attachment 3 must include a Storm Water Management and Discharge Control Maintenance Agreement (Form DS-3247). The following information must be included in the exhibits attached to the maintenance agreement:

- [x] Vicinity map
- [x] Site design BMPs for which DCV reduction is claimed for meeting the pollutant control obligations.
- [x] BMP and HMP location and dimensions
- [x] BMP and HMP specifications/cross section/model
- [x] Maintenance recommendations and frequency
- [ ] LID features such as (permeable paver and LS location, dim, SF).

The City of SAN DIEGO

RECORDING REQUESTED BY:
THE CITY OF SAN DIEGO AND
WHEN RECORDED MAIL TO:
La Jolla Reserve, LLC
10452 Coyote Hill Lane
Escondido, CA 92026

(THIS SPACE IS FOR RECORDER'S USE ONLY)

STORM WATER MANAGEMENT AND DISCHARGE CONTROL MAINTENANCE AGREEMENT

APPROVAL NUMBER:	ASSESSORS PARCEL NUMBER:	PROJECT NUMBER:
	352-300-11	PRJ-1063767

This agreement is made by and between the City of San Diego, a municipal corporation [City] and La Jolla Reserve, L _____,

the owner or duly authorized representative of the owner [Property Owner] of property located at
6850 Country Club Drive, La Jolla, CA 92037
(PROPERTY ADDRESS)

and more particularly described as: A PORTION OF PUEBLO LOT 1263 OF THE PUEBLO LANDS OF SAN DIEGO, MISCELLANEOUS MAP NO. 36.
(LEGAL DESCRIPTION OF PROPERTY)

in the City of San Diego, County of San Diego, State of California.

Property Owner is required pursuant to the City of San Diego Municipal Code, Chapter 4, Article 3, Division 3, Chapter 14, Article 2, Division 2, and the Land Development Manual, Storm Water Standards to enter into a Storm Water Management and Discharge Control Maintenance Agreement [Maintenance Agreement] for the installation and maintenance of Permanent Storm Water Best Management Practices [Permanent Storm Water BMP's] prior to the issuance of construction permits. The Maintenance Agreement is intended to ensure the establishment and maintenance of Permanent Storm Water BMP's onsite, as described in the attached exhibit(s), the project's Storm Water Quality Management Plan [SWQMP] and Grading and/or Improvement Plan Drawing No(s), or Building Plan Project No(s): _____.

Property Owner wishes to obtain a building or engineering permit according to the Grading and/or Improvement Plan Drawing No(s) or Building Plan Project No(s): _____.

Continued on Page 2

NOW, THEREFORE, the parties agree as follows:

1. Property Owner shall have prepared, or if qualified, shall prepare an Operation and Maintenance Procedure [OMP] for Permanent Storm Water BMP's, satisfactory to the City, according to the attached exhibit(s), consistent with the Grading and/or Improvement Plan Drawing No(s), or Building Plan Project No(s): _____.

2. Property Owner shall install, maintain and repair or replace all Permanent Storm Water BMP's within their property, according to the OMP guidelines as described in the attached exhibit(s), the project's SWQMP and Grading and/or Improvement Plan Drawing No(s), or Building Plan Project No(s) _____.

3. Property Owner shall maintain operation and maintenance records for at least five (5) years. These records shall be made available to the City for inspection upon request at any time.

This Maintenance Agreement shall commence upon execution of this document by all parties named hereon, and shall run with the land.

Executed by the City of San Diego and by Property Owner in San Diego, California.

See Attached Exhibit(s): _____

_____
(Owner Signature)

RYAN KIESEL, VICE PRESIDENT
(Print Name and Title)

La Jolla Reserve, LLC
(Company/Organization Name)

_____
(Date)

THE CITY OF SAN DIEGO

APPROVED:

_____
(City Control Engineer Signature)

_____
(Print Name)

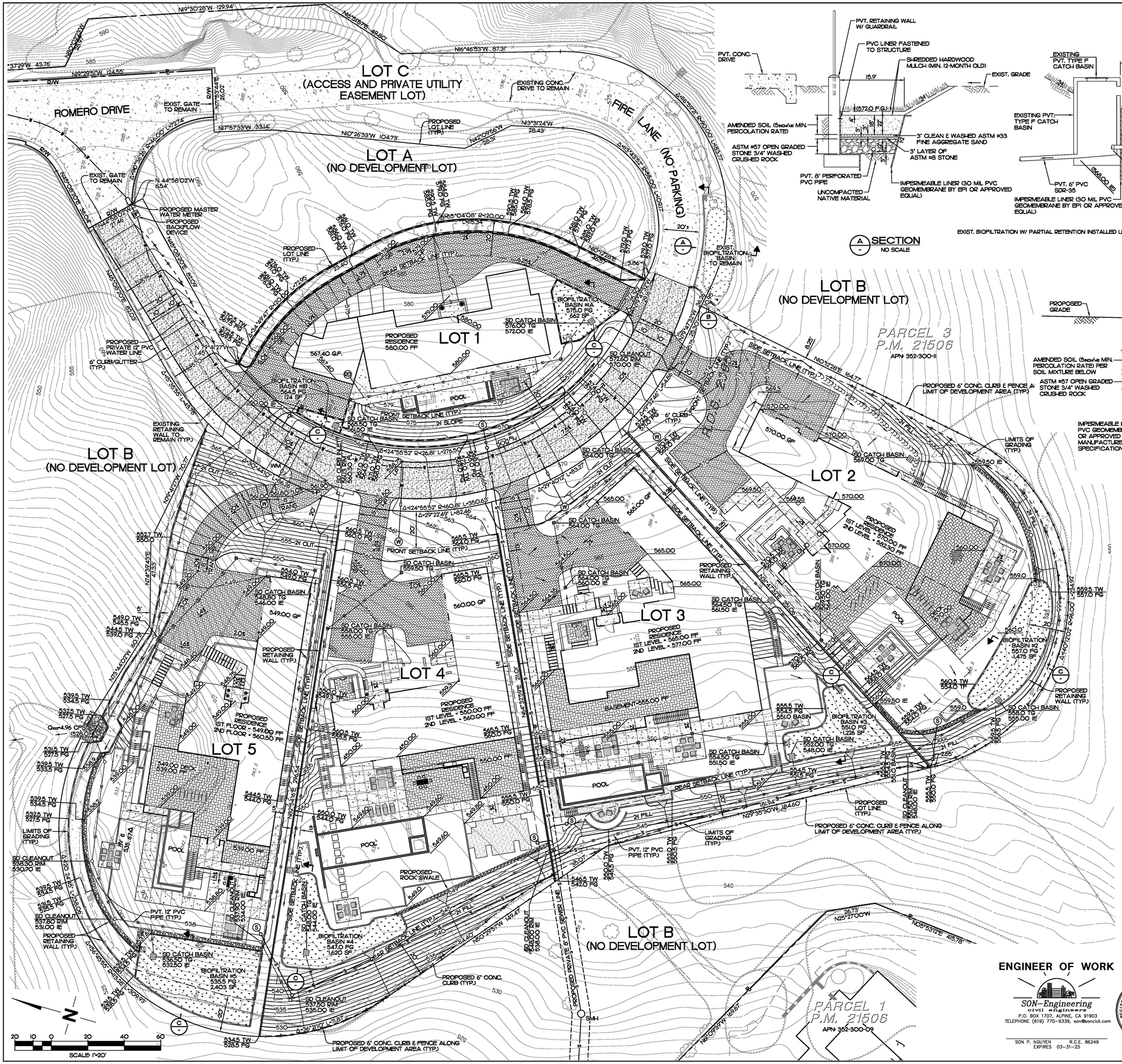
_____
(Date)

NOTE: ALL SIGNATURES MUST INCLUDE NOTARY ACKNOWLEDGMENTS PER CIVIL CODE SEC. 1180 ET.SEQ.

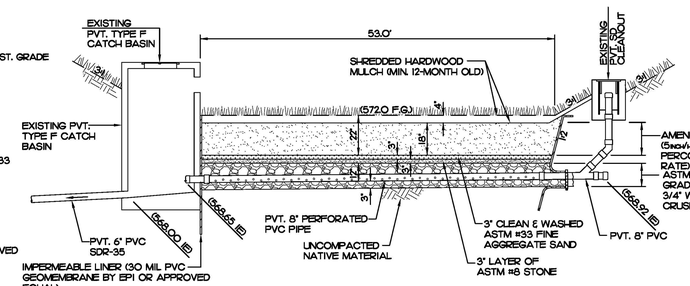
Reset Button Page 2

Attachment 4
Copy of Plan Sheets Showing Permanent Storm Water BMPs

This is the cover sheet for Attachment 4.

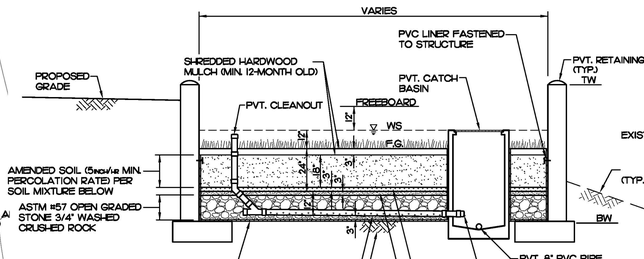


A SECTION
NO SCALE



B SECTION
NO SCALE

EXIST. BIOFILTRATION W/ PARTIAL RETENTION INSTALLED UNDER PTS-401110, DWG. NO. 38489-D



C SECTION
NO SCALE

SOIL MIXTURE:
85% WASHED SAND, 10% FINES (SILT & CLAY), 5% ORGANIC MATTER.
(SEE CITY OF SAN DIEGO STORM WATER STANDARDS, APPENDIX F.)

PVT. BIOFILTRATION
NO SCALE

BIOFILTRATION SIZING FOR HYDROMODIFICATION REQUIREMENTS

	MIN. BMP SIZE (SF)	PROPOSED BMP SIZE (SF)	MAX. ORIFICE DIA. (IN)	PROPOSED ORIFICE DIA. (IN)
BMP #1A	649	662	0.50	0.50
BMP #1B	121	124	0.26	0.25
BMP #2	938	1,475	0.82	0.80
BMP #3	1,196	1,226	0.79	0.75
BMP #4	973	1,620	0.78	0.75
BMP #5	2,194	2,403	1.01	1.00

ENGINEER OF WORK

SON–Engineering
civil engineers
P.O. BOX 1707, ALPINE, CA 91903
TELEPHONE (619) 770–9339, son@soncivil.com
SON P. NGUYEN R.C.E. 86249
EXPIRES 03–31–25

REGISTERED PROFESSIONAL ENGINEER — SON P. NGUYEN — C 86249 — Exp. 03-31-25 — CIVIL — STATE OF CALIFORNIA

Prepared By:
Name: SON-ENGINEERING
Address: P.O. BOX 1707
ALPINE, CA 91903
Phone #: (619) 770-9339

Project Address:
6850 COUNTRY CLUB DRIVE
LA JOLLA, CA 92037

Project Name:
ROMERO DRIVE TENTATIVE MAP
COASTAL DEVELOPMENT NO. PMT-3172975
SITE DEVELOPMENT PLAN NO. PMT-3172976
TENTATIVE MAP NO. PMT-3172977
PLANNED DEVELOPMENT PERMIT NO. PMT-XXXXXXX
Sheet Title:
TENTATIVE MAP/ CONCEPTUAL GRADING PLAN

Revision 14:
Revision 13:
Revision 12:
Revision 11:
Revision 10:
Revision 9:
Revision 8:
Revision 7:
Revision 6:
Revision 5:
Revision 4:
Revision 3:
Revision 2: DECEMBER 13, 2023
Revision 1: MARCH 28, 2023

Original Date: JUNE 17, 2022

Sheet Of

DEP#

PRJ-1063767

NO	DATE	REVISION DESCRIPTION	BY	NO
1	3-28-2023	REVISED PER CITY OF SAN DIEGO 1ST REVIEW CYCLE	SDA	
2	12-13-2023	REVISED PER CITY OF SAN DIEGO 2ND REVIEW CYCLE	SON	

SHEET TITLE: TENTATIVE MAP/ CONCEPTUAL GRADING PLAN
JOB NAME: ROMERO DRIVE TENTATIVE MAP
6850 COUNTRY CLUB DRIVE
LA JOLLA, CA 92037

DESIGNER	SPN
DRAWN	JSP
CHECKED	SPN
DATE	6-17-2022

SON–ENGINEERING
P.O. BOX 1707, ALPINE, CA 91903 – SON@SONCIVIL.COM – TEL. (619) 770–9339

JOB NO. SON2307-03

C200

Project Name: Romero Drive Tentative Map

Use this checklist to ensure the required information has been included on the plans:

The plans must identify:

- [x] Structural BMP(s) with ID numbers matching Form I-6 Summary of PDP Structural BMPs
- [x] The grading and drainage design shown on the plans must be consistent with the delineation of DMAs shown on the DMA exhibit
- [x] Details and specifications for construction of structural BMP(s)
- [x] Signage indicating the location and boundary of structural BMP(s) as required by the City Engineer
- [x] How to access the structural BMP(s) to inspect and perform maintenance
- [x] Features that are provided to facilitate inspection (e.g., observation ports, cleanouts, silt posts, or other features that allow the inspector to view necessary components of the structural BMP and compare to maintenance thresholds)
- [ ] Manufacturer and part number for proprietary parts of structural BMP(s) when applicable
- [ ] Maintenance thresholds specific to the structural BMP(s), with a location-specific frame of reference (e.g., level of accumulated materials that triggers removal of the materials, to be identified based on viewing marks on silt posts or measured with a survey rod with respect to a fixed benchmark within the BMP)
- [ ] Recommended equipment to perform maintenance
- [ ] When applicable, necessary special training or certification requirements for inspection and maintenance personnel such as confined space entry or hazardous waste management
- [ ] Include landscaping plan sheets showing vegetation requirements for vegetated structural BMP(s)
- [x] All BMPs must be fully dimensioned on the plans
- [x] When proprietary BMPs are used, site specific cross section with outflow, inflow and model number shall be provided. Broucher photocopies are not allowed.

Attachment 5
Drainage Report

Attach project's drainage report. Refer to Drainage Design Manual to determine the reporting requirements.

REFER TO "PRELIMINARY HYDROLOGY/DRAINAGE STUDY FOR ROMERO DRIVE TENTATIVE MAP", PREPARED BY SON-ENGINEERING DATED 12/17/2023.

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Attachment 6
Geotechnical and Groundwater Investigation Report

Attach project's geotechnical and groundwater investigation report. Refer to Appendix C.4 to determine the reporting requirements.

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