County of San Diego

Stormwater Quality Management Plan (SWQMP)

For Priority Development Projects (PDPs)

Use for all PDPs (see Storm Water Intake Form, Part 5)

Priority Development Project

Project Information	
Project Name	Secret Hills Ranch
Project Address	Via Viejas Oeste Alpine, CA 91901
Assessor's Parcel # (APN)	520-060-18
Permit # / Record ID	PDS2020-LDGRMJ-30253

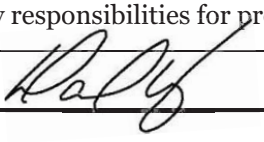
Project Applicant / Project Proponent		
Name	Stanley Boney - Property Owner	
Address	P O BOX 428 Crystal Bay, NV 89402	
Phone	(775) 230-2904	**Email:** stanboney@me.com

SWQMP Preparer		
Name	Daniel Valdez	
Company (if applicable)	Coffey Engineering	
Address	9666 Businesspark Ave. Suite 210, San Diego, CA 92131	
Phone	(858) 831-0111	**Email:** dan@coffeyengineering.com
PE Number (if applicable)	76074	

Preparer's Certification

I understand that the County of San Diego has adopted minimum requirements for managing urban runoff, including storm water, from land development activities, as described in the County of San Diego BMP Design Manual. The BMP Design Manual is a design manual for compliance with local County of San Diego Watershed Protection Ordinance (Sections 67.801 et seq.) and regional MS4 Permit (California Regional Water Quality Control Board San Diego Region Order No. R9-2013-0001, as amended by Order No. R9-2015-0001 and Order No. R9-2015-0100) requirements for storm water management.

This SWQMP is intended to comply with applicable requirements of the BMP Design Manual. I certify that it has been completed to the best of my ability and accurately reflects the project being proposed and the applicable 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 SWQMP by County staff is confined to a review and does not relieve me as the person in charge of overseeing the selection and design of storm water BMPs for this project, of my responsibilities for project design.

Signature  **Date** 10/8/20

COUNTY ACCEPTED

SWQMP Approved By: *Approval Date*:

**** Note* Approval does not constitute compliance with regulatory requirements.***

Submittal Record: List the dates of SWQMP and plan submittals and updates. Briefly describe key changes from previous versions. If responding to plan check comments, note this in the entry and attach the responses as applicable.

No.	Date	Summary of Changes
Preliminary Design / Planning / CEQA		
1	Date 12/20/19	Initial Submittal
2	Date	Summary of Change
3	Date	Summary of Change
4	Date	Summary of Change
No.	Date	Summary of Change
Final Design		
1	Date 5/6/20	Initial Submittal
2	Date 6/30/20	Summary of Change
3	Date 8/21/20	Summary of Change
4	Date 10/8/20	Summary of Change
No.	Date	Summary of Change
Plan Changes		
1	Date	Initial Submittal
2	Date	Summary of Change
3	Date	Summary of Change
4	Date	Summary of Change
No.	Date	Summary of Change

PDP SWQMP Submittal Checklist

SWQMP Tables: All of the eight tables below must be completed.

SWQMP Attachments[1]: Use the checklist below to identify which attachments will be included with this submittal. Attachments with boxes already checked (☒) are required for all projects. The applicability of other attachments will be determined upon completing this form.

☒ Attachment 1: Storm Water Intake Form

☒ Attachment 2: DMA Exhibits and Construction Plan Sheets

☑ Attachment 3: Source Control BMP Worksheet

☐ Attachment 4: Previous SWQMP Submittals

☒ Attachment 5: Existing Site and Drainage Description

☑ Attachment 6: Documentation of DMAs without Structural BMPs

☑ Attachment 7: Documentation of DMAs with Structural Pollutant Control BMPs

☑ Attachment 8: Documentation of DMAs with Structural Hydromodification Management BMPs

☑ Attachment 9: Management of Critical Coarse Sediment Yield Areas

☑ Attachment 10: Installation Verification Form

☑ Attachment 11: BMP Maintenance Agreements and Plans

☐ Attachment 12: Documentation of Alternative Compliance Projects (ACPs)

After completing the remainder of this form, check the applicable SWQMP Attachment boxes to summarize your selections.

[1] All SWQMP attachments are available at www.sandiego.gov/stormwater under the Development Resources tab. Some attachments are presented out of order because they are shared between multiple SWQMP forms.

Table 1 – Scope of SWQMP Submittal

Select one option below that describes the scope of this SWQMP Submittal. Document your selection as indicated.

SWQMP Scope	Required Documentation
☑ ***a. SWQMP addresses the entire project***	No additional documentation.
☐ ***b. SWQMP implements requirements of an earlier master SWQMP submittal***	Include a copy of the previous submittal as **Attachment 4**.
☐ ***c. First of multiple SWQMP submittals***	Use the spaces below to identify the elements addressed in this submittal and in future submittals.

(1) Elements addressed in current submittal (streets, common areas, first project phase, etc.):

Grading on a single lot for equestrian facilities (i.e. barn, pens, arena, hay storage, etc.). Grading for a single family residence, accessory dwelling structure, farm employee housing, detached cabana, pool. Driveway through site.

(2) Elements to be addressed in future submittal(s) (individual lots, future project phases, etc.):

None.

Table 2 – Baseline BMPs for Existing and Proposed Site Features

Site Features Select each feature that applies.	BMP Implementation Describe BMP implementation for each selected site feature.

Group 1: Existing Natural Site Features [See BMPDM Sections 4.3.1 and 4.3.2]

		Maintain & conserve natural features (SD-G)		Establish buffers for waterbodies (SD-H)	
		Full	Partial	Full	Partial
☐	**Natural waterbodies**	☐	☐	☐	☐
☐	**Natural storage reservoirs & drainage corridors**	☐	☐		
☑	**Natural areas, soils, & vegetation (incl. trees)**	☐	☑		

Group 2: Common Impervious Outdoor Site Features [See BMPDM Sections 4.3.3 and 4.3.5]

		Disperse impervious areas (SD-B)		Use permeable materials (SD-D)		Minimize impervious areas (SD-I)
		Full	Partial	Full	Partial	
☐	**Streets and roads**	☐	☐	☐	☐	☑ Check here to confirm that impervious surfaces have been minimized where applicable and feasible for all outdoor impervious areas. If not, explain in Table 3.
☑	**Sidewalks & walkways**	☐	☑	☐	☐	
☑	**Parking areas & lots**	☐	☑	☐	☐	
☑	**Driveways**	☐	☑	☐	☐	
☐	**Patios, decks, & courtyards**	☐	☐	☐	☐	
☐	**Hardcourt recreation areas**	☐	☐	☐	☐	
☐	Add impervious feature	☐	☐	☐	☐	
☐	Add impervious feature	☐	☐	☐	☐	
☐	Add impervious feature	☐	☐	☐	☐	

Group 3: Other Outdoor Site Features [See BMPDM Sections 4.2.6, 4.3.4, 4.3.5, 4.3.7, and 4.3.8]

		Disperse rooftop runoff (SD-B)		Install green roofs (optional; SD-C)		Use rain barrels to capture runoff (optional; SD-E)	
		Full	Partial	Full	Partial	Full	Partial
☑	**Rooftop areas**	☐	☑	☐	☐	☐	☐

		Use water-efficient landscaping (SD-J)		Install efficient irrigation systems (SD-K)		Minimize erosion of slopes and surfaces (SD-L)	
		Full	Partial	Full	Partial	Full	Partial
☑	**Landscaped areas**	☐	☑	☐	☑	☐	☑

		Provide a designated washing area (SC-A)		Drain feature to the sanitary sewer (if allowed) (SC-B)		Drain feature to a pervious area (SC-C)	
		Full	Partial	Full	Partial	Full	Partial
☑	**Water features (pools, spas, etc.)**	☐	☑	☐	☐	☐	☐

Note: Justification is required in Table 4 for any feature not selecting at least one BMP (either full or partial implementation). For Group 2 features this means not selecting either SD-B or SD-D. Additional justifications may be required on request by County staff. Also use Table 4 to describe sources or BMPs other than those listed.

Table 3 –Baseline BMPs for Pollutant-generating Sources (Group 4)

A. Requirements for Documentation
Select either or both as applicable.

Completion of Part B is not required because:

☐ This is a Small Residential Project, OR

☐ None of these sources or features is proposed.

☑ ***Source Control BMP Requirements Worksheet E.1-1*** (SC in Appendix E of the BMP Design Manual) is included as **Attachment 3** (optional unless requested by County staff).

B. Sources and BMPs
Select all proposed sources and features below. Then select the BMPs on the right to be implemented for each.

	SC-B Plumb to sanitary sewer	SC-C Drain feature to a pervious area	SC-D Provide containment for spills and discharges	SC-E Prevent contact with rainfall	SC-F Isolate flows from adjacent areas	SC-G Prevent wind dispersal	SC-H Label with stencils or signs
Common Source Areas							
☑ **Trash & Refuse Storage**	☐	---	☑	☑	☑	☑	---
☑ **Materials & Equipment Storage**	☐	---	☑	☑	☑	☑	---
☑ **Loading & Unloading**	☐	---	☑	☑	☑	---	---
☐ **Fueling**	☐	---	☐	☐	☐	---	---
☐ **Maintenance & Repair**	☐	---	☐	☐	☐	---	---
☐ **Vehicle & Equipment Cleaning**	☐	---	☐	☐	☐	---	---
☐ **Food Preparation or Service**	☐	---	☐	☐	☐	---	---
Distributed Features							
☑ **Storm drain inlets & catch basins**	---	---	---	---	---	---	☐
☐ **Interior floor drains and sumps**	☐	---	---	---	---	---	---
☑ **Drain lines (air conditioning, etc.)**	☐	☑	☑	---	---	---	---
☐ **Fire test sprinkler discharges**	☐	☐	☐	---	---	---	---

Provide the following in Table 4: (1) justification of any source area or feature with NO BMPs selected, (2) justification of individual unselected BMPs *if requested by County staff*, and (3) identification of any proposed pollutant-generating sources and BMPs not listed here.

Note: Pollutant-generating sources and features may not discharge directly to the MS4. Discharging to any of the stormwater BMPs identified in Table 5 Part B is also discouraged. If doing so, however, the source or feature area must be included in applicable DCV calculations.

Table 4 – Explanations and Justifications for Table 2 and 3 Baseline BMPs

☑ **Check here if no explanations or justifications for Table 2 or 3 BMPs are required.**

- **Required Justifications**: If NO BMPs are selected for a source or feature, justify why all BMPs are either not applicable or are infeasible. For Group 2 features NO BMPs means not selecting either SD-B or SD-D.
- **If Requested**: Justify why individual BMPs will not be implemented or will only be partially implemented.
- **Additional Explanation**: Describe any proposed features and/or BMPs not listed in Tables 2 or 3.

BMP-Feature Combination		Explanation
Feature	N/A	
BMP		
Feature		
BMP		
Feature		
BMP		
Feature		
BMP		
Feature		
BMP		
Feature		
BMP		
Feature		
BMP		

Table 5: DMA Structural Compliance Strategies and Documentation

Part A – Selection and Application Structural Performance Standards

1. Selection of Standards (select one; see BMPDM Section 6.1)

☑ a. Pollutant control + hydromodification ☐ b. Pollutant control only (project is exempt from hydromodification requirements)

2. Application of Structural Performance Standards (select one; see BMPDM Section 1.7)

☑ **New Development Projects:** Standards apply to <u>all impervious surfaces</u>.

☐ **Redevelopment Projects:** Complete the calculations below. Select <u>the</u> applicable scenario based on the results.

a. Existing impervious area (ft²)	b. Impervious area created / replaced (ft²)	c. % Impervious created / replaced [(b/a)*100]
-0- SF	170,000 SF	++

☑ *Scenario 1: c is 50% or more*: Performance standards apply to all impervious surfaces (a + b).

☐ *Scenario 2: c is less than 50%*: Performance standards apply only to created or replaced impervious surfaces (b only).

Part B – Compliance Strategies and Required Attachments

***1.** Complete and submit each of the applicable attachments on the right.*

Att. 1	Att. 2	Att. 3	Att. 4	Att. 5
Storm Water Intake Form ☒	DMA Exhibits and Construction Plan Sheets ☒	Source Control BMP Worksheet (see Page 3) ☑	Previous SWQMP Submittals (see Page 1) ☐	Existing Site and Drainage Description ☒

***2.** Indicate each compliance strategy below that will be used for one or more DMAs on the site.*

	Att. 6 DMAs without Structural BMPs	Att. 7 DMAs w/ Structural Pollutant Control BMPs	Att. 8 DMAs w/ Structural Hydromod. BMPs	Att. 9 Critical Coarse Sediment Yield Areas	Att. 10 Installation Verification Form	Att. 11 Maintenance Agreements/ Plans	Att. 12 Alternative Compliance Projects
☑ Self-mitigating DMAs (BMPDM Section 5.2.1)	☑			☑			
☐ De Minimis DMAs (BMPDM Section 5.2.2)	☐			☐			
☐ Self-retaining DMAs (BMPDM Section 5.2.3)	☐			☐	☐		
<u>Structural BMPs (select all that apply)</u>							
☑ Pollutant Control BMPs (BMPDM Section 5.4)		☑		☑	☑	☑	
☑ Hydromodification BMPs (BMPDM Chapter 6)			☑	☑	☑	☑	
☐ Alternative Compliance Project (BMPDM Section 1.8)				☐	☐	☐	☐

☑ **Please check this box after you complete this list. Corresponding attachments will be automatically selected on the right.**

- *Attachments 1, 2, and 5 are required for all projects.*

Table 6: Critical Coarse Sediment Yield Area (CCSYA) Requirements

- Identify one applicable compliance pathway for the PDP below.
- Document your selection in **Attachment 9**.

A. Hydromodification Management Exemption (BMPDM Sections 1.6 and 6.1)

☐ **PDP is Exempt from Hydromodification Management Requirements**

Select if hydromodification management exemption was selected in Table 4 Part A.1.

B. Watershed Management Area (WMAA) Mapping (BMPDM Appendix H.1.1.2)

☑ **WMAA mapping demonstrates the following:**

a. <5% of potential onsite CCYSAs will be impacted (built on or obstructed)

b. All potential upstream offsite CCYSAs will be bypassed

C. Resource Protection Ordinance (RPO) Methods (BMPDM Appendix H.1.1.1)

☐ **RPO Scenario 1: PDP is subject to and in compliance with RPO requirements**

a. Project requires one or more discretionary permits (RPO applicability is confirmed during discretionary review)

b. Onsite AND upstream offsite CCSYAs will be avoided and/or bypassed

☐ **RPO Scenario 2: PDP is entirely exempt/not subject to RPO requirements**[2]

a. Project does not require discretionary permits

b. Project will bypass all upstream offsite CCSYAs (no requirements for onsite CCSYAs)

D. No Net Impact Analysis (BMPDM Appendix H.4)

☐ **Project demonstrates no net impact to receiving waters**

[2] Does not include PDPs utilizing exemption(s) via RPO Section 86.604(e)(2)(cc) or 86.604(e)(3).

Table 7 –Minimum Construction Stormwater BMPs

Minimum Required BMPs by Activity Type Select all applicable activities and at least one BMP for each	References Caltrans[3]	 County of San Diego
☑ **Erosion Control for Disturbed Slopes** (choose at least 1 per season)		
☐ Vegetation Stabilization Planting[4] (Summer)	SS-2, SS-4	
☐ Hydraulic Stabilization Hydroseeding[9] (Summer)	SS-4	
☐ Bonded Fiber Matrix or Stabilized Fiber Matrix[5] (Winter)	SS-3	
☑ Physical Stabilization Erosion Control Blanket[7] (Winter)	SS-7	
☑ **Erosion control for disturbed flat areas (slope < 5%)**		
☐ County Standard Lot Perimeter Protection Detail	SC-2	PDS 659[6]
☑ Use of Item A erosion control measures on flat areas	SS-3, SS-4, SS-7	
☐ County Standard Desilting Basin (must treat all site runoff)	SC-2	PDS 660[7]
☐ Mulch, straw, wood chips, soil application	SS-6, SS-8	
☑ **Energy dissipation (required to control velocity for concentrated runoff or dewatering discharge)**		
☑ Energy Dissipater Outlet Protection	SS-10	RSD D-40[8]
☑ **Sediment control for all disturbed areas**		
☑ Silt Fence	SC-1	
☑ Fiber Rolls (Straw Wattles)	SC-5	
☑ Gravel & Sand Bags	SC-6, SC-8	
☐ Dewatering Filtration	NS-2	
☑ Storm Drain Inlet Protection	SC-10	
☐ Engineered Desilting Basin (sized for 10-year flow)	SC-2	
☑ **Preventing offsite tracking of sediment**		
☑ Stabilized Construction Entrance	TC-1	
☐ Construction Road Stabilization	TC-2	
☐ Entrance/Exit Tire Wash	TC-3	
☐ Entrance/Exit Inspection & Cleaning Facility	TC-1	
☑ Street Sweeping and Vacuuming	SC-7	
☑ **Materials Management**		
☑ Material Delivery & Storage	WM-1	
☑ Spill Prevention and Control	WM-4	
☑ **Waste Management[9]**		
☑ Waste Management Concrete Waste Management	WM-8	
☑ Solid Waste Management	WM-5	
☑ Sanitary Waste Management	WM-9	
☑ Hazardous Waste Management	WM-6	

[3] See Caltrans 2017 Storm Water Quality Handbooks, Construction Site BMP Manual, available at: (http://www.dot.ca.gov/hq/construc/stormwater/manuals.htm)
[4] Planting or Hydroseeding may be installed between May 1st and August 15th. Slope irrigation must be in place and operable for slopes >3 feet. Vegetation must be watered and established prior to October 1st. A contingency physical BMP must be implemented by August 15th if vegetation is not established by that date. If landscaping is proposed, erosion control measures must also be used while landscaping is being established. Established vegetation must have a subsurface mat of intertwined mature roots with a uniform vegetative coverage of 70 percent of the natural vegetative coverage or more on all disturbed areas.
[5] All slopes over three feet must have established vegetative cover prior to final permit approval.
[6] County PDS 659. Standard Lot Perimeter Protection Design System (Bldg. Division)
[7] County PDS 660. County Standard Desilting Basin for Disturbed Areas of 1 Acre or Less Bldg. Division
[8] Regional Standard Drawing D-40 – Rip Rap Energy Dissipater (also acceptable for velocity reduction)
[9] Applicants are responsible to apply appropriate BMPs for specific wastes (e.g., BMP WM-8 for concrete).

Table 8 – Explanations and Justifications for Construction Phase BMPs

☑ **Check here if no explanations or justifications for Table 7 BMPs are required.**

Justifications for Table 7 Temporary Construction Phase BMPs

- **Required Justifications**: Justify all construction activity types for which NO BMPs were selected.
- **If Requested**: Justify why specific individual BMPs were not selected.
- **Additional Explanation**: Describe any proposed features and/or BMPs not listed in Table 7.

Activity Type / BMP		Explanation
Activity Type		
BMP		
Activity Type		
BMP		
Activity Type		
BMP		
Activity Type		
BMP		
Activity Type		
BMP		
Activity Type		
BMP		
Activity Type		
BMP		

County of San Diego
Stormwater Quality Management Plan (SWQMP)
Attachment 1: Storm Water Intake Form for All Permit Applications

This form establishes Stormwater Quality Management Plan (SWQMP) requirements for Development Projects per Sections 67.809 and 67.811 of the County of San Diego Watershed Protection Ordinance (WPO).
See ***Storm Water Intake Form Instructions*** for additional guidance and explanation of terms.

Part 1. Project Information	
Project Name:	Secret Hills Ranch
Record ID (Permit) No(s):	PDS2020-LDGRMJ-30253
Assessor's Parcel No(s):	520-060-18
Street Address (or Intersection):	Via Viejas Oeste
City, State, Zip:	Alpine, CA 91901

Part 2. Applicant / Project Proponent Information	
Name:	Stanley Boney - Property Owner
Company:	
Street Address:	P O BOX 428
City, State, Zip:	Crystal Bay, NV 89402
Phone Number	(775) 230-2904
Email:	stanboney@me.com

Part 3. Required Information for All Development Projects

Ⓐ **1. Existing (pre-development) impervious surfaces (ft²)**	**2. Created or replaced impervious surfaces (ft²)**	**3. Total disturbed area (acres or ft²)**
-0- SF	170,000 SF	502,000 SF

Ⓑ ☒ Check here and provide a WDID# if this project is subject to the California Construction General Permit (Order No. 2009-0009-DWQ)[1]	**WDID # (if issued)**
	9 37C391001

For County Use Only	Reviewed By:	Review Date:
☐ Standard SWQMP	☐ PDP SWQMP	☐ Green Streets PDP Exemption SWQMP

[1] Available at: https://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.html

Part 4. Priority Classification & SWQMP Form Selection

(A) *If your project is the following … (select one)*	(B) *You must complete …*
☐ **Standard Project** ☐ a. Project is East of the Pacific/Salton Sea Divide ☐ b. None of the PDP criteria below applies	➔ **Standard *SWQMP Form***
☒ **Priority Development Project (PDP)** ☐ 1. Project is part of an existing PDP**,** OR ☒ 2. Project does any of the following: ☒ a. Creates or replaces a total of 10,000 ft² or more of impervious surface ☒ b. Creates or replaces a combined total of 5,000 ft² or more of impervious surface within one or more of the following uses: (1) parking lots; (2) streets, roads, highways, freeways, and/or driveways; (3) restaurants; and (4) hillsides ☐ c. Creates or replaces a combined total of 5,000 ft² or more of impervious surface within one or more of the following uses: (1) automotive repair shops; and (2) retail gasoline outlets ☐ d. Discharges directly to an Environmentally Sensitive Area (ESA) AND creates or replaces 2,500 ft² or more of impervious surface ☒ e. Disturbs one or more acres of land (43,560 ft²) and is expected to generate pollutants post-construction ☐ f. Is a redevelopment project that creates or replaces 5,000 ft² or more of impervious surface on a site already having at least 10,000 ft² of impervious surface	➔ **PDP *SWQMP Form***
☐ **Green Streets PDP Exemption**[2]	➔ **Green *Streets PDP Exemption SWQMP Form***

Part 5. Applicant Signature

I have reviewed the information in this form, and it is true and correct to the best of my knowledge.

Applicant / Project Proponent Signature: [signature] Date: 8/21/20

- ***Upon completion*** *submit this form to the County.*
- ***If requested****, attach supporting documentation to justify selections made or exemptions claimed.*
- ***If this is a PDP that is part of a larger existing PDP****, you will be required to attach a copy of the existing SWQMP to the newer SWQMP submittal.*

[2] ***Green Streets PDP Exemption Projects*** are those claiming exemption from PDP classification per WPO Section 67.811(b)(2) because they consist exclusively of *either* 1) development of new sidewalks, bike lanes, and/or trails; *or* 2) improvements to existing roads, sidewalks, bike lanes, and/or trails.

2.0 General Requirements

- Attachment 2 consolidates exhibits and plans required for the entire project.
- Complete the table below to indicate which sub-attachments are included with the submittal. Sub-attachments that are not applicable can be excluded from the submittal.
- Unless otherwise stated, features and BMPs identified and described in each corresponding Attachment (6 through 9) must be shown on applicable DMA Exhibits and construction plans submitted for the project.

Sub-attachments	Requirement
☑ **2.1: DMA Exhibits**	All PDPs
☑ **2.2: Individual Structural BMP DMA Mapbook**	PDPs with structural BMPs
☑ **2.3: Construction Plan Sets**	All projects

2.1 DMA Exhibits

- DMA Exhibits must show all DMAs on the project site. Exhibits must include all applicable features identified in applicable SWQMP attachments.
- Exhibits may be prepared individually for the BMPs associated with each applicable SWQMP Attachment (6, 7, 8, and/or 9) or combined into one or more consolidated exhibits.
- Use this checklist to ensure required information is included on each exhibit (copy as needed).

DMA Exhibit ID #:	Drainage Management Exhibits A.1 & B.1, B.2, B.3	
A. Features required for all exhibits		
1. Existing Site Features		
☑ Underlying hydrologic soil group (A, B, C, D)	☑ Topography and impervious areas	
☑ Approximate depth to groundwater	☑ Existing drainage network, directions, and offsite connections	
☐ Natural hydrologic features		
2. Drainage Management Area (DMA) Information		
☑ Proposed drainage network, directions, and offsite connections	☑ DMA boundaries, ID numbers, areas, and type (structural BMP, de minimis, etc.)	
3. Proposed Site Changes, Features, and BMPs		
☑ Proposed demolition and grading	☑ Construction BMPs[2]	
☑ Group 1, 2, and 3 Features[1]	☑ Baseline source control BMPs	
☑ Group 4 Features	☑ Baseline source control BMPs	
B. Proposed Features and BMPs Specific to Individual SWQMP Attachments[3]		
☐ Attachment 6	☐ SSD-BMP impervious dispersion areas ☐ SSD-BMP tree wells	
☑ Attachment 7	☑ Structural pollutant control BMPs	
☑ Attachment 8	☑ Structural hydromodification management BMPs ☑ Point(s) of Compliance (POC) for hydromodification management ☑ Proposed drainage boundary and drainage area to each POC	
☑ Attachment 9	☐ Onsite CCSYAs	☑ Bypass of onsite CCSYAs ☑ Bypass of upstream offsite CCSYAs

[1] Group 1-4 features and baseline BMPs from PDP SWQMP Tables 2 and 3.
[2] Minimum Construction Stormwater BMPs from PDP SWQMP Table 7.
[3] Identify the location, ID numbers, type, and size/detail of BMPs.

SECRET HILLS RANCH
DMA MAP A.1 - EXISTING CONDITIONS

LEGEND

DESCRIPTION	SYMBOL
PROPERTY LINE	N45°45'45"W
EXISTING CONTOUR	90
PROPOSED CONTOUR	90
BASIN LIMITS	
SUB-BASIN LIMITS	
DIRECTION OF FLOW	
IMPERVIOUS AREA	
PERVIOUS AREA	
DRAINAGE MANAGEMENT AREA (DMA) ID	A.1

SITE CHARACTERISTICS

- HYDROLOGIC SOIL GROUP.....C
- APPROXIMATE DEPTH TO GROUND WATER.....>6.5'
- CRITICAL COARSE SEDIMENT YIELD AREAS IN OR UPSTREAM OF PROJECT AREA.....NONE

Drainage Management Area	Impervious Area - ft²	Pervious Area - ft²	Total (SF)	Total (AC)	Percent Impervious
A.0		495,884	495,884	11.3839	0.00%
B.0		291,972	291,972	6.7028	0.00%
C.0		324,445	324,445	7.4482	0.00%
D.0		165,317	165,317	3.7952	0.00%
E.0		163,200	163,200	3.7466	0.00%
F.0		46,628	46,628	1.0704	0.00%
G.0		173,372	173,372	3.9801	0.00%

N

100 0 100 200 300

SCALE: 1"=100'

VIA TESORO (PVT.)
(PRIVATE ROAD EASEMENT REC. 2/23/83 AS DOC. NO. 57756 OF O.R.)

PARCEL 2 OF #7 RD MAINTEN/AGREE 56' STRIP

APN 520-060-18

A.0

B.0

C.0

D.0

E.0

F.0

G.0

POC-1
Q_{100}=20.81 CFS
V_{100}=8.50 FPS

POC-2
Q_{100}=15.36 CFS
V_{100}=7.25 FPS

POC-3
Q_{100}=17.07 CFS
V_{100}=8.02 FPS

POC-4
Q_{100}=8.69 CFS
V_{100}=7.35 FPS

POC-5
Q_{100}=8.58 CFS
V_{100}=7.79 FPS

POC-6
Q_{100}=2.45 CFS
V_{100}=3.25 FPS

POC-7
Q_{100}=9.12 CFS
V_{100}=7.79 FPS

SECRET HILLS RANCH
DMA MAP B.1 - PROPOSED CONDITIONS

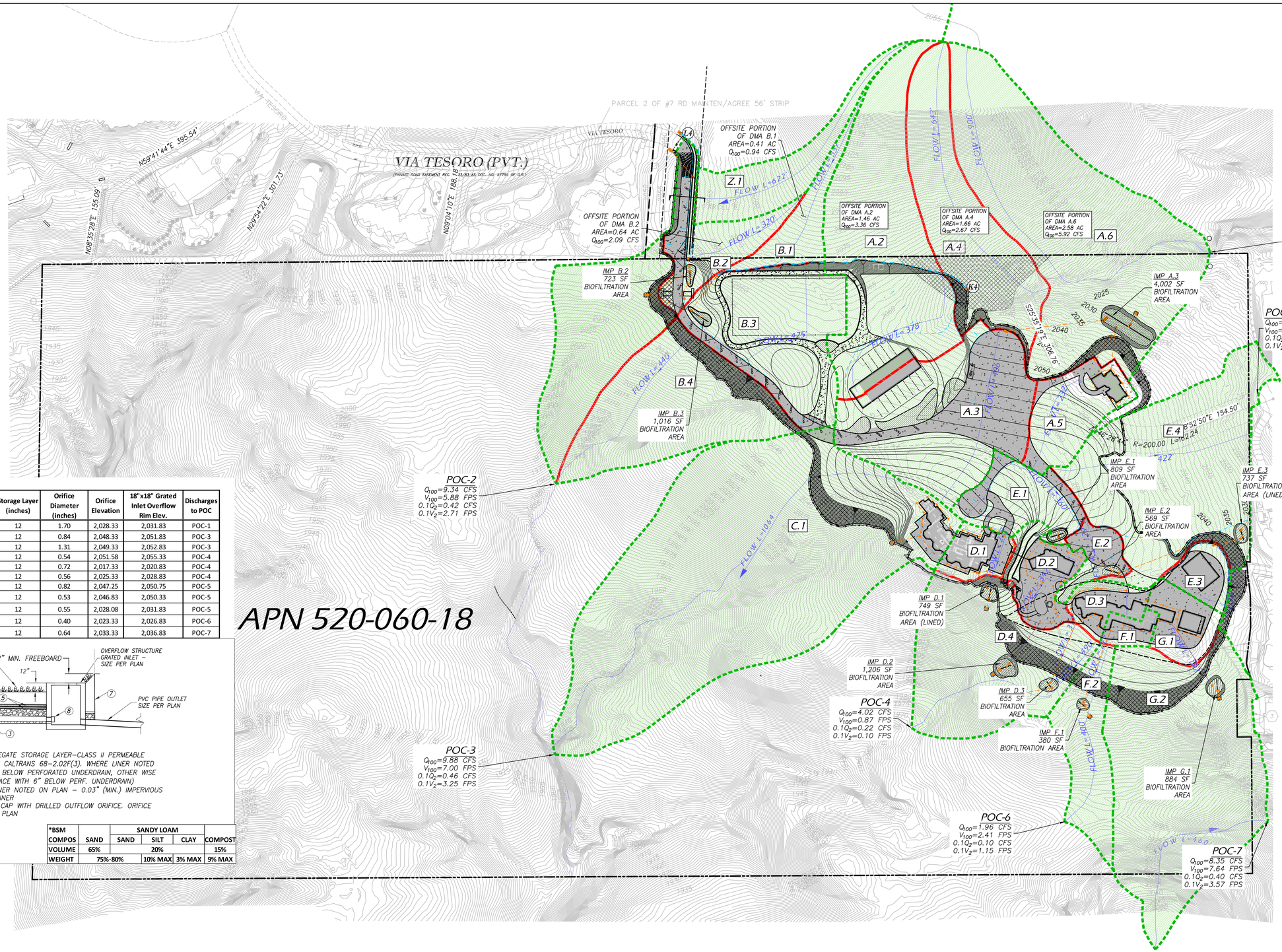
LEGEND

DESCRIPTION	SYMBOL
PROPERTY LINE	N45°45'45"W
EXISTING CONTOUR	90
PROPOSED CONTOUR	90
BASIN LIMITS	
SUB-BASIN LIMITS	
6" PVC DRAIN LINE & LANDSCAPE DRAINS	
DIRECTION OF FLOW	
BROOKS BOX (OR SIM) W/GRATE	
BIOFILTRATION AREA	
IMPERVIOUS AREA	
PERVIOUS AREA	
TYPE B HSG SOILS (TYPE C EVERYWHERE ELSE)	
DRAINAGE MANAGEMENT AREA (DMA) ID	A.1

N

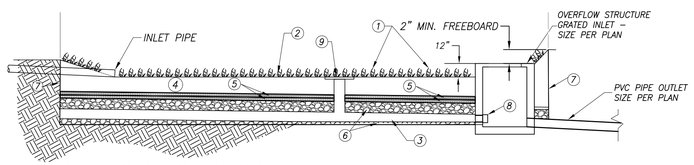
100 0 100 200 300

SCALE: 1"=100'



Structural BMP Characteristics

Structural BMP	BMP Area (ft^2)	Minimum Freeboard (inches)	Ponding Depth (inches)	Engineered Soil Media Depth	Filter Course (inches)	Storage Layer (inches)	Orifice Diameter (inches)	Orifice Elevation	18"x18" Grated Inlet Overflow Rim Elev.	Discharges to POC
IMP A.3	4,002	2	12	18	6	12	1.70	2,028.33	2,031.83	POC-1
IMP B.2	723	2	12	18	6	12	0.84	2,048.33	2,051.83	POC-3
IMP B.3	1,016	2	12	18	6	12	1.31	2,049.33	2,052.83	POC-3
IMP D.1	749	2	12	18	6	12	0.54	2,051.58	2,055.33	POC-4
IMP D.2	1,206	2	12	18	6	12	0.72	2,017.33	2,020.83	POC-4
IMP D.3	658	2	12	18	6	12	0.56	2,025.33	2,028.83	POC-4
IMP E.1	809	2	12	18	6	12	0.82	2,047.25	2,050.75	POC-5
IMP E.2	569	2	12	18	6	12	0.53	2,046.83	2,050.33	POC-5
IMP E.3	737	2	12	18	6	12	0.55	2,028.08	2,031.83	POC-5
IMP F.1	380	2	12	18	6	12	0.40	2,023.33	2,026.83	POC-6
IMP G.1	884	2	12	18	6	12	0.64	2,033.33	2,036.83	POC-7

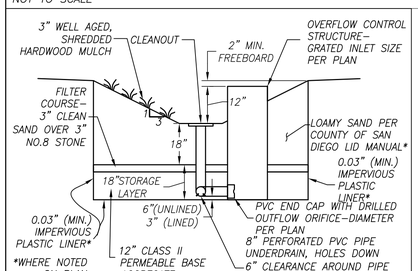


1. DEER GRASS OR PER APPROVED LANDSCAPE PLAN
2. GROUND COVER: 3" OF FINELY SHREDDED HARDWOOD MULCH
3. 8" PERFORATED UNDERDRAIN–LEVEL (WITH 6" AGGREGATE STORAGE LAYER BELOW–3" IF LINED)
4. 18" SOIL MEDIA–LOAMY SAND W/ MINIMUM 5"/HR PERCOLATION*
5. FILTER COURSE – 6" WASHED PEA GRAVEL
6. 12" AGGREGATE STORAGE LAYER–CLASS II PERMEABLE BASE PER CALTRANS 68–2.02F(3). WHERE LINER NOTED PLACE 3" BELOW PERFORATED UNDERDRAIN, OTHER WISE PLACE PLACE WITH 6" BELOW PERF. UNDERDRAIN)
7. WHERE LINER NOTED ON PLAN – 0.03" (MIN.) IMPERVIOUS PLASTIC LINER
8. PVC END CAP WITH DRILLED OUTFLOW ORIFICE. ORIFICE SIZE PER PLAN
9. CLEANOUT

DETAIL A-BIOFILTRATION AREA TYPICAL SECTION

NOT TO SCALE

*BSM COMPOS	SAND	SANDY LOAM SAND	SILT	CLAY	COMPOST
VOLUME	65%	20%			15%
WEIGHT	75%-80%	10% MAX	3% MAX		9% MAX



DETAIL 'B'-BIOFILTRATION AREA TYPICAL SECTION

NOT TO SCALE

SECRET HILLS RANCH
DMA MAP B.2 - PROPOSED CONDITIONS

LEGEND

DESCRIPTION	SYMBOL
PROPERTY LINE	N45°45'45"W
EXISTING CONTOUR	90
PROPOSED CONTOUR	90
BASIN LIMITS	
SUB-BASIN LIMITS	
6" PVC DRAIN LINE & LANDSCAPE DRAINS	
DIRECTION OF FLOW	
BROOKS BOX (OR SIM) W/GRATE	
BIOFILTRATION AREA	
IMPERVIOUS AREA	
PERVIOUS AREA	
TYPE B HSG SOILS (TYPE C EVERYWHERE ELSE)	
DRAINAGE MANAGEMENT AREA (DMA) ID	A.1

PERMANENT SOURCE CONTROL BMPs

- 4.2.1 PREVENTION OF ILLICIT DISCHARGES
- 4.2.3 PROTECT OUTDOOR MATERIAL STORAGE AREAS
- 4.2.4 PROTECT MATERIALS STORED IN OUTDOOR WORK AREAS
- 4.2.5 PROTECT TRASH STORAGE AREAS
- 4.2.6E LANDSCAPE/OUTDOOR PESTICIDE USE
- 4.2.6F POOLS, SPAS, PONDS, FOUNTAINS, AND OTHER WATER FEATURES
- 4.2.6H REFUSE AREAS
- 4.2.6O FIRE SPRINKLER TEST WATER
- 4.2.6P MISCELLANEOUS DRAIN OR WASH WATER
- 4.2.6Q PLAZAS, SIDEWALKS, AND PARKING LOTS

PERMANENT SITE DESIGN (LID) BMPs

- 4.3.2 CONSERVATION/RESTORATION OF NATURAL AREAS, SOILS, AND VEGETATION
- 4.3.3 MINIMIZE IMPERVIOUS AREA
- 4.3.4 MINIMIZE SOIL COMPACTION
- 4.3.5 IMPERVIOUS AREA DISPERSION
- 4.3.7 NATIVE OR DROUGHT TOLERANT VEGETATION

BMPs FOR POLLUTANT GENERATING SOURCES

- SC-C DRAIN FEATURE TO PERVIOUS AREA
- SC-D PROVIDE CONTAINMENT FOR SPILLS AND DISCHARGES
- SC-F PREVENT CONTACT WITH RAINFALL
- SC-G ISOLATE FLOWS FROM ADJACENT AREAS
- SC-H PREVENT WIND DISPERSAL
- SC-H LABEL WITH STENCILS OR SIGNS

CONSTRUCTION BMP LEGEND

MATERIALS & WASTE MANAGEMENT CONTROL BMPs

- WM-1 MATERIAL DELIVERY & STORAGE
- WM-4 SPILL PREVENTION AND CONTROL
- WM-8 CONCRETE WASTE MANAGEMENT
- WM-5 SOLID WASTE MANAGEMENT
- WM-9 SANITARY WASTE MANAGEMENT
- WM-6 HAZARDOUS WASTE MANAGEMENT

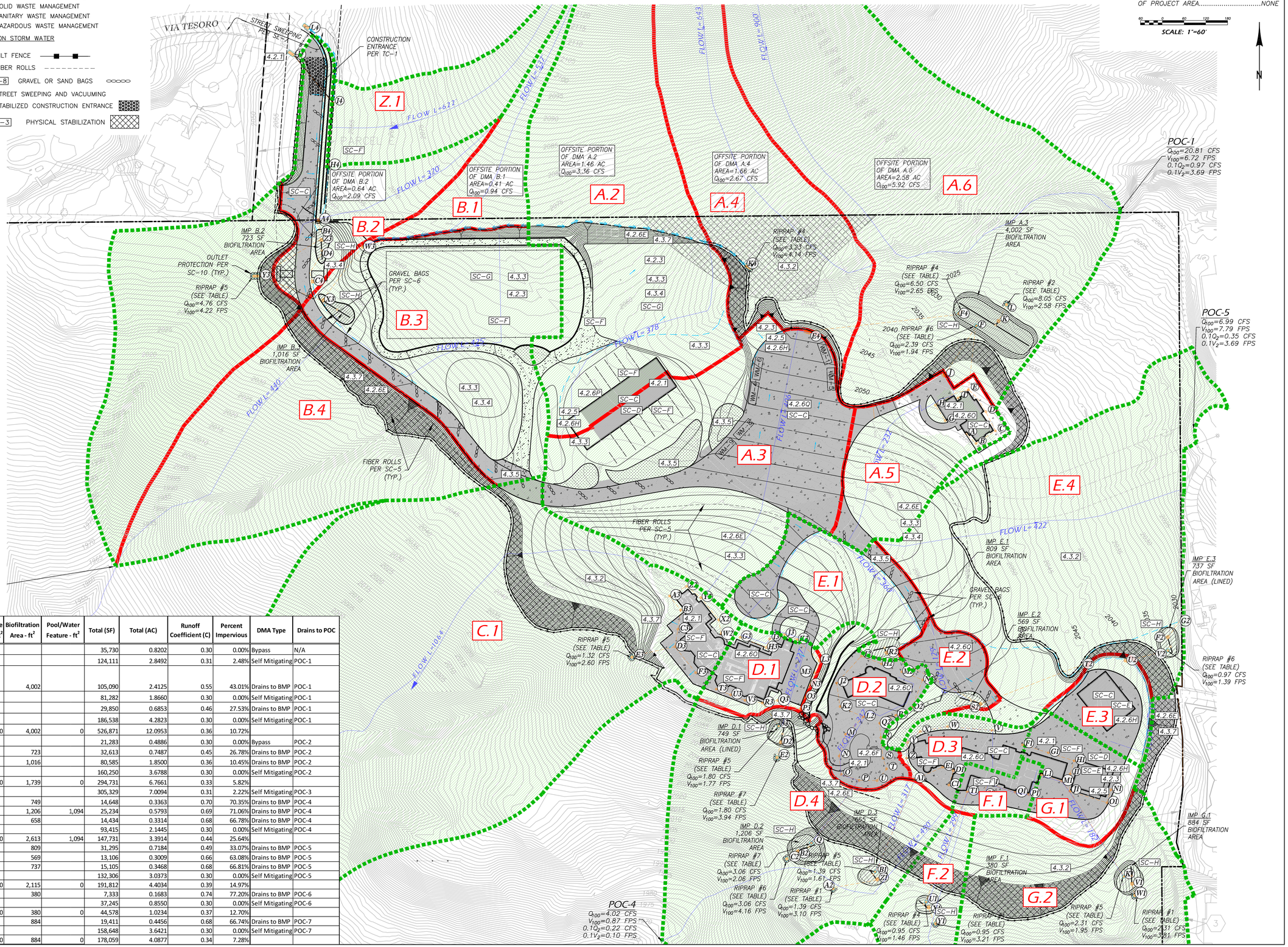
CONSTRUCTION STORM WATER

- SC-1 SILT FENCE
- SC-5 FIBER ROLLS
- SC-6 / SC-8 GRAVEL OR SAND BAGS
- SC-7 STREET SWEEPING AND VACUUMING
- TC-1 STABILIZED CONSTRUCTION ENTRANCE
- EC-7 / EC-3 PHYSICAL STABILIZATION

SITE CHARACTERISTICS

- HYDROLOGIC SOIL GROUP.....C/B
- APPROXIMATE DEPTH TO GROUND WATER.....>6.5'
- CRITICAL COARSE SEDIMENT YIELD AREAS IN OR UPSTREAM OF PROJECT AREA.....NONE

SCALE: 1"=60'



Drainage Management Area	Impervious Area - ft²	Pervious Area - ft²	Permeable Paving - ft²	Biofiltration Area - ft²	Pool/Water Feature - ft²	Total (SF)	Total (AC)	Runoff Coefficient (C)	Percent Impervious	DMA Type	Drains to POC
Z.1 - Offsite area near entry (Bypass project)		35,730				35,730	0.8202	0.30	0.00%	Bypass	N/A
A.2 - Stalls & 1/2 of Barn	3,072	121,039				124,111	2.8492	0.31	2.48%	Self Mitigating	POC-1
A.3 - S. 1/2 of Barn and Large Por. Of DW	45,203	55,885		4,002		105,090	2.4125	0.55	43.01%	Drains to BMP	POC-1
A.4 - Natural Slope E. of Stalls		81,282				81,282	1.8660	0.30	0.00%	Self Mitigating	POC-1
A.5 - Caretakers Quarters	8,219	21,631				29,850	0.6853	0.46	27.53%	Drains to BMP	POC-1
A.6 - Natural Slope		186,538				186,538	4.2823	0.30	0.00%	Self Mitigating	POC-1
Total Basin A (POC-1)	56,494	466,375	0	4,002	0	526,871	12.0953	0.36	10.72%		
B.1 - Nat. Slope above arena		21,283				21,283	0.4886	0.30	0.00%	Bypass	POC-2
B.2 - Driveway Section Near Entrance	8,735	23,155		723		32,613	0.7487	0.45	26.78%	Drains to BMP	POC-2
B.3 - Por of DW near Arena	8,422	71,147		1,016		80,585	1.8500	0.36	10.45%	Drains to BMP	POC-2
B.4 - Slope below Por of DW near ent.		160,250				160,250	3.6788	0.30	0.00%	Self Mitigating	POC-2
Total Basin B (POC-2)	17,157	275,835	0	1,739	0	294,731	6.7661	0.33	5.82%		
C.1 - West 1/2 of Main House	6,772	298,557				305,329	7.0094	0.31	2.22%	Self Mitigating	POC-3
D.1 - East 1/2 of Main House	10,305	3,594		749		14,648	0.3363	0.70	70.35%	Drains to BMP	POC-4
D.2 - Cabana and Pool	17,932	5,002		1,206	1,094	25,234	0.5793	0.69	71.06%	Drains to BMP	POC-4
D.3 - West 1/2 of Emp #1	9,639	4,137		658		14,434	0.3314	0.68	66.78%	Drains to BMP	POC-4
D.4 - Slope Below Pool & Main House		93,415				93,415	2.1445	0.30	0.00%	Self Mitigating	POC-4
Total Basin D (POC-4)	37,876	106,148	0	2,613	1,094	147,731	3.3914	0.44	25.64%		
E.1 - Driveway to Main house	10,349	20,137		809		31,295	0.7184	0.49	33.07%	Drains to BMP	POC-5
E.2 - Bottom of DW near cabana	8,267	4,270		569		13,106	0.3009	0.66	63.08%	Drains to BMP	POC-5
E.3 - Portion of house #1 & Shop	10,092	4,276		737		15,105	0.3468	0.68	66.81%	Drains to BMP	POC-5
E.4 - Pasture area north of Emp #1		132,306				132,306	3.0373	0.30	0.00%	Self Mitigating	POC-5
Total Basin E (POC-5)	28,708	160,989	0	2,115	0	191,812	4.4034	0.39	14.97%		
F.1 - S. Central Section of Emp #1	5,661	1,292		380		7,333	0.1683	0.74	77.20%	Drains to BMP	POC-6
F.2 - Slope below S. Central Sec. of Emp #1		37,245				37,245	0.8550	0.30	0.00%	Self Mitigating	POC-6
Total Basin F (POC-6)	5,661	38,537	0	380	0	44,578	1.0234	0.37	12.70%		
G.1 - SW Quadrant of Emp House #1	12,955	5,572		884		19,411	0.4456	0.68	66.74%	Drains to BMP	POC-7
G.2 - Slope Below SW Quad of Emp House #1		158,648				158,648	3.6421	0.30	0.00%	Self Mitigating	POC-7
Total Basin G (POC-7)	12,955	164,220	0	884	0	178,059	4.0877	0.34	7.28%		

DRAIN STRUCTURES			
ID	TYPE	RIM	IE
A	4" ROUND GRATE	2049.95	2048.48
A1	4" ROUND GRATE	2049.90	2045.94
A2	RIPRAP #1	2024.43	2022.45
A3	4" ROUND GRATE	2064.95	2062.34
A4	12x12 GRATED INLET	2054.72	2053.21
B	4" ROUND GRATE	2049.95	2048.30
B1	RIPRAP #5	2029.50	2027.83
B2	18x18 GRATED INLET	2020.83	2018.33
B3	4" ROUND GRATE	2064.95	2062.09
B4	RIPRAP #1	2054.39	2052.87
C	4" ROUND GRATE	2049.95	2047.98
C1	4" ROUND GRATE	2049.90	2048.66
C2	RIPRAP #6	2017.04	2014.76
C3	4" ROUND GRATE	2064.95	2061.83
C4	12x12 GRATED INLET	2052.60	2051.10
D	4" ROUND GRATE	2049.95	2047.68
D1	4" ROUND GRATE	2049.90	2048.45
D2	18x18 GRATED INLET	2055.33	2052.83
D3	4" ROUND GRATE	2064.95	2061.58
D4	RIPRAP #1	2051.59	2050.83
E	4" ROUND GRATE	2049.95	2047.30
E1	4" ROUND GRATE	2049.90	2048.29
E2	RIPRAP #7	2049.03	2047.34
E3	RIPRAP #5	2064.95	2054.00
E4	2EA - 18x18 GRATED INLET	2042.85	2040.59
F	RIPRAP #6	2032.50	2030.83
F1	4" ROUND GRATE	2049.90	2048.45
F2	18x18 GRATED INLET	2031.83	2029.33
F3	4" ROUND GRATE	2064.95	2063.45
F4	RIPRAP #4	2033.01	2030.83

DRAIN STRUCTURES			
ID	TYPE	RIM	IE
G	4" ROUND GRATE	2049.95	2048.45
G1	4" ROUND GRATE	2049.90	2048.08
G2	4" ROUND GRATE	2030.00	2028.00
G3	4" ROUND GRATE	2064.95	2063.45
H	4" ROUND GRATE	2049.95	2048.20
H1	4" ROUND GRATE	2049.90	2047.70
H2	4" ROUND GRATE	2050.95	2047.95
H3	4" ROUND GRATE	2064.95	2063.06
H4	12x12 GRATED INLET	2062.46	2060.95
I	4" ROUND GRATE	2049.95	2048.45
I1	4" ROUND GRATE	2049.90	2047.51
I2	4" ROUND GRATE	2050.95	2047.65
I3	4" ROUND GRATE	2064.95	2062.94
I4	12x12 GRATED INLET	2062.61	2060.08
J	12x12 GRATED INLET	2049.85	2048.45
J1	4" ROUND GRATE	2049.90	2047.28
J2	4" ROUND GRATE	2050.95	2047.15
J3	4" ROUND GRATE	2064.95	2062.72
J4	RIPRAP #1	2052.51	2050.98
K	36x36 GRATED INLET	2031.83	2029.33
K1	RIPRAP #5	2037.19	2035.83
K2	4" ROUND GRATE	2050.95	2046.82
K3	4" ROUND GRATE	2064.95	2062.53
K4	RIPRAP #4	2045.52	2044.50
L	RIPRAP #2	2029.02	2028.00
L1	4" ROUND GRATE	2049.90	2048.45
L2	4" ROUND GRATE	2050.95	2046.46
L3	4" ROUND GRATE	2064.95	2062.12
L4	RIPRAP #1	2054.02	2053.00
M	4" ROUND GRATE	2052.00	2046.12

DRAIN STRUCTURES			
ID	TYPE	RIM	IE
M1	4" ROUND GRATE	2049.90	2048.16
M2	4" ROUND GRATE	2050.95	2047.95
M3	4" ROUND GRATE	2064.95	2061.94
N	4" ROUND GRATE	2050.90	2045.81
N1	4" ROUND GRATE	2049.90	2048.45
N2	4" ROUND GRATE	2050.95	2047.64
N3	4" ROUND GRATE	2065.02	2061.76
O	4" ROUND GRATE	2050.90	2045.55
O1	4" ROUND GRATE	2049.90	2048.26
O2	4" ROUND GRATE	2050.95	2047.24
O3	4" ROUND GRATE	2065.20	2061.58
P	4" ROUND GRATE	2050.90	2045.29
P1	4" ROUND GRATE	2049.90	2048.45
P2	4" ROUND GRATE	2050.95	2046.99
P3	4" ROUND GRATE	2065.55	2061.40
Q	RIPRAP #7	2021.02	2019.83
Q1	4" ROUND GRATE	2049.90	2048.26
Q2	4" ROUND GRATE	2050.95	2046.74
Q3	4" ROUND GRATE	2065.88	2061.06
R	4" ROUND GRATE	2052.00	2046.54
R1	4" ROUND GRATE	2049.90	2047.86
R2	18x18 GRATED INLET	2050.75	2048.25
R3	4" ROUND GRATE	2064.95	2060.85
S	4" ROUND GRATE	2050.90	2046.25
S1	4" ROUND GRATE	2049.90	2047.68
S2	18x18 GRATED INLET	2050.33	2047.00
S3	RIPRAP #5	2064.21	2054.33
T	4" ROUND GRATE	2050.90	2046.10
T1	4" ROUND GRATE	2049.90	2047.45
T2	4" ROUND GRATE	2051.00	2044.50

DRAIN STRUCTURES			
ID	TYPE	RIM	IE
T3	4" ROUND GRATE	2064.95	2063.45
U	4" ROUND GRATE	2050.90	2045.89
U1	RIPRAP #4	2050.41	2025.83
U2	12x12 GRATED INLET	2051.00	2046.00
U3	4" ROUND GRATE	2064.95	2063.24
V	4" ATRIUM GRATE	2049.50	2047.70
V1	18x18 GRATED INLET	2036.83	2034.33
V2	RIPRAP #6	2032.02	2030.83
V3	4" ROUND GRATE	2064.95	2063.02
W	4" ATRIUM GRATE	2049.50	2047.08
W1	RIPRAP #1	2033.92	2033.00
W2	4" ROUND GRATE	2064.95	2063.45
W3	12x12 GRATED INLET	2059.07	2057.04
X	4" ATRIUM GRATE	2049.50	2046.70
X1	18x18 GRATED INLET	2026.83	2024.33
X2	4" ROUND GRATE	2064.95	2063.26
X3	18x18 GRATED INLET	2052.83	2043.83
Y	4" ATRIUM GRATE	2049.50	2046.47
Y1	RIPRAP #1	2024.38	2023.00
Y2	4" ROUND GRATE	2064.95	2062.86
Y3	RIPRAP #5	2043.60	2041.75
Z	4" ROUND GRATE	2049.90	2046.25
Z1	18x18 GRATED INLET	2028.83	2026.33
Z2	4" ROUND GRATE	2064.95	2062.61
Z3	18x18 GRATED INLET	2051.83	2049.33

RIPRAP TABLE	
RIPRAP #	DESCRIPTION
(1)	NO.3 BACKING, 0.6'Tx5'Wx10'L, OVER 0.6' OF D.G.FILTER BLANKET
(2)	NO.2 BACKING, 1.0'Tx5'Wx10'L, OVER 1.0' OF D.G.FILTER BLANKET
(3)	FACING ROCK, 1.4'Tx5'Wx10'L, OVER 1.0' OF D.G.FILTER BLANKET
(4)	LIGHT ROCK, 2.0'Tx5'Wx10'L, OVER 1.0' OF 3/4"-1 1/2" P.B. FILTER BLANKET OVER SAND
(5)	1/4 TON, 2.7'Tx5'Wx10'L, OVER 1.0' OF 3/4"-1 1/2" P.B. FILTER BLANKET OVER SAND
(6)	1/2 TON, 3.4'Tx5'Wx10'L, OVER 1.0' OF 3/4"-1 1/2" P.B. FILTER BLANKET OVER SAND
(7)	1 TON, 4.3'Tx5'Wx10'L, OVER 1.0' OF TYPE B BEDDING MATERIAL FILTER BLANKET OVER SAND
(8)	2 TON, 5.4'Tx5'Wx10'L, OVER 1.0' OF TYPE B BEDDING MATERIAL FILTER BLANKET OVER SAND
ALL RIPRAP MATERIAL PER SD COUNTY DRAINAGE DESIGN MANUAL, TABLE 7.1. RIPRAP CONSTRUCTION PER SDRSD D-40	

PIPE TABLE			
PIPE	SIZE/TYPE	SLOPE	LENGTH (CENTER TO CENTER)
A-B	6" PVC	1.00%	18.78
A1-B1	6" PVC	13.26%	136.56
A3-B3	6" PVC	1.00%	24.91
A4-B4	6" PVC	1.93%	17.33
B-C	6" PVC	1.00%	31.83
B2-C2	6" PVC	22.48%	15.88
B3-C3	6" PVC	1.00%	26.68
C-D	6" PVC	1.00%	29.48
C1-A1	6" PVC	0.88%	49.45
C1-D1	6" PVC	1.00%	21.00
C3-D3	6" PVC	1.00%	24.55
C4-D4	6" PVC	0.61%	44.53
D-E	6" PVC	1.00%	38.74
D1-E1	6" PVC	1.00%	15.59
D2-E2	8" PVC	28.17%	19.51
D3-E3	6" PVC	12.88%	58.87
E-F	6" PVC	18.92%	86.84
E4-F4	12" PVC	4.72%	206.57
F1-G1	6" PVC	1.00%	37.27
F2-G2	8" PVC	5.05%	26.32
F3-D3	6" PVC	4.08%	45.79
G-H	6" PVC	1.00%	25.29
G1-H1	6" PVC	1.00%	37.27
G3-H3	6" PVC	1.00%	38.78
H-E	6" PVC	1.87%	50.22

PIPE TABLE			
PIPE	SIZE/TYPE	SLOPE	LENGTH (CENTER TO CENTER)
H1-I1	6" PVC	1.00%	19.06
H2-I2	6" PVC	1.00%	30.15
H3-I3	6" PVC	1.00%	12.68
H4-I4	6" PVC	1.00%	86.37
I-E	6" PVC	6.46%	18.42
I1-J1	6" PVC	1.00%	23.81
I2-J2	6" PVC	1.00%	50.23
I3-J3	6" PVC	1.00%	21.19
I4-J4	6" PVC	10.79%	84.34
J-F	6" PVC	22.16%	79.52
J1-K1	8" PVC	8.37%	136.79
J2-K2	6" PVC	1.00%	32.87
J3-K3	6" PVC	1.00%	18.98
K-L	12" PVC	5.80%	22.94
K2-L2	6" PVC	1.00%	35.46
K3-L3	6" PVC	1.00%	41.69
K4-	12" PVC	0.00%	6.56
L1-M1	6" PVC	1.00%	28.89
L2-M	6" PVC	1.00%	34.62
L3-M3	6" PVC	1.00%	18.00
L4-	12" PVC	0.00%	8.67
M-N	6" PVC	1.00%	31.05
M1-J1	6" PVC	4.91%	17.99
M2-N2	6" PVC	1.00%	30.78
M3-N3	6" PVC	1.00%	18.00

PIPE TABLE			
PIPE	SIZE/TYPE	SLOPE	LENGTH (CENTER TO CENTER)
N-O	6" PVC	1.00%	25.70
N1-O1	6" PVC	1.00%	18.76
N2-O2	6" PVC	1.00%	40.69
N3-O3	6" PVC	1.00%	18.00
O-P	6" PVC	1.00%	25.81
O1-J1	6" PVC	1.84%	53.60
O2-P2	6" PVC	1.00%	24.85
O3-P3	6" PVC	1.00%	18.00
P-Q	6" PVC	24.30%	106.19
P1-Q1	6" PVC	1.00%	18.81
P2-Q2	6" PVC	1.00%	24.85
P3-Q3	8" PVC	1.00%	33.37
Q1-R1	6" PVC	1.00%	40.39
Q2-R	6" PVC	1.00%	19.97
Q3-R3	8" PVC	1.00%	21.27
R-S	6" PVC	1.00%	28.65
R1-S1	6" PVC	1.00%	17.71
R2-S2	6" PVC	0.84%	148.15
R3-S3	8" PVC	17.71%	36.81
S-T	6" PVC	1.00%	15.62
S1-T1	6" PVC	1.00%	23.13
S2-T2	6" PVC	1.67%	149.56
T-U	6" PVC	1.00%	20.73
T1-U1	6" PVC	13.58%	159.19
T3-U3	6" PVC	1.00%	21.38

PIPE TABLE			
PIPE	SIZE/TYPE	SLOPE	LENGTH (CENTER TO CENTER)
U-P	6" PVC	1.37%	24.89
U2-V2	6" PVC	26.27%	57.74
U3-V3	6" PVC	1.00%	21.38
V-W	6" PVC	1.00%	61.69
V1-W1	8" PVC	9.48%	14.02
V3-R3	6" PVC	9.03%	24.05
W-X	6" PVC	1.00%	38.34
W2-X2	6" PVC	1.00%	19.33
W3-X3	6" PVC	14.38%	91.87
X-Y	6" PVC	1.00%	23.21
X1-Y1	6" PVC	5.96%	22.31
X2-Y2	6" PVC	1.01%	39.20
X3-Y3	8" PVC	8.05%	94.15
Y-Z	6" PVC	1.00%	21.66
Y2-Z2	6" PVC	0.98%	25.10
Z-A1	6" PVC	1.03%	30.45
Z1-A2	8" PVC	6.42%	60.40
Z2-A3	6" PVC	1.00%	27.09
Z3-Y3	8" PVC	8.11%	98.95

2.2 Individual Structural BMP DMA Mapbook

- Use this page as a cover sheet for the Structural DMA Mapbook.
- An individual Structural DMA Mapbook must be submitted for any project site with one or more structural BMPs. One Mapbook is required for each unique subsequent owner with responsibility for maintenance of a Structural BMP. Mapbook exhibits will be incorporated as exhibits in Stormwater Maintenance Agreements (SWMAs) and Maintenance Notifications (MNs). See Attachment 11 for additional information on maintenance agreements. If the Mapbook has been provided for each subsequent owner in Attachment 11, they are not required here.
- Place each map on 8.5"x11" paper.
- Show at a minimum the DMA, Structural BMP, Assessor's parcel boundaries with parcel numbers, and any existing hydrologic features within the DMA.

☐	All Mapbooks are attached
☑	All Mapbooks are in Attachment 11

2.3 Construction Plan Sets

- DMAs, features, and BMPs identified and described in this attachment must also be shown on all applicable construction and landscape plans.
- As applicable, plan sheets must identify:
    - All features and BMPs identified in Sub-attachment 2.1 (DMA Exhibits).
    - The additional information listed below.
- Use this checklist to ensure required information is included on each plan (copy as needed).

Plan Type	Grading Plan
Required Information[4]	
☑ Structural BMP(s) and Significant Site Design BMPs (if applicable) with ID numbers.	
☑ The grading and drainage design shown on the plans must be consistent with the delineation of DMAs shown on the DMA exhibit.	
☑ Details and specifications for construction of Structural BMP(s) and Significant Site Design BMPs (if applicable).	
☑ Signage indicating the location and boundary of structural BMP(s) as required by County staff.	
☑ How to access the structural BMP(s) to inspect and perform maintenance.	
☑ 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).	
☑ 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 (if available) showing vegetation requirements for vegetated structural BMP(s).	
☑ All BMPs must be fully dimensioned on the plans.	
☐ When proprietary BMPs are used, site-specific cross-section with outflow, inflow, and manufacturer model number must be provided. Photocopies of general brochures are not acceptable.	
☑ Include all source control and site design measures described in the SWQMP.	
☑ Include all construction BMPs described in the SWQMP.	

[4] For Building Permit Applications, refer to Form PDS 272, https://www.sandiegocounty.gov/content/dam/sdc/pds/docs/pds272.pdf

3.0 Cover Sheet and General Requirements

- Standard SWQMP Form Table 2 and PDP SWQMP Form Table 3 require the identification of pollutant-generating sources and associated BMPs for development projects.

- In some cases, County staff may request additional, more detailed documentation of source control BMP design details. If requested, applicants must submit a completed copy of this Source Control BMP Worksheet. This requirement can be satisfied either by submitting a copy of BMPDM Attachment E.1 (Source Control BMP Requirements) or equivalent documentation at the County's discretion.

- Submit this documentation using this cover sheet.

- Sources and BMPs must also be shown as applicable on DMA exhibits and construction plans (see Attachment 2).

SECRET HILLS RANCH GRADING PLAN

GENERAL NOTES

1. APPROVAL OF THIS GRADING PLAN DOES NOT CONSTITUTE APPROVAL OF VERTICAL OR HORIZONTAL ALIGNMENT OF ANY PRIVATE ROAD SHOWN HEREON FOR COUNTY ROAD PURPOSES.
2. FINAL APPROVAL OF THESE GRADING PLANS SUBJECT TO FINAL APPROVAL OF THE ASSOCIATED IMPROVEMENT PLANS WHERE APPLICABLE. FINAL CURB ELEVATIONS MAY REQUIRE CHANGES IN THESE PLANS.
3. IMPORT MATERIAL SHALL BE OBTAINED FROM A LEGAL SITE.
4. A CONSTRUCTION, EXCAVATION OR ENCROACHMENT PERMIT FROM THE DEPARTMENT OF PUBLIC WORKS WILL BE REQUIRED FOR ANY WORK IN THE COUNTY RIGHT-OF-WAY.
5. ALL SLOPES OVER THREE FEET IN HEIGHT WILL BE PLANTED IN ACCORDANCE WITH SAN DIEGO COUNTY SPECIFICATIONS.
6. THE CONTRACTOR SHALL VERIFY THE EXISTENCE AND LOCATION OF ALL UTILITIES BEFORE COMMENCING WORK. NOTICE OF PROPOSED WORK SHALL BE GIVEN TO THE FOLLOWING AGENCIES:

SAN DIEGO GAS & ELECTRIC:	TELEPHONE NO. (800) 411-7343
AT&T:	TELEPHONE NO: (510) 645-2929
CATV:	TELEPHONE NO: (619) 520-4720
SEWER:	TELEPHONE NO: (619) 258-4640
WATER:	TELEPHONE NO: (619) 258-4640

7. A SOILS REPORT MAY BE REQUIRED PRIOR TO THE ISSUANCE OF A BUILDING PERMIT.
8. APPROVAL OF THESE PLANS BY THE DIRECTOR OF PUBLIC WORKS DOES NOT AUTHORIZE ANY WORK OR GRADING TO BE PERFORMED UNTIL THE PROPERTY OWNER'S PERMISSION HAS BEEN OBTAINED AND VALID GRADING PERMIT HAS BEEN ISSUED.
9. THE DIRECTOR OF PUBLIC WORKS' APPROVAL OF THESE PLANS DOES NOT CONSTITUTE COUNTY BUILDING OFFICIAL APPROVAL OF ANY FOUNDATION FOR STRUCTURES TO BE PLACED ON THE AREAS COVERED BY THESE PLANS. NO WAIVER OF THE GRADING ORDINANCE REQUIREMENTS CONCERNING MINIMUM COVER OVER EXPANSIVE SOIL IS MADE OR IMPLIED (SECTIONS 87.403 & 87.410). ANY SUCH WAIVER MUST BE OBTAINED FROM THE DIRECTOR OF PLANNING AND DEVELOPMENT SERVICES.
10. ALL OPERATIONS CONDUCTED ON THE PREMISES, INCLUDING THE WARMING UP, REPAIR, ARRIVAL, DEPARTURE OR RUNNING OF TRUCKS, EARTHMOVING EQUIPMENT, CONSTRUCTION EQUIPMENT AND ANY OTHER ASSOCIATED GRADING EQUIPMENT SHALL BE LIMITED TO THE PERIOD BETWEEN 7:00 AM AND 6:00 PM EACH DAY, MONDAY THRU SATURDAY, AND NO EARTHMOVING OR GRADING OPERATIONS SHALL BE CONDUCTED ON THE PREMISES ON SUNDAYS OR HOLIDAYS.
11. ALL MAJOR SLOPES SHALL BE ROUNDED INTO EXISTING TERRAIN TO PRODUCE A CONTOURED TRANSITION FROM CUT OR FILL FACES TO NATURAL GROUND AND ABUTTING CUT OR FILL SURFACES.
12. NOTWITHSTANDING THE MINIMUM STANDARDS SET FORTH IN THE GRADING ORDINANCE AND NOTWITHSTANDING THE APPROVAL OF THESE GRADING PLANS, THE PERMITTEE IS RESPONSIBLE FOR THE PREVENTION OF DAMAGE TO ADJACENT PROPERTY. NO PERSON SHALL EXCAVATE ON LAND SO CLOSE TO THE PROPERTY LINE AS TO ENDANGER ANY ADJOINING PUBLIC STREET, SIDEWALK ALLEY, FUNCTION OF ANY SEWAGE DISPOSAL SYSTEM, OR ANY OTHER PUBLIC OR PRIVATE PROPERTY WITHOUT SUPPORTING AND PROTECTING SUCH PROPERTY FROM SETTLING, CRACKING, EROSION SILTING, SCOUR OR OTHER DAMAGE WHICH MIGHT RESULT FROM THE GRADING DESCRIBED ON THIS PLAN. THE COUNTY WILL HOLD THE PERMITTEE RESPONSIBLE FOR CORRECTION OF NON-DEDICTED IMPROVEMENTS WHICH DAMAGE ADJACENT PROPERTY.
13. SLOPE RATIOS:

CUT–1.5:1 FOR MINOR SLOPES (SLOPES<15'), 2:1 FOR MAJOR SLOPES
FILL–2:1

EXCAVATION:	50,600 cy
FILL:	50,600 cy
EXPORT:	-0- cy

(NOTE: A SEPARATE VALID PERMIT MUST EXIST FOR EITHER WASTE OR IMPORT AREAS BEFORE PERMIT TO BE ISSUED)

14. SPECIAL CONDITION: IF ANY ARCHAEOLOGICAL RESOURCES ARE DISCOVERED ON THE SITE OF THIS GRADING DURING GRADING OPERATIONS, SUCH OPERATIONS WILL CEASE IMMEDIATELY, AND THE PERMITTEE WILL NOTIFY THE DIRECTOR OF PUBLIC WORKS OF THE DISCOVERY, GRADING OPERATIONS WILL NOT COMMENCE UNTIL THE PERMITTEE HAS RECEIVED WRITTEN AUTHORITY FROM THE DIRECTOR OF PUBLIC WORKS TO DO SO.
15. PERMANENT POST–CONSTRUCTION BMP DEVICES SHOWN ON PLAN SHALL NOT BE REMOVED OR MODIFIED WITHOUT THE APPROVAL FROM THE DEPARTMENT OF PUBLIC WORKS.
16. THE APPLICANT SHALL BE RESPONSIBLE FOR THE ROAD MAINTENANCE (SWEEPING AS NECESSARY) AND REPAIRS OF ANY DAMAGE CAUSED BY THEM TO THE ONSITE AND OFF–SITE COUNTY MAINTAINED OR PRIVATE ROADS THAT SERVE THE PROPERTY EITHER DURING CONSTRUCTION OR SUBSEQUENT OPERATIONS. THE APPLICANT WILL REPAIR THOSE PORTIONS OF THE ROUTE THAT WOULD BE DAMAGED BY THE HEAVY LOADS THAT LOADED TRUCKS PLACE ON THE ROUTE IDENTIFIED.
17. FINAL APPROVAL OF THIS GRADING PLAN IS SUBJECT TO FINAL APPROVAL OF THE ASSOCIATED IMPROVEMENT PLANS WHERE APPLICABLE. FINAL CURB GRADE ELEVATIONS MAY REQUIRE CHANGE TO THESE PLANS.
18. THE ENGINEER OF WORK SHALL COMPLY WITH ALL PROJECT APPLICABLE LAWS THAT INCLUDE, BUT ARE NOT LIMITED TO, HEALTH, SAFETY, AND ENVIRONMENTAL LAWS, ORDINANCES, AND REGULATIONS RELATING TO THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, AND U.S. FEDERAL GOVERNMENT. THE PROJECT IS SUBJECT TO ENFORCEMENT UNDER PERMITS FROM THE SAN DIEGO REGIONAL WATER QUALITY CONTROL BOARD (RWQCB) AND THE COUNTY OF SAN DIEGO WATERSHED PROTECTION, STORMWATER MANAGEMENT, AND DISCHARGE CONTROL ORDINANCE NO. 10410, COUNTY OF SAN DIEGO HYDRAULIC DESIGN MANUAL, AND ALL OTHER APPLICABLE ORDINANCES AND STANDARDS FOR THE LIFE OF THIS PERMIT. THE PROJECT SITE SHALL BE IN COMPLIANCE WITH ALL APPLICABLE STORMWATER REGULATIONS REFERENCED ABOVE AND ALL OTHER APPLICABLE ORDINANCES AND STANDARDS. THIS INCLUDES COMPLIANCE WITH THE APPROVED STORM WATER QUALITY MANAGEMENT PLAN (SWQMP), ALL REQUIREMENTS FOR LOW IMPACT DEVELOPMENT (LID), HYDROMODIFICATION, DETENTION FACILITIES, MATERIALS AND WASTES CONTROL, EROSION CONTROL, AND SEDIMENT CONTROL ON THE PROJECT SITE.
19. THE ISSUANCE OF THIS PERMIT/APPROVAL BY THE COUNTY OF SAN DIEGO DOES NOT AUTHORIZE THE APPLICANT FOR THE PERMIT/APPROVAL TO VIOLATE ANY FEDERAL, STATE, OR COUNTY LAWS, ORDINANCES, REGULATIONS, OR POLICIES INCLUDING, BUT NOT LIMITED TO THE FEDERAL ENDANGERED SPECIES ACT AND CLEAN WATER ACT. GRADING AND/OR FURTHER DEVELOPMENT ARE PROHIBITED WITHIN THE AREAS DESIGNATED "LIMITS OF JURISDICTIONAL HABITAT" UNTIL FEDERAL PERMITS AND STATE PERMITS (IF ANY) HAVE BEEN ACQUIRED.

SOILS ENGINEER STATEMENT:

I, MARTIN R. OWEN, A REGISTERED CIVIL ENGINEER OF THE STATE OF CALIFORNIA, PRINCIPALLY DOING BUSINESS IN THE FIELD OF APPLIED SOIL MECHANICS, HEREBY VERIFY THAT A SAMPLING AND STUDY OF THE SOIL CONDITIONS PREVALENT WITHIN THIS SITE WAS MADE BY ME OR UNDER MY DIRECTION ON THE DATE OF FEBRUARY 23, 2020, ONE COMPLETE COPY OF SOILS REPORT COMPILED FROM THIS STUDY, WITH MY RECOMMENDATIONS HAS BEEN SUBMITTED TO THE OFFICE OF THE COUNTY ENGINEER.

THESE GRADING PLANS HAVE BEEN REVIEWED BY THE UNDERSIGNED AND FOUND TO BE IN CONFORMANCE WITH THE RECOMMENDATIONS, AS OUTLINED IN OUR SOILS AND GEOTECHNICAL REPORT FOR THIS PROJECT, THE SOILS REPORT SHALL BE CONSIDERED PART OF THIS PLAN, AND ALL GRADING WORK SHALL BE DONE IN ACCORDANCE WITH THE SPECIFICATIONS AND RECOMMENDATIONS OF SAID REPORT "GEOTECHNICAL INVESTIGATION FOR PROPOSED SECRET HILLS RANCH SOUTHEAST END OF VIA TESORO, ALPINE AREA COUNTY OF SAN DIEGO, CA 91901 APN 440-450-24"

REGISTERED PROFESSIONAL ENGINEER · MARTIN R. OWEN · No. G.E. 000258 Exp. 12/31/21 · GEOTECHNICAL · STATE OF CALIFORNIA

ENGINEER NAME: MARTIN R. OWEN DATE

REGISTERED CIVIL ENGINEER # GE 658

OWNER'S CERTIFICATE:

IT IS AGREED THAT FIELD CONDITIONS MAY REQUIRE CHANGES TO THESE PLANS.

IT IS FURTHER AGREED THAT THE OWNER (DEVELOPER) SHALL HAVE A REGISTERED CIVIL ENGINEER MAKE SUCH CHANGES, ALTERATIONS OR ADDITIONS TO THESE PLANS WHICH THE DIRECTOR OF PLANNING AND DEVELOPMENT SERVICES DETERMINES ARE NECESSARY AND DESIRABLE FOR THE PROPER COMPLETION OF THE IMPROVEMENTS.

OWNER: _____ DATE: _____
STANLEY BONEY
PO BOX 428
CRYSTAL BAY, NV 89402

PARCEL NO. 520-060-18
PHONE NUMBER: 619-435-3300

HAUL ROUTE NOTE:

FOR IMPORT/EXPORT EARTHWORK Q>1,000 CY.

PRIOR TO THE BEGINNING OF GRADING OPERATIONS, SUBMIT A TRAFFIC CONTROL AND HAUL ROUTE PLAN TO THE PLANNING & DEVELOPMENT SERVICES LAND DEVELOPMENT COUNTER FOR APPROVAL, INCLUDING:

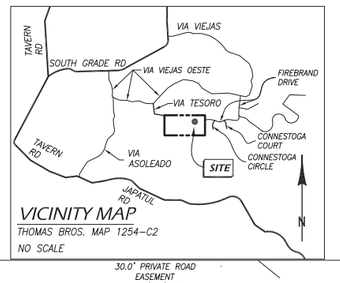
1. SPECIFIC TRUCK TRAVEL ROUTES.
2. ANTICIPATED LENGTH OF GRADING PERIOD INVOLVING THE NEED FOR TRUCK IMPORTS OF SOIL.
3. TIME OF OPERATIONS.
4. EXISTING CONDITIONS OF THE IMPACTED ROAD AREAS – INCLUDING TRAFFIC AND ROAD CONDITIONS.
5. TRAFFIC SAFETY INCLUDING SAFETY TO RESIDENTS ON FOOT, ON BICYCLE AND IN VEHICLES, AND POSSIBLE MITIGATION FOR AVOIDANCE OF SIGNIFICANT PEAK HOUR TRAFFIC AT CERTAIN INTERCHANGES.
6. INTERCHANGE GEOMETRY TO DETERMINE IF IT WILL ALLOW SAFE USE BY THE TRUCKS.

CONTRACTOR SHALL APPLY FOR A TRAFFIC CONTROL PERMIT EIGHT WEEKS PRIOR TO COMMENCEMENT OF WORK. NO WORK SHALL COMMENCE UNTIL ISSUANCE OF SAID PERMIT. FOR INFORMATION CALL (858) 694-3863. THE TRAFFIC CONTROL PERMIT SHALL REQUIRE SPECIFICATIONS FOR THE INFORMATIONAL SIGNS.

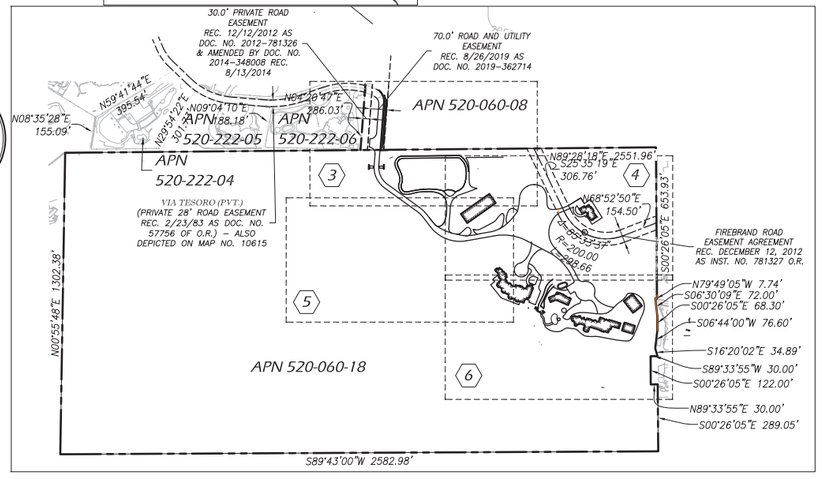
SUPERVISED GRADING:

THE PROJECT CIVIL ENGINEER AND GEOTECHNICAL ENGINEER WILL BE REQUIRED TO SUPERVISE THE GRADING OPERATIONS

THE GEOTECHNICAL ENGINEER WILL ASSIST THE CONTRACTOR TO ACHIEVE THE DESIRED LEVEL OF COMPACTION AND MOISTURE CONTENT FOR THE GRADING OPERATIONS.



VICINITY MAP
THOMAS BROS. MAP 1254–C2
NO SCALE



KEY MAP
SCALE: 1"=300'

LEGEND
SHEET NO.....(X)

NOTICE:

THE ISSUANCE OF THIS PERMIT/APPROVAL BY THE COUNTY OF SAN DIEGO DOES NOT AUTHORIZE THE APPLICANT FOR SAID PERMIT/APPROVAL TO VIOLATE ANY FEDERAL, STATE, OR COUNTY LAWS, ORDINANCES, REGULATIONS, OR POLICIES INCLUDING, BUT NOT LIMITED TO, THE FEDERAL ENDANGERED SPECIES ACT AND ANY AMENDMENTS THERETO."

WORK TO BE DONE

GRADING AND DRAINAGE WORK CONSISTS OF THE FOLLOWING WORK TO BE DONE ACCORDING TO THESE PLANS, THE CURRENT SAN DIEGO REGIONAL STANDARD DRAWINGS, THE SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION AND THE SAN DIEGO COUNTY GRADING ORDINANCE.

LEGEND

DESCRIPTION	STD DWG	SYMBOL
PROPERTY LINE		N45°45'45"W
EASEMENT LINE		
DRAINAGE SWALE		
CMU RETAINING WALL	SDRSD C-01, C-04, C-05, C-06	
BROOKS BOX (OR SIM) W/GRATE (PVT.)	DETAIL 'J' – SHEET 2	
LANDSCAPE DRAIN	DETAIL 'I'–SHEET 2	Ø
SPOT ELEVATION (EX / PR)		×100.00 100.00
EXISTING CONTOUR		90
PROPOSED CONTOUR		90
STORM DRAIN LINE	6" SDR 35 U.N.O.	
PERFORATED UNDERDRAIN WITH CLEANOUT	SHEET 2, DETAILS 'A', 'B'	
P.C.C. BROW DITCH	SDRSD D-75	
RIP RAP	D-40	
DAYLIGHT		
LIMIT OF WORK		
CUTSLOPE		
FILLSLOPE		
BIOFILTRATION AREA	SHEET 2, DETAILS 'A', 'B'	
P.C.C. (CONCRETE) PAVING	5" THICK OVER 7" AB (CONFIRM WITH SOILS ENGINEER AFTER GRADING)	
D.G. PATH		

ABBREVIATIONS

℄; CL	CENTER LINE	N.A.P.	NOT A PART	SD	STORM DRAIN
CONC	CONCRETE	(P); PR	PROPOSED	TC	TOP OF CURB
CF	CURB FACE	PA	PLANTING AREA	U.N.O.	UNLESS NOTED OTHERWISE
(E); EX	EXISTING	SDWAS	WATER AGENCIES STANDARDS	W	WATER
℄; FL	FLOW LINE	S	SEWER	WV	WATER VALVE

DRAWING INDEX:

STORMWATER STRUCTURAL POLLUTANT CONTROL, AND HYDRO–MODIFICATION CONTROL BMPs

DESCRIPTION / TYPE	SHEET	BMP ID #	MAINTENANCE CATEGORY	MAINTENANCE AGREEMENT RECORDED DOC #
BIOFILTRATION AREA w/PARTIAL RETENTION	4	IMP A.3	ONE	
BIOFILTRATION AREA w/PARTIAL RETENTION	3	IMP B.2	ONE	
BIOFILTRATION AREA w/PARTIAL RETENTION	3	IMP B.3	ONE	
BIOFILTRATION AREA w/PARTIAL RETENTION	6	IMP D.1	ONE	
BIOFILTRATION AREA w/PARTIAL RETENTION	6	IMP D.2	ONE	
BIOFILTRATION AREA w/PARTIAL RETENTION	6	IMP D.3	ONE	
BIOFILTRATION AREA w/PARTIAL RETENTION	6	IMP E.1	ONE	
BIOFILTRATION AREA w/PARTIAL RETENTION	6	IMP E.2	ONE	
BIOFILTRATION AREA w/PARTIAL RETENTION	6	IMP E.3	ONE	
BIOFILTRATION AREA w/PARTIAL RETENTION	6	IMP F.1	ONE	
BIOFILTRATION AREA w/PARTIAL RETENTION	6	IMP G.1	ONE	

* BMPs APPROVED AS PART OF THIS STORMWATER QUALITY MANAGEMENT PLAN (SWQMP) DATED 08/26/2020 ON FILE WITH THE DPW. ANY CHANGES TO THE ABOVE BMPs WILL REQUIRE SWQMP REVISION AND PLAN CHANGE PPROVALS.

OWNER'S / PERMITTEE'S

NAME: STANLEY & BETTY BONEY
ADDRESS: P O BOX 428
CRYSTAL BAY, NV 89402
TELEPHONE NO: 619-435-3300
SHORT LEGAL DESCIPTION: A PORTIONOF THE NORTH HALF OF THE SOUTHEAST QUARTER OF SECTION 3, TOWNSHIP 16 SOUTH RANGE 2 EAST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF SAN DIEGO STATE OF CALIFORNIA, ACCORDING TO OFFICIAL PLAT THEREOF BEING DESCRIBED IN DOCUMENT 2018-0241255, RECORDED JUNE 14, 2018.
A.P.N. NO: 520-060-18
SITE ADDRESS: VIA VIEJAS OESTE, ALPINE, CA 91901

DISTURBED AREA CALCS

PAD + SLOPES:	471,000	SF
DRIVEWAY:	31,000	SF
PRIMARY SEPTIC:	13,600	SF
FIRE CLEARING:		SF
TOTAL:	515,600	SF

IF ≥1 AC, PROVIDE WDID# : 937C391001
SWPPP / CONSTRUCTION SITE RISK LEVEL: 2

REGISTERED PROFESSIONAL ENGINEER · DANIEL J. VALDEZ · No. C076074 · CIVIL · STATE OF CALIFORNIA

DANIEL VALDEZ–COFFEY ENGINEERING INC. R.C.E. NO. 076074 EXP. 06–30–2022 DATE
9666 BUSINESSPARK AVE.,SUITE 210 SAN DIEGO, CA 92131
858–831–0111 FAX:858–831–0179 dan@coffeyengineering.com

DIGALERT
DIAL TOLL FREE 1–800–227–2600 AT LEAST TWO DAYS BEFORE YOU DIG
CALL 811 NATIONWIDE
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

FIRE DEPARTMENT APPROVAL

FIRE DEPT./DISTRICT ALPINE FIRE PROTECTION DISTRICT
APPROVED BY: JASON MCBROOM – FIRE CHIEF
DATE:

DECLARATION OF RESPONSIBLE CHARGE

I HEREBY DECLARE THAT I AM THE ENGINEER OF WORK FOR THIS PROJECT, THAT I HAVE EXCERCISED 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 CURRENT STANDARDS.

I UNDERSTAND THAT THE CHECK OF PROJECT DRAWINGS AND SPECIFICATIONS BY THE COUNTY OF SAN DIEGO IS CONFINED TO REVIEW ONLY AND DOES NOT RELIEVE ME, AS ENGINEER OF WORK, OF MY RESPONSIBILITES FOR PROJECT DESIGN

BY: _____ DATE: _____
RCE NO: CE 076074 EXPIRES: 06/30/20

PDS ENVIRONMENTAL REVIEW

APPROVED FOR COMPLIANCE WITH THE ENVIRONMENTAL REVIEW.

APPROVED BY: _____
DATE: _____

NOTICE:
THE ISSUANCE OF THIS PERMIT/APPROVAL BY THE COUNTY OF SAN DIEGO DOES NOT AUTHORIZE THE APPLICANT FOR SAID PERMIT/APPROVAL TO VIOLATE ANY FEDERAL, STATE, OR COUNTY LAWS, ORDINANCES, REGULATIONS, OR POLICIES INCLUDING, BUT NOT LIMITED TO, THE FEDERAL ENDANGERED SPECIES ACT AND ANY AMENDMENTS THERETO."

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:

PERMITS

ADMINISTRATIVE PERMIT NO. PDS2019-AD-19-032
LANDSCAPE PERMIT NO. PDS2020-LP-20-037
WDID/NOI NO. 937C391001 SWPPP RISK LEVEL 2
PARCEL MAP NO. ROS 23390
TENTATIVE MAP NO. N/A

BENCH MARK

DESCRIPTION: A 2.5" BRASS DISC STAMPED "RCE 18136"
LOCATION: 0.60' BELOW STREET LEVEL INTO A STANDARD STREET SURVEY MONUMENT. POINT ON CENTERLINE AT CENTER OF C–D–S ON FIREBRAND DRIVE.
RECORD FROM: COUNTY OF SAN DIEGO VERTICAL CONTROL MONUMEN
ELEVATION: 2009.62 DATUM: NAVD83

RECORD PLAN

BY: _____ DATE: _____
NAME
R.C.E. _____
EXPIRES: _____

PRIVATE CONTRACT

SHEET	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	8 SHEETS
1		

GRADING PLAN FOR: SINGLE FAMILY RESIDENTIAL DWELLING, FARM HOUSING AND EQUESTRIAN FACILITIES
SECRET HILLS RANCH
VIA VIEJAS OESTE
ALPINE, CALIFORNIA
CALIFORNIA COORDINATE INDEX 230–1839

APPROVED WILLIAM P. MORGAN COUNTY ENGINEER
BY: DATE:

ENGINEER OF WORK DANIEL VALDEZ R.C.E. 076074

PDS2020-LDGRMJ-30253
GRADING PERMIT NO:

COFFEY ENGINEERING, INC.
9666 BUSINESSPARK AVENUE SUITE 210, SAN DIEGO, CA 92131 PH (858)831-0111 FAX (858)831-0179

DRAIN STRUCTURES			
ID	TYPE	RIM	IE
A	4" ROUND GRATE	2049.95	2048.48
A1	4" ROUND GRATE	2049.90	2045.94
A2	RIPRAP #1	2024.43	2022.45
A3	4" ROUND GRATE	2064.95	2062.34
A4	12x12 GRATED INLET	2054.72	2053.21
B	4" ROUND GRATE	2049.95	2048.30
B1	RIPRAP #5	2029.50	2028.00
B2	18x18 GRATED INLET	2018.98	2017.47
B3	4" ROUND GRATE	2064.95	2062.09
B4	DISCHARGE TO BIOFILTRATION	2054.23	2052.87
C	4" ROUND GRATE	2049.95	2047.98
C1	4" ROUND GRATE	2049.90	2048.66
C2	RIPRAP #6	2017.04	2014.76
C3	4" ROUND GRATE	2064.95	2061.83
C4	12x12 GRATED INLET	2047.54	2045.85
D	4" ROUND GRATE	2049.95	2047.68
D1	4" ROUND GRATE	2049.90	2048.45
D2	18x18 GRATED INLET	2054.93	2053.24
D3	4" ROUND GRATE	2064.95	2061.58
D4	RIPRAP #5	2047.95	???
E	4" ROUND GRATE	2049.95	2047.30
E1	4" ROUND GRATE	2049.90	2048.29
E2	RIPRAP #7	2050.43	2047.34
E3	RIPRAP #5	2064.95	2054.00
E4	2EA – 18x18 GRATED INLET	2042.85	2040.59
F	RIPRAP #6	2032.50	2031.00
F1	4" ROUND GRATE	2049.90	2048.45
F2	18x18 GRATED INLET	2032.56	2028.25
F3	4" ROUND GRATE	2064.95	2063.45
F4	RIPRAP #4	2033.01	2029.79
G	4" ROUND GRATE	2049.95	2048.45
G1	4" ROUND GRATE	2049.90	2048.08
G2	4" ROUND GRATE	2030.00	2028.00
G3	4" ROUND GRATE	2064.95	2063.45
H	4" ROUND GRATE	2049.95	2048.20
H1	4" ROUND GRATE	2049.90	2047.70
H2	4" ROUND GRATE	2050.95	2047.95
H3	4" ROUND GRATE	2064.95	2063.06
H4	12x12 GRATED INLET	2062.46	2060.95

DRAIN STRUCTURES			
ID	TYPE	RIM	IE
I	4" ROUND GRATE	2049.95	2048.45
I1	4" ROUND GRATE	2049.90	2047.51
I2	4" ROUND GRATE	2050.95	2047.65
I3	4" ROUND GRATE	2064.95	2062.94
I4	12x12 GRATED INLET	2062.61	2060.08
J	12x12 GRATED INLET	2049.85	2048.45
J1	4" ROUND GRATE	2049.90	2047.28
J2	4" ROUND GRATE	2050.95	2047.15
J3	4" ROUND GRATE	2064.95	2062.72
J4	RIPRAP #1	2052.51	2050.98
K	36x36 GRATED INLET	2032.00	2028.50
K1	RIPRAP #5	2037.19	2036.00
K2	4" ROUND GRATE	2050.95	2046.82
K3	4" ROUND GRATE	2064.95	2062.53
K4	RIPRAP #4	2044.58	2044.50
L	RIPRAP #2	2029.02	2028.00
L1	4" ROUND GRATE	2049.90	2048.45
L2	4" ROUND GRATE	2050.95	2046.46
L3	4" ROUND GRATE	2064.95	2062.12
L4	RIPRAP #1	2061.52	2060.00
M	4" ROUND GRATE	2052.00	2046.12
M1	4" ROUND GRATE	2049.90	2048.16
M2	4" ROUND GRATE	2050.95	2047.95
M3	4" ROUND GRATE	2064.95	2061.94
N	4" ROUND GRATE	2050.90	2045.81
N1	4" ROUND GRATE	2049.90	2048.45
N2	4" ROUND GRATE	2050.95	2047.64
N3	4" ROUND GRATE	2065.02	2061.76
O	4" ROUND GRATE	2050.90	2045.55
O1	4" ROUND GRATE	2049.90	2048.26
O2	4" ROUND GRATE	2050.95	2047.24
O3	4" ROUND GRATE	2065.20	2061.58
P	4" ROUND GRATE	2050.90	2045.29
P1	4" ROUND GRATE	2049.90	2048.45
P2	4" ROUND GRATE	2050.95	2046.99
P3	4" ROUND GRATE	2065.55	2061.40
Q	RIPRAP #7	2021.02	2020.00
Q1	4" ROUND GRATE	2049.90	2048.26
Q2	4" ROUND GRATE	2050.95	2046.74

DRAIN STRUCTURES			
ID	TYPE	RIM	IE
Q3	4" ROUND GRATE	2065.88	2061.06
R	4" ROUND GRATE	2052.00	2046.54
R1	4" ROUND GRATE	2049.90	2047.86
R2	18x18 GRATED INLET	2052.00	2048.50
R3	4" ROUND GRATE	2064.95	2060.85
S	4" ROUND GRATE	2050.90	2046.25
S1	4" ROUND GRATE	2049.90	2047.68
S2	18x18 GRATED INLET	2048.02	2047.00
S3	RIPRAP #5	2064.21	2055.50
T	4" ROUND GRATE	2050.90	2046.10
T1	4" ROUND GRATE	2049.90	2047.45
T2	4" ROUND GRATE	2051.00	2041.30
T3	4" ROUND GRATE	2064.95	2063.45
U	4" ROUND GRATE	2050.90	2045.89
U1	RIPRAP #4	2050.41	2026.00
U2	12x12 GRATED INLET	2051.00	2046.00
U3	4" ROUND GRATE	2064.95	2063.24
V	4" ATRIUM GRATE	2049.50	2047.70
V1	18x18 GRATED INLET	2035.71	2033.50
V2	RIPRAP #6	2032.02	2031.00
V3	4" ROUND GRATE	2064.95	2063.02
W	4" ATRIUM GRATE	2049.50	2047.08
W1	RIPRAP #1	2033.92	2033.00
W2	4" ROUND GRATE	2064.95	2063.45
W3	4" ROUND GRATE	2059.07	2057.04
X	4" ATRIUM GRATE	2049.50	2046.70
X1	18x18 GRATED INLET	2026.66	2023.50
X2	4" ROUND GRATE	2064.95	2063.26
X3	18x18 GRATED INLET	2046.32	2043.83
Y	4" ATRIUM GRATE	2049.50	2046.47
Y1	RIPRAP #1	2024.38	2023.00
Y2	4" ROUND GRATE	2064.95	2062.86
Y3	RIPRAP #5	2043.60	2041.75
Z	4" ROUND GRATE	2049.90	2046.25
Z1	18x18 GRATED INLET	2029.09	2027.22
Z2	4" ROUND GRATE	2064.95	2062.61
Z3	18x18 GRATED INLET	2051.76	2051.07

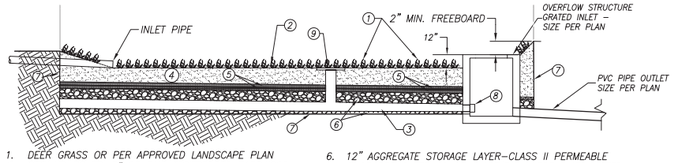
SEE DETAILS AT LEFT FOR ROUND GRATES (DETAIL 'I') AND GRATED INLETS (DETAIL 'J')

PIPE TABLE			
PIPE	SIZE/TYPE	LENGTH	SLOPE
A – B	6" PVC	18.78	1.00%
A1 – B1	6" PVC	136.56	13.13%
A3 – B3	6" PVC	24.91	1.00%
A4 – B4	6" PVC	11.57	2.89%
B – C	6" PVC	31.83	1.00%
B2 – C2	6" PVC	15.88	17.04%
B3 – C3	6" PVC	26.68	1.00%
B4 – D4	8" PVC	60.83	11.30%
C – D	6" PVC	29.48	1.00%
C1 – A1	6" PVC	49.45	0.88%
C1 – D1	6" PVC	21.00	1.00%
C3 – D3	6" PVC	24.55	1.00%
C4 – B4	8" PVC	76.83	1.00%
D – E	6" PVC	38.74	1.00%
D1 – E1	6" PVC	15.59	1.00%
D2 – E2	8" PVC	18.72	31.55%
D3 – E3	6" PVC	58.87	12.88%
E – F	6" PVC	86.84	18.73%
E4 – F4	12" PVC	206.57	5.23%
F1 – G1	6" PVC	37.27	1.00%
F2 – G2	6" PVC	26.32	0.95%
F3 – D3	6" PVC	45.79	4.08%
G – H	6" PVC	25.29	1.00%
G1 – H1	6" PVC	37.27	1.00%

PIPE TABLE			
PIPE	SIZE/TYPE	LENGTH	SLOPE
G3 – H3	6" PVC	38.78	1.00%
H – E	6" PVC	50.22	1.87%
H1 – I1	6" PVC	19.06	1.00%
H2 – I2	6" PVC	30.15	1.00%
H3 – I3	6" PVC	12.68	1.00%
H4 – I4	6" PVC	86.37	1.00%
I – E	6" PVC	18.42	6.46%
I1 – J1	6" PVC	23.81	1.00%
I2 – J2	6" PVC	50.23	1.00%
I3 – J3	6" PVC	21.19	1.00%
I4 – J4	6" PVC	84.34	10.79%
J – F	6" PVC	79.52	21.94%
J1 – K1	8" PVC	136.79	8.24%
J2 – K2	6" PVC	32.87	1.00%
J3 – K3	6" PVC	18.98	1.00%
K – L	12" PVC	22.94	2.18%
K2 – L2	6" PVC	35.46	1.00%
K3 – L3	6" PVC	41.69	1.00%
K4 –	12" PVC	6.56	0.00%
L1 – M1	6" PVC	28.89	1.00%
L2 – M	6" PVC	34.62	1.00%
L3 – M3	6" PVC	18.00	1.00%
L4 –	12" PVC	8.67	0.00%
M – N	6" PVC	31.05	1.00%

PIPE TABLE			
PIPE	SIZE/TYPE	LENGTH	SLOPE
M1 – J1	6" PVC	17.99	4.91%
M2 – N2	6" PVC	30.78	1.00%
M3 – N3	6" PVC	18.00	1.00%
N – O	6" PVC	25.70	1.00%
N1 – O1	6" PVC	18.76	1.00%
N2 – O2	6" PVC	40.69	1.00%
N3 – O3	6" PVC	18.00	1.00%
O – P	6" PVC	25.81	1.00%
O1 – J1	6" PVC	53.60	1.84%
O2 – P2	6" PVC	24.85	1.00%
O3 – P3	6" PVC	18.00	1.00%
P – Q	6" PVC	127.05	20.18%
P1 – Q1	6" PVC	18.81	1.00%
P2 – Q2	6" PVC	24.85	1.00%
P3 – Q3	8" PVC	33.37	1.00%
Q1 – R1	6" PVC	40.39	1.00%
Q2 – R	6" PVC	19.97	1.00%
Q3 – R3	8" PVC	21.27	1.00%
R – S	6" PVC	28.65	1.00%
R1 – S1	6" PVC	17.71	1.00%
R3 – S3	8" PVC	36.81	14.53%
S – T	6" PVC	15.62	1.00%
S1 – T1	6" PVC	23.13	1.00%

PIPE TABLE			
PIPE	SIZE/TYPE	LENGTH	SLOPE
S2 – T2	6" PVC	188.21	3.03%
T – U	6" PVC	20.73	1.00%
T1 – U1	6" PVC	159.19	13.47%
T3 – U3	6" PVC	21.38	1.00%
U – P	6" PVC	24.89	1.37%
U2 – V2	6" PVC	57.74	25.98%
U3 – V3	6" PVC	21.38	1.00%
V – W	6" PVC	61.69	1.00%
V1 – W1	8" PVC	14.02	3.57%
V3 – R3	6" PVC	24.05	9.03%
W – X	6" PVC	38.34	1.00%
W2 – X2	6" PVC	25.02	0.77%
W3 – X3	6" PVC	91.87	14.38%
X – Y	6" PVC	23.21	1.00%
X1 – Y1	6" PVC	22.31	2.24%
X2 – Y2	6" PVC	39.20	1.01%
X3 – Y3	8" PVC	94.15	2.16%
Y – Z	6" PVC	21.66	1.00%
Y2 – Z2	6" PVC	25.10	0.98%
Z – A1	6" PVC	30.45	1.03%
Z1 – A2	8" PVC	60.40	7.89%
Z2 – A3	6" PVC	27.09	1.00%
Z3 – Y3	8" PVC	42.26	23.11%

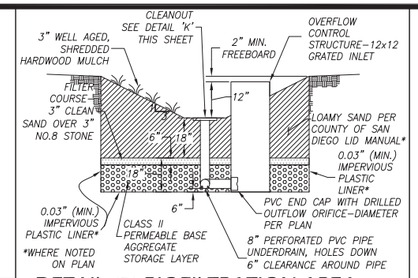


1. DEER GRASS OR PER APPROVED LANDSCAPE PLAN
2. GROUND COVER: 3" OF FINELY SHREDDED HARDWOOD MULCH
3. 8" PERFORATED UNDERDRAIN–LEVEL (WITH 6" AGGREGATE STORAGE LAYER BELOW–3" IF LINED)
4. 18" SOIL MEDIA–LOAMY SAND W/ MINIMUM 5"/HR PERCOLATION*
5. FILTER COURSE – 3" CLEAN SAND OVER #8 STONE
6. 12" AGGREGATE STORAGE LAYER–CLASS II PERMEABLE BASE PER CALTRANS 68–2.02F(3). WHERE LINER NOTED PLACE 3" BELOW PERFORATED UNDERDRAIN, OTHER WISE PLACE WITH 6" BELOW PERF. UNDERDRAIN)
7. WHERE LINER NOTED ON PLAN – 0.03" (MIN.) IMPERVIOUS PLASTIC LINER
8. PVC END CAP WITH DRILLED OUTFLOW ORIFICE. ORIFICE SIZE PER PLAN
9. CLEANOUT – SEE DETAIL 'K' THIS SHEET

DETAIL A-BIOFILTRATION AREA TYPICAL SECTION

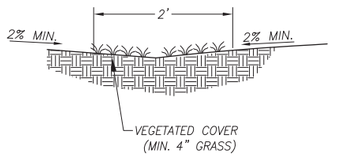
NOT TO SCALE

*BSM	SANDY LOAM				
COMPOS	SAND	SAND	SILT	CLAY	COMPOST
VOLUME	65%	20%			15%
WEIGHT	75%-80%	10% MAX	3% MAX	9% MAX	



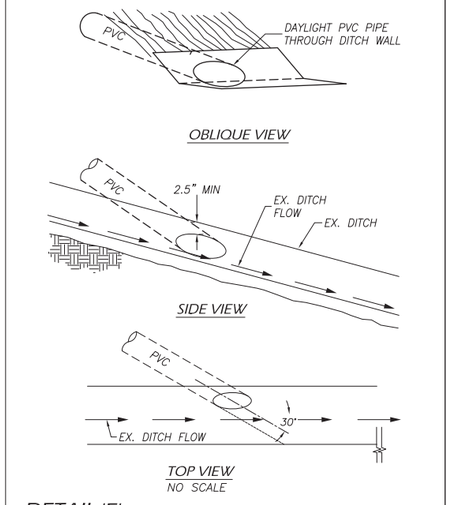
DETAIL 'B'-BIOFILTRATION AREA TYPICAL SECTION

NOT TO SCALE



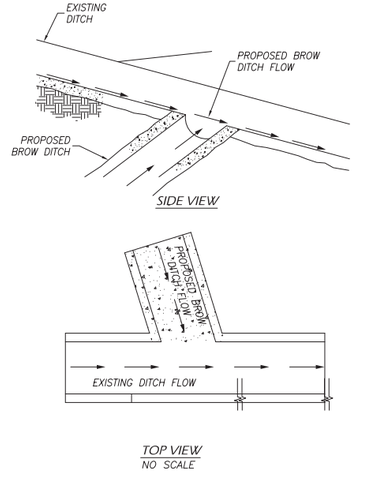
DETAIL 'D' - EARTHEN SWALE

NO SCALE



DETAIL 'E' PVC DRAIN CONNECTION TO DRAINAGE SWALE

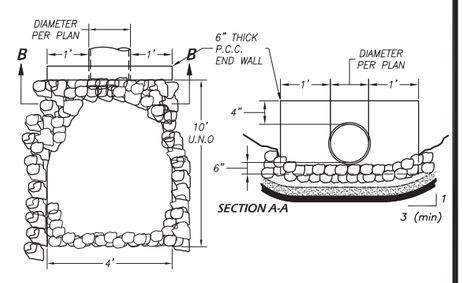
NO SCALE



1. SEE S.D.R.S.D. D–75 FOR DESIGN OF CONCRETE BROW DITCH

DETAIL 'F' CONNECT PROPOSED BROW DITCH TO EXISITING DITCH

NO SCALE

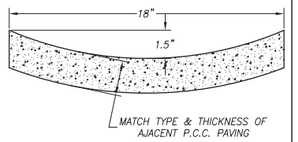


NOTES:

1. PLANS SHALL SPECIFY:
   A) ROCK CLASS AND THICKNESS (T)
   B) FILTER MATERIAL, NUMBER OF LAYERS AND THICKNESS
2. RIP–RAP SHALL BE EITHER QUARRY STONE OR BROKEN CONCRETE (IF SHOWN ON THE PLANS.) COBBLES NOT ACCEPTABLE.
3. RIP RAP SHALL BE PLACED OVER A FILTER BLANKET WHICH MAT BE EITHER GRANULAR MATERIAL OR PLASTIC FILTER CLOTH.
4. SEE STANDARD SPECIAL PROVISIONS FOR SELECTION OF RIP RAP AND FILTER BLANKET.
5. RIP RAP ENERGY DISSIPATORS SHALL BE TYPE 2 SHALL BE WITHOUT SILL.

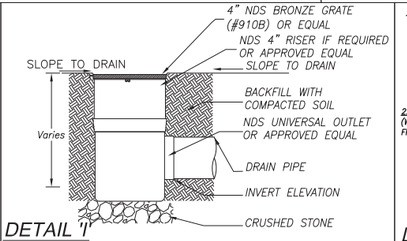
DETAIL 'H' - RIP RAP ENERGY DISSIPATOR (D-40)

NOT TO SCALE



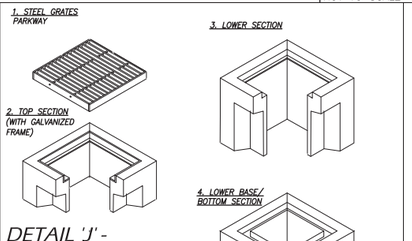
DETAIL 'G' - CONCRETE SWALE

NO SCALE



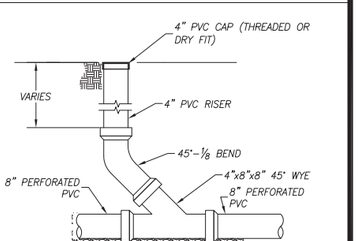
DETAIL 'I' 4" NDS BRONZE GRATE (#910B) & RISER (HARDSCAPE DRAIN)

NOT TO SCALE



DETAIL 'J' - GRATED INLETS (BROOKS OR SIM.) - SIZE PER PLAN

NO SCALE



DETAIL 'K' - STORM DRAIN CLEANOUT

NOT TO SCALE

RIPRAP TABLE	
RIPRAP #	DESCRIPTION
(1)	NO.3 BACKING, 0.6'Tx4'Wx10'L, OVER 0.6' OF D.G.FILTER BLANKET
(2)	NO.2 BACKING, 1.0'Tx4'Wx10'L, OVER 1.0' OF D.G.FILTER BLANKET
(3)	FACING ROCK, 1.4'Tx4'Wx10'L, OVER 1.0' OF D.G.FILTER BLANKET
(4)	LIGHT ROCK, 2.0'Tx4'Wx10'L, OVER 1.0' OF 3/4"–1 1/2" P.B. FILTER BLANKET OVER SAND
(5)	1/4 TON, 2.7'Tx4'Wx10'L, OVER 1.0' OF 3/4"–1 1/2" P.B. FILTER BLANKET OVER SAND
(6)	1/2 TON, 3.4'Tx4'Wx10'L, OVER 1.0' OF 3/4"–1 1/2" P.B. FILTER BLANKET OVER SAND
(7)	1 TON, 4.3'Tx4'Wx10'L, OVER 1.0' OF TYPE B BEDDING MATERIAL FILTER BLANKET OVER SAND
(8)	2 TON, 5.4'Tx4'Wx10'L, OVER 1.0' OF TYPE B BEDDING MATERIAL FILTER BLANKET OVER SAND

ALL RIPRAP MATERIAL PER SD COUNTY DRAINAGE DESIGN MANUAL, TABLE 7.1. RIPRAP CONSTRUCTION PER DETAIL 'G' AND SDRSD D–40.

REGISTERED PROFESSIONAL ENGINEER
DANIEL J. VALDEZ
No. C076074
CIVIL
STATE OF CALIFORNIA

RECORD PLAN

BY: _____ DATE: _____
NAME
R.C.E. _____
EXPIRES: _____

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:

PRIVATE CONTRACT

SHEET	COUNTY OF SAN DIEGO	9
2	DEPARTMENT OF PUBLIC WORKS	SHEETS

DETAILS FOR:

SECRET HILLS RANCH
VIA VIEJAS OESTE
ALPINE, CALIFORNIA

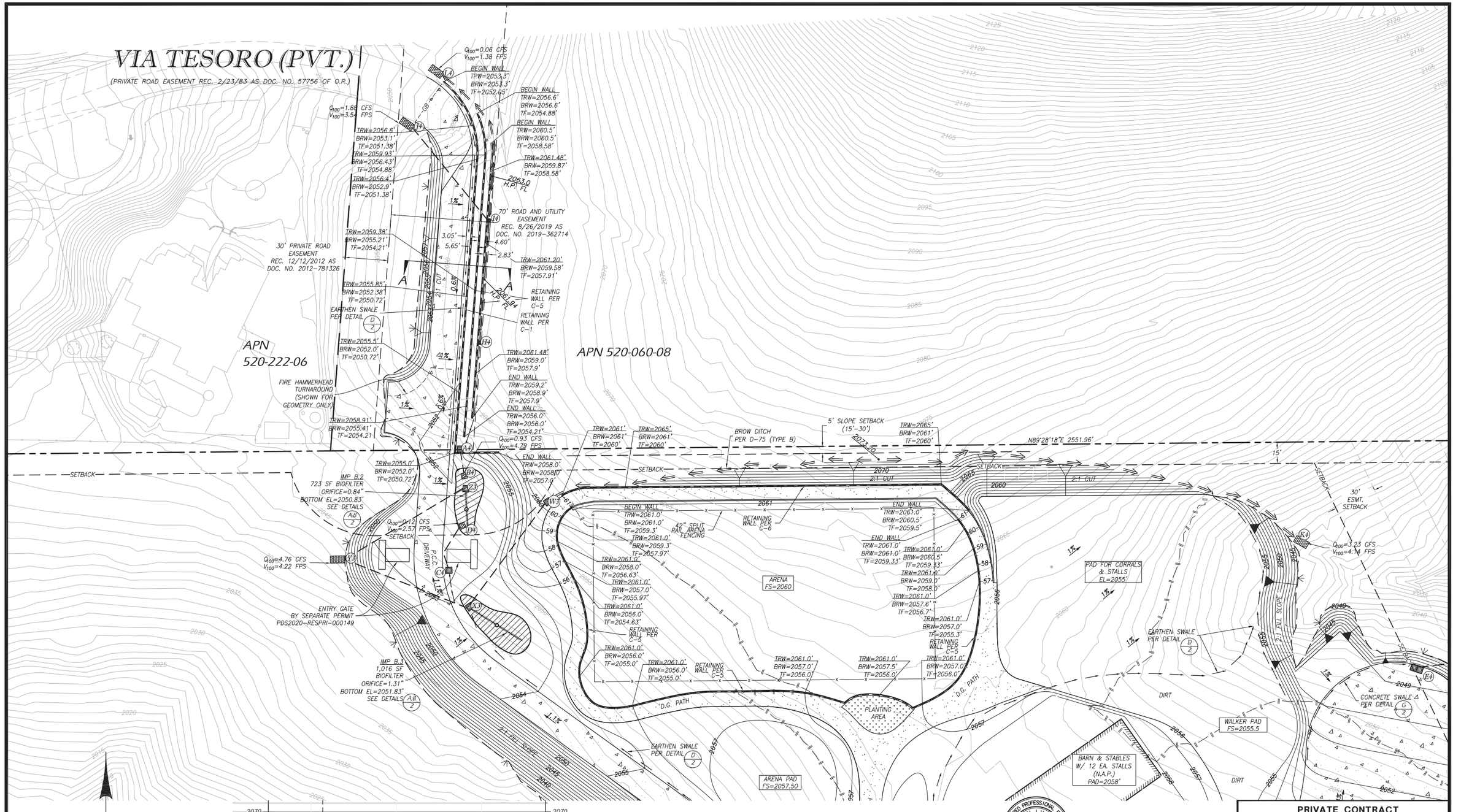
CALIFORNIA COORDINATE INDEX 230–1839

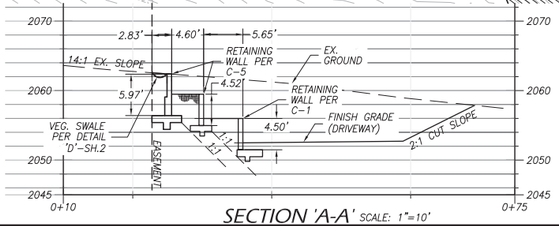
APPROVED WILLIAM P. MORGAN
COUNTY ENGINEER
BY: DATE:

ENGINEER OF WORK DANIEL VALDEZ
R.C.E. 076074

PDS2020-LDGRMJ-30253
GRADING PERMIT NO:

COFFEY ENGINEERING, INC.
9640 BUSINESSPARK AVENUE SUITE 210, SAN DIEGO, CA 92131 PH (858)831-0111 FAX (858)831-0179





SECTION 'A-A' SCALE: 1"=10'

DRAINAGE NOTES

1. HARDSCAPE GRADES TO BE 1% MINIMUM TO DRAINS AND AWAY FROM STRUCTURE.
2. SOFTSCAPE GRADES TO BE 2% MINIMUM TO DRAINS (1% WHERE FLOW IS CONCENTRATED) AND 2% MINIMUM AWAY FROM STRUCTURE.
3. SOIL COVER ABOVE DRAIN LINES SHALL BE 12" MINIMUM UNLESS OTHERWISE NOTED.

REGISTERED PROFESSIONAL ENGINEER DANIEL J. VALDEZ No. C076074 CIVIL STATE OF CALIFORNIA

RECORD PLAN

BY: _____ DATE: _____
NAME
R.C.E. _____
EXPIRES: _____

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:

PRIVATE CONTRACT

SHEET	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	8 SHEETS
3		

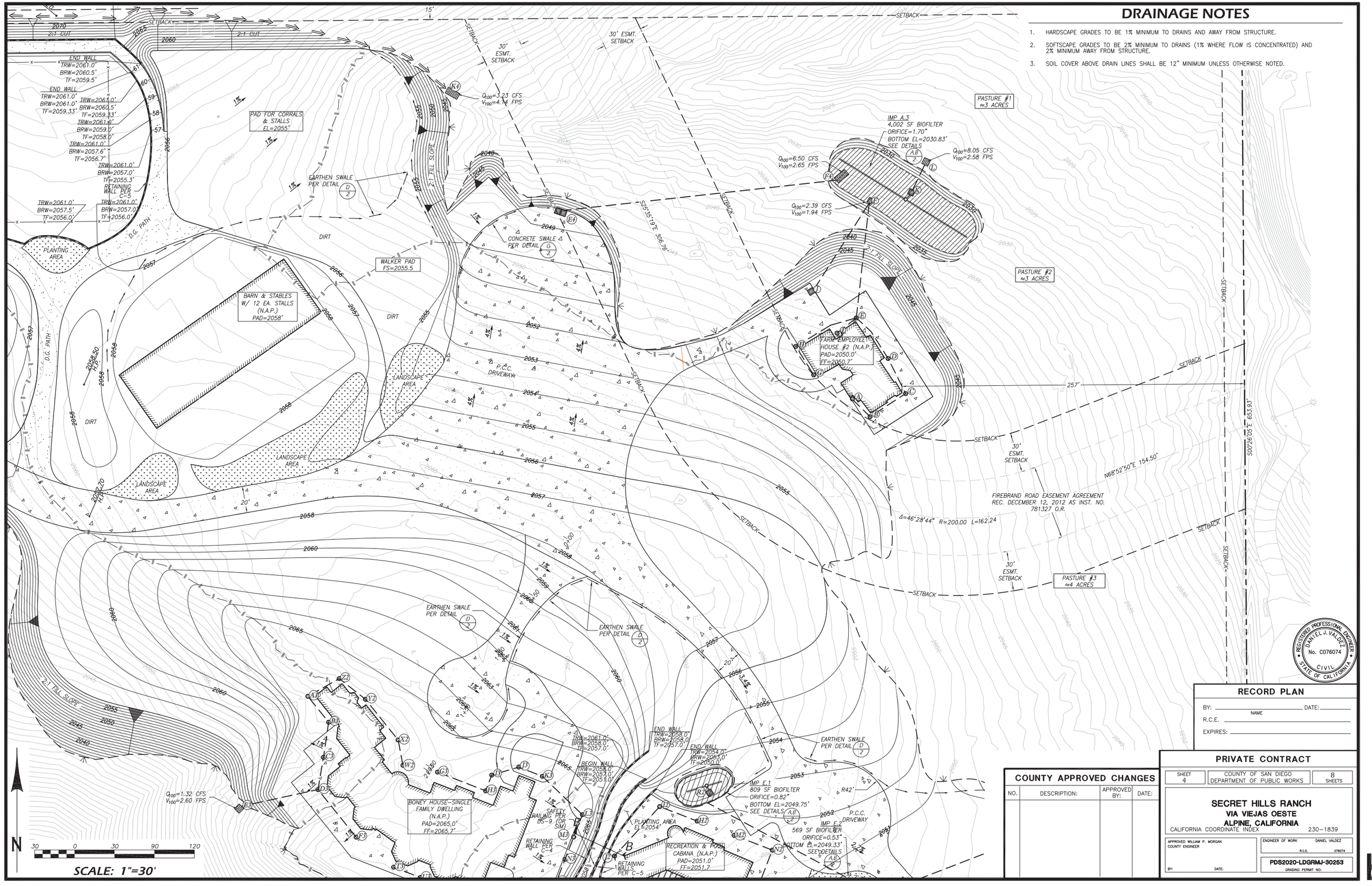
SECRET HILLS RANCH
VIA VIEJAS OESTE
ALPINE, CALIFORNIA
CALIFORNIA COORDINATE INDEX 230-1839

APPROVED WILLIAM P. MORGAN COUNTY ENGINEER
BY: DATE:

ENGINEER OF WORK DANIEL VALDEZ R.C.E. 076074

PDS2020-LDGRMJ-30253
GRADING PERMIT NO:

COFFEY ENGINEERING, INC.
9640 BUSINESSPARK AVENUE SUITE 210, SAN DIEGO, CA 92131 PH (858)831-0111 FAX (858)831-0179



REGISTERED PROFESSIONAL ENGINEER DANIEL J. VALDEZ No. C076074 CIVIL STATE OF CALIFORNIA

RECORD PLAN

BY: _____ DATE: _____
NAME
R.C.E. _____
EXPIRES: _____

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:

PRIVATE CONTRACT

SHEET 4	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	8 SHEETS

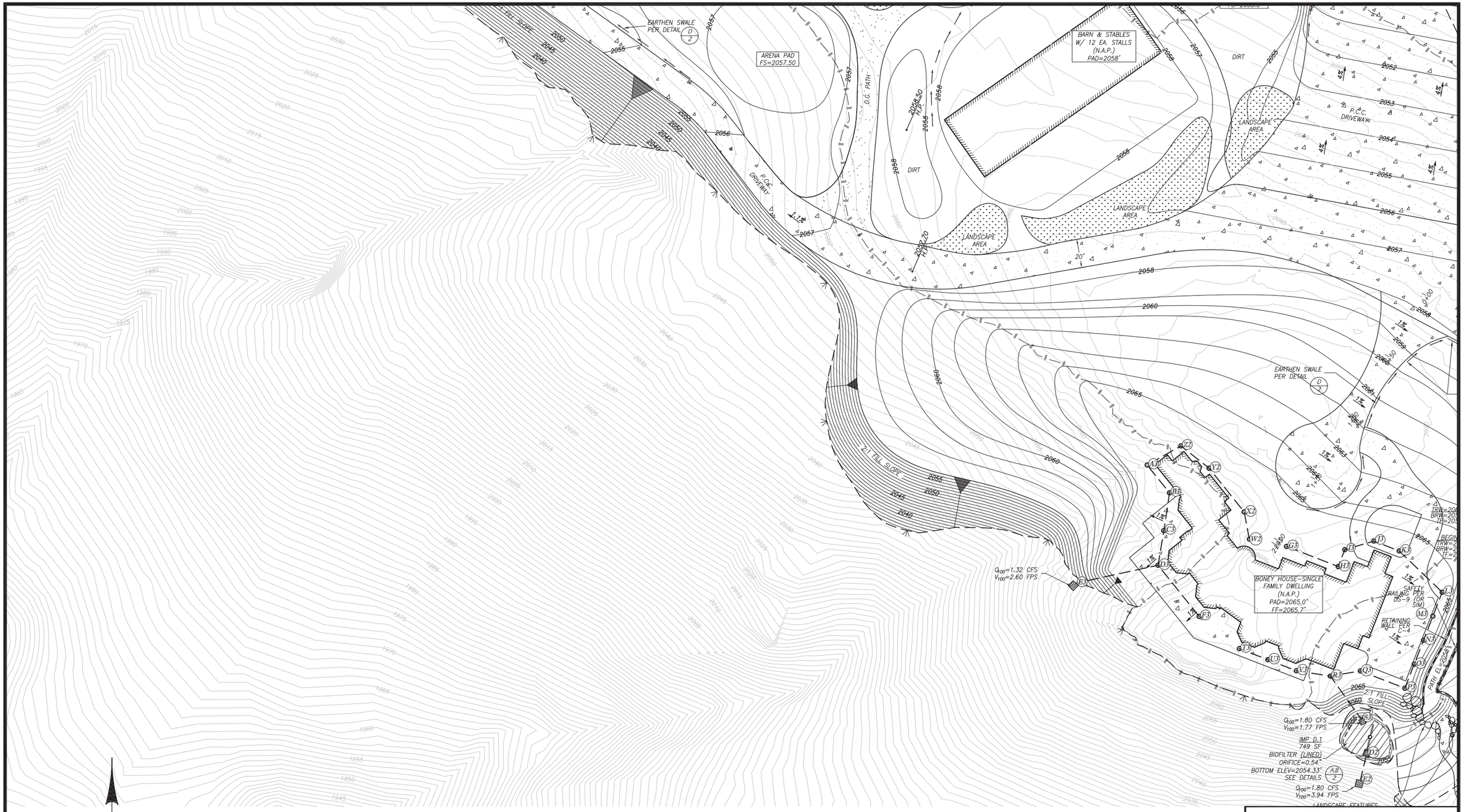
SECRET HILLS RANCH
VIA VIEJAS OESTE
ALPINE, CALIFORNIA
CALIFORNIA COORDINATE INDEX 230-1839

APPROVED WILLIAM P. MORGAN COUNTY ENGINEER
BY: DATE:

ENGINEER OF WORK DANIEL VALDEZ R.C.E. 076074

PDS2020-LDGRMJ-30253
GRADING PERMIT NO:

COFFEY ENGINEERING, INC.
9640 BUSINESSPARK AVENUE SUITE 210, SAN DIEGO, CA 92131 PH (858)831-0111 FAX (858)831-0179



DRAINAGE NOTES

1. HARDSCAPE GRADES TO BE 1% MINIMUM TO DRAINS AND AWAY FROM STRUCTURE.
2. SOFTSCAPE GRADES TO BE 2% MINIMUM TO DRAINS (1% WHERE FLOW IS CONCENTRATED) AND 2% MINIMUM AWAY FROM STRUCTURE.
3. SOIL COVER ABOVE DRAIN LINES SHALL BE 12" MINIMUM UNLESS OTHERWISE NOTED.

N

60 0 60 120 180

SCALE: 1"=30'

REGISTERED PROFESSIONAL ENGINEER DANIEL J. VALDEZ No. C076074 CIVIL STATE OF CALIFORNIA

RECORD PLAN

BY: _____ DATE: _____
NAME

R.C.E. _____

EXPIRES: _____

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:

PRIVATE CONTRACT

SHEET	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	SHEETS
5		8

SECRET HILLS RANCH
VIA VIEJAS OESTE
ALPINE, CALIFORNIA
CALIFORNIA COORDINATE INDEX 230-1839

APPROVED WILLIAM P. MORGAN
COUNTY ENGINEER

BY: DATE:

ENGINEER OF WORK DANIEL VALDEZ
R.C.E. 076074

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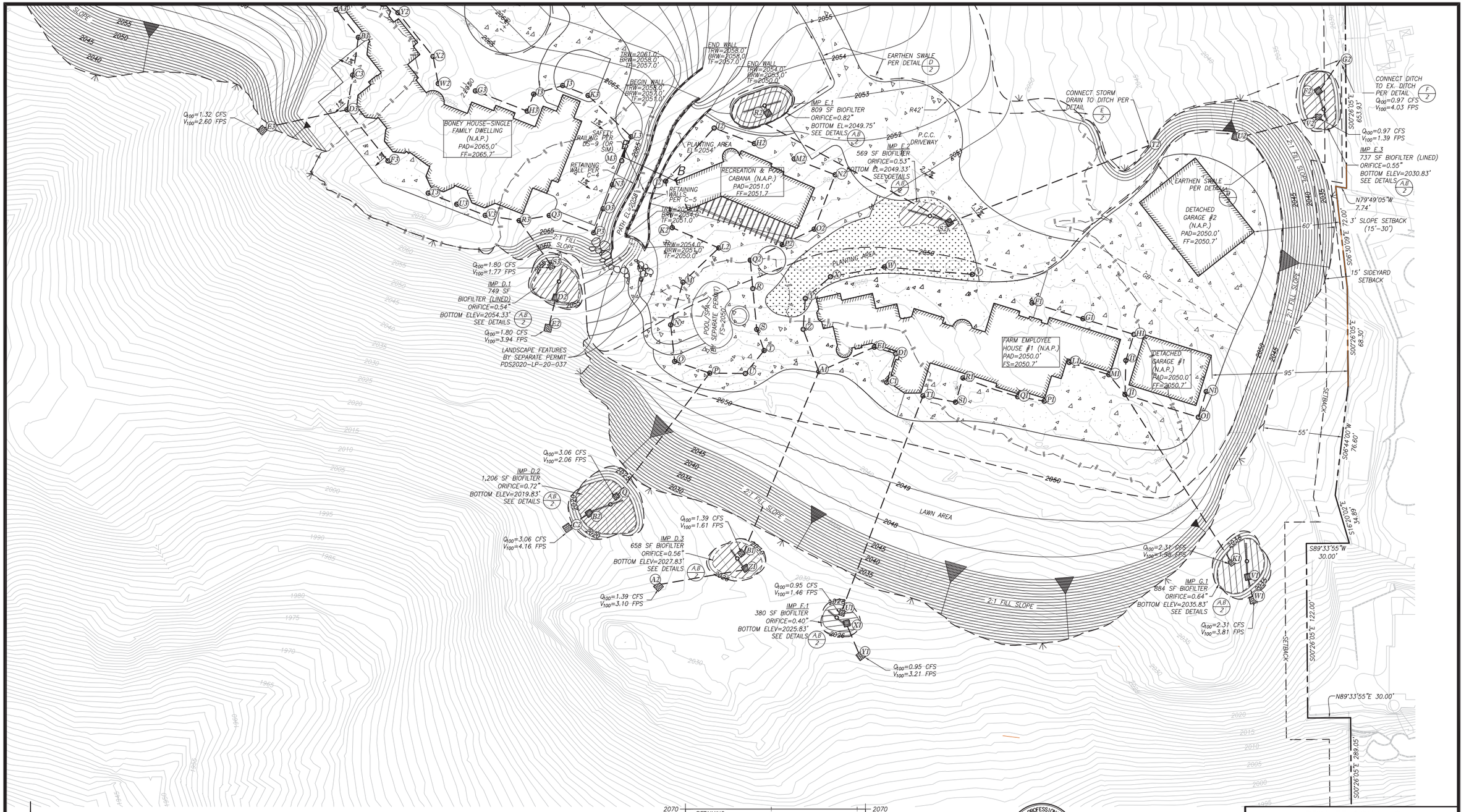
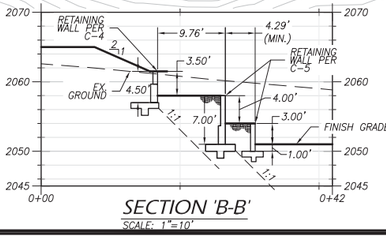
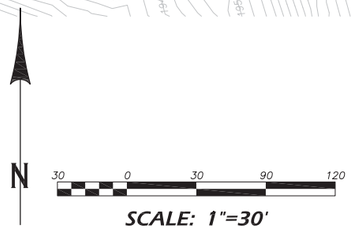




SECTION 'B-B'
SCALE: 1"=10'



SCALE: 1"=30'

REGISTERED PROFESSIONAL ENGINEER DANIEL J. VALDEZ No. C076074 CIVIL STATE OF CALIFORNIA

RECORD PLAN

BY: _____ DATE: _____
NAME
R.C.E. _____
EXPIRES: _____

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:

PRIVATE CONTRACT

SHEET	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	8 SHEETS
6		

SECRET HILLS RANCH
VIA VIEJAS OESTE
ALPINE, CALIFORNIA
CALIFORNIA COORDINATE INDEX 230-1839

APPROVED WILLIAM P. MORGAN COUNTY ENGINEER
BY: DATE:

ENGINEER OF WORK DANIEL VALDEZ R.C.E. 076074

PDS2020-LDGRMJ-30253
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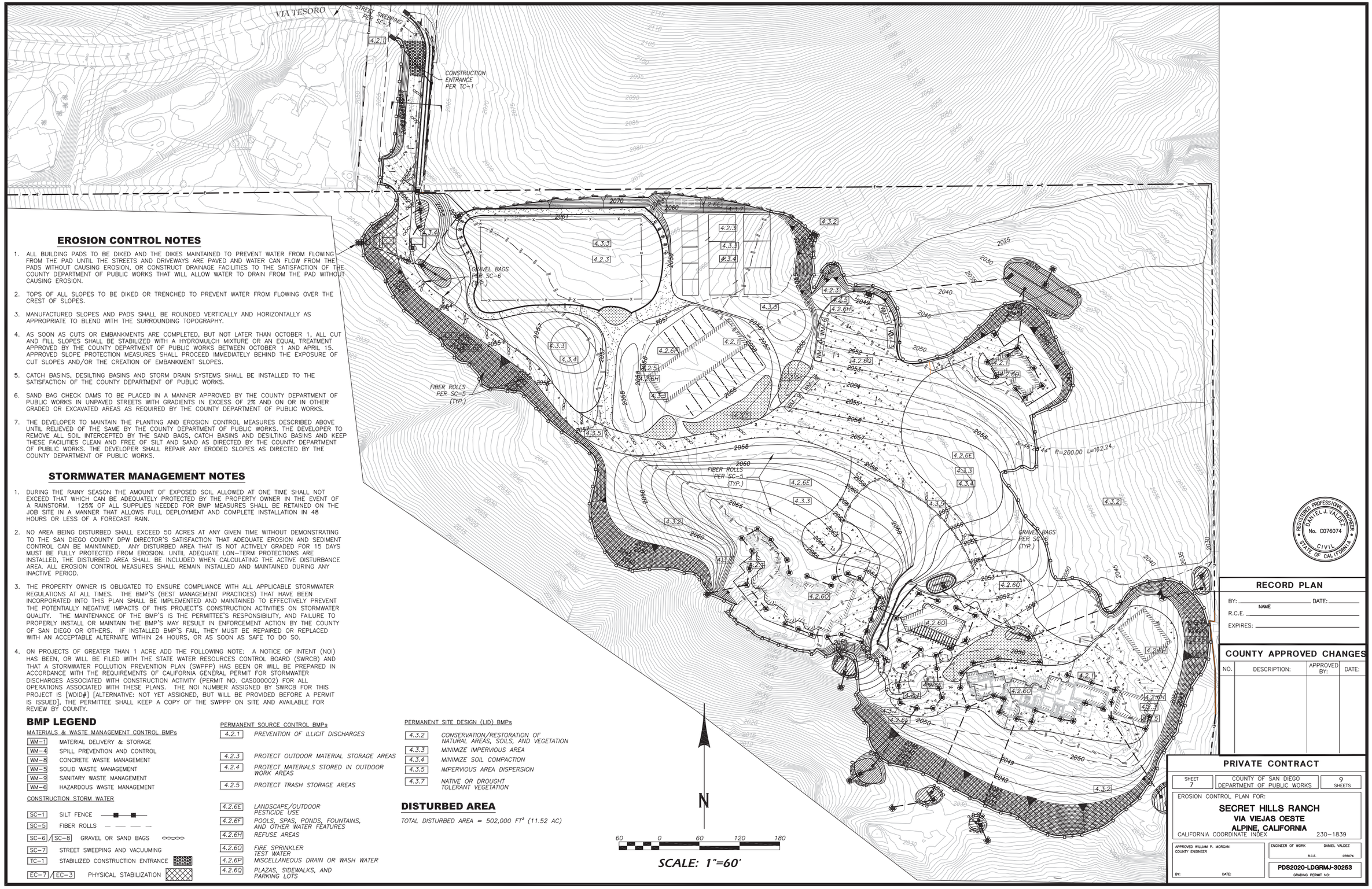
9466 BUSINESS PARK AVENUE SUITE 210, SAN DIEGO, CA 92131 PH (858)831-0111 FAX (858)831-0179



EROSION CONTROL NOTES

1. ALL BUILDING PADS TO BE DIKED AND THE DIKES MAINTAINED TO PREVENT WATER FROM FLOWING FROM THE PAD UNTIL THE STREETS AND DRIVEWAYS ARE PAVED AND WATER CAN FLOW FROM THE PADS WITHOUT CAUSING EROSION, OR CONSTRUCT DRAINAGE FACILITIES TO THE SATISFACTION OF THE COUNTY DEPARTMENT OF PUBLIC WORKS THAT WILL ALLOW WATER TO DRAIN FROM THE PAD WITHOUT CAUSING EROSION.
2. TOPS OF ALL SLOPES TO BE DIKED OR TRENCHED TO PREVENT WATER FROM FLOWING OVER THE CREST OF SLOPES.
3. MANUFACTURED SLOPES AND PADS SHALL BE ROUNDED VERTICALLY AND HORIZONTALLY AS APPROPRIATE TO BLEND WITH THE SURROUNDING TOPOGRAPHY.
4. AS SOON AS CUTS OR EMBANKMENTS ARE COMPLETED, BUT NOT LATER THAN OCTOBER 1, ALL CUT AND FILL SLOPES SHALL BE STABILIZED WITH A HYDROMULCH MIXTURE OR AN EQUAL TREATMENT APPROVED BY THE COUNTY DEPARTMENT OF PUBLIC WORKS BETWEEN OCTOBER 1 AND APRIL 15. APPROVED SLOPE PROTECTION MEASURES SHALL PROCEED IMMEDIATELY BEHIND THE EXPOSURE OF CUT SLOPES AND/OR THE CREATION OF EMBANKMENT SLOPES.
5. CATCH BASINS, DESILTING BASINS AND STORM DRAIN SYSTEMS SHALL BE INSTALLED TO THE SATISFACTION OF THE COUNTY DEPARTMENT OF PUBLIC WORKS.
6. SAND BAG CHECK DAMS TO BE PLACED IN A MANNER APPROVED BY THE COUNTY DEPARTMENT OF PUBLIC WORKS IN UNPAVED STREETS WITH GRADIENTS IN EXCESS OF 2% AND ON OR IN OTHER GRADED OR EXCAVATED AREAS AS REQUIRED BY THE COUNTY DEPARTMENT OF PUBLIC WORKS.
7. THE DEVELOPER TO MAINTAIN THE PLANTING AND EROSION CONTROL MEASURES DESCRIBED ABOVE UNTIL RELIEVED OF THE SAME BY THE COUNTY DEPARTMENT OF PUBLIC WORKS. THE DEVELOPER TO REMOVE ALL SOIL INTERCEPTED BY THE SAND BAGS, CATCH BASINS AND DESILTING BASINS AND KEEP THESE FACILITIES CLEAN AND FREE OF SILT AND SAND AS DIRECTED BY THE COUNTY DEPARTMENT OF PUBLIC WORKS. THE DEVELOPER SHALL REPAIR ANY ERODED SLOPES AS DIRECTED BY THE COUNTY DEPARTMENT OF PUBLIC WORKS.

STORMWATER MANAGEMENT NOTES

1. DURING THE RAINY SEASON THE AMOUNT OF EXPOSED SOIL ALLOWED AT ONE TIME SHALL NOT EXCEED THAT WHICH CAN BE ADEQUATELY PROTECTED BY THE PROPERTY OWNER IN THE EVENT OF A RAINSTORM. 125% OF ALL SUPPLIES NEEDED FOR BMP MEASURES SHALL BE RETAINED ON THE JOB SITE IN A MANNER THAT ALLOWS FULL DEPLOYMENT AND COMPLETE INSTALLATION IN 48 HOURS OR LESS OF A FORECAST RAIN.
2. NO AREA BEING DISTURBED SHALL EXCEED 50 ACRES AT ANY GIVEN TIME WITHOUT DEMONSTRATING TO THE SAN DIEGO COUNTY DPW DIRECTOR'S SATISFACTION THAT ADEQUATE EROSION AND SEDIMENT CONTROL CAN BE MAINTAINED. ANY DISTURBED AREA THAT IS NOT ACTIVELY GRADED FOR 15 DAYS MUST BE FULLY PROTECTED FROM EROSION. UNTIL ADEQUATE LON-TERM PROTECTIONS ARE INSTALLED, THE DISTURBED AREA SHALL BE INCLUDED WHEN CALCULATING THE ACTIVE DISTURBANCE AREA. ALL EROSION CONTROL MEASURES SHALL REMAIN INSTALLED AND MAINTAINED DURING ANY INACTIVE PERIOD.
3. THE PROPERTY OWNER IS OBLIGATED TO ENSURE COMPLIANCE WITH ALL APPLICABLE STORMWATER REGULATIONS AT ALL TIMES. THE BMP'S (BEST MANAGEMENT PRACTICES) THAT HAVE BEEN INCORPORATED INTO THIS PLAN SHALL BE IMPLEMENTED AND MAINTAINED TO EFFECTIVELY PREVENT THE POTENTIALLY NEGATIVE IMPACTS OF THIS PROJECT'S CONSTRUCTION ACTIVITIES ON STORMWATER QUALITY. THE MAINTENANCE OF THE BMP'S IS THE PERMITTEE'S RESPONSIBILITY, AND FAILURE TO PROPERLY INSTALL OR MAINTAIN THE BMP'S MAY RESULT IN ENFORCEMENT ACTION BY THE COUNTY OF SAN DIEGO OR OTHERS. IF INSTALLED BMP'S FAIL, THEY MUST BE REPAIRED OR REPLACED WITH AN ACCEPTABLE ALTERNATE WITHIN 24 HOURS, OR AS SOON AS SAFE TO DO SO.
4. ON PROJECTS OF GREATER THAN 1 ACRE ADD THE FOLLOWING NOTE: A NOTICE OF INTENT (NOI) HAS BEEN, OR WILL BE FILED WITH THE STATE WATER RESOURCES CONTROL BOARD (SWRCB) AND THAT A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN OR WILL BE PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF CALIFORNIA GENERAL PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY (PERMIT NO. CAS000002) FOR ALL OPERATIONS ASSOCIATED WITH THESE PLANS. THE NOI NUMBER ASSIGNED BY SWRCB FOR THIS PROJECT IS [WDID#] [ALTERNATIVE: NOT YET ASSIGNED, BUT WILL BE PROVIDED BEFORE A PERMIT IS ISSUED]. THE PERMITTEE SHALL KEEP A COPY OF THE SWPPP ON SITE AND AVAILABLE FOR REVIEW BY COUNTY.

BMP LEGEND

MATERIALS & WASTE MANAGEMENT CONTROL BMPs

- WM-1 MATERIAL DELIVERY & STORAGE
- WM-4 SPILL PREVENTION AND CONTROL
- WM-8 CONCRETE WASTE MANAGEMENT
- WM-9 SOLID WASTE MANAGEMENT
- WM-9 SANITARY WASTE MANAGEMENT
- WM-6 HAZARDOUS WASTE MANAGEMENT

CONSTRUCTION STORM WATER

- SC-1 SILT FENCE
- SC-5 FIBER ROLLS
- SC-6 / SC-8 GRAVEL OR SAND BAGS
- SC-7 STREET SWEEPING AND VACUUMING
- TC-1 STABILIZED CONSTRUCTION ENTRANCE
- EC-7 / EC-3 PHYSICAL STABILIZATION

PERMANENT SOURCE CONTROL BMPs

- 4.2.1 PREVENTION OF ILLICIT DISCHARGES
- 4.2.3 PROTECT OUTDOOR MATERIAL STORAGE AREAS
- 4.2.4 PROTECT MATERIALS STORED IN OUTDOOR WORK AREAS
- 4.2.5 PROTECT TRASH STORAGE AREAS
- 4.2.6E LANDSCAPE/OUTDOOR PESTICIDE USE
- 4.2.6F POOLS, SPAS, PONDS, FOUNTAINS, AND OTHER WATER FEATURES
- 4.2.6H REFUSE AREAS
- 4.2.6O FIRE SPRINKLER TEST WATER
- 4.2.6P MISCELLANEOUS DRAIN OR WASH WATER
- 4.2.6Q PLAZAS, SIDEWALKS, AND PARKING LOTS

PERMANENT SITE DESIGN (LID) BMPs

- 4.3.2 CONSERVATION/RESTORATION OF NATURAL AREAS, SOILS, AND VEGETATION
- 4.3.3 MINIMIZE IMPERVIOUS AREA
- 4.3.4 MINIMIZE SOIL COMPACTION
- 4.3.5 IMPERVIOUS AREA DISPERSION
- 4.3.7 NATIVE OR DROUGHT TOLERANT VEGETATION

DISTURBED AREA

TOTAL DISTURBED AREA = 502,000 FT² (11.52 AC)

REGISTERED PROFESSIONAL ENGINEER
DANIEL J. VALDEZ
No. C076074
CIVIL
STATE OF CALIFORNIA

RECORD PLAN

BY: _____ NAME DATE: _____
R.C.E. _____
EXPIRES: _____

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:

PRIVATE CONTRACT

SHEET	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	SHEETS
7		9

EROSION CONTROL PLAN FOR:

SECRET HILLS RANCH
VIA VIEJAS OESTE
ALPINE, CALIFORNIA

CALIFORNIA COORDINATE INDEX 230-1839

APPROVED WILLIAM P. MORGAN
COUNTY ENGINEER
BY: DATE:

ENGINEER OF WORK DANIEL VALDEZ
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COFFEY ENGINEERING, INC.
9640 BUSINESSPARK AVENUE SUITE 210, SAN DIEGO, CA 92131 PH (858)831-0111 FAX (858)831-0179

EROSION CONTROL NOTES:

1. ALL BUILDING PADS TO BE DIKED AND THE DIKES MAINTAINED TO PREVENT WATER FROM FLOWING FROM THE PAD UNTIL THE STREETS AND DRIVEWAYS ARE PAVED AND WATER CAN FLOW FROM THE PADS WITHOUT CAUSING EROSION, OR CONSTRUCT DRAINAGE FACILITIES TO THE SATISFACTION OF THE COUNTY DEPARTMENT OF PUBLIC WORKS THAT WILL ALLOW WATER TO DRAIN FROM THE PAD WITHOUT CAUSING EROSION.

2. TOPS OF ALL SLOPES TO BE DIKED OR TRENCHED TO PREVENT WATER FROM FLOWING OVER THE CREST OF SLOPES.

3. MANUFACTURED SLOPES AND PADS SHALL BE ROUNDED VERTICALLY AND HORIZONTALLY AS APPROPRIATE TO BLEND WITH THE SURROUNDING TOPOGRAPHY.

4. AS SOON AS CUTS OR EMBANKMENTS ARE COMPLETED, BUT NOT LATER THAN OCTOBER 1 ALL CUT AND FILL SLOPES SHALL BE STABILIZED WITH A HYDROMULCH MIXTURE OR AN EQUAL TREATMENT APPROVED BY THE COUNTY DEPARTMENT OF PUBLIC WORKS BETWEEN OCTOBER 1 AND APRIL 15. APPROVED SLOPE PROTECTION MEASURES SHALL PROCEED IMMEDIATELY BEHIND THE EXPOSURE OF CUT SLOPES AND/OR THE CREATION OF EMBANKMENT SLOPES.

5. CATCH BASINS, DESILTING BASINS AND STORM DRAIN SYSTEM SHALL BE INSTALLED TO THE SATISFACTION OF THE COUNTY DEPARTMENT OF PUBLIC WORKS.

6. SAND BAG CHECK DAMS TO BE PLACED IN A MANNER APPROVED BY THE COUNTY DEPARTMENT OF PUBLIC WORKS IN UNPAVED STREETS WITH GRADIENTS IN EXCESS OF 2% AND ON OR IN OTHER GRADED OR EXCAVATED AREAS AS REQUIRED BY THE COUNTY DEPARTMENT OF PUBLIC WORKS.

7. THE DEVELOPER TO MAINTAIN THE PLANTING AND EROSION CONTROL MEASURES DESCRIBED ABOVE UNTIL RELIEVED OF THE SAME BY THE COUNTY DEPARTMENT OF PUBLIC WORKS. THE DEVELOPER TO REMOVE ALL SOIL INTERCEPTED BY THE GRAVEL BAGS, CATCH BASINS AND DESILTING BASINS AND KEEP THESE FACILITIES CLEAN AND FREE OF SILT AND SAND AS DIRECTED BY THE COUNTY DEPARTMENT OF PUBLIC WORKS. THE DEVELOPER SHALL REPAIR ANY ERODED SLOPES AS DIRECTED BY THE COUNTY DEPARTMENT OF PUBLIC WORKS.

SILTATION AND SEDIMENT CONTROL MEASURES NOTES:

1. THE SEDIMENT BASINS SHALL BE PROVIDED AT THE LOWER END OF EVERY DRAINAGE AREA PRODUCING SEDIMENT RUNOFF. THE BASINS SHALL BE MAINTAINED AND CLEANED TO DESIGN CONTOURS AFTER EVERY RUNOFF PRODUCING STORM. THE BASINS SHOULD BE SEMI-PERMANENT STRUCTURES THAT WOULD REMAIN UNTIL SOIL STABILIZING VEGETATION HAS BECOME WELL ESTABLISHED ON ALL ERODIBLE SLOPES.

2. SEDIMENTATION BASINS MAY NOT BE REMOVED OR MADE INOPERATIVE WITHOUT PRIOR APPROVAL OF THE COUNTY ENGINEER.

3. SEWER OR STORM DRAIN TRENCHES THAT ARE CUT THROUGH BASIN DIKES OR BASIN INLET DIKES SHALL BE PLUGGED WITH GRAVELBAGS FROM TOP OF PIPE TO TOP OF DIKE.

4. ALL UTILITY TRENCHES SHALL BE BLOCKED AT THE PRESCRIBED INTERVALS WITH A DOUBLE ROW OF GRAVEL BAGS WITH A TOP ELEVATION LEVEL WITH, AND TWO GRAVEL BAGS BELOW THE GRADED SURFACE OF THE STREET. GRAVEL BAGS ARE TO BE PLACED WITH LAPPED COURSES. THE INTERVALS PRESCRIBED BETWEEN GRAVEL BAG BLOCKING SHALL DEPEND ON THE SLOPE OF THE GROUND SURFACE BUT NOT TO EXCEED THE FOLLOWING:

GRADE OF THE STREET	INTERVAL
LESS THAN 2%	AS REQUIRED
2% TO 4%	100 FEET
4% TO 10%	50 FEET
OVER 10%	25 FEET

5. AFTER UTILITY TRENCHES ARE BACKFILLED AND COMPACTED, THE SURFACES OVER SUCH TRENCHES SHALL BE MOUNDED SLIGHTLY TO PREVENT CHANNELING OF WATER IN THE TRENCH AREA. CARE SHOULD BE EXERCISED TO PROVIDE FOR CROSS FLOW AT FREQUENT INTERVALS WHERE TRENCHES ARE NOT ON THE CENTERLINE OF A CROWNED STREET.

6. ALL BUILDING PADS SHOULD BE SLOPED TOWARDS THE DRIVEWAYS AND VELOCITY CHECK DAMS PROVIDED AT THE BASE OF ALL DRIVEWAYS DRAINING INTO THE STREET.

7. PROVIDE VELOCITY CHECK DAMS IN ALL UNPAVED GRADED CHANNELS AT THE INTERVALS INDICATED BELOW:

GRADE OF CHANNEL	INTERVALS BETWEEN CHECK DAMS
LESS THAN 3%	100 FEET
3% TO 6%	50 FEET
OVER 6%	25 FEET

8. PROVIDE VELOCITY CHECK DAMS IN ALL PAVED STREET AREAS ACCORDING TO INTERVALS INDICATED BELOW. VELOCITY CHECK DAMS MAY BE CONSTRUCTED OF GRAVEL BAGS, TIMBER, OR OTHER EROSION RESISTANT MATERIALS APPROVED BY THE COUNTY ENGINEER, AND SHALL EXTEND COMPLETELY ACROSS THE STREET OR CHANNEL AT RIGHT ANGLES TO THE CENTERLINE. VELOCITY CHECK DAMS MAY ALSO SERVE AS SEDIMENT TRAPS.

GRADE OF STREET	INTERVAL	NUMBER OF BAGS HIGH
LESS THAN 2%	AS REQUIRED, 200 FEET MAX	1
2% TO 4%	100 FEET	1
4% TO 6%	50 FEET	1
6% TO 10%	50 FEET	2
OVER 10%	25 FEET	2

9. PROVIDE A GRAVEL BAG SILT BASIN OR TRAP BY EVERY STORM DRAIN INLET TO PREVENT SEDIMENT FROM ENTERING DRAIN SYSTEM.

10. GRAVEL BAGS AND FILL MATERIAL SHALL BE STOCKPILED AT INTERVALS, READY FOR USE WHEN REQUIRED.

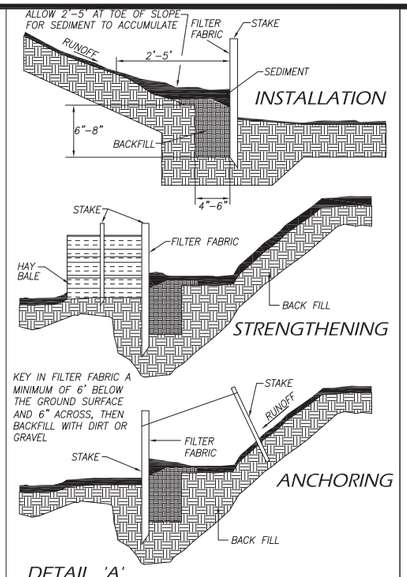
11. ALL EROSION CONTROL DEVICES WITHIN THE DEVELOPMENT SHOULD BE MAINTAINED DURING AND AFTER EVERY RUNOFF PRODUCING STORM, IF POSSIBLE, MAINTENANCE CREWS WOULD BE REQUIRED TO HAVE ACCESS TO ALL AREAS.

12. PROVIDE ROCK RIPRAP ON CURVES AND STEEP DROPS IN ALL EROSION PRONE DRAINAGE CHANNELS DOWNSTREAM FROM THE DEVELOPMENT. THIS PROTECTION WOULD REDUCE EROSION CAUSED BY THE INCREASED FLOWS THAT MAY BE ANTICIPATED FROM DENUDED SLOPES, OR FROM IMPERVIOUS SURFACES.

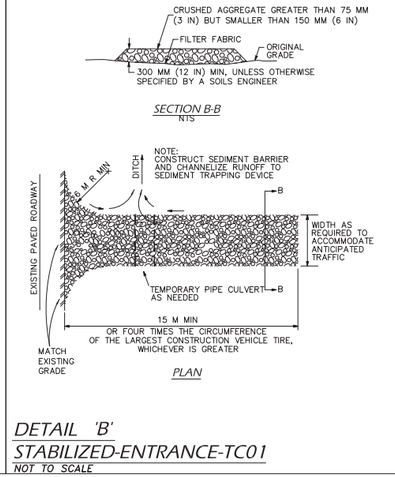
13. ANY PROPOSED ALTERNATE CONTROL MEASURES MUST BE APPROVED IN ADVANCE BY ALL RESPONSIBLE AGENCIES: I.E., COUNTY ENGINEER, DEPARTMENT OF ENVIRONMENTAL HEALTH, FLOOD CONTROL AND OFFICE OF ENVIRONMENTAL MANAGEMENT, ETC.

STORM WATER MANAGEMENT NOTES

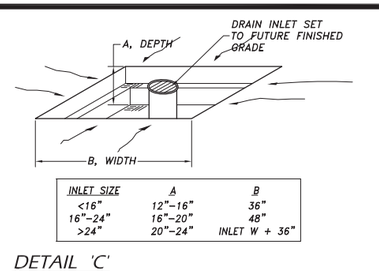
1. DURING THE RAINY SEASON THE AMOUNT OF EXPOSED SOIL ALLOWED AT ONE TIME SHALL NOT EXCEED THAT WHICH CAN BE ADEQUATELY PROTECTED BY THE PROPERTY OWNER IN THE EVENT OF A RAINSTORM. 125% SHALL BE RETAINED ON THE JOB SITE IN A MANNER THAT ALLOWS FULL DEPLOYMENT AND COMPLETE INSTALLATION IN 48 HOURS OR LESS OF A FORECAST RAIN.
2. NO AREA BEING DISTURBED SHALL EXCEED 50 ACRES AT ANY GIVEN TIME WITHOUT DEMONSTRATING TO THE SAN DIEGO COUNTY D.P.W. DIRECTOR'S SATISFACTION THAT ADEQUATE EROSION AND SEDIMENT CONTROL CAN BE MAINTAINED. ANY DISTURBED AREA THAT IS NOT ACTIVELY GRADED FOR 15 DAYS MUST BE FULLY PROTECTED FROM EROSION. UNTIL ADEQUATE LONGTERM PROTECTIONS ARE INSTALLED, THE DISTURBED AREA SHALL BE INCLUDED WHEN CALCULATING THE ACTIVE DISTURBANCE AREA. ALL EROSION CONTROL MEASURES SHALL REMAIN INSTALLED AND MAINTAINED DURING ANY INACTIVE PERIOD.
3. THE PROPERTY OWNER IS OBLIGATED TO INSURE COMPLIANCE WITH ALL APPLICABLE STORM WATER REGULATIONS AT ALL TIMES. THE B.M.P.'S (BEST MANAGEMENT PRACTICES) THAT HAVE BEEN INCORPORATED INTO THIS PLAN SHALL BE IMPLEMENTED AND MAINTAINED TO EFFECTIVELY PREVENT THE POTENTIALLY NEGATIVE IMPACTS OF THIS PROJECT'S CONSTRUCTION ACTIVITIES ON STORM WATER QUALITY. THE MAINTENANCE OF THE B.M.P.'S IS THE PERMITTEE'S RESPONSIBILITY, AND FAILURE TO PROPERLY INSTALL OR MAINTAIN THE B.M.P.'S MAY RESULT IN ENFORCEMENT ACTION BY THE COUNTY OF SAN DIEGO OR OTHERS. IF INSTALLED B.M.P.'S FAIL, THEY MUST BE REPAIRED OR REPLACED WITH AN ACCEPTABLE ALTERNATE WITHIN 24 HOURS, OR AS SOON AS SAFE TO DO SO.
4. ON PROJECTS OF GREATER THAN ONE ACRES ADD THE FOLLOWING NOTE: A NOTICE OF INTENT (NOI) HAS BEEN, OR WILL BE FILED WITH THE STATE WATER RESOURCES CONTROL BOARD (SWRCB) AND THAT A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN OR WILL BE PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF CALIFORNIA GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY (PERMIT NO. CAS000002) FOR ALL OPERATIONS ASSOCIATED WITH THESE PLANS. THE NOI NUMBER ASSIGNED BY SWRCB FOR THIS PROJECT IS [WDID#] [ALTERNATIVE: NOT YET ASSIGNED, BUT WILL BE PROVIDED BEFORE A PERMIT IS ISSUED]. THE PERMITTEE SHALL KEEP A COPY OF THE SWPPP ON SITE AND AVAILABLE FOR REVIEW BY COUNTY.



DETAIL 'A'
SILT FENCE INSTALLATION
NO SCALE

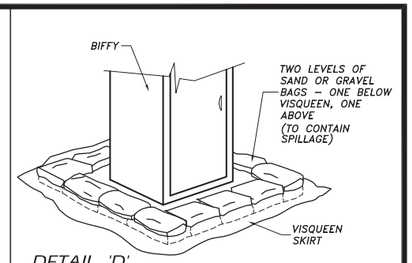


DETAIL 'B'
STABILIZED-ENTRANCE-TC01
NOT TO SCALE

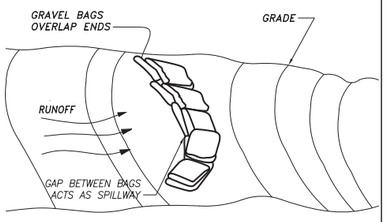


INLET SIZE	A	B
<16"	12"-16"	36"
16"-24"	16"-20"	48"
>24"	20"-24"	INLET W + 36"

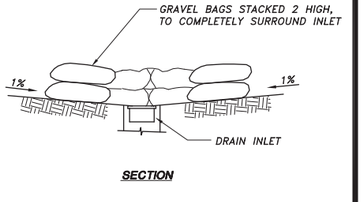
DETAIL 'C'
EXCAVATED INLET SILT TRAP (PVT)
NO SCALE



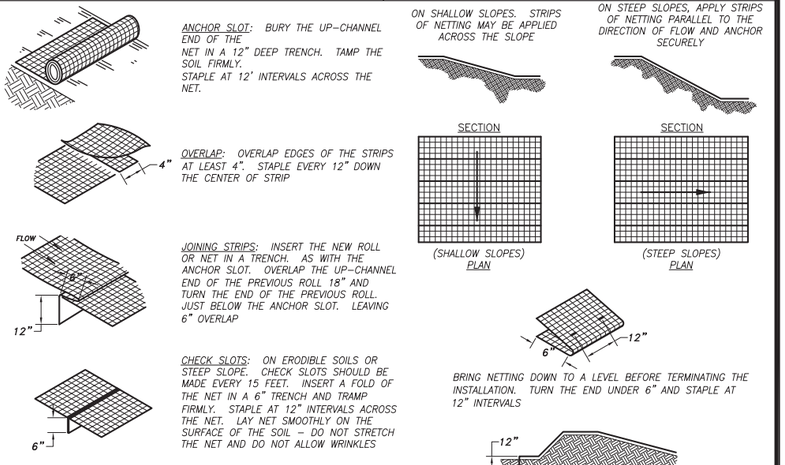
DETAIL 'D'
SANITARY TOILET (BIFFY) PROTECTION
NO SCALE



DETAIL 'E'
GRAVEL BAGS BARRIER
NO SCALE



DETAIL 'F'
GRAVEL BAGS AT INLET (PVT)
NO SCALE



DETAIL 'G' - MATTING NETTING INSTALLATION AND ORIENTATION
NO SCALE

THE USE OF BFM'S IS SUBJECT TO THE FOLLOWING LIMITATIONS AND RESTRICTIONS:

1. APPLICATION RATES SHALL BE 3500 POUNDS PER ACRE MINIMUM FOR 2: 1 OR SHALLOWER SLOPES AND 4000 POUNDS PER ACRE FOR SLOPES STEEPER THAN 2:1.
2. BFM SHALL BE APPLIED AT LEAST 24 HOURS BEFORE OR AFTER RAINFALL.
3. THE SITE MUST BE PROTECTED WITH BROW DITCHES AND / OR DIVERSION BERMS AT THE TOP OF SLOPES TO DIVERT FLOW FROM THE FACE OF THE SLOPE.
4. BFM SHALL BE APPLIED TO PROVIDE 100% COVERAGE (I.E. APPLICATION FROM MULTIPLE ANGLES).
5. FOR PERMANENT EROSION CONTROL PURPOSES, BFM MUST BE INSTALLED IN CONJUNCTION WITH SEEDED EROSION CONTROL VEGETATION.
6. A LETTER FROM THE HYDROSEED CONTRACTOR CERTIFYING THAT THE BFM HAS BEEN INSTALLED IN ACCORDANCE WITH THE APPROVED APPLICATION RATES AND COVERAGE REQUIREMENTS SHALL BE SUBMITTED TO THE COUNTY INSPECTOR FOR APPROVAL.

BMP STENCIL PLACEMENT NOTES:

A. ALL STORM DRAIN INLETS AND CATCH BASINS WITHIN THE PROJECT AREA SHALL HAVE A STENCIL OR TILE PLACED WITH PROHIBITIVE LANGUAGE (SUCH AS: "NO DUMPING-I LIVE IN THE SAN DIEGUITO RESERVOIR") AND/OR GRAPHICAL ICONS TO DISCOURAGE ILLEGAL DUMPING.

B. SIGN AND PROHIBITIVE LANGUAGE AND/OR GRAPHICAL ICONS, WHICH PROHIBIT ILLEGAL DUMPING MUST BE POSTED AT PUBLIC ACCESS POINTS ALONG CHANNELS AND CREEKS WITHIN THE PROJECT AREA.

C. LEGIBILITY OF STENCILS, TILES AND SIGNS MUST BE MAINTAINED AND TILES MUST BE PLACED FLUSH WITH TOP OF CONCRETE TO REDUCE TRIPPING BY PEDESTRIANS.

REGISTERED PROFESSIONAL ENGINEER
DANIEL J. VALDEZ
No. C076074
CIVIL
STATE OF CALIFORNIA

DIGALERT
DIAL TOLL FREE 1-800-227-2600 AT LEAST TWO DAYS BEFORE YOU DIG
CALL 811 NATIONWIDE
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

RECORD PLAN

BY: _____ DATE: _____
NAME
R.C.E. _____
EXPIRES: _____

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:

PRIVATE CONTRACT

SHEET	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	SHEETS
8		9

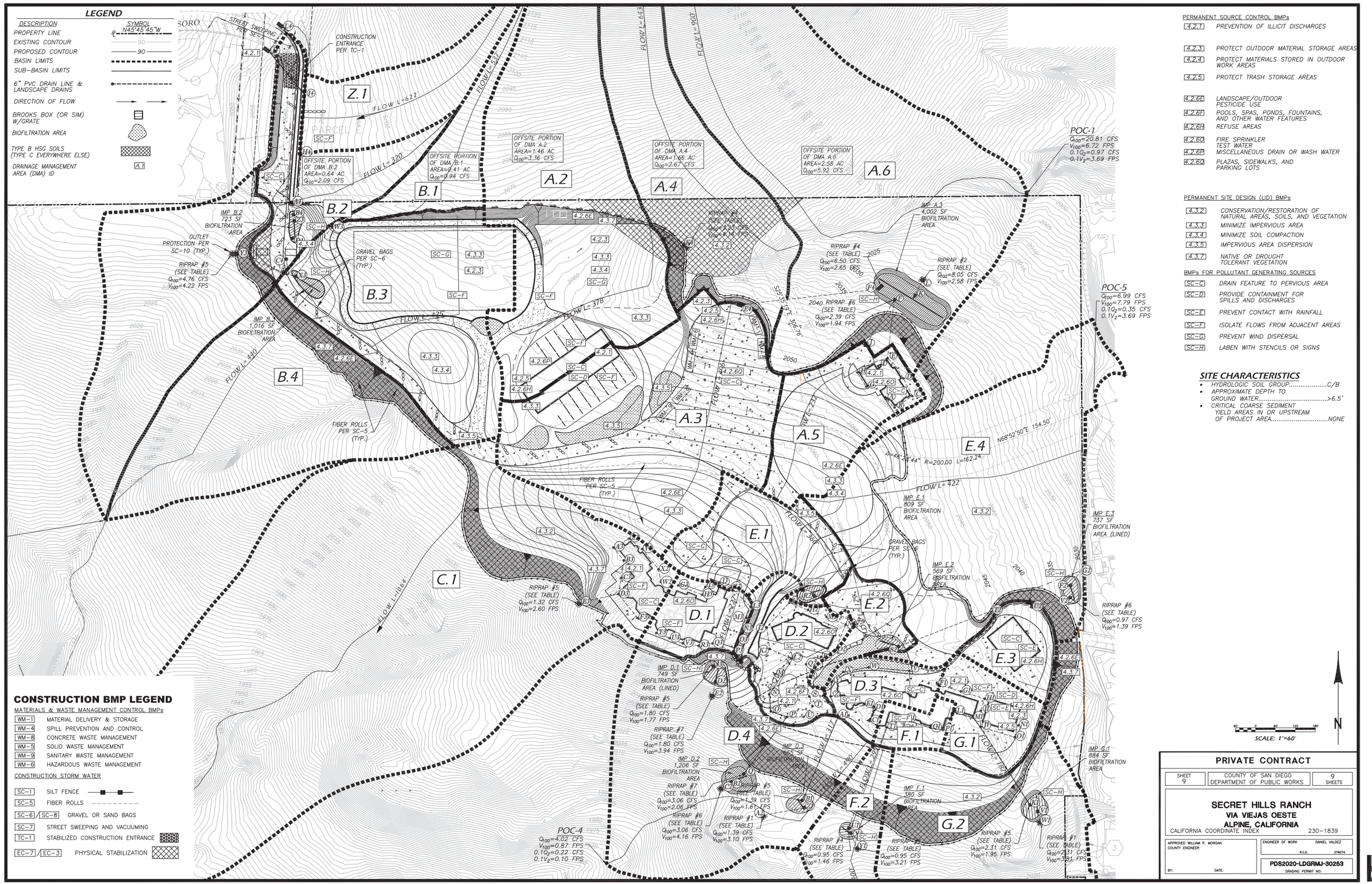
EROSION CONTROL NOTES FOR:
SECRET HILLS RANCH
VIA VIEJAS OESTE
ALPINE, CALIFORNIA
CALIFORNIA COORDINATE INDEX 230-1839

APPROVED WILLIAM P. MORGAN
COUNTY ENGINEER
BY: DATE:

ENGINEER OF WORK DANIEL VALDEZ
R.C.E. 076074

PDS2020-LDGRMJ-30253
GRADING PERMIT NO:

COFFEY ENGINEERING, INC.
9668 BUSINESSPARK AVENUE SUITE 210, SAN DIEGO, CA 92131 PH (858)831-0111 FAX (858)831-0179



COFFEY ENGINEERING, INC.
9466 BUSINESS PARK AVENUE SUITE 210, SAN DIEGO, CA 92131 PH (858)831-0111 FAX (858)831-0179

If These Sources Will Be on the Project Site …	… Then Your SWQMP Must Consider These Source Control BMPs		
1 **Potential Sources of Runoff Pollutants**	**2** **Permanent Controls—Show on Drawings**	**3** **Permanent Controls—List in Table and Narrative**	**4** **Operational BMPs—Include in Table and Narrative**
☑ **A.** Onsite storm drain inlets ☐ Not Applicable	☑ Locations of inlets.	☐ Mark all inlets with the words "No Dumping! Flows to Bay" or similar. See stencil template provided in Appendix I-4	☑ Maintain and periodically repaint or replace inlet markings. ☑ Provide storm water pollution prevention information to new site owners, lessees, or operators. ☑ See applicable operational BMPs in Fact Sheet SC-44, "Drainage System Maintenance," in the CASQA Storm Water Quality Handbooks at https://www.casqa.org/resources/bmp-handbooks ☐ Include the following in lease agreements: "Tenant shall not allow anyone to discharge anything to storm drains or to store or deposit materials so as to create a potential discharge to storm drains."

If These Sources Will Be on the Project Site …	… Then Your SWQMP must consider These Source Control BMPs		
1 **Potential Sources of Runoff Pollutants**	2 **Permanent Controls—Show on Drawings**	3 **Permanent Controls—List in Table and Narrative**	4 **Operational BMPs—Include in Table and Narrative**
❑ **B.** Interior floor drains and elevator shaft sump pumps ☑ Not Applicable		❑ State that interior floor drains and elevator shaft sump pumps will be plumbed to sanitary sewer.	❑ Inspect and maintain drains to prevent blockages and overflow.
❑ **C.** Interior parking garages ☑ Not Applicable		❑ State that parking garage floor drains will be plumbed to the sanitary sewer.	❑ Inspect and maintain drains to prevent blockages and overflow.
❑ **D1.** Need for future indoor & structural pest control ☑ Not Applicable		❑ Note building design features that discourage entry of pests.	❑ Provide Integrated Pest Management information to owners, lessees, and operators.

If These Sources Will Be on the Project Site …	… Then Your SWQMP must consider These Source Control BMPs		
1 **Potential Sources of Runoff Pollutants**	**2** **Permanent Controls—Show on Drawings**	**3** **Permanent Controls—List in Table and Narrative**	**4** **Operational BMPs—Include in Table and Narrative**
☑ **D2.** Landscape/ Outdoor Pesticide Use ☐ Not Applicable	☐ Show locations of existing trees or areas of shrubs and ground cover to be undisturbed and retained. ☑ Show self-retaining landscape areas, if any. ☑ Show storm water treatment facilities.	State that final landscape plans will accomplish all of the following. ☑ Preserve existing drought tolerant trees, shrubs, and ground cover to the maximum extent possible. ☑ Design landscaping to minimize irrigation and runoff, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides that can contribute to storm water pollution. ☑ Where landscaped areas are used to retain or detain storm water, specify plants that are tolerant of periodic saturated soil conditions. ☑ Consider using pest-resistant plants, especially adjacent to hardscape. ☑ To ensure successful establishment, select plants appropriate to site soils, slopes, climate, sun, wind, rain, land use,	☑ Maintain landscaping using minimum or no pesticides. ☑ See applicable operational BMPs in Fact Sheet SC-41, "Building and Grounds Maintenance," in the CASQA Storm Water Quality Handbooks at https://www.casqa.org/resources/bmp-handbooks ☑ Provide IPM information to new owners, lessees and operators.

If These Sources Will Be on the Project Site …	… Then Your SWQMP must consider These Source Control BMPs		
1 **Potential Sources of Runoff Pollutants**	**2** **Permanent Controls—Show on Drawings**	**3** **Permanent Controls—List in Table and Narrative**	**4** **Operational BMPs—Include in Table and Narrative**
☑ **E.** Pools, spas, ponds, decorative fountains, and other water features. ❑ Not Applicable	❑ Show location of water feature and a sanitary sewer cleanout in an accessible area within 10 feet.	❑ If the local municipality requires pools to be plumbed to the sanitary sewer, place a note on the plans and state in the narrative that this connection will be made according to local requirements.	☑ See applicable operational BMPs in Fact Sheet SC-72, "Fountain and Pool Maintenance," in the CASQA Storm Water Quality Handbooks at https://www.casqa.org/resources/bmp-handbooks
❑ **F.** Food service ☑ Not Applicable	❑ For restaurants, grocery stores, and other food service operations, show location (indoors or in a covered area outdoors) of a floor sink or other area for cleaning floor mats, containers, and equipment. ❑ On the drawing, show a note that this drain will be connected to a grease interceptor before discharging to the sanitary sewer.	❑ Describe the location and features of the designated cleaning area. ❑ Describe the items to be cleaned in this facility and how it has been sized to ensure that the largest items can be accommodated.	

If These Sources Will Be on the Project Site …	… Then Your SWQMP must consider These Source Control BMPs		
1 **Potential Sources of**	2 **Permanent Controls—Show on Drawings**	3 **Permanent Controls—List in Table and Narrative**	4 **Operational BMPs—Include in Table and Narrative**
☑ **G.** Refuse areas ☐ Not Applicable	☑ Show where site refuse and recycled materials will be handled and stored for pickup. See local municipal requirements for sizes and other details of refuse areas. ☑ If dumpsters or other receptacles are outdoors, show how the designated area will be covered, graded, and paved to prevent run-on and show locations of berms to prevent runoff from the area. Also show how the designated area will be protected from wind dispersal. ☐ Any drains from dumpsters, compactors, and tallow bin areas must be connected to a grease removal device before discharge to sanitary sewer.	☑ State how site refuse will be handled and provide supporting detail to what is shown on plans. ☑ State that signs will be posted on or near dumpsters with the words "Do not dump hazardous materials here" or similar.	☑ State how the following will be implemented: Provide adequate number of receptacles. Inspect receptacles regularly; repair or replace leaky receptacles. Keep receptacles covered. Prohibit/prevent dumping of liquid or hazardous wastes. Post "no hazardous materials" signs. Inspect and pick up litter daily and clean up spills immediately. Keep spill control materials available on- site. See Fact Sheet SC-34, "Waste Handling and Disposal" in the CASQA Storm Water Quality Handbooks at https://www.casqa.org/resources/bmp-handbooks

If These Sources Will Be on the Project Site …	… Then Your SWQMP must consider These Source Control BMPs		
1 **Potential Sources of Runoff Pollutants**	**2** **Permanent Controls—Show on Drawings**	**3** **Permanent Controls—List in Table and Narrative**	**4** **Operational BMPs—Include in Table and Narrative** **Table and Narrative**
❑ **H.** Industrial processes. ☑ Not Applicable	❑ Show process area.	❑ If industrial processes are to be located onsite, state: "All process activities to be performed indoors. No processes to drain to exterior or to storm drain system."	❑ See Fact Sheet SC-10, "Non-Storm Water Discharges" in the CASQA Storm Water Quality Handbooks at https://www.casqa.org/resources/bmp-handbooks
☑ **I.** Outdoor storage of equipment or materials. (See rows J and K for source control measures for vehicle cleaning, repair, and maintenance.) ❑ Not Applicable	☑ Show any outdoor storage areas, including how materials will be covered. Show how areas will be graded and bermed to prevent run-on or runoff from area and protected from wind dispersal. ☑ Storage of non-hazardous liquids must be covered by a roof and/or drain to the sanitary sewer system, and be contained by berms, dikes, liners, or vaults. ☑ Storage of hazardous materials and wastes must be in compliance with the local hazardous materials ordinance and a Hazardous Materials Management Plan for the site.	☑ Include a detailed description of materials to be stored, storage areas, and structural features to prevent pollutants from entering storm drains. Where appropriate, reference documentation of compliance with the requirements of local Hazardous Materials Programs for: ▪ Hazardous Waste Generation ▪ Hazardous Materials Release Response and Inventory ▪ California Accidental Release Prevention Program ▪ Aboveground Storage Tank ▪ Uniform Fire Code Article 80 Section 103(b) & (c) 1991 ▪ Underground Storage Tank	☑ See the Fact Sheets SC-31, "Outdoor Liquid Container Storage" and SC-33, "Outdoor Storage of Raw Materials" in the CASQA Storm Water Quality Handbooks at https://www.casqa.org/resources/bmp-handbooks

If These Sources Will Be on the Project Site …	… Then Your SWQMP must consider These Source Control BMPs		
1 **Potential Sources of Runoff Pollutants**	2 **Permanent Controls—Show on Drawings**	3 **Permanent Controls—List in Table and Narrative**	4 **Operational BMPs—Include in Table and Narrative**
❑ **J.** Vehicle and Equipment Cleaning ☑ Not Applicable	❑ Show on drawings as appropriate: (1) Commercial/industrial facilities having vehicle /equipment cleaning needs must either provide a covered, bermed area for washing activities or discourage vehicle/equipment washing by removing hose bibs and installing signs prohibiting such uses. (2) Multi-dwelling complexes must have a paved, bermed, and covered car wash area (unless car washing is prohibited onsite and hoses are provided with an automatic shut- off to discourage such use). (3) Washing areas for cars, vehicles, and equipment must be paved, designed to prevent run-on to or runoff from the area, and plumbed to drain to the sanitary sewer. (4) Commercial car wash facilities must be designed such that no runoff from the facility is discharged to the storm drain system. Wastewater from the facility must discharge to the sanitary sewer, or a wastewater reclamation system must be installed.	❑ If a car wash area is not provided, describe measures taken to discourage onsite car washing and explain how these will be enforced.	Describe operational measures to implement the following (if applicable): ❑ Washwater from vehicle and equipment washing operations must not be discharged to the storm drain system. ❑ Car dealerships and similar may rinse cars with water only. ❑ See Fact Sheet SC-21, "Vehicle and Equipment Cleaning," in the CASQA Storm Water Quality Handbooks at https://www.casqa.org/resources/bmp-handbooks

If These Sources Will Be on the Project Site …	… Then Your SWQMP must consider These Source Control BMPs		
1 **Potential Sources of Runoff Pollutants**	**2** **Permanent Controls—Show on Drawings**	**3** **Permanent Controls—List in Table and Narrative**	**4** **Operational BMPs—Include in Table and Narrative**
❑ **K.** Vehicle/Equipment Repair and Maintenance ☑ Not Applicable	❑ Accommodate all vehicle equipment repair and maintenance indoors. Or designate an outdoor work area and design the area to protect from rainfall, run-on runoff, and wind dispersal. ❑ Show secondary containment for exterior work areas where motor oil, brake fluid, gasoline, diesel fuel, radiator fluid, acid-containing batteries or other hazardous materials or hazardous wastes are used or stored. Drains must not be installed within the secondary containment areas. ❑ Add a note on the plans that states either (1) there are no floor drains, or (2) floor drains are connected to wastewater pretreatment systems prior to discharge to the sanitary sewer and an industrial waste discharge permit will be obtained.	❑ State that no vehicle repair or maintenance will be done outdoors, or else describe the required features of the outdoor work area. ❑ State that there are no floor drains or if there are floor drains, note the agency from which an industrial waste discharge permit will be obtained and that the design meets that agency's requirements. ❑ State that there are no tanks, containers or sinks to be used for parts cleaning or rinsing or, if there are, note the agency from which an industrial waste discharge permit will be obtained and that the design meets that agency's requirements.	In the report, note that all of the following restrictions apply to use the site: ❑ No person must dispose of, nor permit the disposal, directly or indirectly of vehicle fluids, hazardous materials, or rinsewater from parts cleaning into storm drains. ❑ No vehicle fluid removal must be performed outside a building, nor on asphalt or ground surfaces, whether inside or outside a building, except in such a manner as to ensure that any spilled fluid will be in an area of secondary containment. Leaking vehicle fluids must be contained or drained from the vehicle immediately. ❑ No person must leave unattended drip parts or other open containers containing vehicle fluid, unless such containers are in use or in an area of secondary containment.

If These Sources Will Be on the Project Site …	… Then Your SWQMP must consider These Source Control BMPs		
1 **Potential Sources of Runoff Pollutants**	2 **Permanent Controls—Show on Drawings**	3 **Permanent Controls—List in Table and Narrative**	4 **Operational BMPs—Include in Table and Narrative**
❑ **L.** Fuel Dispensing Areas ☑ Not Applicable	❑ Fueling areas[2] must have impermeable floors (i.e., portland cement concrete or equivalent smooth impervious surface) that are (1) graded at the minimum slope necessary to prevent ponding; and (2) separated from the rest of the site by a grade break that prevents run-on of storm water to the MEP. ❑ Fueling areas must be covered by a canopy that extends a minimum of ten feet in each direction from each pump. [Alternative: The fueling area must be covered and the cover's minimum dimensions must be equal to or greater than the area within the grade break or fuel dispensing area1.] The canopy [or cover] must not drain onto the fueling area.		❑ The property owner must dry sweep the fueling area routinely. ❑ See the Business Guide Sheet, "Automotive Service—Service Stations" in the CASQA Storm Water Quality Handbooks at https://www.casqa.org/resources/bmp-handbooks

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

If These Sources Will Be on the Project Site …	… Then Your SWQMP must consider These Source Control BMPs		
1 **Potential Sources of Runoff Pollutants**	**2** **Permanent Controls—Show on Drawings**	**3** **Permanent Controls—List in Table and Narrative**	**4** **Operational BMPs—Include in Table and Narrative**
M. Loading Docks ☑ Not Applicable	☑ Show a preliminary design for the loading dock area, including roofing and drainage. Loading docks must be covered and/or graded to minimize run-on to and runoff from the loading area. Roof downspouts must be positioned to direct storm water away from the loading area. Water from loading dock areas should be drained to the sanitary sewer where feasible. Direct connections to storm drains from depressed loading docks are prohibited. ❑ Loading dock areas draining directly to the sanitary sewer must be equipped with a spill control valve or equivalent device, which must be kept closed during periods of operation. ❑ Provide a roof overhang over the loading area or install door skirts (cowling) at each bay that enclose the end of the trailer.		☑ Move loaded and unloaded items indoors as soon as possible. ☑ See Fact Sheet SC-30, "Outdoor Loading and Unloading," in the CASQA Storm Water Quality Handbooks at https://www.casqa.org/resources/bmp-handbooks

If These Sources Will Be on the Project Site …	… Then Your SWQMP must consider These Source Control BMPs		
1 **Potential Sources of Runoff Pollutants**	2 **Permanent Controls—Show on Drawings**	3 **Permanent Controls—List in Table and Narrative**	4 **Operational BMPs—Include in Table and Narrative**
☐ **N.** Fire Sprinkler Test Water ☑ Not Applicable		☑ Provide a means to drain fire sprinkler test water to the sanitary sewer.	☑ See the note in Fact Sheet SC-41, "Building and Grounds Maintenance," in the CASQA Storm Water Quality Handbooks at https://www.casqa.org/resources/bmp-handbooks
O. Miscellaneous Drain or Wash Water ☐ Boiler drain lines ☑ Condensate drain lines ☐ Rooftop equipment ☐ Drainage sumps ☑ Roofing, gutters, and trim ☐ Not Applicable		☐ Boiler drain lines must be directly or indirectly connected to the sanitary sewer system and may not discharge to the storm drain system. ☑ Condensate drain lines may discharge to landscaped areas if the flow is small enough that runoff will not occur. Condensate drain lines may not discharge to the storm drain system. ☑ Rooftop mounted equipment with potential to produce pollutants must be roofed and/or have secondary containment. ☐ Any drainage sumps onsite must feature a sediment sump to reduce the quantity of sediment in pumped water. ☑ Avoid roofing, gutters, and trim made of copper or other unprotected metals that may leach into runoff.	

If These Sources Will Be on the Project Site …	… Then Your SWQMP must consider These Source Control BMPs		
1 **Potential Sources of Runoff Pollutants**	2 **Permanent Controls—Show on Drawings**	3 **Permanent Controls—List in Table and Narrative**	4 **Operational BMPs—Include in Table and Narrative**
☑ **P.** Plazas, sidewalks, and parking lots. ☐ Not Applicable			☑ Plazas, sidewalks, and parking lots must be swept regularly to prevent the accumulation of litter and debris. Debris from pressure washing must be collected to prevent entry into the storm drain system. Washwater containing any cleaning agent or degreaser must be collected and discharged to the sanitary sewer and not discharged to a storm drain.

4.0 Cover Sheet

- If this SWQMP implements any requirements of an earlier master SWQMP submittal, a copy of that previous submittal must be attached under cover of this sheet.

5.0 General Requirements

- Each Priority Development Project (PDP) must provide a description of existing site conditions and proposed changes to them, including changes to topography and drainage.
- Has a **Drainage Report** has been prepared for the PDP?

  ☑ **Yes**

  - Review of the Drainage Report must be concurrent with the PDP SWQMP.
  - Include the summary page of the Drainage Report with this cover page, and provide the following information:

    Title: Drainage Study - Secret Hills Ranch

    Prepared By: Daniel Valdez - Coffey Engineering, Inc.

    Date: 6/24/20

  - Do not complete the rest of this attachment (also exclude these additional pages from your submittal). Additional documentation of site and drainage conditions is not required unless requested by County staff.

  ☐ **No** -- Complete and submit the remainder of this attachment below.

6.0 General Requirements

- Use this attachment to document all proposed (1) self-mitigating, (2) de minimis, and (3) self-retaining DMAs. Indicate under "DMA Compliance Option" below which design options will be used to satisfy structural performance requirements for one or more DMA.

DMA Compliance Option	Required Sub-attachments	BMPDM Design Resources
☑ **Self-mitigating**	• Sub-attachment 6.1	• BMPDM Section 5.2.1
☐ **De minimis**	• Sub-attachment 6.2	• BMPDM Section 5.2.2
☐ **Self-retaining**[1]	• Sub-attachment 6.3	• BMPDM Section 5.2.3 (all options)
SSD-BMP Type(s)		
☐ **Impervious Area Dispersion**	• Sub-attachment 6.3.1	• Fact Sheet SD-B (Appendix E.8)
☐ **Tree Wells**	• Sub-attachment 6.3.2	• Fact Sheet SD-A (Appendix E.7)

- Submit this cover page and all "Required Sub-attachments" listed for each selected DMA compliance option.
- See the BMPDM sections and appendices listed under "BMPDM Design Resources" for additional explanation of design requirements. Each constructed feature must fully satisfy the requirements described in these resources, and any other guidance identified by the County.
- DMA Exhibits and Construction Plans: DMAs, features, and BMPs identified and described in this attachment must be shown on DMA Exhibits and all applicable construction plans submitted for the project. See Attachment 2 for additional instruction on exhibits and plans.

[1] If "Self-retaining" is selected, also choose the types of Significant Site Design BMPs (SSD-BMPs) to be used. SSD-BMPs are Site Design BMPs that are sized and constructed to fully satisfy all applicable Structural Performance Standards for a DMA.

6.1 Self-mitigating DMAs (complete this page once for ALL self-mitigating DMAs)

Self-mitigating DMAs consist of natural or landscaped areas that drain directly offsite or to the public storm drain system. These DMAs are excluded from DCV calculations.

- Provide the information requested below for each proposed self-mitigating DMA. Add rows or copy the table if additional entries are needed.

DMA #	*a. DMA Area (ft^2)*	*Incidental Impervious Area*		*Permit # and Sheet #*
		b. Size(ft^2)	*c. % (b/a*100)*	
A.2	124,111	3,072	2.48%	PDS2020-LDGRMJ-30253; Sheet 3 & 5
A.4	81,282	-0-	-0-	PDS2020-LDGRMJ-30253; Sheet 3
A.6	186,538	-0-	-0-	PDS2020-LDGRMJ-30253; Sheet 3
B.4	160,250	-0-	-0-	PDS2020-LDGRMJ-30253; Sheet 3
C.1	305,329	6,772	2.22%	PDS2020-LDGRMJ-30253; Sheet 4&6
D.4	93,415	-0-	-0-	PDS2020-LDGRMJ-30253; Sheet 4&6
E.4	132,306	-0-	-0-	PDS2020-LDGRMJ-30253; Sheet 4&6
F.2	37,245	-0-	-0-	PDS2020-LDGRMJ-30253; Sheet 4&6
G.2	158,648	-0-	-0-	PDS2020-LDGRMJ-30253; Sheet 4&6

- "DMA #", "DMA Area", and "Permit # and Sheet #" are required for all DMAs listed.
- "Incidental Impervious Area" calculations are required only where applicable (see below).
- Each self-mitigating DMA must <u>fully</u> satisfy all design requirements and restrictions described in BMPDM Section 5.2.1 and any other guidance or instruction identified by the County. Check the boxes below to confirm that all required conditions are satisfied <u>for every DMA listed</u>.

☑ Each DMA is hydraulically separate from other DMAs that contain permanent storm water pollutant control BMPs.

<u>Natural and Landscaped Areas</u>

☑ Each DMA consists solely of natural or landscaped areas, except for incidental impervious areas (see below).

☑ Each area drains directly offsite or to the public storm drain system.

☑ Soils are undisturbed native topsoil, or disturbed soils that have been amended and aerated to promote water retention characteristics equivalent to undisturbed native topsoil.

☑ Vegetation is native and/or non-native/non-invasive drought tolerant species that do not require regular application of fertilizers and pesticides.

<u>Incidental Impervious Areas (if applicable; see above)</u>

Minor impervious areas may be permitted within the DMA if they satisfy the following criteria:

☑ They are not hydraulically connected to other impervious areas (unless it is a storm water conveyance system such as a brow ditch).

☑ They comprise less than 5% of the total DMA. Calculate the % incidental impervious area in the table above (c= b/a). DMAs are <u>not</u> self-mitigating if this area is 5% or greater.

6.2 De Minimis DMAs (complete this page once for ALL de minimis DMAs)

De minimis DMAs consist of areas too small to be considered significant contributors of pollutants and not practicable to drain to a BMP. They are excluded from DCV calculations. Examples include driveway aprons connecting to existing streets, portions of sidewalks, retaining walls, and similar features at the external boundaries of a project.

- Provide the information requested below for each proposed de minimis DMA. Add rows or copy the table if additional entries are needed.

DMA #	*DMA Area (ft^2)*	*Permit # and Sheet #*

- "DMA #", "DMA Area", and "Permit # and Sheet #" are required.
- Check the boxes below to confirm that each required condition is satisfied for ALL de minimis DMAs on the site.

☐ Each DMA listed is less than 250 square feet and not adjacent or hydraulically connected to each other.

☐ Each DMA listed fully satisfies all design requirements and restrictions described in BMPDM Section 5.2.2 De Minimis DMAs.

6.3 Self-retaining DMAs using Significant Site Design BMPs

Self-retaining DMAs use Site Design BMPs to fully-retain the entire DCV, at a minimum. Site Design BMPs that fully retain the DCV, at a minimum, therefore replacing the need for a Structural BMP (S-BMP), are classified as Significant Site Design BMPs (SSD-BMPs). To satisfy pollutant control requirements only, self-retaining means retention of the entire DCV. However, under some circumstances, a self-retaining DMA can also satisfy hydromodification management requirements by implementing BMPs that retain a greater volume of runoff.

- Provide the information requested below for each proposed self-retaining DMA. Add rows or copy the table if additional entries are needed.

DMA #	DMA Area (ft^2)	**BMP Type** (choose one per DMA)		*Permit # and Sheet #*
		Dispersion Area (Att. 6.3.1)	**Tree Wells (Att. 6.3.2)**	
		☐	☐	
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		☐	☐	
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		☐	☐	
		☐	☐	

Copy and Paste table here for additional DMAs

- "DMA #", "DMA Area", and "Permit # and Sheet #" are required.
- Select one BMP Type per DMA. Provide detailed documentation for each DMA in Attachments 6.3.1 (Impervious Dispersion Areas) and/or 6.3.2 (Tree Wells) below.
- Each self-retaining DMA must <u>fully</u> satisfy all design requirements and restrictions described in BMPDM Section 5.2.3, applicable BMPDM Appendix E Fact Sheets, and any other guidance or instruction identified by the County.

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[2]Applicants wishing to utilize parameters less conservative than listed here must submit modeling to support their proposal. Consult your project manager for more information.
[3]Including the permeable pavement.

6.3.1 Self-retaining DMAs with Impervious Dispersion Areas

Impervious area dispersion (dispersion) refers to the practice of effectively disconnecting impervious areas from directly draining to the storm drain system by routing runoff from impervious areas such as rooftops (through downspout disconnection), walkways, and driveways onto the surface of adjacent pervious areas. The intent is to slow runoff discharges and reduce volumes. Dispersion with partial or full infiltration results in significant volume reduction by means of infiltration and evapotranspiration. When adequately sized, dispersion can also be used to satisfy both the pollutant control and hydromodification management structural performance standards for a DMA.

- Each self-retaining DMA with impervious area dispersion must fully satisfy all design requirements and restrictions described in BMPDM Section 5.2.3, Fact Sheet SD-B: Impervious Area Dispersion, and any other guidance or instruction identified by the County.
- Documentation of compliance with all applicable conditions must be submitted with this sub-attachment using the ***Summary Sheet for DMAs with Impervious Area Dispersion*** on the next page. One version of this Summary Sheet must be completed for each applicable DMA.
- Applicants are responsible to comply with all other applicable requirements, regardless of whether they are included in the summary sheet.
- The following applies if the dispersion area is **native soil** (SD-B in Appendix E):
    - For pollutant control only, the DMA is considered self-retaining if the impervious to pervious ratio is:
        - 2:1 when the pervious area is composed of Hydrologic Soil Group A
        - 1:1 when the pervious area is composed of Hydrologic Soil Group B
- The following applies if the dispersion area includes **amended soil** (SD-B in Appendix E):
    - DMAs using impervious area dispersion can be considered to meet both pollutant control and hydromodification flow control requirements if the impervious to pervious area ratio is 1:1 or less and all other design requirements of SD-B are satisfied, including 11 inches of amended soil.
- The following apply if the dispersion area is **permeable pavement** (SD-D in Appendix E):
    - For pollutant control only, a DMA is considered self-retaining if the ratio of total drainage area (including permeable pavement) to area of permeable pavement is 1.5:1 or less, and all other design requirements of SD-D are satisfied.
    - Hydromodification management performance standards can be satisfied using permeable pavement only if constructed to Structural BMP specifications. In this case, the permeable pavement must be sized and constructed in accordance with the requirements of INF-3.

[2]Applicants wishing to utilize parameters less conservative than listed here must submit modeling to support their proposal. Consult your project manager for more information.
[3]Including the permeable pavement.

Summary Sheet for DMAs with Impervious Area Dispersion (Complete 1 sheet per DMA)

DMA #

A. Minimum Sizing Requirements

Verify that minimum standards are satisfied for the applicable dispersion area type below[2].

Native Soil (Pollutant Control Only) Select one and provide calculations below.

☐ Soil Group A: Ratio I:P is 2:1 or less ☐ Soil Group B: Ratio I:P is 1:1 or less

Impervious Area (ft²)	*Permeable Dispersion Area (ft²)*	*Ratio I:P*

Amended Soil (Pollutant Control plus Hydromodification Management)

Must satisfy both conditions and provide calculations below.

☐ Ratio I:P is 1:1 or less, AND

☐ 11 inches or more of the top of the pervious area consists of amended soils (Fact Sheet SD-F)

Impervious Area (ft²)	*Permeable Dispersion Area (ft²)*	*Ratio I:P*

Permeable Pavement (Pollutant Control Only) Provide calculations below.

☐ Ratio DMA area to area of permeable pavement is 1.5:1 or less

DMA Area[3] (ft²)	*Permeable Pavement Area (ft²)*	*Ratio DMA:Pavement*

B. Minimum Design Criteria

Check the boxes below to confirm that each design criterion has been satisfied for the DMA.

Impervious Areas:

☐ Are graded to ensure area that the full DCV drains to the dispersion area before the runoff discharges from the DMA.

Pervious Dispersion Areas:

☐ Are less than 5% slope and sheet flow over a distance of at least 10 feet from inflow to overflow route.

☐ Have inflow velocities of 3 ft/s or less OR use energy dissipation methods (e.g., riprap, level spreader) for concentrated inflows.

☐ Are densely and robustly vegetated with drought tolerant species.

☐ Consist of soil types capable of supporting or being amended to support vegetation (e.g., with sand or compost). If applicable, media amendments have been tested to verify that they are not a source of pollutants.

☐ Are owned by the project owner and will be dedicated to exclude future uses that might reduce their effectiveness.

Copy and Paste table here for additional DMAs

---

[2]Applicants wishing to utilize parameters less conservative than listed here must submit modeling to support their proposal. Consult your project manager for more information.

[3]Including the permeable pavement.

6.3.2 Self-retaining DMAs with Tree Wells

Trees wells can provide a variety of benefits such as interception and increased infiltration of rainfall, reduced erosion, energy conservation, air quality improvement, and aesthetic enhancement. They can also be used to satisfy both pollutant control and hydromodification management performance standards for a DMA.

- Each self-retaining DMA with tree wells must fully satisfy all design requirements and restrictions described in BMPDM Section 5.2.3, Fact Sheet SD-A: Tree Wells, and any other guidance or instruction identified by the County.
- For pollutant control only, the DMA must retain the entire DCV. For hydromodification management, an additional volume must be retained in accordance with the sizing requirements presented in the DCV multiplier table in Fact Sheet SD-A.
- Documentation of compliance with applicable conditions must be submitted using the ***Summary Sheet for Self-retaining DMAs with Tree Wells*** on the next page. One version of this Summary Sheet must be completed for each applicable DMA.
- If both pollutant control and hydromodification standards apply, the soil depth of all tree wells in the DMA must be selected before determining the Required Retention Volume (RRV). Each tree well must be constructed to the selected depth. For pollutant control only, tree wells within a DMA may be constructed to different soil depths.
- In most cases tree wells must use Amended Soil per Fact Sheet SD-F. However, Structural Soil is required in some cases (e.g., placing the tree well next to a curb). See ***Structural Requirements for Confined Tree Well Soil Volume*** in Fact Sheet SD-A for additional explanation. If applicable, list the DMAs and Tree Well #s below for all tree wells requiring Structural Soil.

DMA #	**Tree Wells Requiring Structural Soil (list Tree Well #s)**
N/A	

- The Design Capture Volume (DCV) must be known for each DMA in order to determine the volume to be mitigated by the tree wells. Instructions for DCV calculation are provided in BMPDM Appendix B.1. An automated version of Worksheet B.1 (Calculation of Design Capture Volume) is available at www.sandiegocounty.gov/stormwater under the Development Resources tab.

7.0 General Requirements

- Submit this cover page and all required Sub-attachments for all structural BMPs proposed for the project.
- See the BMPDM sections and appendices listed under "BMPDM Design Resources" in the table below for additional explanation of design requirements. Constructed features must fully satisfy the requirements described in these resources, and any other guidance identified by the County.
- PDPs subject to hydromodification management requirements must also implement structural BMPs for flow control for hydromodification management. Completion of SWQMP Attachment 8 is also required for these BMPs.
- DMA Exhibits and Construction Plans: DMAs, features, and BMPs identified and described in this attachment must be shown on DMA Exhibits and all applicable construction plans submitted for the project. See Attachment 2 for additional instruction on exhibits and plans.
- Structural BMP Certification. All structural BMPs documented this attachment and in Attachment 8 must be certified by a registered engineer in Sub-attachment 7.1.
- Structural BMP Verification. Structural BMP installation must be verified by the County at the completion of construction. Applicants must complete an Installation Verification Form (Attachment 10).

Sub-attachments (check all that are completed)	**Requirement**	**BMPDM Design Resources**
☑ **7.1: Preparer's Certification**	Required	• N/A
☑ **7.2: Structural BMP Strategy**	Required	• BMPDM Sections 5.1., 5.3, 5.4, and Chapter 6 • BMPDM Appendix E (pages E-78 through E-210)
☑ **7.3: Structural BMP Checklist(s)**	Required	
☑ **7.4: Stormwater Pollutant Control Worksheet Calculations**	Required	• BMPDM Appendix B
☐ **7.5: Identification and Narrative of Receiving Water and Pollutants of Concern**	Required if flow-thru BMPs are proposed	• N/A

7.1 Engineer of Work Certification for Structural BMPs

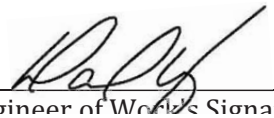
Project Name Secret Hills Ranch
Permit Application Number PDS2020-LDGRMJ-30253

CERTIFICATION

I hereby declare that I am the Engineer in Responsible Charge of design of structural storm water best management practices (BMPs) for this project, and that I have exercised responsible charge over the design of the BMPs as defined in Section 6703 of the Business and Professions Code, and that the design is consistent with the PDP requirements of the County of San Diego BMP Design Manual, which is a design manual for compliance with local County of San Diego Watershed Protection Ordinance (Sections 67.801 et seq.) and regional MS4 Permit (California Regional Water Quality Control Board San Diego Region Order No. R9-2013-0001 as amended by R9-2015-0001 and R9-2015-0100) requirements for storm water management. I have read and understand that the County of San Diego has adopted minimum requirements for managing urban runoff, including storm water, from land development activities, as described in the BMP Design Manual.

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 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 County staff is confined to a review and does not relieve me, as the Engineer in Responsible Charge of design of structural storm water BMPs for this project, of my responsibilities for their design.

☑ In addition to the structural pollutant control BMPs described in this attachment, this certification applies to the Structural Hydromodification Management BMPs described in Attachment 8 (check if applicable).



Engineer of Work's Signature, PE Number & Expiration Date

Daniel Valdez, RCE 76074 Exp. 6/30/22

Print Name

Coffey Engineering

Company

10/8/20

Date

Engineer's Seal:

7.2 Structural BMP Strategy

7.2.1 Narrative Strategy (Continue description on subsequent pages as necessary)

Describe the general strategy for structural BMP implementation at the project site. For pollutant control BMPs, your description must address the key points outlined in Section 5.1 of the BMP Design Manual, and the 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 - Rainfall depth determined from isopluvial maps for the county of San Diego.

Step 1B - Tributary areas delineated as shown on map titled "Drainage Management Area Map B.1 - Proposed Conditions"

Step 1C - Runoff factors for each DMA determined utilizing Worksheet B.1 from the County of San Diego Automated Worksheet V.20.

step 1D - No reduction credits are proposed.

Step 2A - Retention requirements determined utilizing Worksheet B.2 from the County of San Diego Automated Worksheet V.20.

Step 2B - Infiltration restrictions evaluated per Table B.2-1 (included below).

Step 2C - Design infiltration rate determined per Worksheet B.2 - Retention Requirements from the County of San Diego Automated Worksheet V.20.

Step 2D - Retention requirements determined per Worksheet B.2 - Retention Requirements from the County of San Diego Automated Worksheet V.20.

Step 3A - BMP characteristics determined from Worksheet B.3 - Retention Requirements from the County of San Diego Automated Worksheet V.20.

Step 3B - Retention processes determined utilizing Worksheet B.2 - Retention Requirements from the County of San Diego Automated Worksheet V.20.

Step 3C - Biofiltration processes evaluated per Worksheet B.3 - Retention Requirements from the County of San Diego Automated Worksheet V.20.

Step 3D - Pollutant control efficacy evaluated utilizing Worksheet B.3 - BMP Performance from the County of San Diego Automated Worksheet V.20.

Step 3E - Retention requirements met as confirmed by Worksheet B.3 - BMP Performance from the County of San Diego Automated Worksheet V.20.

B.2.2 Step 2B – Infiltration Restrictions

The SWQMP Preparer is responsible for evaluating the infiltration restrictions in Table B.2-1 below and characterizing each drainage area as Restricted or Unrestricted for infiltration.

Restriction elements are divided into Mandatory Considerations and Optional Considerations. Mandatory Considerations include elements that may pose a significant risk to human health and safety. These elements must always be evaluated and discretion regarding the setbacks is not permitted. Optional Considerations include elements that are not necessarily associated with human health and safety, so analysis is not mandated through this guidance document.

Analysis of these elements is outside of the scope of typical geotechnical engineering investigations; therefore, it is the responsibility of the SWQMP Preparer to perform this evaluation. If a geotechnical engineer is consulted to complete this portion of the analysis, additional discretion on the mandatory considerations may be permitted if supported by the geotechnical reporting.

Table B.2-1: Infiltration Restrictions

Restriction Element		Is Element Applicable? (Yes/No)
Mandatory Considerations	BMP is within 100' of Contaminated Soils	No
	BMP is within 100' of Industrial Activities Lacking Source Control	No
	BMP is within 100' of Well/Groundwater Basin	No
	BMP is within 50' of Septic Tanks/Leach Fields	No
	BMP is within 10' of Structures/Tanks/Walls	No
	BMP is within 10' of Sewer Utilities	No
	BMP is within 10' of Groundwater Table	No
	BMP is within Hydric Soils	No
	BMP is within Highly Liquefiable Soils and has Connectivity to Structures	No
	BMP is within 1.5 Times the Height of Adjacent Steep Slopes (≥25%)	YES
	County Staff has Assigned "Restricted" Infiltration Category	No
Optional Considerations	BMP is within Predominantly Type D Soil	No
	BMP is within 10' of Property Line	YES
	BMP is within Fill Depths of ≥5' (Existing or Proposed)	No
	BMP is within 10' of Underground Utilities	No
	BMP is within 250' of Ephemeral Stream	No
	Other (Provide detailed geotechnical support)	No
Result	**Unrestricted**. None of the restriction elements above are applicable.	Restricted
	Restricted. One or more of the restriction elements above are applicable.	

7.2.2 Structural BMP Summary Table (Complete for all proposed structural BMPs)

- List and provide the information requested below for all pollutant control and hydromodification management BMPs proposed for the project.
- For each BMP listed, complete the Structural BMP Checklist on the next page. Copy the Checklist as many times as needed.

BMP ID #	DMA #	DMA Area (ft^2)	Structural BMP Type: Harvest and Use	Infiltration	Unlined Biofiltration	Lined Biofiltration	Flow-thru treatment	Hydromodification Management[1]	Other	PDS2020-LDGRMJ-30253 Permit # and Sheet #
A.3	A.3	104,393	☐	☐	☑	☐	☐	☑	☐	Sheet 4
A.3	A.5	30,525	☐	☐	☑	☐	☐	☑	☐	Sheet 4
B.2	B.2	32,610	☐	☐	☑	☐	☐	☑	☐	Sheet 3
B.3	B.3	80,579	☐	☐	☑	☐	☐	☑	☐	Sheet 3
D.1	D.1	14,209	☐	☐	☐	☑	☐	☑	☐	Sheet 5 & 6
D.2	D.2	25,228	☐	☐	☑	☐	☐	☑	☐	Sheet 6
D.3	D.3	14,431	☐	☐	☑	☐	☐	☑	☐	Sheet 6
E.1	E.1	31,291	☐	☐	☑	☐	☐	☑	☐	Sheet 4 & 6
E.2	E.2	13,102	☐	☐	☑	☐	☐	☑	☐	Sheet 6
E.3	E.3	14,368	☐	☐	☐	☑	☐	☑	☐	Sheet 6
F.1	F.1	7,333	☐	☐	☑	☐	☐	☑	☐	Sheet 6
G.1	G.1	19,407	☐	☐	☑	☐	☐	☑	☐	Sheet 6
			☐	☐	☐	☐	☐	☐	☐	
			☐	☐	☐	☐	☐	☐	☐	
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			☐	☐	☐	☐	☐	☐	☐	
			☐	☐	☐	☐	☐	☐	☐	

Copy and Paste table here for additional BMPs

[1] Hydromodification Management BMPs must be accompanied by BMPs that provide pollutant control.

7.3 Structural BMP Checklist (Complete once for each proposed structural BMP)

Structural BMP ID # A.3	**Permit # and Sheet #** Sheet 4
BMP Type	
Infiltration ☐ Infiltration basin (INF-1) ☐ Bioretention (INF-2) ☐ Permeable pavement (INF-3) **Unlined Biofiltration** ☑ Biofiltration with partial retention (PR-1) **Lined Biofiltration** ☐ Biofiltration (BF-1) ☐ Nutrient Sensitive Media Design (BF-2) ☐ Proprietary Biofiltration (BF-3)	**Harvest and Use** ☐ Cistern (HU-1) **Flow-thru Treatment** (describe below) ☐ With prior lawful approval to meet earlier PDP requirements ☐ Pre-treatment/forebay for an onsite retention or biofiltration BMP[2] ☐ With alternative compliance **Hydromodification Management**[3] ☐ Detention pond or vault ☑ **Other** (describe below)
BMP Purpose	
☐ Pollutant control only ☐ Hydromodification control only ☑ Combined pollutant control and hydromodification	☐ Pre-treatment/forebay for another BMP ☐ Other (describe below)
BMP Verification (See BMPDM Section 8.3)	
Provide name and contact information for the party responsible to sign BMP verification forms	Stanley Boney - Property Owner P O BOX 428 Crystal Bay, NV 89402 (775) 230-2904 stanboney@me.com
BMP Ownership and Maintenance (See BMPDM Section 7.3 and Attachment 11)	
BMP Maintenance Category	Cat. 1 ☑ Cat. 2 ☐ Cat. 3 ☐ Cat. 4 ☐
Final owner of BMP	☐ HOA ☑ Property Owner ☐ County ☐ Other (describe):
Maintenance of BMP into perpetuity	☐ HOA ☑ Property Owner ☐ County ☐ Other (describe):
Discussion (As needed; Continue on subsequent pages as necessary)	
4,002 SF Unlined biofiltration area	

Copy and Paste table here for additional BMPs

[2] Indicate which onsite retention or biofiltration BMP the pre-treatment/forebay serves.
[3] Hydromodification Management BMPs must be accompanied by BMPs that provide pollutant control.

7.3 Structural BMP Checklist (Complete once for each proposed structural BMP)

Structural BMP ID # B.2	**Permit # and Sheet #** Sheet 3 PDS2020-LDGRMJ-30253

BMP Type

Infiltration

- ☐ Infiltration basin (INF-1)
- ☐ Bioretention (INF-2)
- ☐ Permeable pavement (INF-3)

Unlined Biofiltration

- ☑ Biofiltration with partial retention (PR-1)

Lined Biofiltration

- ☐ Biofiltration (BF-1)
- ☐ Nutrient Sensitive Media Design (BF-2)
- ☐ Proprietary Biofiltration (BF-3)

Harvest and Use

- ☐ Cistern (HU-1)

Flow-thru Treatment (describe below)

- ☐ With prior lawful approval to meet earlier PDP requirements
- ☐ Pre-treatment/forebay for an onsite retention or biofiltration BMP[2]
- ☐ With alternative compliance

Hydromodification Management[3]

- ☐ Detention pond or vault
- ☑ **Other** (describe below)

BMP Purpose

- ☐ Pollutant control only
- ☐ Hydromodification control only
- ☑ Combined pollutant control and hydromodification
- ☐ Pre-treatment/forebay for another BMP
- ☐ Other (describe below)

BMP Verification (See BMPDM Section 8.3)

Provide name and contact information for the party responsible to sign BMP verification forms	Betty & Stanley Boney P O BOX 428 Crystal Bay, NV 89402 stanboney@me.com

BMP Ownership and Maintenance (See BMPDM Section 7.3 and Attachment 11)

BMP Maintenance Category	Cat. 1 ☑	Cat. 2 ☐	Cat. 3 ☐	Cat. 4 ☐
Final owner of BMP	☐ HOA	☑ Property Owner	☐ County	☐ Other (describe):
Maintenance of BMP into perpetuity	☐ HOA	☑ Property Owner	☐ County	☐ Other (describe):

Discussion (As needed; Continue on subsequent pages as necessary)

723 SF biofiltration area w/partial retention

Copy and Paste table here for additional BMPs

[2] Indicate which onsite retention or biofiltration BMP the pre-treatment/forebay serves.
[3] Hydromodification Management BMPs must be accompanied by BMPs that provide pollutant control.

7.3 Structural BMP Checklist (Complete once for each proposed structural BMP)

Structural BMP ID # B.3	**Permit # and Sheet #** Sheet 3 PDS2020-LDGRMJ-30253

BMP Type

Infiltration

- ☐ Infiltration basin (INF-1)
- ☐ Bioretention (INF-2)
- ☐ Permeable pavement (INF-3)

Unlined Biofiltration

- ☑ Biofiltration with partial retention (PR-1)

Lined Biofiltration

- ☐ Biofiltration (BF-1)
- ☐ Nutrient Sensitive Media Design (BF-2)
- ☐ Proprietary Biofiltration (BF-3)

Harvest and Use

- ☐ Cistern (HU-1)

Flow-thru Treatment (describe below)

- ☐ With prior lawful approval to meet earlier PDP requirements
- ☐ Pre-treatment/forebay for an onsite retention or biofiltration BMP[2]
- ☐ With alternative compliance

Hydromodification Management[3]

- ☐ Detention pond or vault
- ☑ **Other** (describe below)

BMP Purpose

- ☐ Pollutant control only
- ☐ Hydromodification control only
- ☑ Combined pollutant control and hydromodification
- ☐ Pre-treatment/forebay for another BMP
- ☐ Other (describe below)

BMP Verification (See BMPDM Section 8.3)

Provide name and contact information for the party responsible to sign BMP verification forms	Betty & Stanley Boney P O BOX 428 Crystal Bay, NV 89402 stanboney@me.com

BMP Ownership and Maintenance (See BMPDM Section 7.3 and Attachment 11)

	Cat. 1	Cat. 2	Cat. 3	Cat. 4
BMP Maintenance Category	☑	☐	☐	☐
Final owner of BMP	☐ HOA	☑ Property Owner	☐ County	
	☐ Other (describe):			
Maintenance of BMP into perpetuity	☐ HOA	☑ Property Owner	☐ County	
	☐ Other (describe):			

Discussion (As needed; Continue on subsequent pages as necessary)

1,016 SF biofiltration area w/partial retention

Copy and Paste table here for additional BMPs

[2] Indicate which onsite retention or biofiltration BMP the pre-treatment/forebay serves.
[3] Hydromodification Management BMPs must be accompanied by BMPs that provide pollutant control.

7.3 Structural BMP Checklist (Complete once for each proposed structural BMP)

Structural BMP ID # D.1	**Permit # and Sheet #** Sheet 4 I PDS2020-LDGRMJ-30253
BMP Type	
Infiltration ☐ Infiltration basin (INF-1) ☐ Bioretention (INF-2) ☐ Permeable pavement (INF-3) **Unlined Biofiltration** ☐ Biofiltration with partial retention (PR-1) **Lined Biofiltration** ☑ Biofiltration (BF-1) ☐ Nutrient Sensitive Media Design (BF-2) ☐ Proprietary Biofiltration (BF-3)	**Harvest and Use** ☐ Cistern (HU-1) **Flow-thru Treatment** (describe below) ☐ With prior lawful approval to meet earlier PDP requirements ☐ Pre-treatment/forebay for an onsite retention or biofiltration BMP[2] ☐ With alternative compliance **Hydromodification Management**[3] ☐ Detention pond or vault ☑ **Other** (describe below)
BMP Purpose	
☐ Pollutant control only ☐ Hydromodification control only ☑ Combined pollutant control and hydromodification	☐ Pre-treatment/forebay for another BMP ☐ Other (describe below)
BMP Verification (See BMPDM Section 8.3)	
Provide name and contact information for the party responsible to sign BMP verification forms	Betty & Stanley Boney P O BOX 428 Crystal Bay, NV 89402 stanboney@me.com

BMP Ownership and Maintenance (See BMPDM Section 7.3 and Attachment 11)				
BMP Maintenance Category	Cat. 1 ☑	Cat. 2 ☐	Cat. 3 ☐	Cat. 4 ☐
Final owner of BMP	☐ HOA	☑ Property Owner	☐ County	
	☐ Other (describe):			
Maintenance of BMP into perpetuity	☐ HOA	☑ Property Owner	☐ County	
	☐ Other (describe):			

Discussion (As needed; Continue on subsequent pages as necessary)

749 SF biofiltration area (Lined)

Copy and Paste table here for additional BMPs

[2] Indicate which onsite retention or biofiltration BMP the pre-treatment/forebay serves.
[3] Hydromodification Management BMPs must be accompanied by BMPs that provide pollutant control.

7.3 Structural BMP Checklist (Complete once for each proposed structural BMP)

Structural BMP ID # D.2	**Permit # and Sheet #** Sheet 6 PDS2020-LDGRMJ-30253

BMP Type

Infiltration

- ☐ Infiltration basin (INF-1)
- ☐ Bioretention (INF-2)
- ☐ Permeable pavement (INF-3)

Unlined Biofiltration

- ☑ Biofiltration with partial retention (PR-1)

Lined Biofiltration

- ☐ Biofiltration (BF-1)
- ☐ Nutrient Sensitive Media Design (BF-2)
- ☐ Proprietary Biofiltration (BF-3)

Harvest and Use

- ☐ Cistern (HU-1)

Flow-thru Treatment (describe below)

- ☐ With prior lawful approval to meet earlier PDP requirements
- ☐ Pre-treatment/forebay for an onsite retention or biofiltration BMP[2]
- ☐ With alternative compliance

Hydromodification Management[3]

- ☐ Detention pond or vault
- ☑ **Other** (describe below)

BMP Purpose

- ☐ Pollutant control only
- ☐ Hydromodification control only
- ☑ Combined pollutant control and hydromodification
- ☐ Pre-treatment/forebay for another BMP
- ☐ Other (describe below)

BMP Verification (See BMPDM Section 8.3)

Provide name and contact information for the party responsible to sign BMP verification forms	Betty & Stanley Boney P O BOX 428 Crystal Bay, NV 89402 stanboney@me.com

BMP Ownership and Maintenance (See BMPDM Section 7.3 and Attachment 11)

BMP Maintenance Category	Cat. 1	Cat. 2	Cat. 3	Cat. 4
	☑	☐	☐	☐

Final owner of BMP	☐ HOA	☑ Property Owner	☐ County
	☐ Other (describe):		
Maintenance of BMP into perpetuity	☐ HOA	☑ Property Owner	☐ County
	☐ Other (describe):		

Discussion (As needed; Continue on subsequent pages as necessary)

1,206 SF biofiltration area w/partial retention

Copy and Paste table here for additional BMPs

[2] Indicate which onsite retention or biofiltration BMP the pre-treatment/forebay serves.
[3] Hydromodification Management BMPs must be accompanied by BMPs that provide pollutant control.

7.3 Structural BMP Checklist (Complete once for each proposed structural BMP)

Structural BMP ID # D.3	**Permit # and Sheet #** Sheet 6 PDS2020-LDGRMJ-30253

BMP Type

Infiltration

- ☐ Infiltration basin (INF-1)
- ☐ Bioretention (INF-2)
- ☐ Permeable pavement (INF-3)

Unlined Biofiltration

- ☑ Biofiltration with partial retention (PR-1)

Lined Biofiltration

- ☐ Biofiltration (BF-1)
- ☐ Nutrient Sensitive Media Design (BF-2)
- ☐ Proprietary Biofiltration (BF-3)

Harvest and Use

- ☐ Cistern (HU-1)

Flow-thru Treatment (describe below)

- ☐ With prior lawful approval to meet earlier PDP requirements
- ☐ Pre-treatment/forebay for an onsite retention or biofiltration BMP[2]
- ☐ With alternative compliance

Hydromodification Management[3]

- ☐ Detention pond or vault
- ☑ **Other** (describe below)

BMP Purpose

- ☐ Pollutant control only
- ☐ Hydromodification control only
- ☑ Combined pollutant control and hydromodification
- ☐ Pre-treatment/forebay for another BMP
- ☐ Other (describe below)

BMP Verification (See BMPDM Section 8.3)

Provide name and contact information for the party responsible to sign BMP verification forms	Betty & Stanley Boney P O BOX 428 Crystal Bay, NV 89402 stanboney@me.com

BMP Ownership and Maintenance (See BMPDM Section 7.3 and Attachment 11)

BMP Maintenance Category	Cat. 1	Cat. 2	Cat. 3	Cat. 4
	☑	☐	☐	☐

Final owner of BMP	☐ HOA	☑ Property Owner	☐ County
	☐ Other (describe):		
Maintenance of BMP into perpetuity	☐ HOA	☑ Property Owner	☐ County
	☐ Other (describe):		

Discussion (As needed; Continue on subsequent pages as necessary)

658 SF biofiltration area w/partial retention

Copy and Paste table here for additional BMPs

[2] Indicate which onsite retention or biofiltration BMP the pre-treatment/forebay serves.
[3] Hydromodification Management BMPs must be accompanied by BMPs that provide pollutant control.

7.3 Structural BMP Checklist (Complete once for each proposed structural BMP)

Structural BMP ID # E.1	**Permit # and Sheet #** Sheet 6 PDS2020-LDGRMJ-30253

BMP Type

Infiltration

- ☐ Infiltration basin (INF-1)
- ☐ Bioretention (INF-2)
- ☐ Permeable pavement (INF-3)

Unlined Biofiltration

- ☑ Biofiltration with partial retention (PR-1)

Lined Biofiltration

- ☐ Biofiltration (BF-1)
- ☐ Nutrient Sensitive Media Design (BF-2)
- ☐ Proprietary Biofiltration (BF-3)

Harvest and Use

- ☐ Cistern (HU-1)

Flow-thru Treatment (describe below)

- ☐ With prior lawful approval to meet earlier PDP requirements
- ☐ Pre-treatment/forebay for an onsite retention or biofiltration BMP[2]
- ☐ With alternative compliance

Hydromodification Management[3]

- ☐ Detention pond or vault
- ☑ **Other** (describe below)

BMP Purpose

- ☐ Pollutant control only
- ☐ Hydromodification control only
- ☑ Combined pollutant control and hydromodification
- ☐ Pre-treatment/forebay for another BMP
- ☐ Other (describe below)

BMP Verification (See BMPDM Section 8.3)

Provide name and contact information for the party responsible to sign BMP verification forms	Betty & Stanley Boney P O BOX 428 Crystal Bay, NV 89402 stanboney@me.com

BMP Ownership and Maintenance (See BMPDM Section 7.3 and Attachment 11)

BMP Maintenance Category	Cat. 1	Cat. 2	Cat. 3	Cat. 4
	☑	☐	☐	☐

Final owner of BMP	☐ HOA	☑ Property Owner	☐ County
	☐ Other (describe):		
Maintenance of BMP into perpetuity	☐ HOA	☑ Property Owner	☐ County
	☐ Other (describe):		

Discussion (As needed; Continue on subsequent pages as necessary)

622 SF biofiltration area w/partial retention

Copy and Paste table here for additional BMPs

[2] Indicate which onsite retention or biofiltration BMP the pre-treatment/forebay serves.
[3] Hydromodification Management BMPs must be accompanied by BMPs that provide pollutant control.

7.3 Structural BMP Checklist (Complete once for each proposed structural BMP)

Structural BMP ID # E.2	**Permit # and Sheet #** Sheet 6 PDS2020-LDGRMJ-30253

BMP Type

Infiltration
- ☐ Infiltration basin (INF-1)
- ☐ Bioretention (INF-2)
- ☐ Permeable pavement (INF-3)

Unlined Biofiltration
- ☑ Biofiltration with partial retention (PR-1)

Lined Biofiltration
- ☐ Biofiltration (BF-1)
- ☐ Nutrient Sensitive Media Design (BF-2)
- ☐ Proprietary Biofiltration (BF-3)

Harvest and Use
- ☐ Cistern (HU-1)

Flow-thru Treatment (describe below)
- ☐ With prior lawful approval to meet earlier PDP requirements
- ☐ Pre-treatment/forebay for an onsite retention or biofiltration BMP[2]
- ☐ With alternative compliance

Hydromodification Management[3]
- ☐ Detention pond or vault
- ☑ **Other** (describe below)

BMP Purpose
- ☐ Pollutant control only
- ☐ Hydromodification control only
- ☑ Combined pollutant control and hydromodification
- ☐ Pre-treatment/forebay for another BMP
- ☐ Other (describe below)

BMP Verification (See BMPDM Section 8.3)

Provide name and contact information for the party responsible to sign BMP verification forms	Betty & Stanley Boney P O BOX 428 Crystal Bay, NV 89402 stanboney@me.com

BMP Ownership and Maintenance (See BMPDM Section 7.3 and Attachment 11)

BMP Maintenance Category	Cat. 1 ☑	Cat. 2 ☐	Cat. 3 ☐	Cat. 4 ☐
Final owner of BMP	☐ HOA	☑ Property Owner	☐ County	☐ Other (describe):
Maintenance of BMP into perpetuity	☐ HOA	☑ Property Owner	☐ County	☐ Other (describe):

Discussion (As needed; Continue on subsequent pages as necessary)

376 SF biofiltration area w/partial retention

Copy and Paste table here for additional BMPs

[2] Indicate which onsite retention or biofiltration BMP the pre-treatment/forebay serves.
[3] Hydromodification Management BMPs must be accompanied by BMPs that provide pollutant control.

7.3 Structural BMP Checklist (Complete once for each proposed structural BMP)

Structural BMP ID # E.3	**Permit # and Sheet #** Sheet 4 I PDS2020-LDGRMJ-30253
BMP Type	
Infiltration ☐ Infiltration basin (INF-1) ☐ Bioretention (INF-2) ☐ Permeable pavement (INF-3) **Unlined Biofiltration** ☐ Biofiltration with partial retention (PR-1) **Lined Biofiltration** ☑ Biofiltration (BF-1) ☐ Nutrient Sensitive Media Design (BF-2) ☐ Proprietary Biofiltration (BF-3)	**Harvest and Use** ☐ Cistern (HU-1) **Flow-thru Treatment** (describe below) ☐ With prior lawful approval to meet earlier PDP requirements ☐ Pre-treatment/forebay for an onsite retention or biofiltration BMP[2] ☐ With alternative compliance **Hydromodification Management**[3] ☐ Detention pond or vault ☑ **Other** (describe below)
BMP Purpose	
☐ Pollutant control only ☐ Hydromodification control only ☑ Combined pollutant control and hydromodification	☐ Pre-treatment/forebay for another BMP ☐ Other (describe below)
BMP Verification (See BMPDM Section 8.3)	
Provide name and contact information for the party responsible to sign BMP verification forms	Betty & Stanley Boney P O BOX 428 Crystal Bay, NV 89402 stanboney@me.com

BMP Ownership and Maintenance (See BMPDM Section 7.3 and Attachment 11)				
BMP Maintenance Category	Cat. 1 ☑	Cat. 2 ☐	Cat. 3 ☐	Cat. 4 ☐
Final owner of BMP	☐ HOA	☑ Property Owner	☐ County	
	☐ Other (describe):			
Maintenance of BMP into perpetuity	☐ HOA	☑ Property Owner	☐ County	
	☐ Other (describe):			

Discussion (As needed; Continue on subsequent pages as necessary)

737 SF biofiltration area (Lined)

Copy and Paste table here for additional BMPs

[2] Indicate which onsite retention or biofiltration BMP the pre-treatment/forebay serves.
[3] Hydromodification Management BMPs must be accompanied by BMPs that provide pollutant control.

7.3 Structural BMP Checklist (Complete once for each proposed structural BMP)

Structural BMP ID # F.1	**Permit # and Sheet #** Sheet 6 PDS2020-LDGRMJ-30253

BMP Type

Infiltration

- ☐ Infiltration basin (INF-1)
- ☐ Bioretention (INF-2)
- ☐ Permeable pavement (INF-3)

Unlined Biofiltration

- ☑ Biofiltration with partial retention (PR-1)

Lined Biofiltration

- ☐ Biofiltration (BF-1)
- ☐ Nutrient Sensitive Media Design (BF-2)
- ☐ Proprietary Biofiltration (BF-3)

Harvest and Use

- ☐ Cistern (HU-1)

Flow-thru Treatment (describe below)

- ☐ With prior lawful approval to meet earlier PDP requirements
- ☐ Pre-treatment/forebay for an onsite retention or biofiltration BMP[2]
- ☐ With alternative compliance

Hydromodification Management[3]

- ☐ Detention pond or vault
- ☑ **Other** (describe below)

BMP Purpose

- ☐ Pollutant control only
- ☐ Hydromodification control only
- ☑ Combined pollutant control and hydromodification
- ☐ Pre-treatment/forebay for another BMP
- ☐ Other (describe below)

BMP Verification (See BMPDM Section 8.3)

Provide name and contact information for the party responsible to sign BMP verification forms	Betty & Stanley Boney P O BOX 428 Crystal Bay, NV 89402 stanboney@me.com

BMP Ownership and Maintenance (See BMPDM Section 7.3 and Attachment 11)

BMP Maintenance Category	Cat. 1 ☑	Cat. 2 ☐	Cat. 3 ☐	Cat. 4 ☐
Final owner of BMP	☐ HOA	☑ Property Owner	☐ County	☐ Other (describe):
Maintenance of BMP into perpetuity	☐ HOA	☑ Property Owner	☐ County	☐ Other (describe):

Discussion (As needed; Continue on subsequent pages as necessary)

380 SF biofiltration area w/partial retention

Copy and Paste table here for additional BMPs

[2] Indicate which onsite retention or biofiltration BMP the pre-treatment/forebay serves.
[3] Hydromodification Management BMPs must be accompanied by BMPs that provide pollutant control.

7.3 Structural BMP Checklist (Complete once for each proposed structural BMP)

Structural BMP ID # G.1	**Permit # and Sheet #** Sheet 6 PDS2020-LDGRMJ-30253
BMP Type	
Infiltration ☐ Infiltration basin (INF-1) ☐ Bioretention (INF-2) ☐ Permeable pavement (INF-3) **Unlined Biofiltration** ☑ Biofiltration with partial retention (PR-1) **Lined Biofiltration** ☐ Biofiltration (BF-1) ☐ Nutrient Sensitive Media Design (BF-2) ☐ Proprietary Biofiltration (BF-3)	**Harvest and Use** ☐ Cistern (HU-1) **Flow-thru Treatment** (describe below) ☐ With prior lawful approval to meet earlier PDP requirements ☐ Pre-treatment/forebay for an onsite retention or biofiltration BMP[2] ☐ With alternative compliance **Hydromodification Management**[3] ☐ Detention pond or vault ☑ **Other** (describe below)
BMP Purpose	
☐ Pollutant control only ☐ Hydromodification control only ☑ Combined pollutant control and hydromodification	☐ Pre-treatment/forebay for another BMP ☐ Other (describe below)
BMP Verification (See BMPDM Section 8.3)	
Provide name and contact information for the party responsible to sign BMP verification forms	Betty & Stanley Boney P O BOX 428 Crystal Bay, NV 89402 stanboney@me.com
BMP Ownership and Maintenance (See BMPDM Section 7.3 and Attachment 11)	
BMP Maintenance Category	Cat. 1 ☑ Cat. 2 ☐ Cat. 3 ☐ Cat. 4 ☐
Final owner of BMP	☐ HOA ☑ Property Owner ☐ County ☐ Other (describe):
Maintenance of BMP into perpetuity	☐ HOA ☑ Property Owner ☐ County ☐ Other (describe):
Discussion (As needed; Continue on subsequent pages as necessary)	
884 SF biofiltration area w/partial retention	

Copy and Paste table here for additional BMPs

[2] Indicate which onsite retention or biofiltration BMP the pre-treatment/forebay serves.
[3] Hydromodification Management BMPs must be accompanied by BMPs that provide pollutant control.

Automated Worksheet B.1: Calculation of Design Capture Volume (V2.0)

Category	#	Description	*i*	*ii*	*iii*	*iv*	*v*	*vi*	*vii*	*viii*	*ix*	*x*	Units
Standard Drainage Basin Inputs	1	Drainage Basin ID or Name	A.3+A.5		B.2	B.3	D.1	D.2	D.3	F.1	G.1		unitless
	2	85th Percentile 24-hr Storm Depth	0.53		0.53	0.53	0.53	0.53	0.53	0.53	0.53		inches
	3	Impervious Surfaces Not Directed to Dispersion Area (C=0.90)	53,422		8,735	8,422	10,305	17,932	9,639	5,661	12,955		sq-ft
	4	Semi-Pervious Surfaces Not Serving as Dispersion Area (C=0.30)											sq-ft
	5	Engineered Pervious Surfaces Not Serving as Dispersion Area (C=0.10)											sq-ft
	6	Natural Type A Soil Not Serving as Dispersion Area (C=0.10)											sq-ft
	7	Natural Type B Soil Not Serving as Dispersion Area (C=0.14)											sq-ft
	8	Natural Type C Soil Not Serving as Dispersion Area (C=0.23)	81,518		23,878	72,163	4,343	6,208	4,795	1,672	6,456		sq-ft
	9	Natural Type D Soil Not Serving as Dispersion Area (C=0.30)											sq-ft
Dispersion Area, Tree Well & Rain Barrel Inputs (Optional)	10	Does Tributary Incorporate Dispersion, Tree Wells, and/or Rain Barrels?	No		No	No	No	No	No	No	No		yes/no
	11	Impervious Surfaces **Directed to Dispersion Area** per SD-B (Ci=0.90)											sq-ft
	12	Semi-Pervious Surfaces **Serving as Dispersion Area** per SD-B (Ci=0.30)											sq-ft
	13	Engineered Pervious Surfaces **Serving as Dispersion Area** per SD-B (Ci=0.10)											sq-ft
	14	Natural Type A Soil **Serving as Dispersion Area** per SD-B (Ci=0.10)											sq-ft
	15	Natural Type B Soil **Serving as Dispersion Area** per SD-B (Ci=0.14)											sq-ft
	16	Natural Type C Soil **Serving as Dispersion Area** per SD-B (Ci=0.23)											sq-ft
	17	Natural Type D Soil **Serving as Dispersion Area** per SD-B (Ci=0.30)											sq-ft
	18	Number of Tree Wells Proposed per SD-A											#
	19	Average Mature Tree Canopy Diameter											ft
	20	Number of Rain Barrels Proposed per SD-E											#
	21	Average Rain Barrel Size											gal
Initial Runoff Factor Calculation	22	Total Tributary Area	134,940	0	32,613	80,585	14,648	24,140	14,434	7,333	19,411	0	sq-ft
	23	Initial Runoff Factor for Standard Drainage Areas	0.50	0.00	0.41	0.30	0.70	0.73	0.68	0.75	0.68	0.00	unitless
	24	Initial Runoff Factor for Dispersed & Dispersion Areas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	unitless
	25	Initial Weighted Runoff Factor	0.50	0.00	0.41	0.30	0.70	0.73	0.68	0.75	0.68	0.00	unitless
	26	Initial Design Capture Volume	2,980	0	591	1,068	453	778	434	243	583	0	cubic-feet
Dispersion Area Adjustments	27	Total Impervious Area Dispersed to Pervious Surface	0	0	0	0	0	0	0	0	0	0	sq-ft
	28	Total Pervious Dispersion Area	0	0	0	0	0	0	0	0	0	0	sq-ft
	29	Ratio of Dispersed Impervious Area to Pervious Dispersion Area	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	ratio
	30	Adjustment Factor for Dispersed & Dispersion Areas	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	ratio
	31	Runoff Factor After Dispersion Techniques	0.50	n/a	0.41	0.30	0.70	0.73	0.68	0.75	0.68	n/a	unitless
	32	Design Capture Volume After Dispersion Techniques	2,980	0	591	1,068	453	778	434	243	583	0	cubic-feet
Tree & Barrel Adjustments	33	Total Tree Well Volume Reduction	0	0	0	0	0	0	0	0	0	0	cubic-feet
	34	Total Rain Barrel Volume Reduction	0	0	0	0	0	0	0	0	0	0	cubic-feet
Results	35	Final Adjusted Runoff Factor	0.50	0.00	0.41	0.30	0.70	0.73	0.68	0.75	0.68	0.00	unitless
	36	Final Effective Tributary Area	67,470	0	13,371	24,176	10,254	17,622	9,815	5,500	13,199	0	sq-ft
	37	Initial Design Capture Volume Retained by Site Design Elements	0	0	0	0	0	0	0	0	0	0	cubic-feet
	38	Final Design Capture Volume Tributary to BMP	2,980	0	591	1,068	453	778	434	243	583	0	cubic-feet

No Warning Messages

Automated Worksheet B.1: Calculation of Design Capture Volume (V2.0)

Category	#	Description	*i*	*ii*	*iii*	*iv*	*v*	*vi*	*vii*	*viii*	*ix*	*x*	Units
Standard Drainage Basin Inputs	1	Drainage Basin ID or Name	E.1	E.2	E.3								unitless
	2	85th Percentile 24-hr Storm Depth	0.53	0.53	0.53								inches
	3	Impervious Surfaces Not Directed to Dispersion Area (C=0.90)	10,349	8,267	10,092								sq-ft
	4	Semi-Pervious Surfaces Not Serving as Dispersion Area (C=0.30)											sq-ft
	5	Engineered Pervious Surfaces Not Serving as Dispersion Area (C=0.10)											sq-ft
	6	Natural Type A Soil Not Serving as Dispersion Area (C=0.10)											sq-ft
	7	Natural Type B Soil Not Serving as Dispersion Area (C=0.14)											sq-ft
	8	Natural Type C Soil Not Serving as Dispersion Area (C=0.23)	20,946	4,839	5,013								sq-ft
	9	Natural Type D Soil Not Serving as Dispersion Area (C=0.30)											sq-ft
Dispersion Area, Tree Well & Rain Barrel Inputs (Optional)	10	Does Tributary Incorporate Dispersion, Tree Wells, and/or Rain Barrels?	No	No	No								yes/no
	11	Impervious Surfaces **Directed to Dispersion Area** per SD-B (Ci=0.90)											sq-ft
	12	Semi-Pervious Surfaces **Serving as Dispersion Area** per SD-B (Ci=0.30)											sq-ft
	13	Engineered Pervious Surfaces **Serving as Dispersion Area** per SD-B (Ci=0.10)											sq-ft
	14	Natural Type A Soil **Serving as Dispersion Area** per SD-B (Ci=0.10)											sq-ft
	15	Natural Type B Soil **Serving as Dispersion Area** per SD-B (Ci=0.14)											sq-ft
	16	Natural Type C Soil **Serving as Dispersion Area** per SD-B (Ci=0.23)											sq-ft
	17	Natural Type D Soil **Serving as Dispersion Area** per SD-B (Ci=0.30)											sq-ft
	18	Number of Tree Wells Proposed per SD-A											#
	19	Average Mature Tree Canopy Diameter											ft
	20	Number of Rain Barrels Proposed per SD-E											#
	21	Average Rain Barrel Size											gal
Initial Runoff Factor Calculation	22	Total Tributary Area	31,295	13,106	15,105	0	0	0	0	0	0	0	sq-ft
	23	Initial Runoff Factor for Standard Drainage Areas	0.45	0.65	0.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	unitless
	24	Initial Runoff Factor for Dispersed & Dispersion Areas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	unitless
	25	Initial Weighted Runoff Factor	0.45	0.65	0.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	unitless
	26	Initial Design Capture Volume	622	376	454	0	0	0	0	0	0	0	cubic-feet
Dispersion Area Adjustments	27	Total Impervious Area Dispersed to Pervious Surface	0	0	0	0	0	0	0	0	0	0	sq-ft
	28	Total Pervious Dispersion Area	0	0	0	0	0	0	0	0	0	0	sq-ft
	29	Ratio of Dispersed Impervious Area to Pervious Dispersion Area	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	ratio
	30	Adjustment Factor for Dispersed & Dispersion Areas	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	ratio
	31	Runoff Factor After Dispersion Techniques	0.45	0.65	0.68	n/a	n/a	n/a	n/a	n/a	n/a	n/a	unitless
	32	Design Capture Volume After Dispersion Techniques	622	376	454	0	0	0	0	0	0	0	cubic-feet
Tree & Barrel Adjustments	33	Total Tree Well Volume Reduction	0	0	0	0	0	0	0	0	0	0	cubic-feet
	34	Total Rain Barrel Volume Reduction	0	0	0	0	0	0	0	0	0	0	cubic-feet
Results	35	Final Adjusted Runoff Factor	0.45	0.65	0.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	unitless
	36	Final Effective Tributary Area	14,083	8,519	10,271	0	0	0	0	0	0	0	sq-ft
	37	Initial Design Capture Volume Retained by Site Design Elements	0	0	0	0	0	0	0	0	0	0	cubic-feet
	38	Final Design Capture Volume Tributary to BMP	622	376	454	0	0	0	0	0	0	0	cubic-feet

No Warning Messages

Automated Worksheet B.2: Retention Requirements (V2.0)

Category	#	Description	*i*	*ii*	*iii*	*iv*	*v*	*vi*	*vii*	*viii*	*ix*	*x*	Units
Basic Analysis	1	Drainage Basin ID or Name	A.3+A.5	-	B.2	B.3	D.1	D.2	D.3	F.1	G.1	-	unitless
	2	85th Percentile Rainfall Depth	0.53	-	0.53	0.53	0.53	0.53	0.53	0.53	0.53	-	inches
	3	Predominant NRCS Soil Type Within BMP Location	C		C	C	C	C	C	C	C		unitless
	4	Is proposed BMP location Restricted or Unrestricted for Infiltration Activities?	Unrestricted		Unrestricted	Unrestricted	Restricted	Unrestricted	Unrestricted	Unrestricted	Unrestricted		unitless
	5	Nature of Restriction					Slopes						unitless
	6	Do Minimum Retention Requirements Apply to this Project?	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes		yes/no
	7	Are Habitable Structures Greater than 9 Stories Proposed?	No		No	No	No	No	No	No	No		yes/no
Advanced Analysis	8	Has Geotechnical Engineer Performed an Infiltration Analysis?	No		No	No	No	No	No	No	No		yes/no
	9	Design Infiltration Rate Recommended by Geotechnical Engineer											in/hr
Result	10	Design Infiltration Rate Used To Determine Retention Requirements	0.100	-	0.100	0.100	0.000	0.100	0.100	0.100	0.100	-	in/hr
	11	Percent of Average Annual Runoff that Must be Retained within DMA	22.2%	-	22.2%	22.2%	4.5%	22.2%	22.2%	22.2%	22.2%	-	percentage
	12	Fraction of DCV Requiring Retention	0.15	-	0.15	0.15	0.02	0.15	0.15	0.15	0.15	-	ratio
	13	Required Retention Volume	447	-	89	160	9	117	65	36	87	-	cubic-feet

No Warning Messages

Automated Worksheet B.2: Retention Requirements (V2.0)

Category	#	Description	*i*	*ii*	*iii*	*iv*	*v*	*vi*	*vii*	*viii*	*ix*	*x*	Units
Basic Analysis	1	Drainage Basin ID or Name	E.1	E.2	E.3	-	-	-	-	-	-	-	unitless
	2	85th Percentile Rainfall Depth	0.53	0.53	0.53	-	-	-	-	-	-	-	inches
	3	Predominant NRCS Soil Type Within BMP Location	C	C	C								unitless
	4	Is proposed BMP location Restricted or Unrestricted for Infiltration Activities?	Unrestricted	Unrestricted	Restricted								unitless
	5	Nature of Restriction			Prop. Line								unitless
	6	Do Minimum Retention Requirements Apply to this Project?	Yes	Yes	Yes								yes/no
	7	Are Habitable Structures Greater than 9 Stories Proposed?	No	No	No								yes/no
Advanced Analysis	8	Has Geotechnical Engineer Performed an Infiltration Analysis?	No	No	No								yes/no
	9	Design Infiltration Rate Recommended by Geotechnical Engineer											in/hr
Result	10	Design Infiltration Rate Used To Determine Retention Requirements	0.100	0.100	0.000	-	-	-	-	-	-	-	in/hr
	11	Percent of Average Annual Runoff that Must be Retained within DMA	22.2%	22.2%	4.5%	-	-	-	-	-	-	-	percentage
	12	Fraction of DCV Requiring Retention	0.15	0.15	0.02	-	-	-	-	-	-	-	ratio
	13	Required Retention Volume	93	56	9	-	-	-	-	-	-	-	cubic-feet

No Warning Messages

Automated Worksheet B.3: BMP Performance (V2.0)

Category	#	Description	*i*	*ii*	*iii*	*iv*	*v*	*vi*	*vii*	*viii*	*ix*	*x*	Units
BMP Inputs	1	Drainage Basin ID or Name	A.3+A.5	-	B.2	B.3	D.1	D.2	D.3	F.1	G.1	-	sq-ft
	2	Design Infiltration Rate Recommended	0.100	-	0.100	0.100	0.000	0.100	0.100	0.100	0.100	-	in/hr
	3	Design Capture Volume Tributary to BMP	2,980	-	591	1,068	453	778	434	243	583	-	cubic-feet
	4	Is BMP Vegetated or Unvegetated?	Vegetated		Vegetated	Vegetated	Vegetated	Vegetated	Vegetated	Vegetated	Vegetated		unitless
	5	Is BMP Impermeably Lined or Unlined?	Unlined		Unlined	Unlined	Lined	Unlined	Unlined	Unlined	Unlined		unitless
	6	Does BMP Have an Underdrain?	Underdrain		Underdrain	Underdrain	Underdrain	Underdrain	Underdrain	Underdrain	Underdrain		unitless
	7	Does BMP Utilize Standard or Specialized Media?	Standard		Standard	Standard	Standard	Standard	Standard	Standard	Standard		unitless
	8	Provided Surface Area	4,002		723	1,016	749	1,206	658	380	884		sq-ft
	9	Provided Surface Ponding Depth	12		12	12	12	12	12	12	12		inches
	10	Provided Soil Media Thickness	18		18	18	18	18	18	18	18		inches
	11	Provided Gravel Thickness (Total Thickness)	18		18	18	18	18	18	18	18		inches
	12	Underdrain Offset	6		6	6	3	6	6	6	6		inches
	13	Diameter of Underdrain or Hydromod Orifice (Select Smallest)	1.70		0.84	1.31	0.54	0.72	0.56	0.40	0.64		inches
	14	Specialized Soil Media Filtration Rate											in/hr
	15	Specialized Soil Media Pore Space for Retention											unitless
	16	Specialized Soil Media Pore Space for Biofiltration											unitless
	17	Specialized Gravel Media Pore Space											unitless
Retention Calculations	18	Volume Infiltrated Over 6 Hour Storm	200	0	36	51	0	60	33	19	44	0	cubic-feet
	19	Ponding Pore Space Available for Retention	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	unitless
	20	Soil Media Pore Space Available for Retention	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	unitless
	21	Gravel Pore Space Available for Retention (Above Underdrain)	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.40	unitless
	22	Gravel Pore Space Available for Retention (Below Underdrain)	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	unitless
	23	Effective Retention Depth	3.30	0.00	3.30	3.30	2.10	3.30	3.30	3.30	3.30	0.00	inches
	24	Fraction of DCV Retained (Independent of Drawdown Time)	0.44	0.00	0.40	0.31	0.29	0.50	0.49	0.51	0.49	0.00	ratio
	25	Calculated Retention Storage Drawdown Time	33	0	33	33	120	33	33	33	33	0	hours
	26	Efficacy of Retention Processes	0.65	0.00	0.61	0.50	0.30	0.70	0.69	0.71	0.69	0.00	ratio
	27	Volume Retained by BMP (Considering Drawdown Time)	1,932	0	361	532	135	548	302	173	405	0	cubic-feet
	28	Design Capture Volume Remaining for Biofiltration	1,048	0	230	536	318	230	132	70	178	0	cubic-feet
Biofiltration Calculations	29	Max Hydromod Flow Rate through Underdrain	0.1405	0.0000	0.0345	0.0837	0.0148	0.0254	0.0154	0.0078	0.0200	0.0000	cfs
	30	Max Soil Filtration Rate Allowed by Underdrain Orifice	1.52	0.00	2.06	3.56	0.85	0.91	1.01	0.89	0.98	0.00	in/hr
	31	Soil Media Filtration Rate per Specifications	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	in/hr
	32	Soil Media Filtration Rate to be used for Sizing	1.52	0.00	2.06	3.56	0.85	0.91	1.01	0.89	0.98	0.00	in/hr
	33	Depth Biofiltered Over 6 Hour Storm	9.10	0.00	12.37	21.34	5.12	5.45	6.05	5.35	5.88	0.00	inches
	34	Ponding Pore Space Available for Biofiltration	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	unitless
	35	Soil Media Pore Space Available for Biofiltration	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	unitless
	36	Gravel Pore Space Available for Biofiltration (Above Underdrain)	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	unitless
	37	Effective Depth of Biofiltration Storage	20.40	0.00	20.40	20.40	21.60	20.40	20.40	20.40	20.40	0.00	inches
	38	Drawdown Time for Surface Ponding	7	0	6	3	14	12	11	12	11	0	hours
	39	Drawdown Time for Effective Biofiltration Depth	13	0	9	6	25	20	18	21	19	0	hours
	40	Total Depth Biofiltered	29.50	0.00	32.77	41.74	26.72	25.85	26.45	25.75	26.28	0.00	inches
	41	Option 1 - Biofilter 1.50 DCV: Target Volume	1,572	0	345	804	477	345	199	105	267	0	cubic-feet
	42	Option 1 - Provided Biofiltration Volume	1,572	0	345	804	477	345	199	105	267	0	cubic-feet
	43	Option 2 - Store 0.75 DCV: Target Volume	786	0	172	402	239	173	99	52	133	0	cubic-feet
	44	Option 2 - Provided Storage Volume	786	0	172	402	239	173	99	52	133	0	cubic-feet
	45	Portion of Biofiltration Performance Standard Satisfied	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	ratio
Result	46	Do Site Design Elements and BMPs Satisfy Annual Retention Requirements?	Yes	-	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-	yes/no
	47	Overall Portion of Performance Standard Satisfied (BMP Efficacy Factor)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	ratio
	48	**Deficit of Effectively Treated Stormwater**	**0**	**n/a**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**n/a**	cubic-feet

No Warning Messages

Automated Worksheet B.3: BMP Performance (V2.0)

Category	#	Description	*i*	*ii*	*iii*	*iv*	*v*	*vi*	*vii*	*viii*	*ix*	*x*	Units
BMP Inputs	1	Drainage Basin ID or Name	E.1	E.2	E.3	-	-	-	-	-	-	-	sq-ft
	2	Design Infiltration Rate Recommended	0.100	0.100	0.000	-	-	-	-	-	-	-	in/hr
	3	Design Capture Volume Tributary to BMP	622	376	454	-	-	-	-	-	-	-	cubic-feet
	4	Is BMP Vegetated or Unvegetated?	Vegetated	Vegetated	Vegetated								unitless
	5	Is BMP Impermeably Lined or Unlined?	Unlined	Unlined	Lined								unitless
	6	Does BMP Have an Underdrain?	Underdrain	Underdrain	Underdrain								unitless
	7	Does BMP Utilize Standard or Specialized Media?	Standard	Standard	Standard								unitless
	8	Provided Surface Area	809	569	737								sq-ft
	9	Provided Surface Ponding Depth	12	12	12								inches
	10	Provided Soil Media Thickness	18	18	18								inches
	11	Provided Gravel Thickness (Total Thickness)	18	18	18								inches
	12	Underdrain Offset	6	6	3								inches
	13	Diameter of Underdrain or Hydromod Orifice (Select Smallest)	0.82	0.53	0.55								inches
	14	Specialized Soil Media Filtration Rate											in/hr
	15	Specialized Soil Media Pore Space for Retention											unitless
	16	Specialized Soil Media Pore Space for Biofiltration											unitless
	17	Specialized Gravel Media Pore Space											unitless
Retention Calculations	18	Volume Infiltrated Over 6 Hour Storm	40	28	0	0	0	0	0	0	0	0	cubic-feet
	19	Ponding Pore Space Available for Retention	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	unitless
	20	Soil Media Pore Space Available for Retention	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	unitless
	21	Gravel Pore Space Available for Retention (Above Underdrain)	0.00	0.00	0.00	0.40	0.40	0.40	0.40	0.40	0.40	0.40	unitless
	22	Gravel Pore Space Available for Retention (Below Underdrain)	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	unitless
	23	Effective Retention Depth	3.30	3.30	2.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	inches
	24	Fraction of DCV Retained (Independent of Drawdown Time)	0.42	0.49	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	ratio
	25	Calculated Retention Storage Drawdown Time	33	33	120	0	0	0	0	0	0	0	hours
	26	Efficacy of Retention Processes	0.63	0.69	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	ratio
	27	Volume Retained by BMP (Considering Drawdown Time)	392	261	131	0	0	0	0	0	0	0	cubic-feet
	28	Design Capture Volume Remaining for Biofiltration	230	115	323	0	0	0	0	0	0	0	cubic-feet
Biofiltration Calculations	29	Max Hydromod Flow Rate through Underdrain	0.0329	0.0138	0.0153	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	cfs
	30	Max Soil Filtration Rate Allowed by Underdrain Orifice	1.76	1.04	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	in/hr
	31	Soil Media Filtration Rate per Specifications	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	in/hr
	32	Soil Media Filtration Rate to be used for Sizing	1.76	1.04	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	in/hr
	33	Depth Biofiltered Over 6 Hour Storm	10.53	6.27	5.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	inches
	34	Ponding Pore Space Available for Biofiltration	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	unitless
	35	Soil Media Pore Space Available for Biofiltration	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	unitless
	36	Gravel Pore Space Available for Biofiltration (Above Underdrain)	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	unitless
	37	Effective Depth of Biofiltration Storage	20.40	20.40	21.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	inches
	38	Drawdown Time for Surface Ponding	6	10	13	0	0	0	0	0	0	0	hours
	39	Drawdown Time for Effective Biofiltration Depth	11	18	24	0	0	0	0	0	0	0	hours
	40	Total Depth Biofiltered	30.93	26.67	26.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	inches
	41	Option 1 - Biofilter 1.50 DCV: Target Volume	345	172	484	0	0	0	0	0	0	0	cubic-feet
	42	Option 1 - Provided Biofiltration Volume	345	172	484	0	0	0	0	0	0	0	cubic-feet
	43	Option 2 - Store 0.75 DCV: Target Volume	173	86	242	0	0	0	0	0	0	0	cubic-feet
	44	Option 2 - Provided Storage Volume	173	86	242	0	0	0	0	0	0	0	cubic-feet
	45	Portion of Biofiltration Performance Standard Satisfied	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	ratio
Result	46	Do Site Design Elements and BMPs Satisfy Annual Retention Requirements?	Yes	Yes	Yes	-	-	-	-	-	-	-	yes/no
	47	Overall Portion of Performance Standard Satisfied (BMP Efficacy Factor)	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	ratio
	48	**Deficit of Effectively Treated Stormwater**	**0**	**0**	**0**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	cubic-feet

No Warning Messages

7.5 Identification and Narrative of Receiving Water and Pollutants of Concern

- Complete this sub-attachment *only if flow-thru treatment BMPs are implemented onsite* in lieu of retention or biofiltration BMPs. Unless excepted because of a Prior Lawful Approval[4], PDPs must also participate in an alternative compliance program[5].

A. General Description

Describe flow path of storm water from the project site discharge location(s), through urban storm conveyance systems as applicable, to receiving creeks, rivers, and lagoons as applicable, and ultimate discharge to the Pacific Ocean (or bay, lagoon, lake or reservoir, as applicable).

B. Water Body Impairments and Priorities

List any 303(d) impaired water bodies[6] 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	Pollutant(s)/Stressor(s)	TMDLs / WQIP Highest Priority Pollutant

C. Identification of Project Site Pollutants

Identify pollutants expected from the project site based on all proposed use(s) of the site (see BMP Design Manual 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	☐	☐	☐

[4] See BMPDM Appendix L: Prior Lawful Approval Requirements and Guidance.
[5] See SWQMP Attachment 12 (Alternative Compliance Projects) and BMPDM Appendix J (Offsite Alternative Compliance Requirements and Guidance).
[6] The current list of Section 303(d) impaired water bodies can be found at: https://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2014_2016.shtml

8.0 General Requirements

- Completion of this attachment is required for all PDPs subject to hydromodification management requirements (see PDP SWQMP Form Table 5). Do not submit this attachment if exempt from Hydromodification Management requirements. Document the PDP exemption in Attachment 9.
- Submit this cover page and all required Sub-attachments for all structural hydromodification management BMPs proposed for the project.
- Constructed features must fully satisfy the requirements described in applicable BMPDM sections and appendices, and any other guidance identified by the County.
- DMA Exhibits and Construction Plans: DMAs, features, and BMPs identified and described in this attachment must be shown on DMA Exhibits and all applicable construction plans submitted for the project. See Attachment 2 for additional instruction on exhibits and plans.
- Structural BMP Certification. All structural hydromodification management BMPs documented this attachment must be certified by a registered engineer in Attachment 7, Sub-attachment 7.1.
- Structural BMP Verification. BMP installation must be verified by the County at the completion of construction. Applicants must complete an Installation Verification Form (Attachment 10).

Sub-attachments (check all that are completed)
☑ **8.1: Flow Control Facility Design** (required)[1] Submit using ☑ the Sub-attachment 8.1 cover sheet provided, or ☐ as a separate stand-alone document labeled Sub-attachment 8.1.
☑ **8.2: Hydromodification Management Points of Compliance** (required) Complete the table provided in Sub-attachment 8.2.
8.3: Geomorphic Assessment of Receiving Channels 1. Has a geomorphic assessment been performed for the receiving channel(s)? ☑ No, the low flow threshold is 0.1Q2 (default low flow threshold)
☐ Yes (provide the information below): Low flow threshold: ☐ 0.1Q2 ☐ 0.3Q2 ☐ 0.5Q2
Title: Date: Preparer:
Submit using ☐ the Sub-attachment 8.3 cover sheet provided, or ☐ as a separate stand-alone document labeled Sub-attachment 8.3.
8.4: Vector Control Plan (required if BMPs will not drain in less than 96 hours) ☐ Included with this attachment ☑ Not required

[1] Including Structural BMP Drawdown Calculations and Overflow Design Summary. See BMPDM Chapter 6 and Appendix G for additional design guidance.

8.1 Flow Control Facility Design

Insert Flow Control Facility Design behind this cover page or submit as a separate stand-alone document labeled Sub-attachment 8.1.

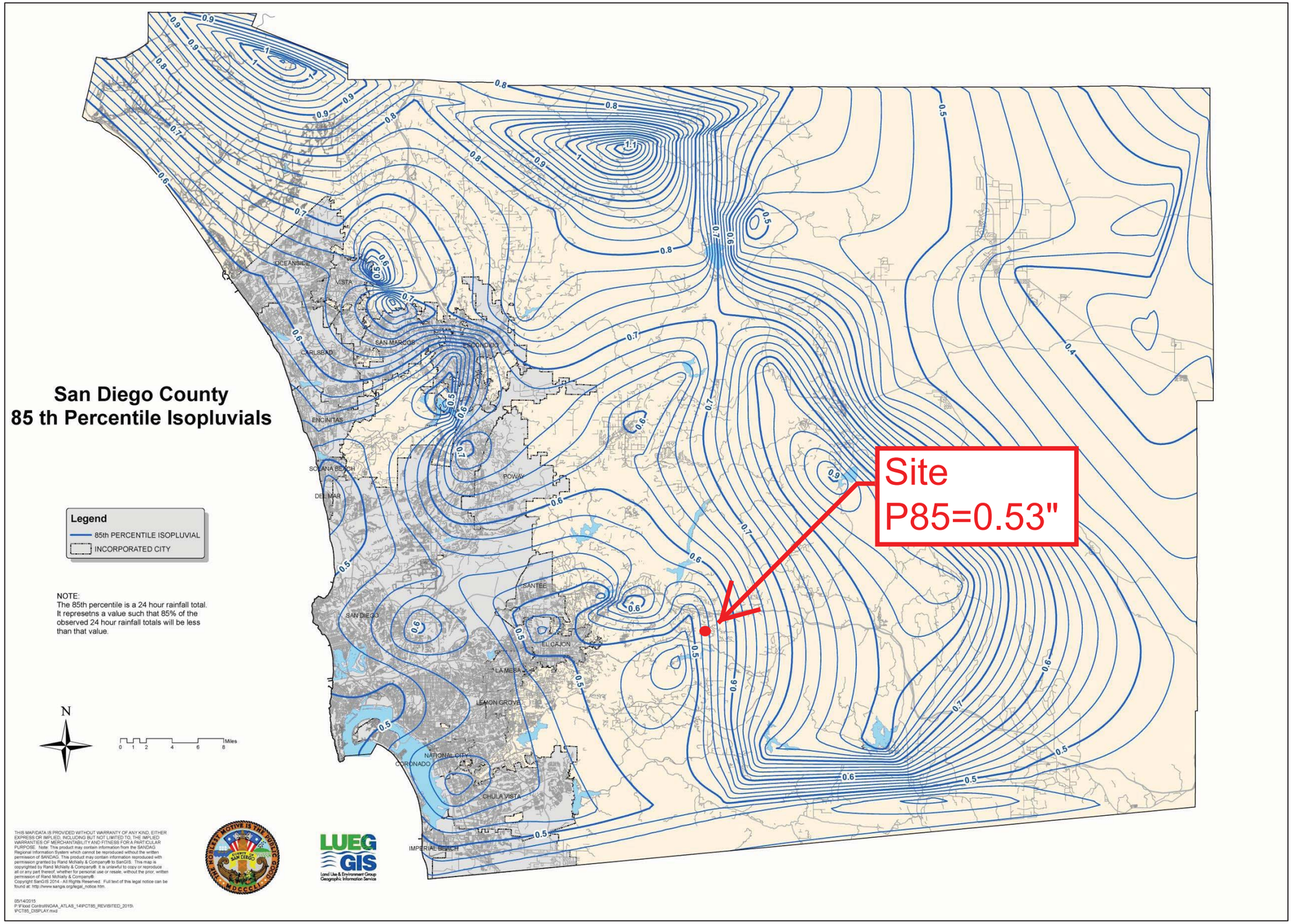

Figure B.1-1: 85th Percentile 24-hour Isopluvial Map

BMP Sizing Spreadsheet V3.0

Project Name:	Secret Hills Ranch
Project Applicant:	Coffey Engineering
Jurisdiction:	County of San Diego
Parcel (APN):	520-060-18
Hydrologic Unit:	909.31
Rain Gauge:	Lake Wohlford
Total Project Area (sf):	591,014
Channel Susceptibility:	High

BMP Sizing Spreadsheet V3.0			
Project Name:	Secret Hills Ranch	Hydrologic Unit:	909.31
Project Applicant:	Coffey Engineering	Rain Gauge:	Lake Wohlford
Jurisdiction:	County of San Diego	Total Project Area:	591,014
Parcel (APN):	520-060-18	Low Flow Threshold:	0.1Q2
BMP Name:	IMP A.3	BMP Type:	Biofiltration w/ Partial Retention
BMP Native Soil Type:	C	BMP Infiltration Rate (in/hr):	0.1

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)
A.3 (Impervious Area)	45,203	C	Steep	Roofs	1.0	0.065	2938
A.3 (Pervious Area)	55,885	C	Steep	Landscape	0.1	0.065	363
A.5 (Impervious Area)	8,219	C	Steep	Roofs	1.0	0.065	534
A.5 (Pervious Area)	21,631	C	Steep	Landscape	0.1	0.065	141
IMP A.3	4,002	C	Steep	Landscape	0.1	0.065	26
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
BMP Tributary Area	134,940					Minimum BMP Size	4002
						Proposed BMP Size*	4002

* Assumes standard configuration

Surface Ponding Depth	12.00	in
Bioretention Soil Media Depth	18.00	in
Filter Course	6.00	in
Gravel Storage Layer Depth	12	in
Underdrain Offset	6.0	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 Manu

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, April 2018. For questions or concerns please contact the jurisdiction in which your project is located.

BMP Sizing Spreadsheet V3.0			
Project Name:	Secret Hills Ranch	Hydrologic Unit:	909.31
Project Applicant:	Coffey Engineering	Rain Gauge:	Lake Wohlford
Jurisdiction:	County of San Diego	Total Project Area:	591,014
Parcel (APN):	520-060-18	Low Flow Threshold:	0.1Q2
BMP Name	IMP A.3	BMP Type:	Biofiltration w/ Partial Retention

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				
A.3 (Impervious Area	Lake Wohlford	C	Steep	0.496	1.038	0.051	**0.76**
A.3 (Pervious Area)	Lake Wohlford	C	Steep	0.496	1.283	0.064	**0.94**
A.5 (Impervious Area	Lake Wohlford	C	Steep	0.496	0.189	0.009	**0.14**
A.5 (Pervious Area)	Lake Wohlford	C	Steep	0.496	0.497	0.025	**0.36**
IMP A.3	Lake Wohlford	C	Steep	0.496	0.092	0.005	**0.07**

3.50	**0.154**	**2.27**	**1.70**
Max Orifice Head (feet)	**Max Tot. Allowable Orifice Flow (cfs)**	**Max Tot. Allowable Orifice Area (in^2)**	**Max Orifice Diameter (in)**

0.142	**0.154**	**2.27**	**1.700**
Average outflow during surface drawdown (cfs)	Max Orifice Outflow (cfs)	Actual Orifice Area (in^2)	Selected Orifice Diameter (in)

Drawdown (Hrs)	7.8

BMP Sizing Spreadsheet V3.0			
Project Name:	Secret Hills Ranch	Hydrologic Unit:	909.31
Project Applicant:	Coffey Engineering	Rain Gauge:	Lake Wohlford
Jurisdiction:	County of San Diego	Total Project Area:	591,014
Parcel (APN):	520-060-18	Low Flow Threshold:	0.1Q2
BMP Name:	IMP B.2	BMP Type:	Biofiltration w/ Partial Retention
BMP Native Soil Type:	C	BMP Infiltration Rate (in/hr):	0.1

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)
B.2 (Impervious Area)	8,735	C	Steep	Roofs	1.0	0.065	568
B.2 (Pervious Area)	23,155	C	Steep	Landscape	0.1	0.065	151
IMP B.2	723	C	Steep	Landscape	0.1	0.065	5
						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	32,613					Minimum BMP Size	723
						Proposed BMP Size*	723

* Assumes standard configuration

Surface Ponding Depth	12.00	in
Bioretention Soil Media Depth	18.00	in
Filter Course	6.00	in
Gravel Storage Layer Depth	12	in
Underdrain Offset	6.0	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 Manu

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, April 2018. For questions or concerns please contact the jurisdiction in which your project is located.

BMP Sizing Spreadsheet V3.0			
Project Name:	Secret Hills Ranch	Hydrologic Unit:	909.31
Project Applicant:	Coffey Engineering	Rain Gauge:	Lake Wohlford
Jurisdiction:	County of San Diego	Total Project Area:	591,014
Parcel (APN):	520-060-18	Low Flow Threshold:	0.1Q2
BMP Name	IMP B.2	BMP Type:	Biofiltration w/ Partial Retention

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				
B.2 (Impervious Area	Lake Wohlford	C	Steep	0.496	0.201	0.010	**0.15**
B.2 (Pervious Area)	Lake Wohlford	C	Steep	0.496	0.532	0.026	**0.39**
IMP B.2	Lake Wohlford	C	Steep	0.496	0.017	0.001	**0.01**

3.50	**0.037**	**0.55**	**0.84**
Max Orifice Head (feet)	**Max Tot. Allowable Orifice Flow (cfs)**	**Max Tot. Allowable Orifice Area (in^2)**	**Max Orifice Diameter (in)**

0.035	**0.038**	**0.55**	**0.840**
Average outflow during surface drawdown (cfs)	Max Orifice Outflow (cfs)	Actual Orifice Area (in^2)	Selected Orifice Diameter (in)

Drawdown (Hrs)	5.8

BMP Sizing Spreadsheet V3.0			
Project Name:	Secret Hills Ranch	Hydrologic Unit:	909.31
Project Applicant:	Coffey Engineering	Rain Gauge:	Lake Wohlford
Jurisdiction:	County of San Diego	Total Project Area:	591,014
Parcel (APN):	520-060-18	Low Flow Threshold:	0.1Q2
BMP Name:	IMP B.3	BMP Type:	Biofiltration w/ Partial Retention
BMP Native Soil Type:	C	BMP Infiltration Rate (in/hr):	0.1

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)
B.3 (Impervious Area)	8,422	C	Steep	Roofs	1.0	0.065	547
B.3 (Pervious Area)	71,147	C	Steep	Landscape	0.1	0.065	462
IMP B.3	1,016	C	Steep	Landscape	0.1	0.065	7
						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	80,585					Minimum BMP Size	1016
						Proposed BMP Size*	1016

* Assumes standard configuration

Surface Ponding Depth	12.00	in
Bioretention Soil Media Depth	18.00	in
Filter Course	6.00	in
Gravel Storage Layer Depth	12	in
Underdrain Offset	6.0	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 Manu

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 V3.0			
Project Name:	Secret Hills Ranch	Hydrologic Unit:	909.31
Project Applicant:	Coffey Engineering	Rain Gauge:	Lake Wohlford
Jurisdiction:	County of San Diego	Total Project Area:	591,014
Parcel (APN):	520-060-18	Low Flow Threshold:	0.1Q2
BMP Name	IMP B.3	BMP Type:	Biofiltration w/ Partial Retention

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				
B.3 (Impervious Area	Lake Wohlford	C	Steep	0.496	0.193	0.010	**0.14**
B.3 (Pervious Area)	Lake Wohlford	C	Steep	0.496	1.633	0.081	**1.20**
IMP B.3	Lake Wohlford	C	Steep	0.496	0.023	0.001	**0.02**

3.50	**0.092**	**1.35**	**1.31**
Max Orifice Head (feet)	**Max Tot. Allowable Orifice Flow (cfs)**	**Max Tot. Allowable Orifice Area (in^2)**	**Max Orifice Diameter (in)**

0.085	**0.091**	**1.35**	**1.310**
Average outflow during surface drawdown (cfs)	Max Orifice Outflow (cfs)	Actual Orifice Area (in^2)	Selected Orifice Diameter (in)

Drawdown (Hrs)	3.3

BMP Sizing Spreadsheet V3.0			
Project Name:	Secret Hills Ranch	Hydrologic Unit:	909.31
Project Applicant:	Coffey Engineering	Rain Gauge:	Lake Wohlford
Jurisdiction:	County of San Diego	Total Project Area:	591,014
Parcel (APN):	520-060-18	Low Flow Threshold:	0.1Q2
BMP Name:	IMP D.1	BMP Type:	Biofiltration
BMP Native Soil Type:	C	BMP Infiltration Rate (in/hr):	0.1

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)
D.1 (Impervious Area)	10,305	C	Steep	Roofs	1.0	0.07	721
D.1 (Pervious Area)	3,209	C	Steep	Landscape	0.1	0.07	22
IMP D.1	749	C	Steep	Landscape	0.1	0.07	5
						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	14,263					Minimum BMP Size	749
						Proposed BMP Size*	749

* 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 Manu

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 V3.0			
Project Name:	Secret Hills Ranch	Hydrologic Unit:	909.31
Project Applicant:	Coffey Engineering	Rain Gauge:	Lake Wohlford
Jurisdiction:	County of San Diego	Total Project Area:	591,014
Parcel (APN):	520-060-18	Low Flow Threshold:	0.1Q2
BMP Name	IMP D.1	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				
D.1 (Impervious Area	Lake Wohlford	C	Steep	0.496	0.237	0.012	**0.17**
D.1 (Pervious Area)	Lake Wohlford	C	Steep	0.496	0.074	0.004	**0.05**
IMP D.1	Lake Wohlford	C	Steep	0.496	0.017	0.001	**0.01**

3.75	**0.016**	**0.23**	**0.54**
Max Orifice Head (feet)	**Max Tot. Allowable Orifice Flow (cfs)**	**Max Tot. Allowable Orifice Area (in^2)**	**Max Orifice Diameter (in)**

0.015	**0.016**	**0.23**	**0.540**
Average outflow during surface drawdown (cfs)	Max Orifice Outflow (cfs)	Actual Orifice Area (in^2)	Selected Orifice Diameter (in)

Drawdown (Hrs)	13.9

BMP Sizing Spreadsheet V3.0			
Project Name:	Secret Hills Ranch	Hydrologic Unit:	909.31
Project Applicant:	Coffey Engineering	Rain Gauge:	Lake Wohlford
Jurisdiction:	County of San Diego	Total Project Area:	591,014
Parcel (APN):	520-060-18	Low Flow Threshold:	0.1Q2
BMP Name:	IMP D.2	BMP Type:	Biofiltration w/ Partial Retention
BMP Native Soil Type:	C	BMP Infiltration Rate (in/hr):	0.1

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)
D.2 (Impervious Area)	17,932	C	Steep	Roofs	1.0	0.065	1166
D.2 (Pervious Area)	5,002	C	Steep	Landscape	0.1	0.065	33
IMP D.2	1,206	C	Steep	Landscape	0.1	0.065	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
BMP Tributary Area	24,140					Minimum BMP Size	1206
						Proposed BMP Size*	1206

* Assumes standard configuration

Surface Ponding Depth	12.00	in
Bioretention Soil Media Depth	18.00	in
Filter Course	6.00	in
Gravel Storage Layer Depth	12	in
Underdrain Offset	6.0	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 Manu

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 V3.0			
Project Name:	Secret Hills Ranch	Hydrologic Unit:	909.31
Project Applicant:	Coffey Engineering	Rain Gauge:	Lake Wohlford
Jurisdiction:	County of San Diego	Total Project Area:	591,014
Parcel (APN):	520-060-18	Low Flow Threshold:	0.1Q2
BMP Name	IMP D.2	BMP Type:	Biofiltration w/ Partial Retention

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				
D.2 (Impervious Area	Lake Wohlford	C	Steep	0.496	0.412	0.020	**0.30**
D.2 (Pervious Area)	Lake Wohlford	C	Steep	0.496	0.115	0.006	**0.08**
IMP D.2	Lake Wohlford	C	Steep	0.496	0.028	0.001	**0.02**

3.50	**0.027**	**0.41**	**0.72**
Max Orifice Head (feet)	**Max Tot. Allowable Orifice Flow (cfs)**	**Max Tot. Allowable Orifice Area (in^2)**	**Max Orifice Diameter (in)**

0.026	**0.028**	**0.41**	**0.720**
Average outflow during surface drawdown (cfs)	Max Orifice Outflow (cfs)	Actual Orifice Area (in^2)	Selected Orifice Diameter (in)

Drawdown (Hrs)	13.1

BMP Sizing Spreadsheet V3.0			
Project Name:	Secret Hills Ranch	Hydrologic Unit:	909.31
Project Applicant:	Coffey Engineering	Rain Gauge:	Lake Wohlford
Jurisdiction:	County of San Diego	Total Project Area:	591,014
Parcel (APN):	520-060-18	Low Flow Threshold:	0.1Q2
BMP Name:	IMP D.3	BMP Type:	Biofiltration w/ Partial Retention
BMP Native Soil Type:	C	BMP Infiltration Rate (in/hr):	0.1

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)
D.3 (Impervious Area)	9,639	C	Steep	Roofs	1.0	0.065	627
D.3 (Pervious Area)	4,137	C	Steep	Landscape	0.1	0.065	27
IMP D.3	658	C	Steep	Landscape	0.1	0.065	4
						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	14,434					Minimum BMP Size	658
						Proposed BMP Size*	658

* Assumes standard configuration

Surface Ponding Depth	12.00	in
Bioretention Soil Media Depth	18.00	in
Filter Course	6.00	in
Gravel Storage Layer Depth	12	in
Underdrain Offset	6.0	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 Manu

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 V3.0			
Project Name:	Secret Hills Ranch	Hydrologic Unit:	909.31
Project Applicant:	Coffey Engineering	Rain Gauge:	Lake Wohlford
Jurisdiction:	County of San Diego	Total Project Area:	591,014
Parcel (APN):	520-060-18	Low Flow Threshold:	0.1Q2
BMP Name	IMP D.3	BMP Type:	Biofiltration w/ Partial Retention

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				
D.3 (Impervious Area	Lake Wohlford	C	Steep	0.496	0.221	0.011	**0.16**
D.3 (Pervious Area)	Lake Wohlford	C	Steep	0.496	0.095	0.005	**0.07**
IMP D.3	Lake Wohlford	C	Steep	0.496	0.015	0.001	**0.01**

3.50	**0.016**	**0.24**	**0.56**
Max Orifice Head (feet)	**Max Tot. Allowable Orifice Flow (cfs)**	**Max Tot. Allowable Orifice Area (in^2)**	**Max Orifice Diameter (in)**

0.015	**0.017**	**0.25**	**0.560**
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 V3.0			
Project Name:	Secret Hills Ranch	Hydrologic Unit:	909.31
Project Applicant:	Coffey Engineering	Rain Gauge:	Lake Wohlford
Jurisdiction:	County of San Diego	Total Project Area:	591,014
Parcel (APN):	520-060-18	Low Flow Threshold:	0.1Q2
BMP Name:	IMP E.1	BMP Type:	Biofiltration w/ Partial Retention
BMP Native Soil Type:	C	BMP Infiltration Rate (in/hr):	0.1

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)
E.1 (Impervious Area)	10,349	C	Steep	Roofs	1.0	0.065	673
E.1 (Pervious Area)	20,137	C	Steep	Landscape	0.1	0.065	131
IMP E.2	809	C	Steep	Landscape	0.1	0.065	5
						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	31,295					Minimum BMP Size	809
						Proposed BMP Size*	809

* Assumes standard configuration

Surface Ponding Depth	12.00	in
Bioretention Soil Media Depth	18.00	in
Filter Course	6.00	in
Gravel Storage Layer Depth	12	in
Underdrain Offset	6.0	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 Manu

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 V3.0			
Project Name:	Secret Hills Ranch	Hydrologic Unit:	909.31
Project Applicant:	Coffey Engineering	Rain Gauge:	Lake Wohlford
Jurisdiction:	County of San Diego	Total Project Area:	591,014
Parcel (APN):	520-060-18	Low Flow Threshold:	0.1Q2
BMP Name	IMP E.1	BMP Type:	Biofiltration w/ Partial Retention

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				
E.1 (Impervious Area)	Lake Wohlford	C	Steep	0.496	0.238	0.012	**0.17**
E.1 (Pervious Area)	Lake Wohlford	C	Steep	0.496	0.462	0.023	**0.34**
IMP E.2	Lake Wohlford	C	Steep	0.496	0.019	0.001	**0.01**

3.50	**0.036**	**0.53**	**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	**0.036**	**0.53**	**0.820**
Average outflow during surface drawdown (cfs)	Max Orifice Outflow (cfs)	Actual Orifice Area (in^2)	Selected Orifice Diameter (in)

Drawdown (Hrs)	6.8

BMP Sizing Spreadsheet V3.0			
Project Name:	Secret Hills Ranch	Hydrologic Unit:	909.31
Project Applicant:	Coffey Engineering	Rain Gauge:	Lake Wohlford
Jurisdiction:	County of San Diego	Total Project Area:	591,014
Parcel (APN):	520-060-18	Low Flow Threshold:	0.1Q2
BMP Name:	IMP E.2	BMP Type:	Biofiltration w/ Partial Retention
BMP Native Soil Type:	C	BMP Infiltration Rate (in/hr):	0.1

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)
E.2 (Impervious Area)	8,267	C	Steep	Roofs	1.0	0.065	537
E.2 (Pervious Area)	4,270	C	Steep	Landscape	0.1	0.065	28
IMP E.2	569	C	Steep	Landscape	0.1	0.065	4
						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	13,106					Minimum BMP Size	569
						Proposed BMP Size*	569

* Assumes standard configuration

Surface Ponding Depth	12.00	in
Bioretention Soil Media Depth	18.00	in
Filter Course	6.00	in
Gravel Storage Layer Depth	12	in
Underdrain Offset	6.0	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 Manu

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BMP Sizing Spreadsheet V3.0			
Project Name:	Secret Hills Ranch	Hydrologic Unit:	909.31
Project Applicant:	Coffey Engineering	Rain Gauge:	Lake Wohlford
Jurisdiction:	County of San Diego	Total Project Area:	591,014
Parcel (APN):	520-060-18	Low Flow Threshold:	0.1Q2
BMP Name	IMP E.2	BMP Type:	Biofiltration w/ Partial Retention

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				
E.2 (Impervious Area)	Lake Wohlford	C	Steep	0.496	0.190	0.009	**0.14**
E.2 (Pervious Area)	Lake Wohlford	C	Steep	0.496	0.098	0.005	**0.07**
IMP E.2	Lake Wohlford	C	Steep	0.496	0.013	0.001	**0.01**

3.50	**0.015**	**0.22**	**0.53**
Max Orifice Head (feet)	**Max Tot. Allowable Orifice Flow (cfs)**	**Max Tot. Allowable Orifice Area (in^2)**	**Max Orifice Diameter (in)**

0.014	**0.015**	**0.22**	**0.530**
Average outflow during surface drawdown (cfs)	Max Orifice Outflow (cfs)	Actual Orifice Area (in^2)	Selected Orifice Diameter (in)

Drawdown (Hrs)	11.4

BMP Sizing Spreadsheet V3.0			
Project Name:	Secret Hills Ranch	Hydrologic Unit:	909.31
Project Applicant:	Coffey Engineering	Rain Gauge:	Lake Wohlford
Jurisdiction:	County of San Diego	Total Project Area:	591,014
Parcel (APN):	520-060-18	Low Flow Threshold:	0.1Q2
BMP Name:	IMP E.3	BMP Type:	Biofiltration
BMP Native Soil Type:	C	BMP Infiltration Rate (in/hr):	0.1

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)
E.3 (Impervious Area)	10,092	C	Steep	Roofs	1.0	0.07	706
E.3 (Pervious Area)	3,596	C	Steep	Landscape	0.1	0.07	25
IMP E.3	737	C	Steep	Landscape	0.1	0.07	5
						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	14,425					Minimum BMP Size	737
						Proposed BMP Size*	737

* 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 Manu

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BMP Sizing Spreadsheet V3.0			
Project Name:	Secret Hills Ranch	Hydrologic Unit:	909.31
Project Applicant:	Coffey Engineering	Rain Gauge:	Lake Wohlford
Jurisdiction:	County of San Diego	Total Project Area:	591,014
Parcel (APN):	520-060-18	Low Flow Threshold:	0.1Q2
BMP Name	IMP E.3	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				
E.3 (Impervious Area)	Lake Wohlford	C	Steep	0.496	0.232	0.011	**0.16**
E.3 (Pervious Area)	Lake Wohlford	C	Steep	0.496	0.083	0.004	**0.06**
IMP E.3	Lake Wohlford	C	Steep	0.496	0.017	0.001	**0.01**

3.75	**0.016**	**0.23**	**0.55**
Max Orifice Head (feet)	**Max Tot. Allowable Orifice Flow (cfs)**	**Max Tot. Allowable Orifice Area (in^2)**	**Max Orifice Diameter (in)**

0.016	**0.017**	**0.24**	**0.550**
Average outflow during surface drawdown (cfs)	Max Orifice Outflow (cfs)	Actual Orifice Area (in^2)	Selected Orifice Diameter (in)

Drawdown (Hrs)	13.2

BMP Sizing Spreadsheet V3.0			
Project Name:	Secret Hills Ranch	Hydrologic Unit:	909.31
Project Applicant:	Coffey Engineering	Rain Gauge:	Lake Wohlford
Jurisdiction:	County of San Diego	Total Project Area:	591,014
Parcel (APN):	520-060-18	Low Flow Threshold:	0.1Q2
BMP Name:	IMP F.1	BMP Type:	Biofiltration w/ Partial Retention
BMP Native Soil Type:	C	BMP Infiltration Rate (in/hr):	0.1

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)
F.1 (Impervious Area)	5,661	C	Steep	Roofs	1.0	0.065	368
F.1 (Pervious Area)	1,292	C	Steep	Landscape	0.1	0.065	8
IMP F.1	380	C	Steep	Landscape	0.1	0.065	2
						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	7,333					Minimum BMP Size	379
						Proposed BMP Size*	380

* Assumes standard configuration

Surface Ponding Depth	12.00	in
Bioretention Soil Media Depth	18.00	in
Filter Course	6.00	in
Gravel Storage Layer Depth	12	in
Underdrain Offset	6.0	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 Manu

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, April 2018. For questions or concerns please contact the jurisdiction in which your project is located.

BMP Sizing Spreadsheet V3.0			
Project Name:	Secret Hills Ranch	Hydrologic Unit:	909.31
Project Applicant:	Coffey Engineering	Rain Gauge:	Lake Wohlford
Jurisdiction:	County of San Diego	Total Project Area:	591,014
Parcel (APN):	520-060-18	Low Flow Threshold:	0.1Q2
BMP Name	IMP F.1	BMP Type:	Biofiltration w/ Partial Retention

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				
F.1 (Impervious Area)	Lake Wohlford	C	Steep	0.496	0.130	0.006	**0.10**
F.1 (Pervious Area)	Lake Wohlford	C	Steep	0.496	0.030	0.001	**0.02**
IMP F.1	Lake Wohlford	C	Steep	0.496	0.009	0.000	**0.01**

3.50	**0.008**	**0.12**	**0.40**
Max Orifice Head (feet)	**Max Tot. Allowable Orifice Flow (cfs)**	**Max Tot. Allowable Orifice Area (in^2)**	**Max Orifice Diameter (in)**

0.008	**0.009**	**0.13**	**0.400**
Average outflow during surface drawdown (cfs)	Max Orifice Outflow (cfs)	Actual Orifice Area (in^2)	Selected Orifice Diameter (in)

Drawdown (Hrs)	13.4

BMP Sizing Spreadsheet V3.0			
Project Name:	Secret Hills Ranch	Hydrologic Unit:	909.31
Project Applicant:	Coffey Engineering	Rain Gauge:	Lake Wohlford
Jurisdiction:	County of San Diego	Total Project Area:	591,014
Parcel (APN):	520-060-18	Low Flow Threshold:	0.1Q2
BMP Name:	IMP G.1	BMP Type:	Biofiltration w/ Partial Retention
BMP Native Soil Type:	C	BMP Infiltration Rate (in/hr):	0.1

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)
G.1 (Impervious Area)	12,955	C	Steep	Roofs	1.0	0.065	842
G.1 (Pervious Area)	5,572	C	Steep	Landscape	0.1	0.065	36
IMP G.1	884	C	Steep	Landscape	0.1	0.065	6
						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	19,411					Minimum BMP Size	884
						Proposed BMP Size*	884

* Assumes standard configuration

Surface Ponding Depth	12.00	in
Bioretention Soil Media Depth	18.00	in
Filter Course	6.00	in
Gravel Storage Layer Depth	12	in
Underdrain Offset	6.0	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 Manu

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, April 2018. For questions or concerns please contact the jurisdiction in which your project is located.

BMP Sizing Spreadsheet V3.0			
Project Name:	Secret Hills Ranch	Hydrologic Unit:	909.31
Project Applicant:	Coffey Engineering	Rain Gauge:	Lake Wohlford
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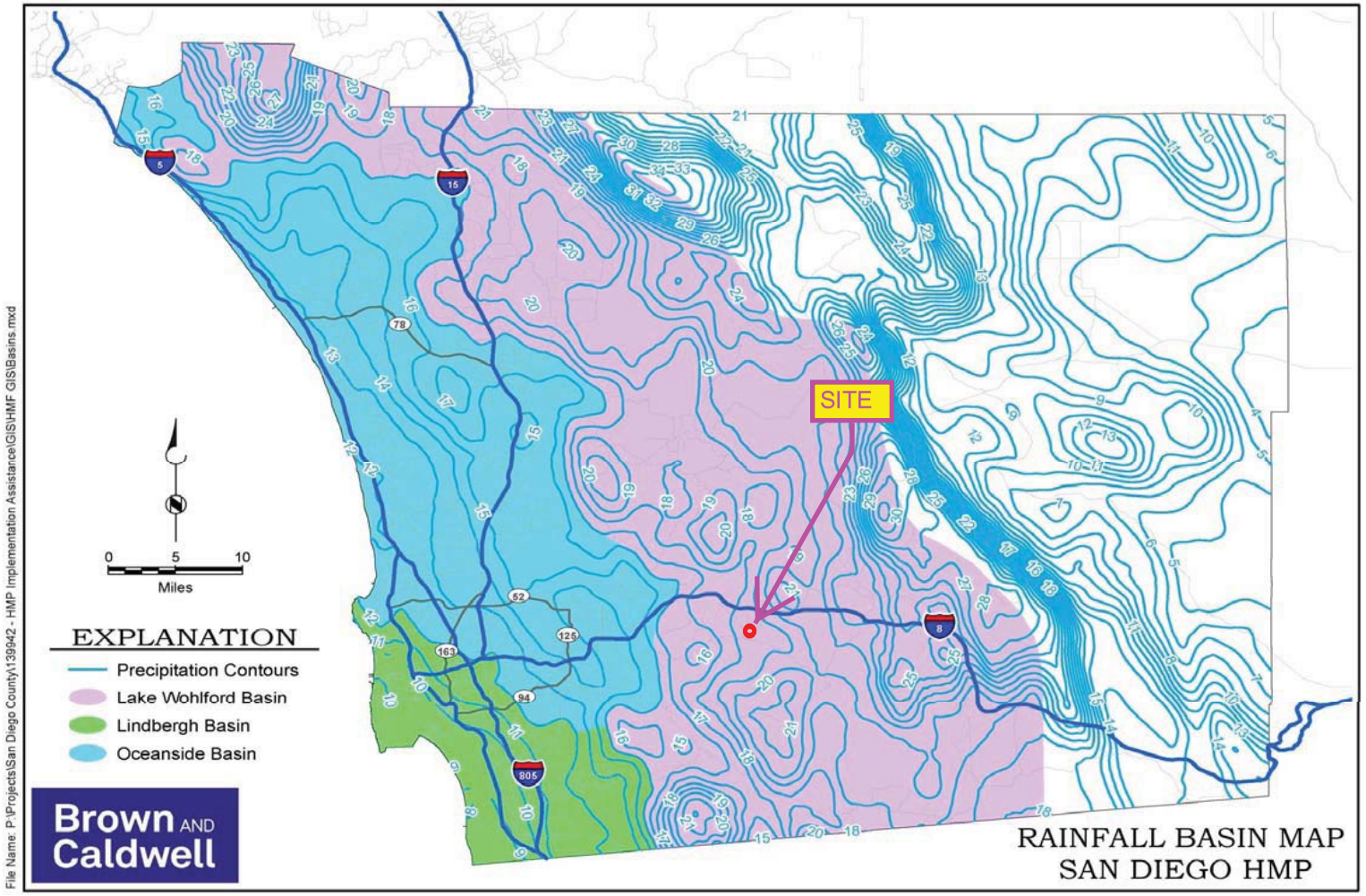
Parcel (APN):	520-060-18	Low Flow Threshold:	0.1Q2
BMP Name	IMP G.1	BMP Type:	Biofiltration w/ Partial Retention

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				
G.1 (Impervious Area	Lake Wohlford	C	Steep	0.496	0.297	0.015	**0.22**
G.1 (Pervious Area)	Lake Wohlford	C	Steep	0.496	0.128	0.006	**0.09**
IMP G.1	Lake Wohlford	C	Steep	0.496	0.020	0.001	**0.01**

3.50	**0.022**	**0.33**	**0.64**
Max Orifice Head (feet)	**Max Tot. Allowable Orifice Flow (cfs)**	**Max Tot. Allowable Orifice Area (in^2)**	**Max Orifice Diameter (in)**

0.020	**0.022**	**0.32**	**0.640**
Average outflow during surface drawdown (cfs)	Max Orifice Outflow (cfs)	Actual Orifice Area (in^2)	Selected Orifice Diameter (in)

Drawdown (Hrs)	12.2


SITE
0 5 10
Miles
EXPLANATION
Precipitation Contours
Lake Wohlford Basin
Lindbergh Basin
Oceanside Basin
Brown AND Caldwell
RAINFALL BASIN MAP
SAN DIEGO HMP
File Name: P:\Projects\San Diego County\139942 - HMP Implementation Assistance\GIS\HMF GIS\Basins.mxd

8.2 Hydromodification Management Points of Compliance

- List and describe all points of compliance (POCs) for flow control for hydromodification management.
- For each POC, provide a POC identification name or number, and a receiving channel identification name or number correlating to the project's HMP Exhibit (see Attachment 2).

POC name or #	Channel name or #	POC Description
POC-1	N/A	POC for Drainage Basin 'A' - Natural Drain Course
POC-2	N/A	POC for Drainage Basin 'B' - Natural Drain Course
POC-4	N/A	POC for Drainage Basin 'D' - Natural Drain Course
POC-5	N/A	POC for Drainage Basin 'E' - See Below*
POC-6	N/A	POC for Drainage Basin 'F' - Natural Drain Course
POC-7	N/A	POC for Drainage Basin 'G' - Natural Drain Course
		*POC-5 is at the end of a manmade swale that
		discharges to the paved cul-de-sac
		(Firebrand Drive)

Table A - Area Tabulations & Runoff Coefficients ('C')

	Drainage Management Area	Impervious Area - ft^2	Pervious Area - ft^2	Permeable Paving - ft^2	Biofiltration Area - ft^2	Pool/Water Feature - ft^2	Total (SF)	Total (AC)	Runoff Coefficient (C)	Percent Impervious	DMA Type	Drains to POC
Existing Conditions	A.0		495,884				495,884	11.3839	0.30	0.00%	Existing	POC-1
	B.0		291,972				291,972	6.7028	0.30	0.00%	Existing	POC-2
	C.0		324,445				324,445	7.4482	0.30	0.00%	Existing	POC-3
	D.0		165,317				165,317	3.7952	0.30	0.00%	Existing	POC-4
	E.0		163,200				163,200	3.7466	0.30	0.00%	Existing	POC-5
	F.0		46,628				46,628	1.0704	0.30	0.00%	Existing	POC-6
	G.0		173,372				173,372	3.9801	0.30	0.00%	Existing	POC-7
	Z.1 - Offsite area near entry (Bypass project)		35,730				35,730	0.8202	0.30	0.00%	Existing	N/A
Proposed Conditions	A.2 - Stalls & 1/2 of Barn	3,072	121,039				124,111	2.8492	0.31	2.48%	Self Mitigating	POC-1
	A.3 - S. 1/2 of Barn and Large Por. Of DW	45,203	55,885		4,002		105,090	2.4125	0.55	43.01%	Drains to BMP	POC-1
	A.4 - Natural Slope E. of Stalls		81,282				81,282	1.8660	0.30	0.00%	Self Mitigating	POC-1
	A.5 - Caretakers Quarters	8,219	21,631				29,850	0.6853	0.46	27.53%	Drains to BMP	POC-1
	A.6 - Natural Slope		186,538				186,538	4.2823	0.30	0.00%	Self Mitigating	POC-1
	Total Basin A (POC-1)	**56,494**	**466,375**	**0**	**4,002**	**0**	**526,871**	**12.0953**	**0.36**	**10.72%**		
	B.1 - Nat. Slope above arena		21,283				21,283	0.4886	0.30	0.00%	Bypass	POC-2
	B.2 - Driveway Section Near Entrance	8,735	23,155		723		32,613	0.7487	0.45	26.78%	Drains to BMP	POC-2
	B.3 - Por of DW near Arena	8,422	71,147		1,016		80,585	1.8500	0.36	10.45%	Drains to BMP	POC-2
	B.4 - Slope below Por of DW near ent.		160,250				160,250	3.6788	0.30	0.00%	Self Mitigating	POC-2
	Total Basin B (POC-2)	**17,157**	**275,835**	**0**	**1,739**	**0**	**294,731**	**6.7661**	**0.33**	**5.82%**		
	C.1 - West 1/2 of Main House	**6,772**	**298,557**				**305,329**	**7.0094**	**0.31**	**2.22%**	Self Mitigating	POC-3
	D.1 - East 1/2 of Main House	10,305	3,594		749		14,648	0.3363	0.70	70.35%	Drains to BMP	POC-4
	D.2 - Cabana and Pool	17,932	5,002		1,206	1,094	25,234	0.5793	0.69	71.06%	Drains to BMP	POC-4
	D.3 - West 1/2 of Emp #1	9,639	4,137		658		14,434	0.3314	0.68	66.78%	Drains to BMP	POC-4
	D.4 - Slope Below Pool & Main House		93,415				93,415	2.1445	0.30	0.00%	Self Mitigating	POC-4
	Total Basin D (POC-4)	**37,876**	**106,148**	**0**	**2,613**	**1,094**	**147,731**	**3.3914**	**0.44**	**25.64%**		
	E.1 - Driveway to Main house	10,349	20,137		809		31,295	0.7184	0.49	33.07%	Drains to BMP	POC-5
	E.2 - Bottom of DW near cabana	8,267	4,270		569		13,106	0.3009	0.66	63.08%	Drains to BMP	POC-5
	E.3 - Portion of house #1 & Shop	10,092	4,276		737		15,105	0.3468	0.68	66.81%	Drains to BMP	POC-5
	E.4 - Pasture area north of Emp #1		132,306				132,306	3.0373	0.30	0.00%	Self Mitigating	POC-5
	Total Basin E (POC-5)	**28,708**	**160,989**	**0**	**2,115**	**0**	**191,812**	**4.4034**	**0.39**	**14.97%**		
	F.1 - S. Central Section of Emp #1	5,661	1,292		380		7,333	0.1683	0.74	77.20%	Drains to BMP	POC-6
	F.2 - Slope below S. Central Sec. of Emp #1		37,245				37,245	0.8550	0.30	0.00%	Self Mitigating	POC-6
	Total Basin F (POC-6)	**5,661**	**38,537**	**0**	**380**	**0**	**44,578**	**1.0234**	**0.37**	**12.70%**		
	G.1 - SW Quadrant of Emp House #1	12,955	5,572		884		19,411	0.4456	0.68	66.74%	Drains to BMP	POC-7
	G.2 - Slope Below SW Quad of Emp House #1		158,648				158,648	3.6421	0.30	0.00%	Self Mitigating	POC-7
	Total Basin G (POC-7)	**12,955**	**164,220**	**0**	**884**	**0**	**178,059**	**4.0877**	**0.34**	**7.28%**		

Flow Summary Table

Point of Compliance	Existing 0.1Q2 (ft3/sec)	Proposed-Unmitigated 0.1Q2 (ft3/sec) (Unmitigated)	Proposed-Mitigated 0.1Q2 (ft3/sec) (Mitigated)
POC-1 (Area A)	1.22	0.97	0.97
POC-2 (Area B)	0.72	0.42	0.42
POC-3 (Area C)	0.80	0.46	0.46
POC-4 (Area D)	0.40	0.43	0.22
POC-5 (Area E)	0.38	0.46	0.35
POC-6 (Area F)	0.11	0.13	0.10
POC-7 (Area G)	0.42	0.49	0.40

Table B - Pre Construction Flow Characteristics

0.1Q2 -yr P_6 = 0.14

		Natural Watercouse (per Fig. 3-4)					Urban Overland (Sheet) Flow (per Fig. 3-3)						Pipe/Channel Flow			Summary					
Flow ID (Basin)	Element & Dwelling Unit/Acre	Watercourse distance, L (ft)	Elev. 1	Elev. 2	Change in Elevation, H (ft)	Natural watercouse duration, D_n (min)	Urban watercourse distance, **Ti** (ft) (≤ LM)	Maximum Overland Flow Length	Watercourse slope, s (%)	Runoff Coefficient, C	Initial Ttime of Concentration (per Fig. 3-2)	Overland Flow Time, **Tt** (min)	Pipe Length, L_p (ft)	Average velocity, V (fps)	Pipe travel time, T_p (min)	(5 min minimum) Total time-of-concentration, T_c (min)	Runoff Coefficient, C	Rainfall Intensity, I (in/hr)	Basin Area, A (acres)	Q (cfs) = C*I*A	Q (cfs) Mitigated
A.0	Natural	1126	2072	1994	78	*4.88*					0.00	*0.00*	0	0.0	*0.00*	5.00	0.30	0.36	11.38	**1.22**	
B.0	Natural	1168	2180	1964	216	*3.44*					0.00	*0.00*	0	0.0	*0.00*	5.00	0.30	0.36	6.70	**0.72**	
C.0	Natural	1155	2072	1902	170	*3.73*					0.00	*0.00*	0	0.0	*0.00*	5.00	0.30	0.36	7.45	**0.80**	
D.0	Natural	640	2071	1971	100	*2.31*					0.00	*0.00*	0	0.0	*0.00*	5.00	0.30	0.36	3.80	**0.40**	
E.0	Natural	1024	2071	2011	60	*4.84*					0.00	*0.00*	382	14.0	*0.45*	5.30	0.30	0.35	3.75	**0.38**	
F.0	Natural	500	2068	1993	75	*1.94*					0.00	*0.00*	0	0.0	*0.00*	5.00	0.30	0.36	1.07	**0.11**	
G.0	Natural	532	2052	1949	103	*1.85*					0.00	*0.00*	0	0.0	*0.00*	5.00	0.30	0.36	3.98	**0.42**	

Table C - Post Construction Flow Characteristics

0.1Q2 -yr P_6 = 0.14

		Natural Watercouse (per Fig. 3-4)					Urban Overland (Sheet) Flow (per Fig. 3-3)						Pipe/Channel Flow			Summary					
Flow ID (Basin)	Element & Dwelling Unit/Acre	Watercourse distance, L (ft)	Elev. 1	Elev. 2	Change in Elevation, H (ft)	ch	Urban watercourse distance, **Ti** (ft) (≤ LM)	Maximum Overland Flow Length	Watercourse slope, s (%)	Runoff Coefficient, C	Initial Ttime of Concentration (per Fig. 3-2)	Overland Flow Time, **Tt** (min)	Pipe Length, L_p (ft)	Average velocity, V (fps)	Pipe travel time, T_p (min)	(5 min minimum) Total time-of-concentration, T_c (min)	Runoff Coefficient, C	Rainfall Intensity, I (in/hr)	Basin Area, A (acres)	Q (cfs) = C*I*A	Q (cfs) Mitigated
A.2 - Stalls & 1/2 of Barn	Natural				0	*0.00*	377	70	1.00	0.31	12.50	*15.99*			*0.00*	15.99	0.31	0.17	2.85	**0.15**	
A.3 - S. 1/2 of Barn and Large Por. Of DW	LDR - 1				0	*0.00*	404	100	5.00	0.55	8.00	*9.81*			*0.00*	9.81	0.55	0.23	2.41	**0.30**	**0.1300**
A.4 - Natural Slope E. of Stalls	Natural	643	2190	2023	167	*1.91*						*0.00*			*0.00*	5.00	0.30	0.36	1.87	**0.20**	
A.5 - Caretakers Quarters	LDR - 1	232	2058	2051	7	*1.99*						*0.00*	84	3.0	*0.47*	5.00	0.46	0.36	0.69	**0.11**	**0.0300**
A.6 - Natural Slope	Natural	900	2190	1994	196	*2.64*						*0.00*			*0.00*	5.00	0.30	0.36	4.28	**0.46**	
B.1 - Nat. Slope above arena	LDR - 1	537	2140	2060	80	*2.06*						*0.00*			*0.00*	5.00	0.30	0.36	0.49	**0.05**	
B.2 - Driveway Section Near Entrance	LDR - 1	320	2088	2053	35	*1.55*						*0.00*			*0.00*	5.00	0.45	0.36	0.75	**0.12**	
B.3 - Por of DW near Arena	LDR - 1				0	*0.00*	425	85	2.00	0.36	10.00	*12.87*			*0.00*	12.87	0.36	0.20	1.85	**0.12**	
B.4 - Slope below Por of DW near ent.	LDR - 1	440	2052	1964	88	*1.57*						*0.00*			*0.00*	5.00	0.30	0.36	3.68	**0.39**	
C.1 - West 1/2 of Main House	LDR - 1	887	2057	1896	161	*2.80*	177	100	5.00	0.31	8.00	*8.51*			*0.00*	11.31	0.31	0.21	7.01	**0.46**	
D.1 - East 1/2 of Main House	LDR - 1				0	*0.00*						*0.00*	227	3.0	*1.26*	5.00	0.70	0.36	0.34	**0.08**	**0.0100**
D.2 - Cabana and Pool	LDR - 1				0	*0.00*						*0.00*	215	3.0	*1.19*	5.00	0.69	0.36	0.58	**0.14**	**0.0200**
D.3 - West 1/2 of Emp #1	LDR - 1				0	*0.00*	52	70	1.00	0.68	0.00	*5.44*	265	3.0	*1.47*	6.92	0.68	0.29	0.33	**0.06**	**0.0100**
D.4 - Slope Below Pool & Main House	Natural	490	2048	1970	78	*1.87*						*0.00*			*0.00*	5.00	0.30	0.36	2.14	**0.23**	
E.1 - Driveway to Main house	LDR - 1	360	2065	2053	12	*2.69*						*0.00*			*0.00*	5.00	0.49	0.36	0.72	**0.12**	**0.0300**
E.2 - Bottom of DW near cabana	LDR - 1				0	*0.00*	130	100	3.00	0.66	9.50	*9.74*			*0.00*	9.74	0.66	0.23	0.30	**0.04**	**0.0100**
E.3 - Portion of house #1 & Shop	LDR - 1				0	*0.00*	187	70	1.00	0.68	11.50	*13.00*			*0.00*	13.00	0.68	0.19	0.35	**0.04**	**0.0100**
E.4 - Pasture area north of Emp #1	Natural	422	2057	2017	40	*2.03*						*0.00*			*0.00*	5.00	0.30	0.36	3.04	**0.32**	
F.1 - S. Central Section of Emp #1	LDR - 1				0	*0.00*						*0.00*	355	5.0	*1.18*	5.00	0.74	0.36	0.17	**0.04**	**0.0100**
F.2 - Slope below S. Central Sec. of Emp #1	LDR - 1	400	2048	1993	55	*1.69*						*0.00*			*0.00*	5.00	0.30	0.36	0.86	**0.09**	
G.1 - SW Quadrant of Emp House #1	LDR - 1	285	2051	2034	17	*1.80*						*0.00*			*0.00*	5.00	0.68	0.36	0.45	**0.10**	**0.0100**
G.2 - Slope Below SW Quad of Emp House #1	LDR - 1	460	2062	1951	111	*1.52*						*0.00*			*0.00*	5.00	0.30	0.36	3.64	**0.39**	

Peak Flows at Junctions

(Per Section 3.4.2 of County Hydrology Manual, 2003)

Peak Flows at Junctions

Area A (POC-1)	Tx	Ix		Qx
A.4 - Natural Slope E. of Stalls	5.00	0.36	Q2	0.20
A.5 - Caretakers Quarters	5.00	0.36	Q2	0.11
A.6 - Natural Slope	5.00	0.36	Q2	0.46
A.3 - S. 1/2 of Barn and Large Por. Of DW	9.81	0.23	Q2	0.30
A.2 - Stalls & 1/2 of Barn	15.99	0.17	Q2	0.15

	Q	Tc
Qt1	0.97	5.00
Qt2	0.97	5.00
Qt3	0.97	9.81
Qt4	0.89	9.81
Qt5	0.73	15.99
Q	0.97	5.00

Area B (POC-2)	Tx	Ix		Qx
B.1 - Nat. Slope	5.00	0.36	Q2	0.05
B.2 - Driveway S	5.00	0.36	Q2	0.12
B.4 - Slope belov	5.00	0.36	Q2	0.39
B.3 - Por of DW	12.87	0.20	Q2	0.12

	Q	Tc
Qt1	0.22	5.00
Qt2	0.22	5.00
Qt3	0.29	5.00
Qt4	0.42	12.87
Q	0.42	12.87

Area D (POC-4)	Tx	Ix		Qx
D.1 - East 1/2 of Main House	5.00	0.36	Q1	0.08
D.2 - Cabana and Pool	5.00	0.36	Q2	0.14
D.4 - Slope Below Pool & Main House	5.00	0.36	Q2	0.23
D.3 - West 1/2 of Emp #1	6.92	0.29	Q2	0.06

	Q	Tc
Qt1	0.26	5.00
Qt2	0.26	5.00
Qt3	0.28	5.00
Qt4	0.43	6.92
Q	0.43	6.92

Area E (POC 5)	Tx	Ix		Qx
E.1 - Driveway t	5.00	0.36	Q2	0.12
E.4 - Pasture are	5.00	0.36	Q2	0.32
E.2 - Bottom of I	9.74	0.23	Q2	0.04
E.3 - Portion of I	13.00	0.19	Q2	0.04

	Q	Tc
Qt1	0.46	5.00
Qt2	0.46	5.00
Qt3	0.33	9.74
Qt4	0.31	13.00
Q	0.46	5.00

Area F (POC-6)	Tx	Ix		Qx
F.1 - S. Central Section of Emp #1	5.00	0.36	Q1	0.04
F.2 - Slope below S. Central Sec. of Emp #1	5.00	0.36	Q1	0.09

	Q	Tc
Qt1	0.13	5.00
Qt2	0.13	5.00
Q	0.13	5.00

Area G (POC-7)	Tx	Ix		Qx
G.1 - SW Quadra	5.00	0.36	Q1	0.10
G.2 - Slope Belo	5.00	0.36	Q1	0.39

	Q	Tc
Qt1	0.49	5.00
Qt2	0.49	5.00
Q	0.49	5.00

Calculate Q_{T1}, Q_{T2}, and Q_{T3}. Select the largest Q and use the T_c associated with that Q for further calculations (see the three Notes for options). If the largest calculated Q's are equal (e.g., $Q_{T1} = Q_{T2} > Q_{T3}$), use the shorter of the T_c's associated with that Q.

This equation may be expanded for a junction of more than three independent drainage systems using the same concept. The concept is that when Q from a selected subarea (e.g., Q_2) is combined with Q from another subarea with a shorter T_c (e.g., Q_1), the Q from the subarea with the shorter T_c is reduced by the ratio of the I's (I_2/I_1); and when Q from a selected subarea (e.g., Q_2) is combined with Q from another subarea with a longer T_c (e.g., Q_3), the Q from the subarea with the longer T_c is reduced by the ratio of the T_c's (T_2/T_3).

Note #1: At a junction of two independent drainage systems that have the same T_c, the tributary flows may be added to obtain the Q_p.

$$Q_p = Q_1 + Q_2 \text{; when } T_1 = T_2 \text{; and } T_c = T_1 = T_2$$

This can be verified by using the junction equation above. Let Q_3, T_3, and $I_3 = 0$. When T_1 and T_2 are the same, I_1 and I_2 are also the same, and T_1/T_2 and $I_2/I_1 = 1$. T_1/T_2 and I_2/I_1 are cancelled from the equations. At this point, $Q_{T1} = Q_{T2} = Q_1 + Q_2$.

Note #2: In the upstream part of a watershed, a conservative computation is acceptable. When the times of concentration (T_c's) are relatively close in magnitude (within 10%), use the shorter T_c for the intensity and the equation $Q = \Sigma(CA)I$.

Note #3: . An optional method of determining the T_c is to use the equation
$T_c = [(\Sigma\,(CA)7.44\,P_6)/Q]^{1.55}$

This equation is from $Q = \Sigma(CA)I = \Sigma(CA)(7.44\,P_6/T_c^{.645})$ and solving for T_c. The advantage in this option is that the T_c is consistent with the peak flow Q, and avoids inappropriate fluctuation in downstream flows in some cases.

$$Q_{T1} = Q_1 + \frac{T_1}{T_2}Q_2 + \frac{T_1}{T_3}Q_3$$

$$Q_{T2} = Q_2 + \frac{I_2}{I_1}Q_1 + \frac{T_2}{T_3}Q_3$$

$$Q_{T3} = Q_3 + \frac{I_3}{I_1}Q_1 + \frac{I_3}{I_2}Q_2$$

Peak Flows at Junctions

(Per Section 3.4.2 of County Hydrology Manual, 2003)

MITIGATED Peak Flows at Junctions

Area D (POC-4)	Tx	Ix		Qx
D.1 - East 1/2 of Main House	5.00	0.36	Q1	0.01
D.2 - Cabana and Pool	5.00	0.36	Q2	0.02
D.4 - Slope Below Pool & Main House	5.00	0.36	Q2	0.23
D.3 - West 1/2 of Emp #1	6.92	0.29	Q2	0.01

	Q	Tc
Qt1	0.04	5.00
Qt2	0.04	5.00
Qt3	0.04	5.00
Qt4	0.22	6.92
Q	0.22	6.92

Area E (POC 5)	Tx	Ix		Qx
E.1 - Driveway t	5.00	0.36	Q2	0.03
E.4 - Pasture are	5.00	0.36	Q2	0.32
E.2 - Bottom of I	9.74	0.23	Q2	0.01
E.3 - Portion of I	13.00	0.19	Q2	0.01

	Q	Tc
Qt1	0.35	5.00
Qt2	0.35	5.00
Qt3	0.24	9.74
Qt4	0.21	13.00
Q	0.35	5.00

Area F (POC-6)	Tx	Ix		Qx
F.1 - S. Central Section of Emp #1	5.00	0.36	Q1	0.01
F.2 - Slope below S. Central Sec. of Emp #1	5.00	0.36	Q1	0.09

	Q	Tc
Qt1	0.10	5.00
Qt2	0.10	5.00
Q	0.10	5.00

Area G (POC-7)	Tx	Ix		Qx
G.1 - SW Quadra	5.00	0.36	Q1	0.01
G.2 - Slope Belo	5.00	0.36	Q1	0.39

	Q	Tc
Qt1	0.40	5.00
Qt2	0.40	5.00
Q	0.40	5.00

Junction Equation: $T_1 < T_2 < T_3$

$$Q_{T1} = Q_1 + \frac{T_1}{T_2}Q_2 + \frac{T_1}{T_3}Q_3$$

$$Q_{T2} = Q_2 + \frac{I_2}{I_1}Q_1 + \frac{T_2}{T_3}Q_3$$

$$Q_{T3} = Q_3 + \frac{I_3}{I_1}Q_1 + \frac{I_3}{I_2}Q_2$$

Calculate Q_{T1}, Q_{T2}, and Q_{T3}. Select the largest Q and use the T_c associated with that Q for further calculations (see the three Notes for options). If the largest calculated Q's are equal (e.g., $Q_{T1} = Q_{T2} > Q_{T3}$), use the shorter of the T_c's associated with that Q.

This equation may be expanded for a junction of more than three independent drainage systems using the same concept. The concept is that when Q from a selected subarea (e.g., Q_2) is combined with Q from another subarea with a shorter T_c (e.g., Q_1), the Q from the subarea with the shorter T_c is reduced by the ratio of the I's (I_2/I_1); and when Q from a selected subarea (e.g., Q_2) is combined with Q from another subarea with a longer T_c (e.g., Q_3), the Q from the subarea with the longer T_c is reduced by the ratio of the T_c's (T_2/T_3).

Note #1: At a junction of two independent drainage systems that have the same T_c, the tributary flows may be added to obtain the Q_p.

$$Q_p = Q_1 + Q_2; \text{ when } T_1 = T_2; \text{ and } T_c = T_1 = T_2$$

This can be verified by using the junction equation above. Let Q_3, T_3, and $I_3 = 0$. When T_1 and T_2 are the same, I_1 and I_2 are also the same, and T_1/T_2 and $I_2/I_1 = 1$. T_1/T_2 and I_2/I_1 are cancelled from the equations. At this point, $Q_{T1} = Q_{T2} = Q_1 + Q_2$.

Note #2: In the upstream part of a watershed, a conservative computation is acceptable. When the times of concentration (T_c's) are relatively close in magnitude (within 10%), use the shorter T_c for the intensity and the equation $Q = \Sigma(CA)I$.

Note #3: . An optional method of determining the T_c is to use the equation
$T_c = [(\Sigma (CA) 7.44\ P_6)/Q]^{1.55}$

This equation is from $Q = \Sigma(CA)I = \Sigma(CA)(7.44\ P_6/T_c^{.645})$ and solving for T_c. The advantage in this option is that the T_c is consistent with the peak flow Q, and avoids inappropriate fluctuation in downstream flows in some cases.

8.3 Geomorphic Assessment of Receiving Water Channels

Insert Geomorphic Assessment behind this cover page or submit as a separate stand-alone document labeled Sub-attachment 8.3.

8.4 Vector Control Plan

Insert Vector Control Plan behind this cover page or submit as a separate stand-alone document labeled Sub-attachment 8.4.

9.0 General Requirements

- Complete the table below to indicate which compliance pathway was selected in PDP SWQMP Table 6. Include the corresponding sub-attachment with your SWQMP submittal. Other sub-attachments do not need to be included.
- See the BMPDM sections and appendices listed under "BMPDM Design Resources" for additional explanation of design requirements. Constructed features must fully satisfy the requirements described in these resources, and any other guidance identified by the County.
- DMA Exhibits and Construction Plans: CCSYAs and applicable BMPs identified and described in this attachment must be shown on DMA Exhibits and all applicable construction plans submitted for the project. See Attachment 2 for additional instruction on exhibits and plans.

Sub-attachments	BMPDM Design Resources
☐ **9.1: Documentation of Hydromodification Management Exemption**[1]	Section 1.6
☑ **9.2: Watershed Management Area Analysis (WMAA) Mapping**[1]	Appendix H.1.1.2
☐ **9.3: Resource Protection Ordinance (RPO) Methods**	Appendix H.1.1.1
☐ **9.4: No Net Impact Analysis**	Appendix H.4

[1] The San Diego County Regional comprehensive WMAA mapping data can be found on the Project Clean Water website here: http://www.projectcleanwater.org/download/wmaa_attc_data/

9.1 Documentation of Hydromodification Management Exemption (BMPDM Section 1.6)

- If the PDP is exempt from hydromodification management requirements (see Table 4 Part A.1 of the PDP SWQMP), use this Sub-attachment to document the exemption.
- Select the type of exemption below that applies and provide an explanation of the selection, including maps or other applicable documentation. Additional documentation may be requested by County staff.

Exemption Type per BMPDM Figure 1-2 (select one)
☐ a. The proposed project will discharge runoff directly to existing underground storm drains discharging directly to water storage reservoirs, lakes, enclosed embayments, or the Pacific Ocean.
☐ b. The proposed 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.
☐ c. The proposed project will discharge runoff directly to an area identified by the County as appropriate for an exemption by the WMAA for the watershed in which the project resides[2].
Explanation (add or attach pages as necessary)
N/A

[2] This option must include an analysis of the project using the methodology presented in Attachment E of the Regional Watershed Management Area Analysis.

9.2 Watershed Management Area Analysis (WMAA) Mapping (BMPDM Appendix H.1.1.2)

Watershed Management Area Analysis (WMAA) mapping is a simple way to screen projects to determine the presence of onsite or offsite upstream Potential Critical Coarse Sediment Yield Areas (PCCSYAs). The San Diego County Regional WMAA mapping data can be found on the Project Clean Water website here: http://www.projectcleanwater.org/download/wmaa_attc_data/ .[3]

- Based on the WMAA map and the proposed project design, demonstrate below that both of the following conditions apply to the PDP:

  (a) Less than 5% of PCCSYAs will be impacted (built on or obstructed) by the PDP, and

  (b) All upstream offsite PCCYSAs will be bypassed (see BMPDM Appendix H.3).

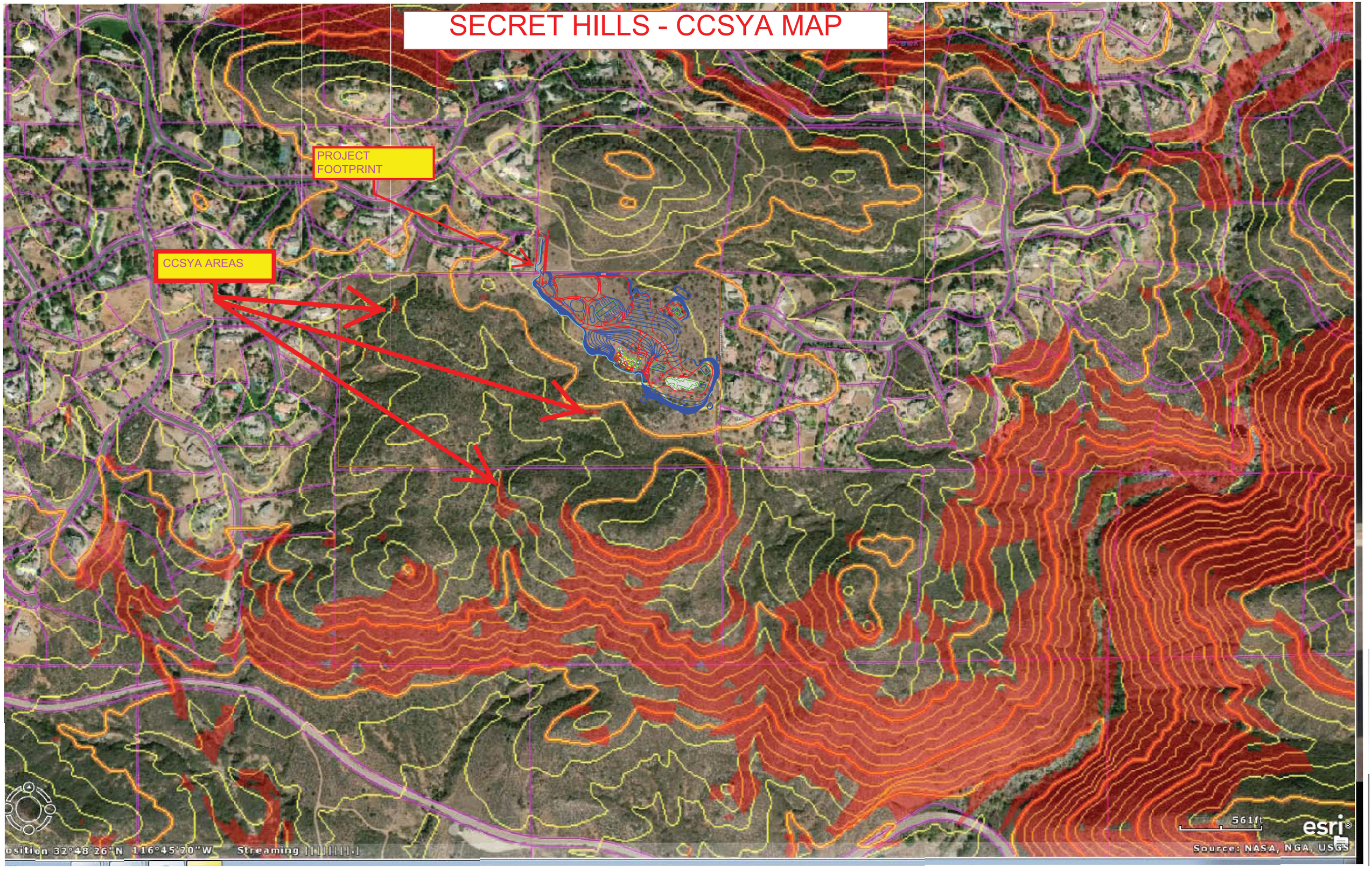
A. Mapping Results -- At a minimum, show: (1) the project footprint, (2) areas of proposed development, (3) impacted onsite PCCSYAs, (4) offsite tributary areas[4], and (5) bypass of upstream offsite PCCSYAs.

[3] Applicants may refine initial mapping results using options identified in BMPDM Appendix H.1.2.

[4] Tributary areas must be shown to demonstrate that upstream offsite PCCSYAs do not exist. If bypassing these areas, only the bypass should be shown.

B. Explanation -- Provide documentation as needed to demonstrate that (1) impacts to PCCSYAs are below 5%, and (2) upstream offsite PCCYSAs are effectively bypassed. Add pages as necessary.

Per the WMAA maps the southwest portions of the site are shown to have small areas that contain CCSYA. The areas proposed for development do not contain CCSYA nor are there any upstream CCSYA.


SECRET HILLS - CCSYA MAP
PROJECT FOOTPRINT
CCSYA AREAS
561ft
esri
Source: NASA, NGA, USGS
Streaming

9.3 Resource Protection Ordinance (RPO) Methods (BMPDM Appendix H.1.1.1)

- Either of two Resource Protection Ordinance (RPO) methods may also be used to demonstrate compliance with CCSYA requirements. Select either option and document the selection below:

  ☐ **RPO Scenario 1: PDP is subject to and in compliance with RPO requirements**[5]

  - **Select** if the project requires one or more discretionary permits;
  - **Demonstrate** that onsite AND upstream offsite CCSYAs will be avoided and/or bypassed.

  ☐ **RPO Scenario 2: PDP is entirely exempt/not subject to RPO requirements**[6]

  - **Select** if the project does not require discretionary permits;
  - **Demonstrate** that all upstream offsite CCSYAs will be bypassed[7].

A. Mapping Results -- At a minimum, show as applicable: (1) the project footprint, (2) areas of proposed development, (3) locations of onsite and upstream offsite CCSYAs, and (4) bypass of all identified CCSYAs.
N/A

[5] RPO applicability is normally confirmed during discretionary review. Check with your project manager if you're not sure of your status.
[6] Does not include PDPs utilizing exemption(s) via RPO Section 86.604(e)(2)(cc) or 86.604(e)(3).
[7] This scenario does not impose requirements for onsite CCSYAs.

B. Explanation -- Provide documentation as needed to demonstrate that (1) onsite CCSYAs are avoided and bypassed [if applicable], and (2) upstream offsite CCYSAs are effectively bypassed. Add pages as necessary.

N/A

9.4 No Net Impact Analysis (BMPDM Appendix H.4)

- When impacts to CCSYAs cannot be avoided or effectively bypassed, applicants must demonstrate that their project generates no net impact to the receiving water per the performance metrics identified in BMPDM Appendix H.4.
- Use the space below to document that the PDP will generate no net impact to any receiving water.

No Net Impact Analysis (add or attach pages as necessary)
N/A

This form must be accepted by the County prior to the release of construction permits or granting of occupancy for applicable portions of a Priority Development Project (PDP). Its purpose is to provide documentation of the final installation of permanent Best Management Practices (BMPs) used to satisfy Structural Performance Standards for the development project. Compliance with these standards reduces the discharge of pollutants and flows from the completed project site. Applicable standards may be satisfied using Structural BMPs (S-BMPs), Significant Site Design BMPs (SSD-BMPs), or both. Applicants are responsible for providing all requested information. Do not leave any fields blank; indicate *N/A* for any requested item that is not applicable.

PART 1 General Project and Applicant Information

Table 1: Project and Applicant Information

A. Project Summary Information	**ID No. IVF-20___-____ To be assigned by DPW-WPP**
Project Name	Secret Hills Ranch
Record ID (e.g., grading/improvement plan number, building permit)	PDS2020-LDGRMJ-30253
Project Address	P O BOX 428 Alpine, CA 91901
Assessor's Parcel Number(s) APN(s))	520-060-18
Project Watershed (complete Hydrologic Unit, Area, and Subarea Name with Numeric Identifier)	909.31 - Sweetwater HU, Upper Sweet Water HA, Loveland HSA,
B. Owner Information	
Name	Stanley Boney - Property Owner
Address	P O BOX 428 Crystal Bay, NV 89402
Email Address	stanboney@me.com
Phone Number	(775) 230-2904

Document previously verified BMPs for the PDP in **Table 2**. Include the Verification Form ID No. from **Page 1** if one was issued.

****** DO NOT INCLUDE THIS PAGE UNLESS THIS IS A PARTIAL RECORD PLAN VERIFICATION ******

Table 2: Information on Verifications for Partial Record Plans Only

A: Previous Submittals

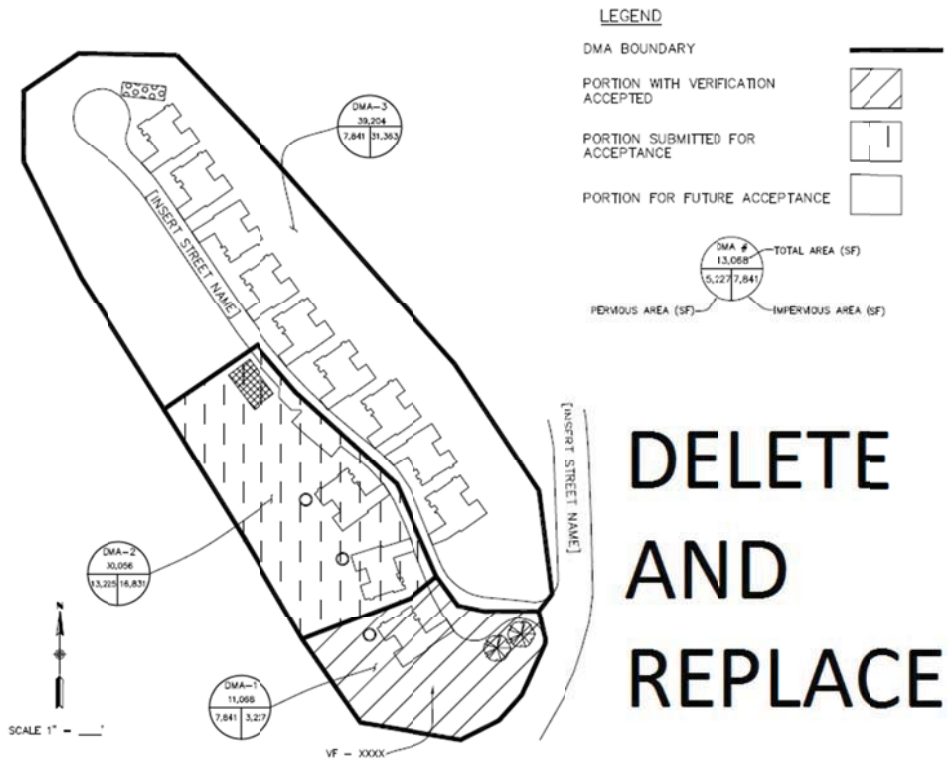
Previous Submittals	Submittal Date	Installation Verification Form ID No. if applicable (e.g., 2016-001)
1		
2		
3		
4		
5		

Add rows as needed

B: DMA and BMP Map

Please attach a map showing (1) all DMAs for the project site, (2) the DMAs and/or lots accepted under previous Verification Forms, and (3) the locations of Structural BMPs and Significant Site Design BMPs previously accepted OR listed in **Table 3** of this Verification Form.

SAMPLE DMA MAP



PART 2 DMA and BMP Inventory Information

Use this table to document Structural BMPs (S-BMPs) and Significant Site Design BMPs (SSD-BMPs) for the PDP. All DMAs that are not self-mitigating or de minimis must have at least one Structural BMP or Significant Site Design BMP.

- In **Part A**, list all Structural BMPs (including both Pollutant Control and/or Hydromodification as applicable) by DMA.
- Complete **Part B** for all DMAs that contain only Significant Site Design BMPs. SSD-BMPs are Site Design BMPs (SD-BMPs) that are sized and constructed to satisfy Structural Performance Standards for a DMA.
- Documentation of SD-BMPs is not required in this table for any DMA that also contains S-BMPs.
- The information provided for each BMP in the table must match that provided in the Stormwater Quality Management Plan (SWQMP), construction plans, maintenance agreements, and other relevant project documentation.

Table 3: Required Information for Structural BMPs and Significant Site Design BMPs

DMA #	BMP Information			Maintenance Category	Maintenance Agreement or Maintenance Notification Recorded Doc. #	Construction Plan Sheet #	Landscape Plan # & Sheet # (For Vegetated BMPs Only)	FOR DPW-WPP USE ONLY *Reviewer concurs that the BMP(s) may be accepted into inventory (date and initial)*
	Quantity	Description/Type of Structural BMP	BMP ID #(s)					
Part A Structural BMPs (S-BMPs)								
Add rows as needed								
Part B Significant Site Design BMPs (SSD-BMPs)								
Add rows as needed								

PART 3 Required Attachments for All BMPs Listed in Table 3

For ALL projects, submit the following to the County inspector (check all that are attached):

☐ Photographs: A photograph of each fully constructed S-BMP or SSD-BMP (or group of BMPs).

☐ Maintenance Agreements: Copies of all approved and recorded Storm Water Maintenance Agreements (SWMAs) or Maintenance Notifications (MNs) for all S-BMPs.

Note: All BMPs proposed for County ownership will remain the responsibility of the owner listed on **Page 1** until a signed Letter of Acceptance of Completion is received by the DPW Watershed Protection Program.

For Grading and Improvement projects only, ALSO submit:

☐ Construction Plans: An 11" X 17" copy of the most current applicable approved Construction Plan sheets:

- ☐ Grading Plans, AND/OR
- ☐ Improvement Plans, AND/OR
- ☐ Precise Grading Plan(s) (only for residential subdivisions with tract homes), AND/OR
- ☐ Other (Please specify) Click here to enter text.

Note: For each Construction Plan, the sheets submitted must incorporate all of the following:

- ☐ A BMP Table, AND
- ☐ A plan/cross-section of each verified as-built BMP, AND
- ☐ The location of each verified as-built BMP

☐ Landscape Plans: An 11" X 17" copy of the most current applicable Landscape Plan sheets where the BMPs are required to be vegetated, including:

- ☐ The Certification of Completion (Form 407), AND
- ☐ The Certificate of Approval from PDS Landscape Architect

Note: For each Landscape Plan, the sheets submitted must show the location of each verified as-built BMP.

Required only for Verifications for Partial Record Plans

☐ If this is a partial record plan verification, please include the following:

- ☐ A list of previously submitted Verification Forms (**Table 2, part A**)
- ☐ A map of DMAs and BMPs (**Table 2, part B**)

PART 4 Preparer's Certification

By signing below, I certify that the BMP(s) listed in Table 3 of this Verification Form have been constructed and all are in substantial conformance with the approved plans and applicable regulations. I understand the County reserves the right to inspect the above BMPs to verify compliance with the approved plans and Watershed Protection Ordinance (WPO). Should it be determined that the BMPs were not constructed to plan or code, corrective actions may be necessary before permits can be closed.

Note: Structural BMPs (Part 2 A) must be certified by a licensed professional engineer.

Please sign and, if applicable, provide your seal below.

[SEAL]

Preparer's Printed Name:

_____

Email: _____

Phone Number: _____

Preparer's Signed Name:

_____

Date: _____

COUNTY - OFFICIAL USE ONLY:

For County Inspectors

County Department: _____

Date verification received from EOW: _____

By signing below, County Inspector concurs that every noted BMP has been installed per plan.

Inspector Name: _____

Inspector's Signature: _____ Date: _____

For Building Division Only

Inspection Supervisor Name: _____

Inspector Supervisor's Signature: _____ Date: _____

PDCI & Building, along with the rest of this package, please provide to DPW WPP:

☐ A copy of the final accepted SWQMP and any accepted addendum

For Watershed Protection Program Only

Date Received: _____

WPP Reviewer: _____

WPP Reviewer concurs that the BMPs accepted in **Part 2** above may be entered into inventory.

WPP Reviewer's Signature: _____ Date: _____

11.0 Cover Sheet and General Requirements

- All Structural BMPs must have a plan and mechanism to ensure on-going maintenance. Use the table below to document the types of agreements to be submitted for the PDP and submit them under cover of this sheet.
- See BMPDM Section 7.3 for a description of maintenance categories and responsibilities. Note that since Category 3 and 4 BMPs are County-maintained, they do not require maintenance agreements.

a. Applicability of Maintenance Agreements

Check the boxes below to indicate which types of agreements are included with this attachment.

☑ Maintenance Notification (Category 1 BMPs)

- Exhibit A: Project Site Vicinity; Project Site Map; and a map for each BMP and its Drainage Management Area
- Exhibit B: BMP Maintenance Plan (see below)

☐ ~~Stormwater Maintenance Agreement (Category 2 BMPs)~~

- ~~Exhibit A: Legal Description of Property~~
- ~~Exhibit B: BMP Maintenance Plan (see below)~~
- ~~Exhibit C: Project Site Vicinity Map~~

Maintenance agreement templates and instructions are provided on the County's website:

www.sandiegocounty.gov/stormwater under the Development Resources tab.

PDP applicants contact County staff to ensure they have the most current forms.

b. Maintenance Plan Requirements

Use this checklist to confirm that each maintenance plan includes the following that as applicable.

☑ Specific **maintenance indicators and actions** for proposed structural BMP(s). These must be based on based on maintenance indicators presented in BMP Design Fact Sheets in Appendix E and enhanced to reflect actual proposed components of the structural BMP(s).

☑ **Access** to inspect and perform maintenance on the structural BMP(s).

☑ Features 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.

RECORDING REQUESTED BY:

WHEN RECORDED MAIL TO:

(property owner)

SPACE ABOVE THIS LINE FOR RECORDER'S USE

MAINTENANCE NOTIFICATION AGREEMENT FOR CATEGORY 1 STORMWATER STRUCTURAL BMPs

☐ **This Maintenance Notification Agreement rescinds and replaces Doc#_____**

THIS AGREEMENT is made on the _____ day of _____, 20_____.

Stanley Boney - Property Owner, the Owner(s) of the hereinafter described real property:

Address 2270 Via Tesoro, Alpine, CA 91901 Post Office Box _____ Zip Code _____.

Assessor Parcel No.(s) 520-060-18

List each Structural Best Management Practice for the property as follows: Name and/or Type, Permit #, Sheet #.

Biofiltration areas labeled A.3, B.2, B.3, D.1, D.2, D.3, E.1, E.2, E.3, F.1, and G.1 all per County of San Diego Grading permit PDS2020-LDGRMJ-30253 Sheets 1-8 *Attach BMP sheets and details as Exhibit A.*

Owner(s) of the above property acknowledge the existence of the storm water Structural Best Management Practice (BMP) on the said property. Perpetual maintenance of the Structural BMP(s) is the requirement of the State NPDES Permit, Order No. R9-2015- 0001, Section E.3.e.(1)(c) and the County of San Diego Watershed Protection Ordinance (WPO) Ordinance No. 10385 Section 67.812 through Section 67.814, and County BMP Design Manual Chapters 7 & 8. In consideration of the requirement to construct and maintain Structural BMP(s), as conditioned by Discretionary Permit, Grading Permit, and/or Building Permit (as may be applicable), I/we hereby covenant and agree that:

1. I/We are the owner(s) of the existing (or to be constructed concurrently) premises located on the above described property.
2. I/We shall take the responsibility for the perpetual maintenance of the Structural BMP(s) as listed above in accordance with the maintenance plan(s) attached in *Exhibit B* and in compliance with County's self-inspection reporting and verification for as long as I/we have ownership of said property(ies).
3. I/We shall cooperate with and allow the County staff to come onto said property(ies) and perform inspection duties as prescribed by local and state regulators.
4. I/We shall inform future buyer(s) or successors of said property(ies) of the existence and perpetual maintenance requirement responsibilities for Structural BMP(s) as listed above and to ensure that such responsibility shall transfer to the future owner(s).
5. I/We will abide by all the requirements and standards of Section 67.812 through Section 67.814 of the WPO (or renumbering thereof) as it exists on the date of this Agreement, and which hereby is incorporated herein by reference.

This Agreement shall run with the land. If the subject property is conveyed to any other person, firm, or corporation, the instrument that conveys title or any interest in or to said property, or any portion thereof, shall contain a provision transferring maintenance responsibility for Structural BMP(s) to the successive owner according to the terms of this Agreement. Any violation of this Agreement is grounds for the County to impose penalties upon the property owner as prescribed in County Code of Regulatory Ordinances, Title 1, Division 8, Chapter 1 Administrative Citations §§18.101-18.116.

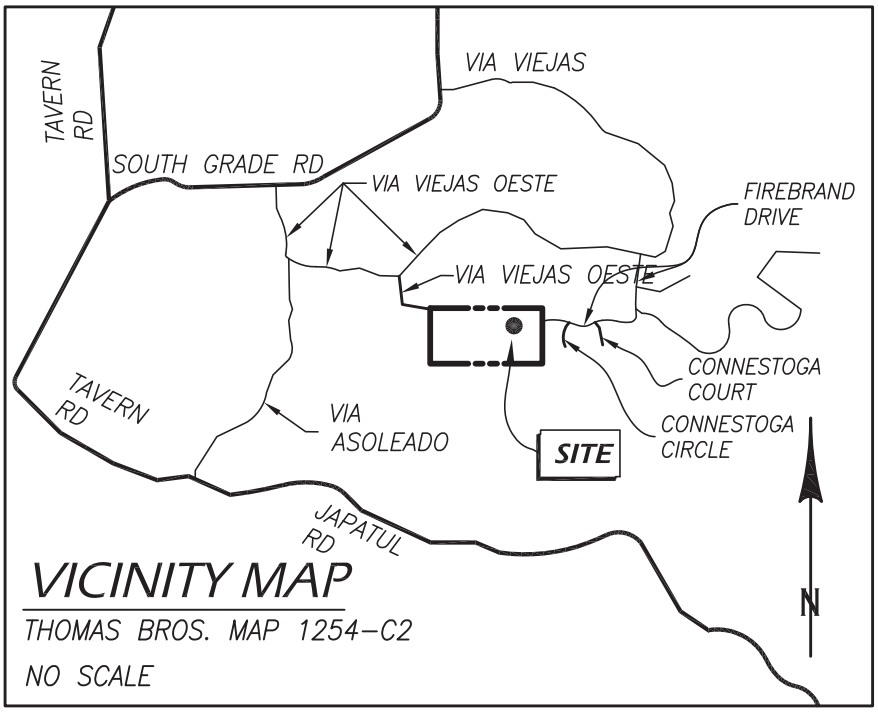
_____ _____

Owner Signature(s)

Stanley Boney - Property Owner _____

Print Owner Name(s) and Title

EXHIBIT 'A'



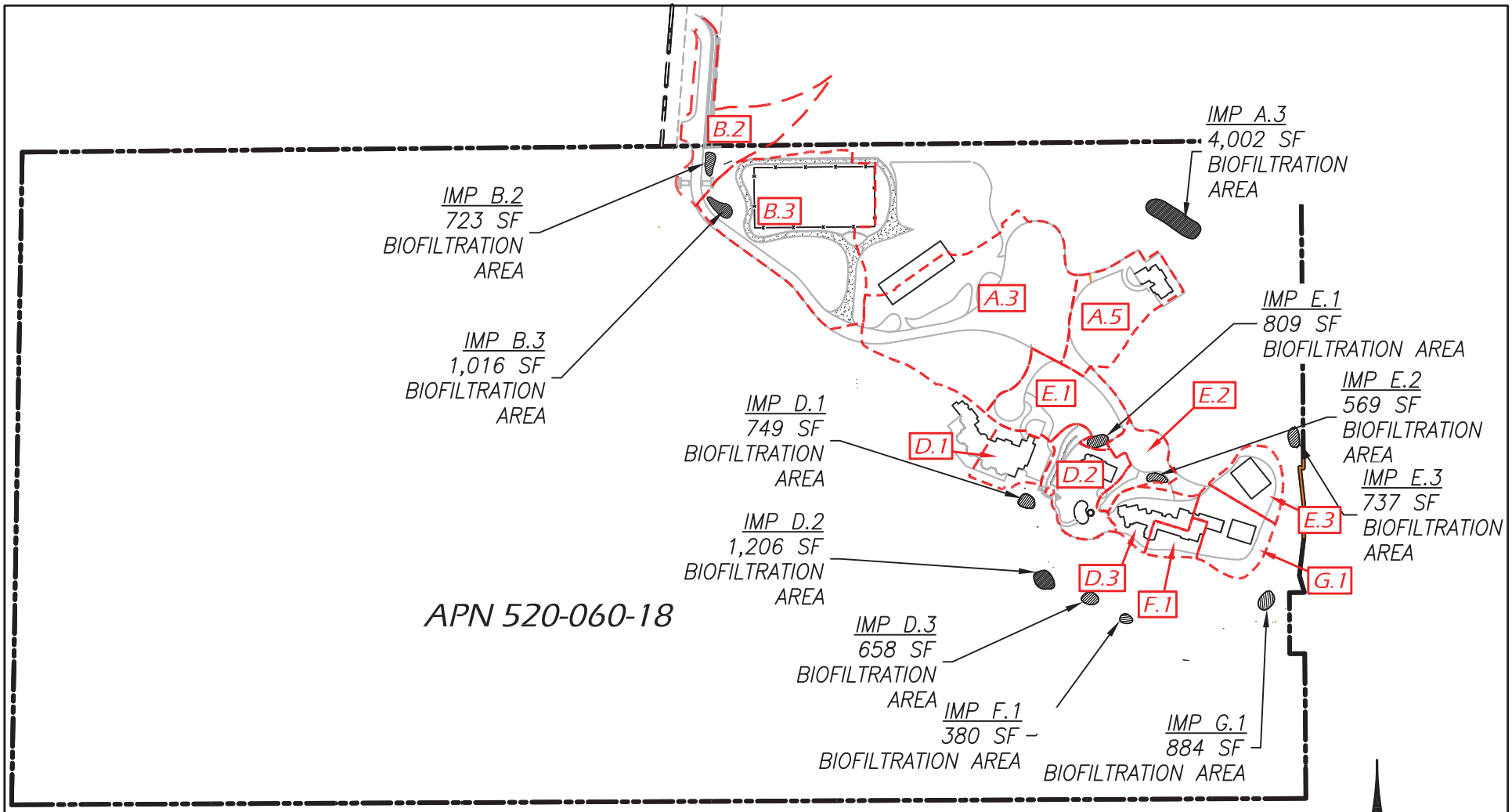
VICINITY MAP

THOMAS BROS. MAP 1254–C2

NO SCALE

MAY 6, 2020

VIA VIEJAS OESTE
ALPINE, CA 92067



BMP SITE MAP

LEGEND

DESCRIPTION	SYMBOL
PROPERTY LINE	N45°45'45"W
BIOFILTRATION AREA	
BASIN LIMITS	

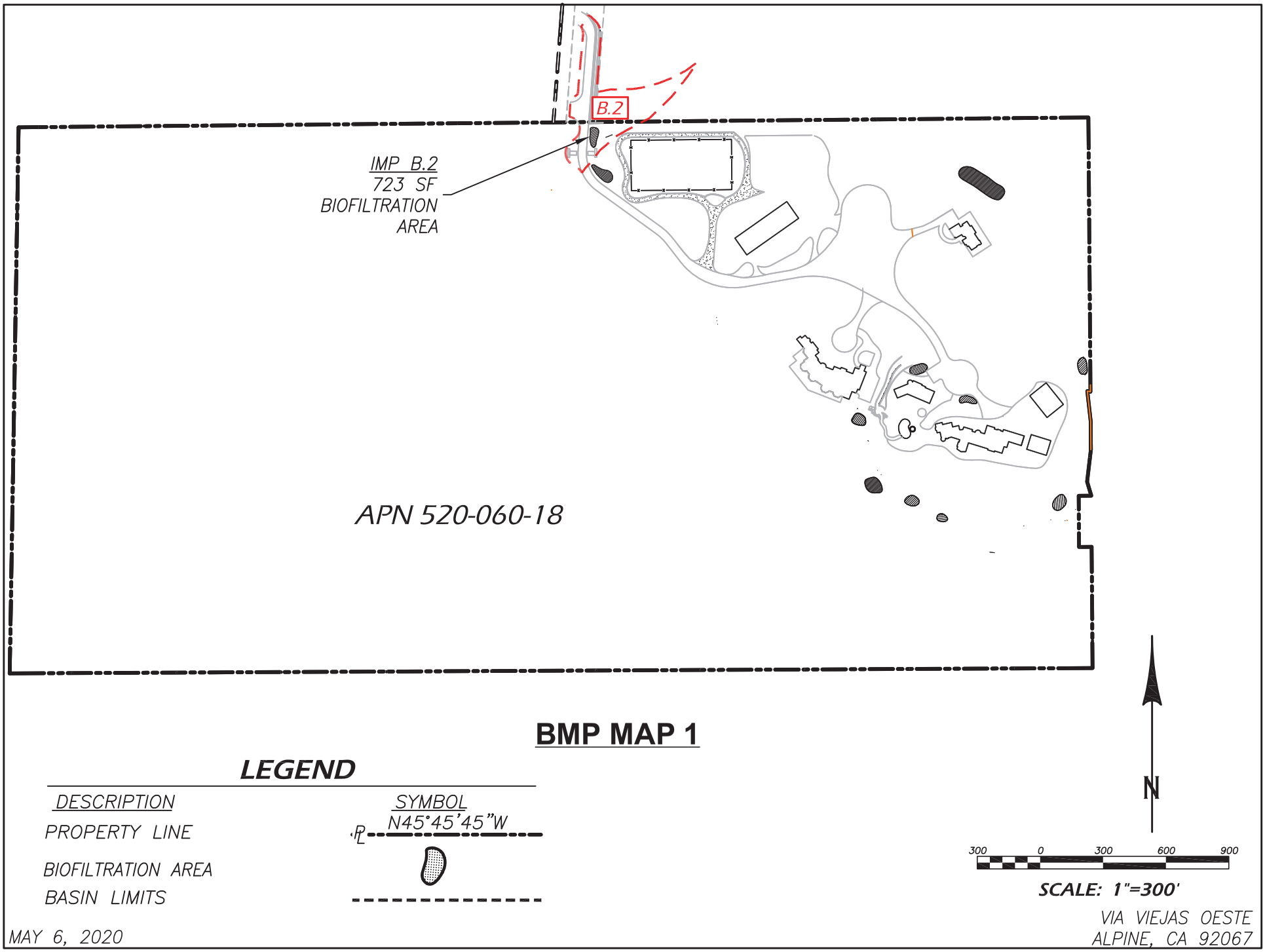
N

300 0 300 600 900

SCALE: 1"=300'

MAY 6, 2020

VIA VIEJAS OESTE
ALPINE, CA 92067



BMP MAP 1

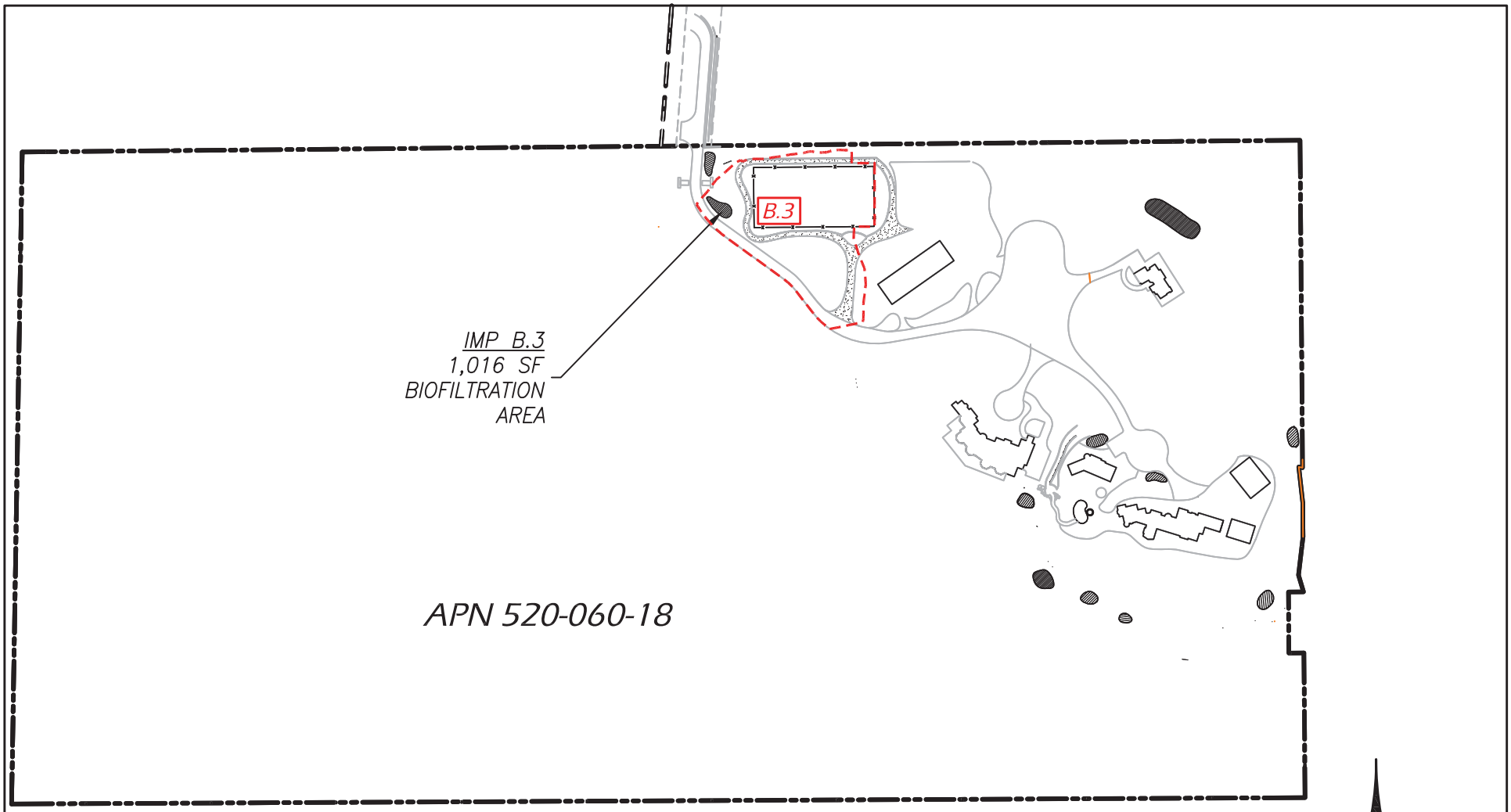
LEGEND

DESCRIPTION	SYMBOL
PROPERTY LINE	N45°45'45"W
BIOFILTRATION AREA	
BASIN LIMITS	

SCALE: 1"=300'

MAY 6, 2020

VIA VIEJAS OESTE
ALPINE, CA 92067



BMP MAP 2

LEGEND

DESCRIPTION	SYMBOL
PROPERTY LINE	PL N45°45'45"W
BIOFILTRATION AREA	
BASIN LIMITS	

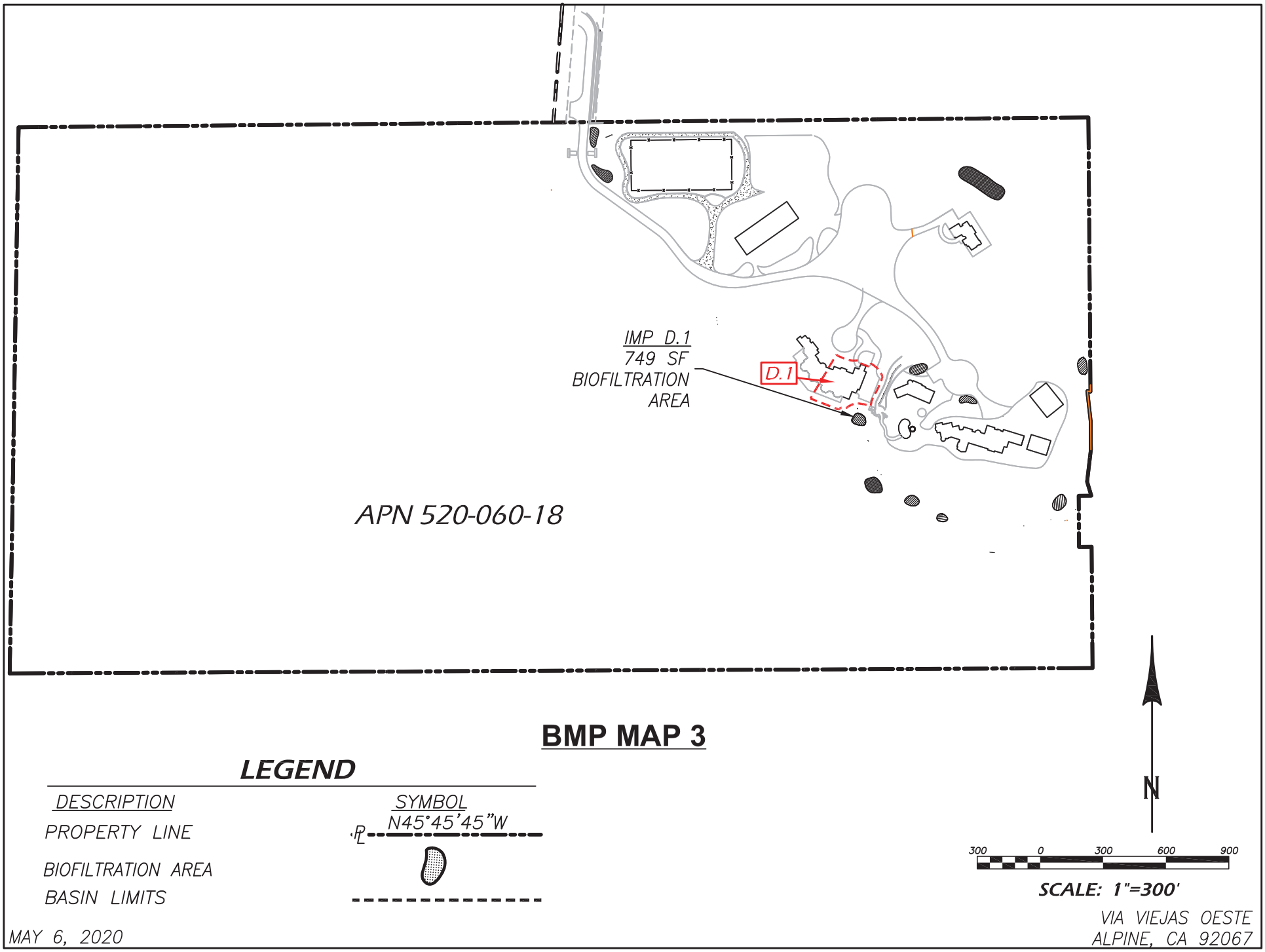
N

300 0 300 600 900

SCALE: 1"=300'

MAY 6, 2020

VIA VIEJAS OESTE
ALPINE, CA 92067



BMP MAP 3

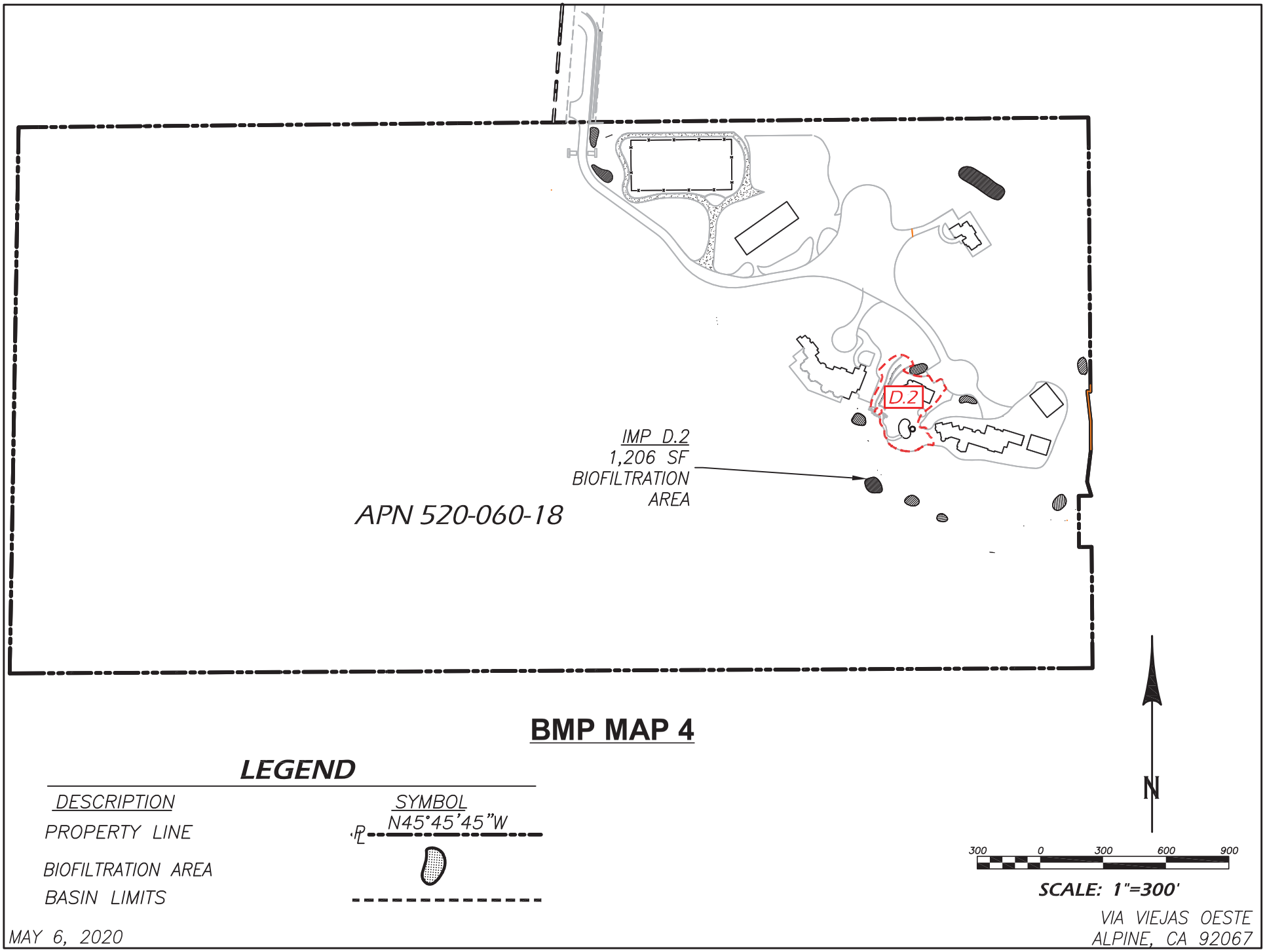
LEGEND

DESCRIPTION	SYMBOL
PROPERTY LINE	PL N45°45'45"W
BIOFILTRATION AREA	
BASIN LIMITS	

SCALE: 1"=300'

MAY 6, 2020

VIA VIEJAS OESTE
ALPINE, CA 92067



BMP MAP 4

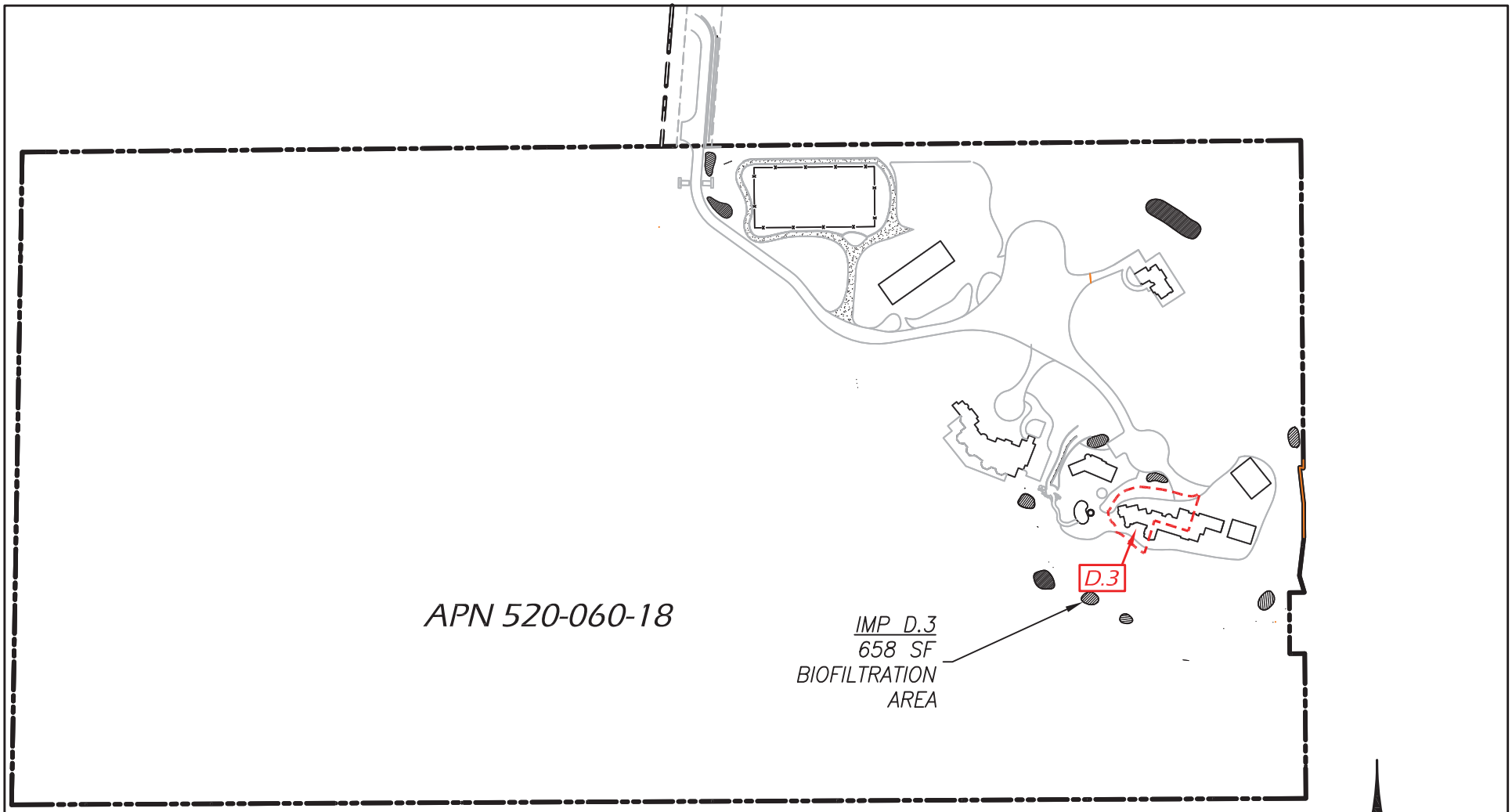
LEGEND

DESCRIPTION	SYMBOL
PROPERTY LINE	PL N45°45'45"W
BIOFILTRATION AREA	
BASIN LIMITS	

SCALE: 1"=300'

MAY 6, 2020

VIA VIEJAS OESTE
ALPINE, CA 92067



BMP MAP 5

LEGEND

DESCRIPTION	SYMBOL
PROPERTY LINE	PL N45°45'45"W
BIOFILTRATION AREA	
BASIN LIMITS	

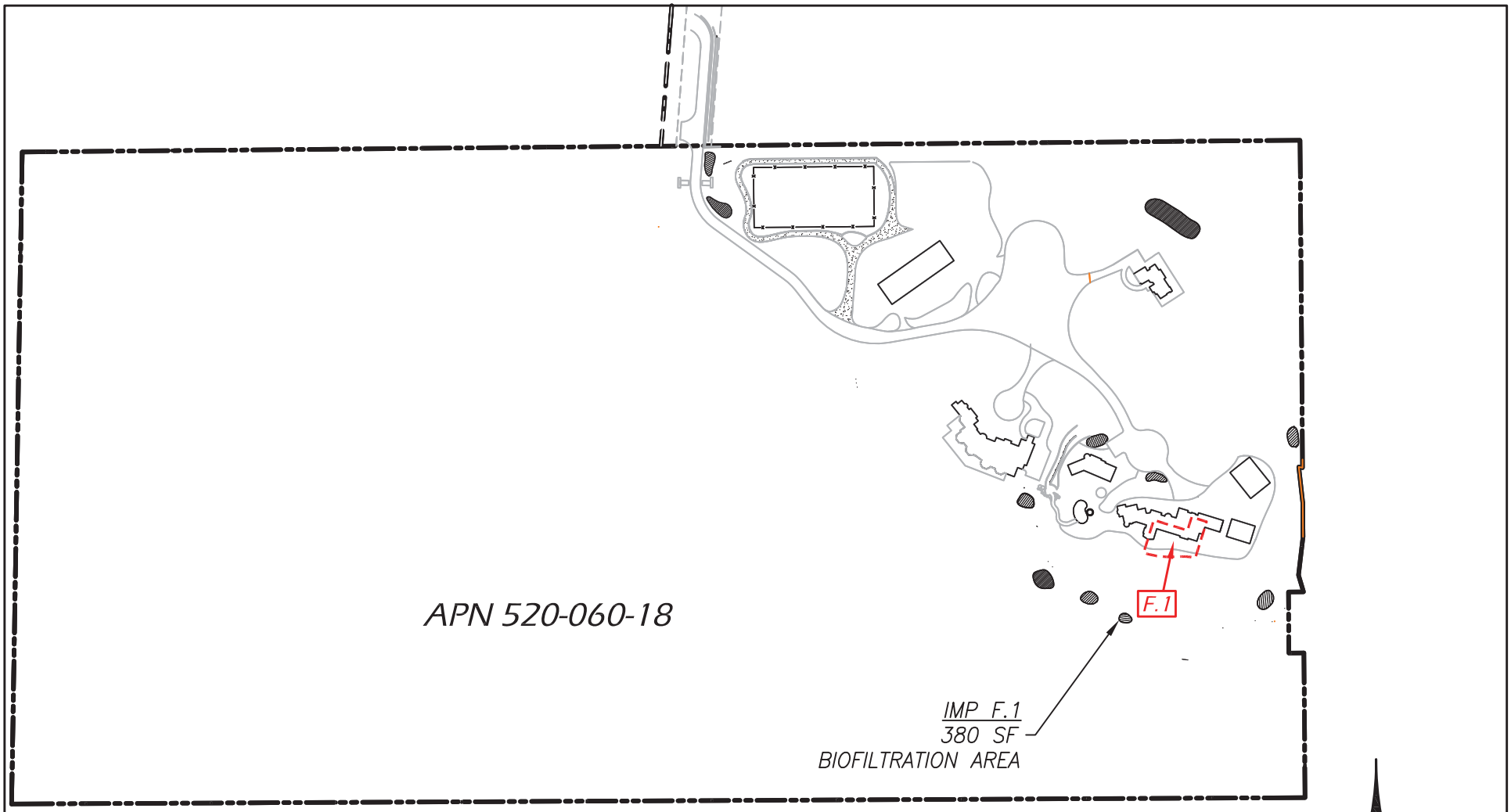
N

300 0 300 600 900

SCALE: 1"=300'

MAY 6, 2020

VIA VIEJAS OESTE
ALPINE, CA 92067



BMP MAP 6

LEGEND

DESCRIPTION	SYMBOL
PROPERTY LINE	PL N45°45'45"W
BIOFILTRATION AREA	
BASIN LIMITS	

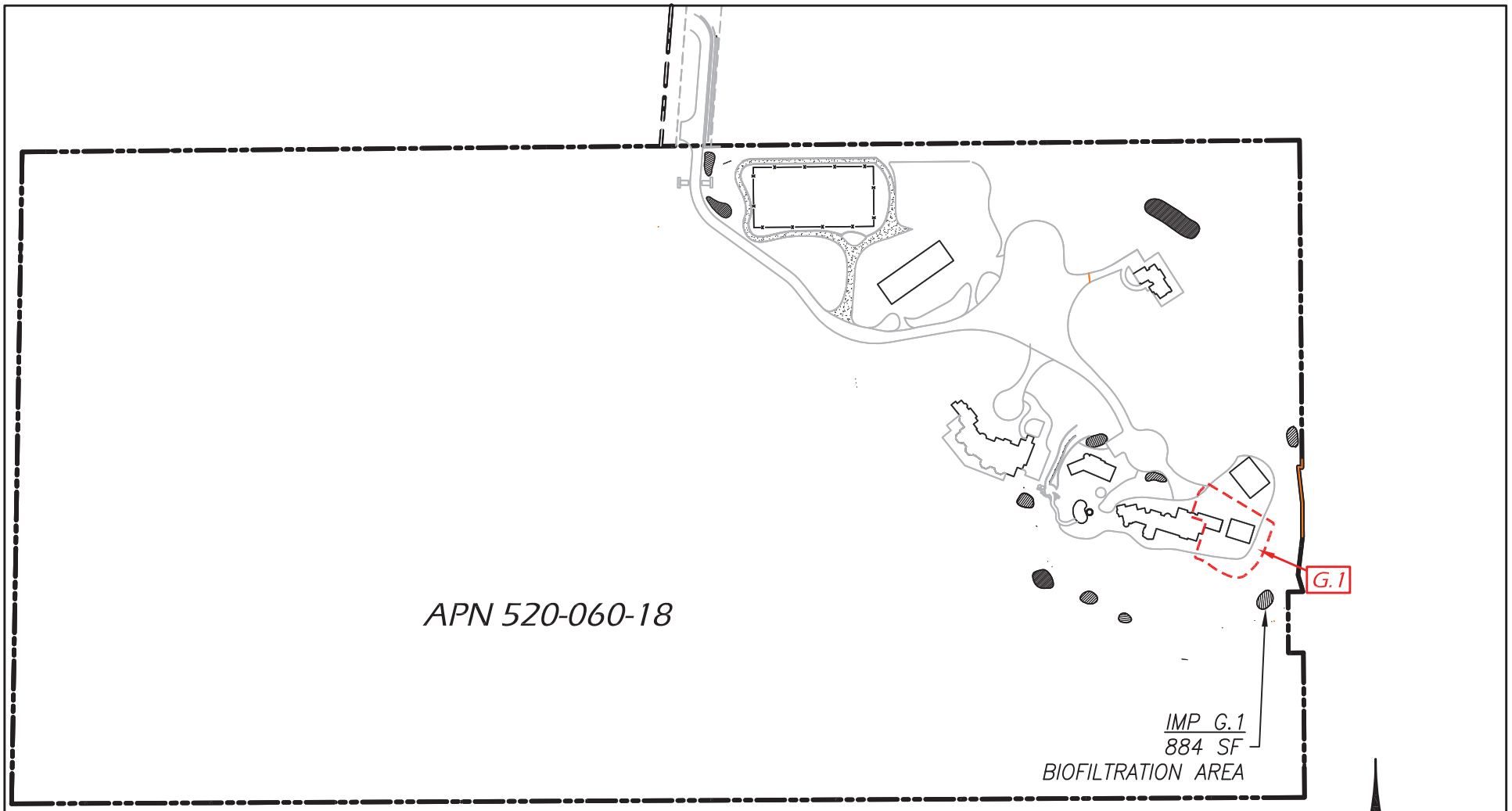
N

300 0 300 600 900

SCALE: 1"=300'

MAY 6, 2020

VIA VIEJAS OESTE
ALPINE, CA 92067



BMP MAP 7

LEGEND

DESCRIPTION	SYMBOL
PROPERTY LINE	PL N45°45'45"W
BIOFILTRATION AREA	
BASIN LIMITS	

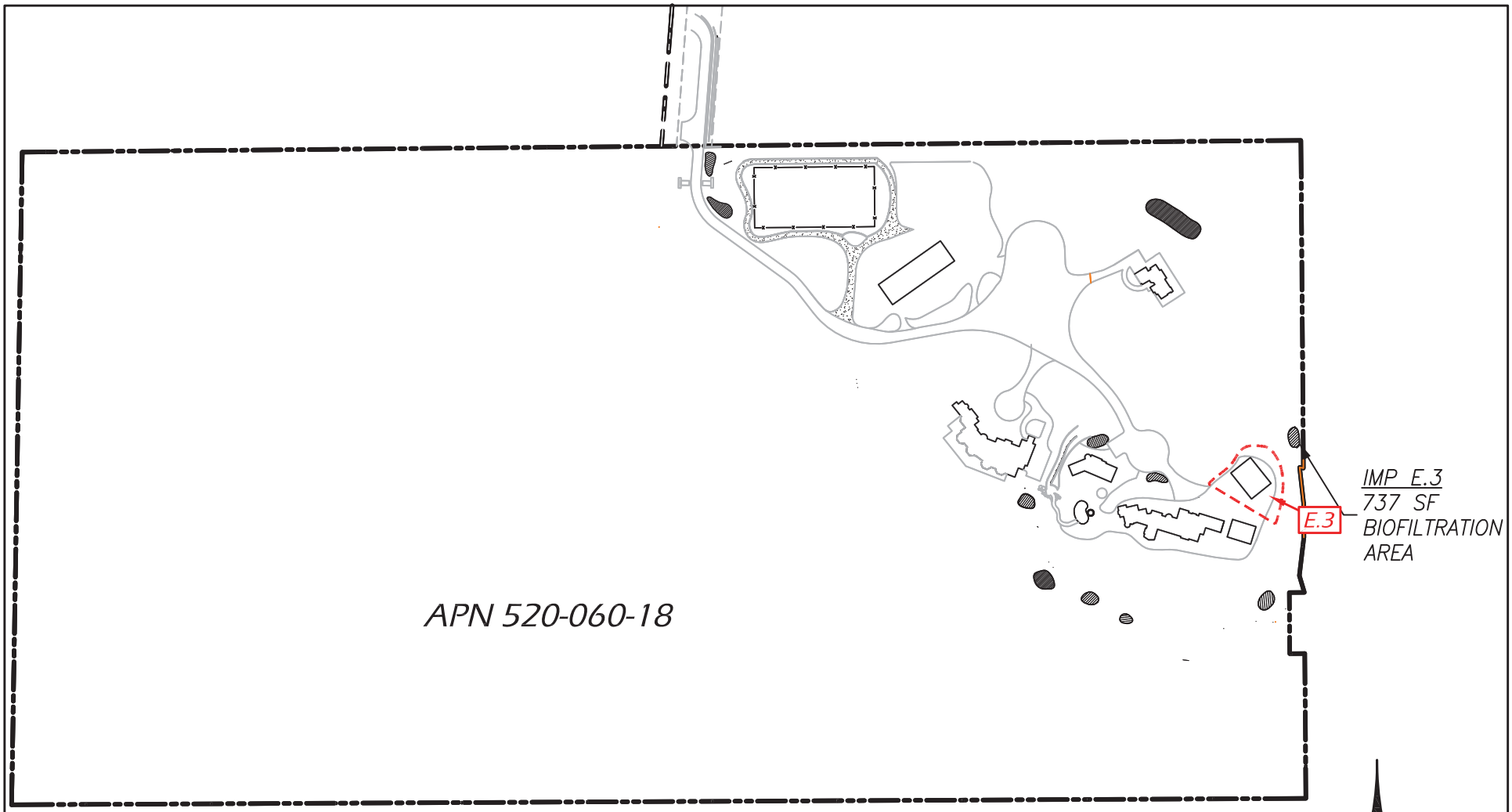
N

300 0 300 600 900

SCALE: 1"=300'

MAY 6, 2020

VIA VIEJAS OESTE
ALPINE, CA 92067



BMP MAP 8

LEGEND

DESCRIPTION	SYMBOL
PROPERTY LINE	PL N45°45'45"W
BIOFILTRATION AREA	
BASIN LIMITS	

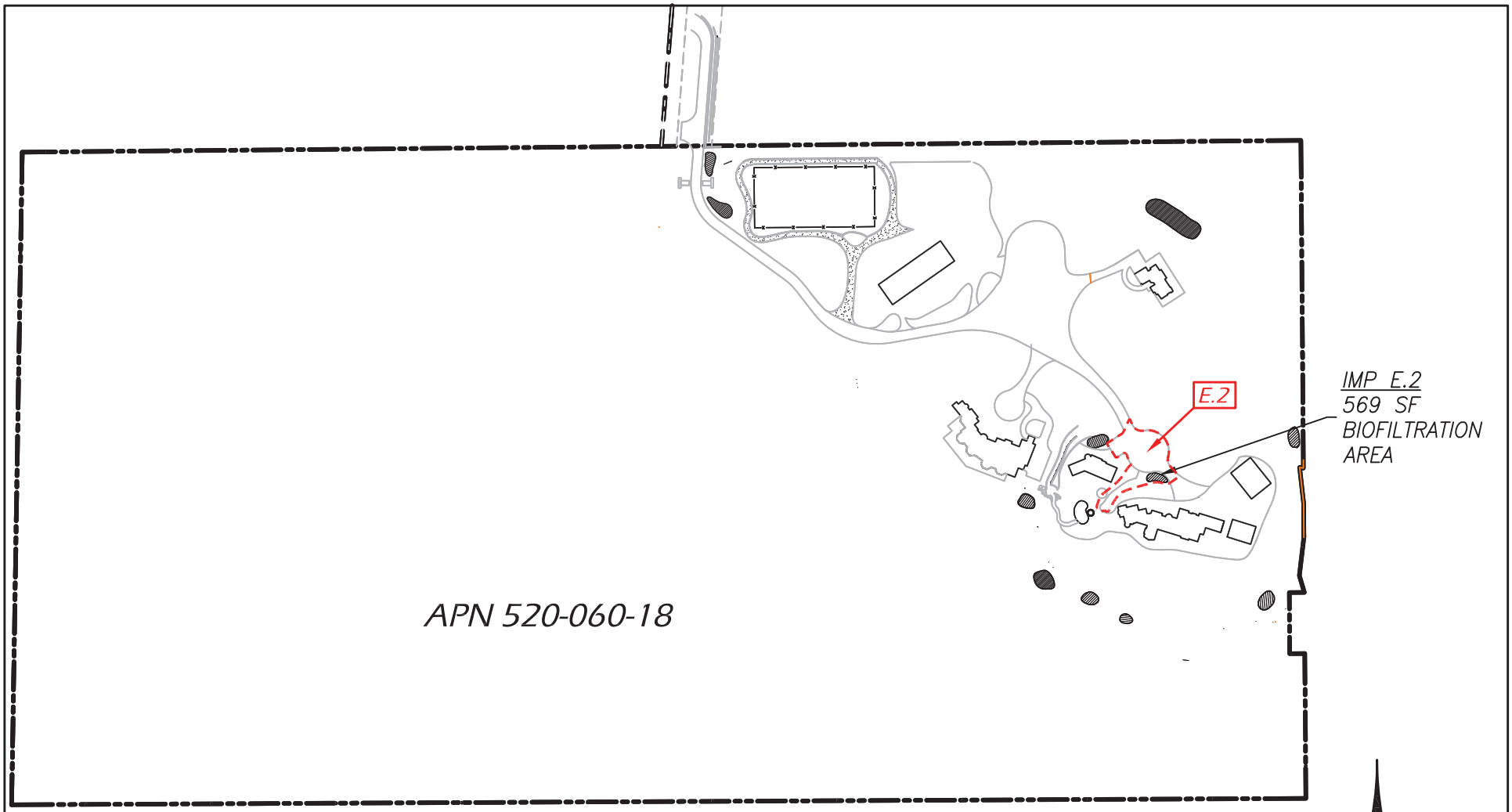
N

300 0 300 600 900

SCALE: 1"=300'

MAY 6, 2020

VIA VIEJAS OESTE
ALPINE, CA 92067



BMP MAP 9

LEGEND

DESCRIPTION	SYMBOL
PROPERTY LINE	PL N45°45'45"W
BIOFILTRATION AREA	
BASIN LIMITS	

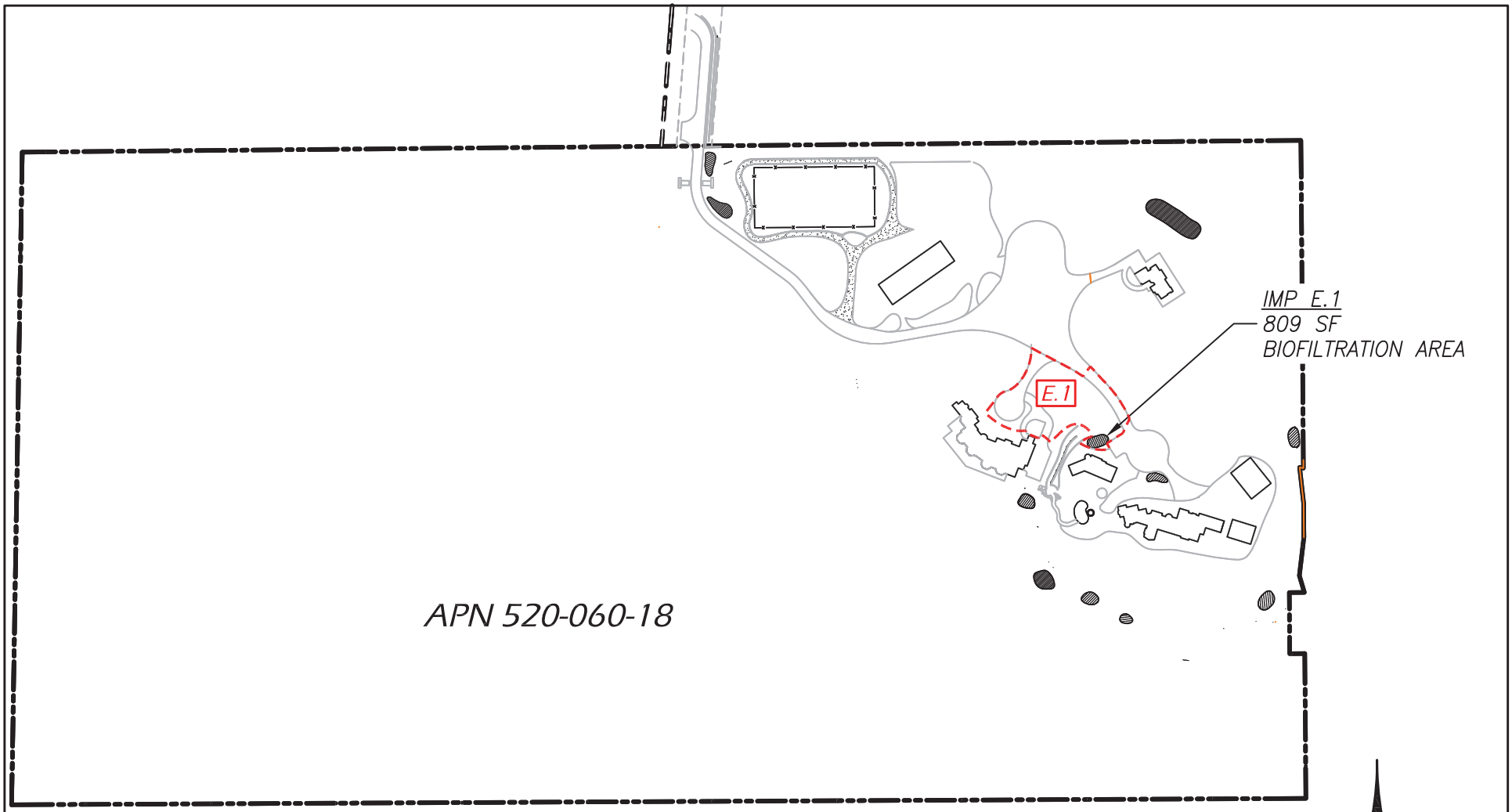
N

300 0 300 600 900

SCALE: 1"=300'

MAY 6, 2020

VIA VIEJAS OESTE
ALPINE, CA 92067



BMP MAP 10

LEGEND

DESCRIPTION	SYMBOL
PROPERTY LINE	PL N45°45'45"W
BIOFILTRATION AREA	
BASIN LIMITS	

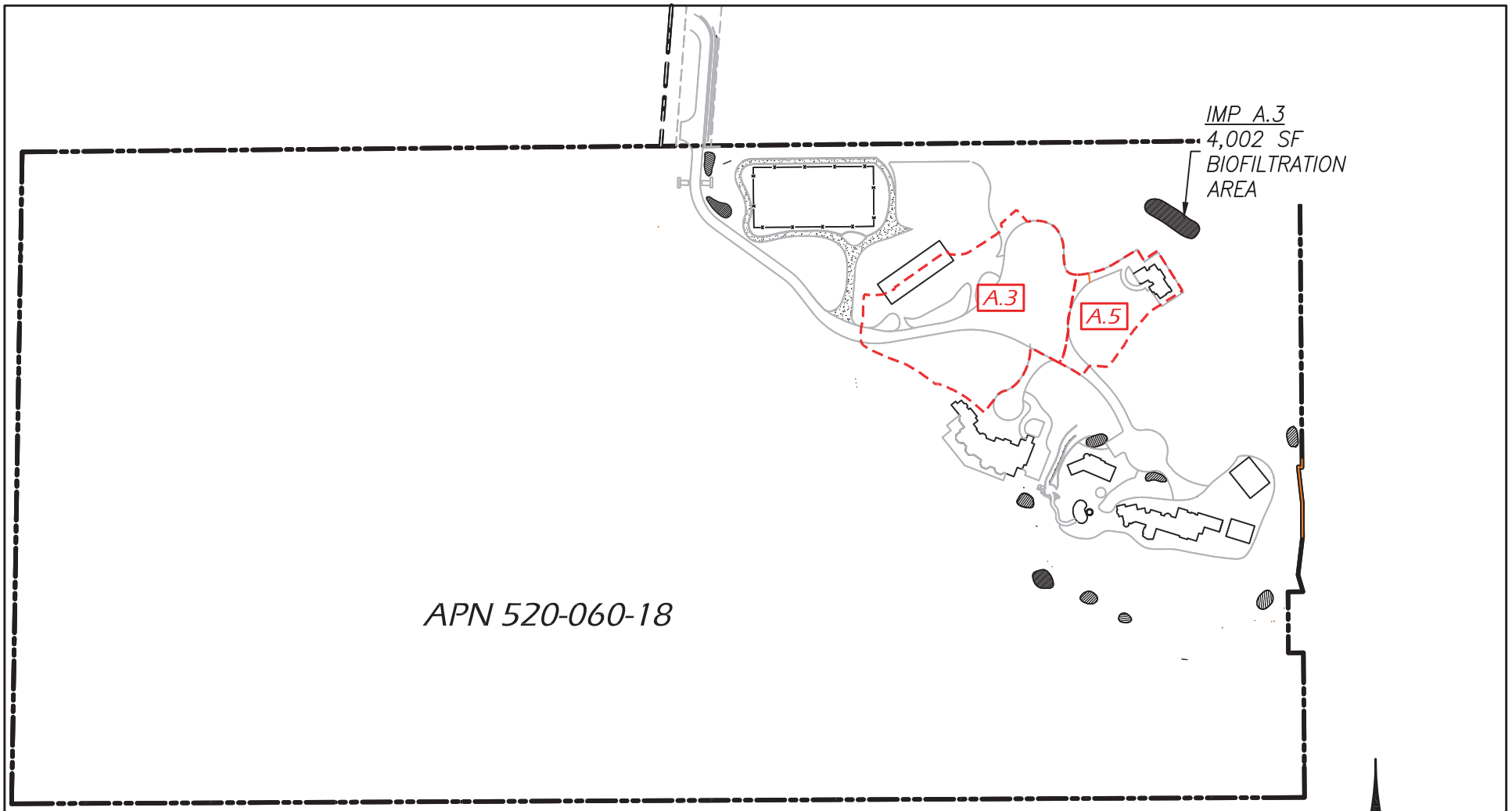
N

300 0 300 600 900

SCALE: 1"=300'

MAY 6, 2020

VIA VIEJAS OESTE
ALPINE, CA 92067



BMP MAP 11

LEGEND

DESCRIPTION	SYMBOL
PROPERTY LINE	N45°45'45"W
BIOFILTRATION AREA	
BASIN LIMITS	

N

300 0 300 600 900

SCALE: 1"=300'

MAY 6, 2020

VIA VIEJAS OESTE
ALPINE, CA 92067

ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California
County of _____)

On _____ before me, _____
(insert name and title of the officer)

personally appeared _____,
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____ **(Seal)**

Exhibit B
(SWQMP ATTACHMENT 11A)
Maintenance Plan
Secret Hills Ranch
Treatment BMP Maintenance Plan for Vegetated BMPs

Typical Maintenance Indicator(s) for Vegetated BMPs	Maintenance Activities
Accumulation of sediment, litter, or debris	Remove and properly dispose of accumulated materials, without damage to the vegetation.
Poor vegetation establishment	Re-seed, re-plant, or re-establish vegetation per original plans.
Overgrown vegetation	Mow or trim as appropriate, but not less than the design height of the vegetation per original plans when applicable (e.g. a vegetated swale may require a minimum vegetation height).
Erosion due to concentrated irrigation flow	Repair/re-seed/re-plant eroded areas and adjust the irrigation system.
Erosion due to concentrated storm water runoff flow	Repair/re-seed/re-plant eroded areas, and make appropriate corrective measures such as adding erosion control blankets, adding stone at flow entry points, or minor re-grading to restore proper drainage according to the original plan. If the issue is not corrected by restoring the BMP to the original plan and grade, the City Engineer shall be contacted prior to any additional repairs or reconstruction.
Standing water in vegetated swales	Make appropriate corrective measures such as adjusting irrigation system, removing obstructions of debris or invasive vegetation, loosening or replacing top soil to allow for better infiltration, or minor re-grading for proper drainage. If the issue is not corrected by restoring the BMP to the original plan and grade, the City Engineer shall be contacted prior to any additional repairs or reconstruction.
Standing water in bioretention **(Lined)**, biofiltration with partial retention, or biofiltration areas, or flow-through planter boxes for longer than 96 hours following a storm event*	Make appropriate corrective measures such as adjusting irrigation system, removing obstructions of debris or invasive vegetation, clearing underdrains (where applicable), or repairing/replacing clogged or compacted soils.
Obstructed inlet or outlet structure	Clear obstructions.
Damage to structural components such as weirs, inlet or outlet structures	Repair or replace as applicable.
*These BMPs typically include a surface ponding layer as part of their function which may take 96 hours to drain following a storm event.	

- **Access of Structural BMPs for Inspection and Maintenance**

    - The Bio-filtration BMP consists of twelve (11) vegetated areas:
        - IMP A.3 – 4,002 ft2
        - IMP B.2 – 723 ft2
        - IMP B.3 – 1,016 ft2
        - IMP D.1 – 749 ft2 (Lined)
        - IMP D.2 – 1,206 ft2
        - IMP D.3 – 658 ft2
        - IMP E.1 – 809 ft2
        - IMP E.2 – 569 ft2
        - IMP E.3 – 737 ft2 (Lined)
        - IMP F.1 – 380 ft2
        - IMP G.1 – 884 ft2

    - A 18"x18" concrete inlet will be installed within each biofiltration area. The BMP inlet will have its rim elevated 12" above the surface. The total depth of the inlet will not exceed 5'.
    - The inlet will be visible from the surface and can be accessed through the grate.
        - The depth will not require a ladder to access the full extent of the inlet.
    - The biofiltration basin is accessible from the front of the private residential property.
- **Maintenance Thresholds**

    - Any grasses within the biofiltration areas shall be cut when in excess of 4" tall.
    - Debris & sediment shall be cleared from the basin when 2" have accumulated.
    - Any amount sediment or debris accumulation observed within the overflow inlet shall be removed when seen.
    - During routine landscape maintenance activities, if bare areas or erosion are observed they shall be re-seeded.
    - If standing water is observed for longer than 24-hours the soil media shall be inspected for clogging and cleaned.

    - **FOR LINED Biofiltration Areas (IMP D.1 & E.3)**
        - If water migration is observed at the face of the slopes below the lined biofiltration areas there may be a leak in the liner. If that is observed, the source shall be traced by following the flow path back to the liner from the point where water is observed. Once the source of the leak is located it shall be repaired and tested to ensure the leak has been property sealed.
        - If the source of the leak cannot be located, full replacement of the liner may be necessary. Full replacement of the liner will also require full replacement of the engineered soil sections as well per the details on the approved grading plan.
- **Bioretention Soil Media Replacement**

    - Soil media within the bioretention area shall be replaced when the filtration rate drops below 5"/hour if regular maintenance cannot restore this rate.

- **Recommended Maintenance Equipment**

    - Equipment needed for maintenance will typically include those needed for routine landscape maintenance:

        - Hand Shovels
        - Wheel barrows
        - Lawn mower
        - Hedge clippers
        - Other

- **Special Training**

    - Maintenance and inspection activities required are typical for routine landscape maintenance. No special training required.

12.0 Alternative Compliance Project (ACP) Requirements

- This attachment is required for any project proposing to construct an Alternative Compliance Project (ACP) either for crediting toward a concurrently proposed Priority Development Project (PDP) or for the generation of credits to be used in offsetting future PDP compliance deficits.
- This section provides minimum required documentation for proposed ACPs. Consult your project manager for additional required documentation.

Offsite Alternative Compliance Participation Form

PDP INFORMATION	
Record ID:	
Assessor's Parcel Number(s) [APN(s)]	
ACP Information	
Record ID:	
Assessor's Parcel Number(s) [APN(s)]	
Project Owner/Address	
Is your ACP in the same watershed as your PDP? ☐ Yes ☐ No	Will your ACP project be completed prior to the completion of the PDP? ☐ Yes ☐ No
Does your ACP account for all Deficits generated by the PDP? ☐ Yes ☐ No (PDP and/or ACP must be redesigned to account for all deficits generated by the PDP.	What is the difference between your PDP debits and ACP Credits? *(ACP Credits -Total PDP Debits = Total Earned Credits) Click here to enter text.