County of San Diego
PRELIMINARY PRIORITY DEVELOPMENT PROJECT (PDP) SWQMP

GOOD SHEPHERD CATHOLIC CEMETERY
RECORD ID (PERMIT) NUMBER: PDS2020-MUP-20-004

1505 BUENA VISTA DRIVE
FALLBROOK, CA 92081

ASSESSOR'S PARCEL NUMBERS:
169-210-02; 169-220-01, -02, AND -03

ENGINEER OF WORK:

WAYNE W. CHANG, PE 46548, EXP. 6/30/2023

PREPARED FOR:

The Roman Catholic Diocese of San Diego
3888 Paducah Drive
San Diego, CA 92117
(619) 264-3127

PDP SWQMP PREPARED BY:

Chang Consultants
P.O. Box 9496
Rancho Santa Fe, CA 92067
(858) 692-0760

DATE OF SWQMP:
January 11, 2024

PLANS PREPARED BY:
Hofman Planning + Engineering
3152 Lionshead Avenue
Carlsbad, CA 92010
(760) 692-4100

SWQMP APPROVED BY:

APPROVAL DATE:

County of San Diego

Stormwater Quality Management Plan (SWQMP)

For Priority Development Projects (PDPs)

Use for all PDPs (see Storm Water Intake Form, Part 4)

Priority Development Project

Project Information	
Project Name	Good Shepherd Catholic Cemetery
Project Address	1505 Buena Vista Drive, Vista, CA 92081
Assessor's Parcel # (APN)	169-210-02; 169-220-01, -02, and -03
Permit # / Record ID	PDS2020-MUP-20-004

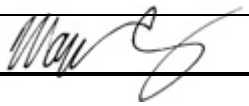
Project Applicant / Project Proponent		
Name	The Roman Catholic Diocese of San Diego	
Address	3888 Paducah Drive, San Diego, CA 92117	
Phone	(619) 264-3127	**Email:** Mario@holycrosssd.com

SWQMP Preparer		
Name	Wayne W. Chang	
Company (if applicable)	Chang Consultants	
Address	P.O. Box 9496, Rancho Santa Fe, CA 92067	
Phone	(858) 692-0760	**Email:** wayne@changconsultants.com
PE Number (if applicable)	46548, Expires 6/30/2025	

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** January 11, 2024

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	11/30/2019	Initial Submittal
2	10/26/2020	Second Submittal
3	5/13/2021	Third Submittal
4	11/16/2021	Fourth Submittal - SWQMP for entire project approved by County
5	6/22/2023	Fifth Submittal - Phase 1 Addendum as allowed by County
Final Design		
1	Date	Initial Submittal
2	Date	Summary of Change
3	Date	Summary of Change
4	Date	Summary of Change
No.	Date	Summary of Change
Plan Changes		
~~1~~	~~Date~~	~~Initial Submittal~~
2	1/11/2024	Sixth Submittal - Phase 1 Addendum as allowed by County
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.):

This SWMQP includes a Phase 1 addendum to the master SWMQP. The master SWQMP covers the entire project and was reviewed and approved by the County. Pursuant to communication with Sean McLean and Taylor Ryan, it is acceptable to add an addendum to the master SWMQP to cover Phase 1 of 2. The prior information from the master SWQMP is being preserved. Phase 1 includes 3.13 acres of grave site area adjacent to Keys Place, a temporary gravel parking area, and paved vehicle hammerhead turnaround at the existing Keys Place terminus. The necessary text, analyses, and exhibit have been added for the Phase 1 addendum. DMA Exhibit - Phase 1 summarizes the Phase 1 project and Significant Site Design BMPs, which will be five tree wells sized for pollutant control and hydromodification flow control standards.

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

Phase 2 will construct the remainder of the 14.49 acre project and be addressed in a future SWQMP or addendum, as needed. Phase 2 includes the remaining grave sites, internal roads, administration building conversion, parking, perimeter fencing or wall, entry gate and guard building, Keys Place vacation, and Buena Vista Drive frontage improvements.

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		**Establish buffers for waterbodies**		
	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 (See SD-B)		**Use permeable materials (See SD-D)**		**Minimize impervious areas**
	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 4.
☒ **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]					
☒ **Rooftop areas**	**Disperse rooftop runoff (See SD-B)**		**Install green roofs (optional; See SD-C)**		**Use rain barrels to capture runoff (optional; See SD-E)**
	Full	Partial	Full	Partial	Full / Partial
	☐	☒	☐	☐	☐ / ☐
☒ **Landscaped areas**	**Use water-efficient landscaping (required)**		**Install efficient irrigation systems (required)**		**Minimize erosion of slopes and surfaces (required)**
	Full		Full		Full
	☒		☒		☒
☐ **Water features (pools, spas, etc.)**	**Provide a designated washing area**		**Drain feature to the sanitary sewer (if allowed)**		**Drain feature to a pervious area**
	Full	Partial	Full	Partial	Full / Partial
	☐	☐	☐	☐	☐ / ☐

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.	**Plumb to sanitary sewer**	**Drain feature to a pervious area**	**Provide containment for spills and discharges**	**Prevent contact with rainfall**	**Isolate flows from adjacent areas**	**Prevent wind dispersal**	**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	Streets and Roads	Storm runoff from the proposed project will be directed to a biofiltration basin for pollutant control and flow control. Neither dispersion nor permeable materials will be used for the streets. However, the southeast driveway and parking will be permeable.
BMP	Biofiltration Basin BMP 1	
Feature	Streets and Roads	Storm runoff from the Buena Drive improvements will be directed to a biofiltration basin for pollutant control and flow control. Neither dispersion nor permeable materials will be used for the streets.
BMP	Biofiltration Basin BMP 2	
Feature	Tree Wells	Five interconnected tree wells will be installed along the westerly to northerly edge of the proposed gravel parking lot for pollutant control and flow control of the hammerhead turnaround and parking lot constructed under Phase 1.
BMP	BMP Ph 1	
Feature	Feature	Explanation
BMP	BMP	
Feature	Feature	Explanation
BMP	BMP	
Feature	Feature	Explanation
BMP	BMP	
Feature	Feature	Explanation
BMP	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 all impervious surfaces.

☒ **Redevelopment Projects:** Complete the calculations below. Select the applicable scenario based on the results.

a. Existing impervious area (ft²)	b. Impervious area created / replaced (ft²)	c. % Impervious created / replaced [(b/a)*100]
18,064 Phase 1 & 2 (0 sf Phase 1)	76,233 + 5,674 = 81,907 Phase 1 & 2 (2,855 Phase 1)	422 Phase 1 & 2 (>100% Phase 1)

☒ *Scenario 1: c is 50% or more*: Performance standards apply to all impervious surfaces (a + b). The 76,233 sf is on-site and the 5,674 sf is on Buena

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

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 Table 3) ☒	Previous SWQMP Submittals (see Table 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)	☐			☐	☐		
Structural BMPs (select all that apply)							
☒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.*

Note: Attachments 10, 11, and 12 not required for this discretionary SWQMP. Will be provided during final engineering.

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	Activity Type	Explanation
BMP	BMP	
Activity Type	Activity Type	Explanation
BMP	BMP	
Activity Type	Activity Type	Explanation
BMP	BMP	
Activity Type	Activity Type	Explanation
BMP	BMP	
Activity Type	Activity Type	Explanation
BMP	BMP	
Activity Type	Activity Type	Explanation
BMP	BMP	
Activity Type	Activity Type	Explanation
BMP	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:	Good Shepherd Catholic Cemetery
Record ID (Permit) No(s):	PDS2020-MUP-20-004
Assessor's Parcel No(s):	169-210-02; 169-220-01, -02, and -03
Street Address (or Intersection):	1505 Buena Vista Drive
City, State, Zip:	Vista, CA 92081

Part 2. Applicant / Project Proponent Information	
Name:	Mario DeBlasio
Company:	The Roman Catholic Diocese of San Diego
Street Address:	3888 Paducah Drive
City, State, Zip:	San Diego, CA 92117
Phone Number	(619) 264-3127
Email:	Mario@holycrosssd.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)**
	18,064 Phase 1 & 2 0 sf Phase 1	81,907 Phase 1 & 2 2,855 Phase 1	192,654 Phase 1 & 2 144,617 Phase 1

Ⓑ	☒ 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)**
		TBD during final engineering

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

Ⓐ *If your project is the following … (select one)*	Ⓑ *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: 

Date: January 11, 2024

- ***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 #:	**DMA Exhibit 1 for overall site, DMA Exhibit – Phase 1 for Phase 1 (see map pocket for exhibits)**	
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.

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

N/A for discretionary SWQMP. Mapbooks will be provided during final engineering.

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	**MUP Plan Set for Discretionary Review**
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.	

Included in map pocket.

[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).

E.2 Source Control BMP Requirements

Worksheet E.1-1: Source Control BMP Requirements

How to comply: Projects must comply with this requirement by implementing all source control BMPs listed in this section that are applicable and feasible for their project. Applicability must be determined through consideration of the development project's features and anticipated pollutant sources. Appendix E.2 provides guidance for identifying source control BMPs applicable to a project. The Standard and PDP SWQMP templates include sections that must be used to document compliance with source control BMP requirements.

How to use this worksheet:

1. Review Column 1 and identify which of these potential sources of storm water pollutants apply to your site. Check each box that applies.
2. Review Column 2 and incorporate all of the corresponding applicable BMPs in your project site plan.
3. Review Columns 3 and 4 and incorporate all of the corresponding applicable permanent controls and operational BMPs in a table in your project-specific storm water management report. Describe your specific BMPs in an accompanying narrative, and explain any special conditions or situations that required omitting BMPs or substituting alternatives.

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.

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: CEQA Drainage Study for Good Shepherd Catholic Cemetery

    Prepared By: Chang Consultants

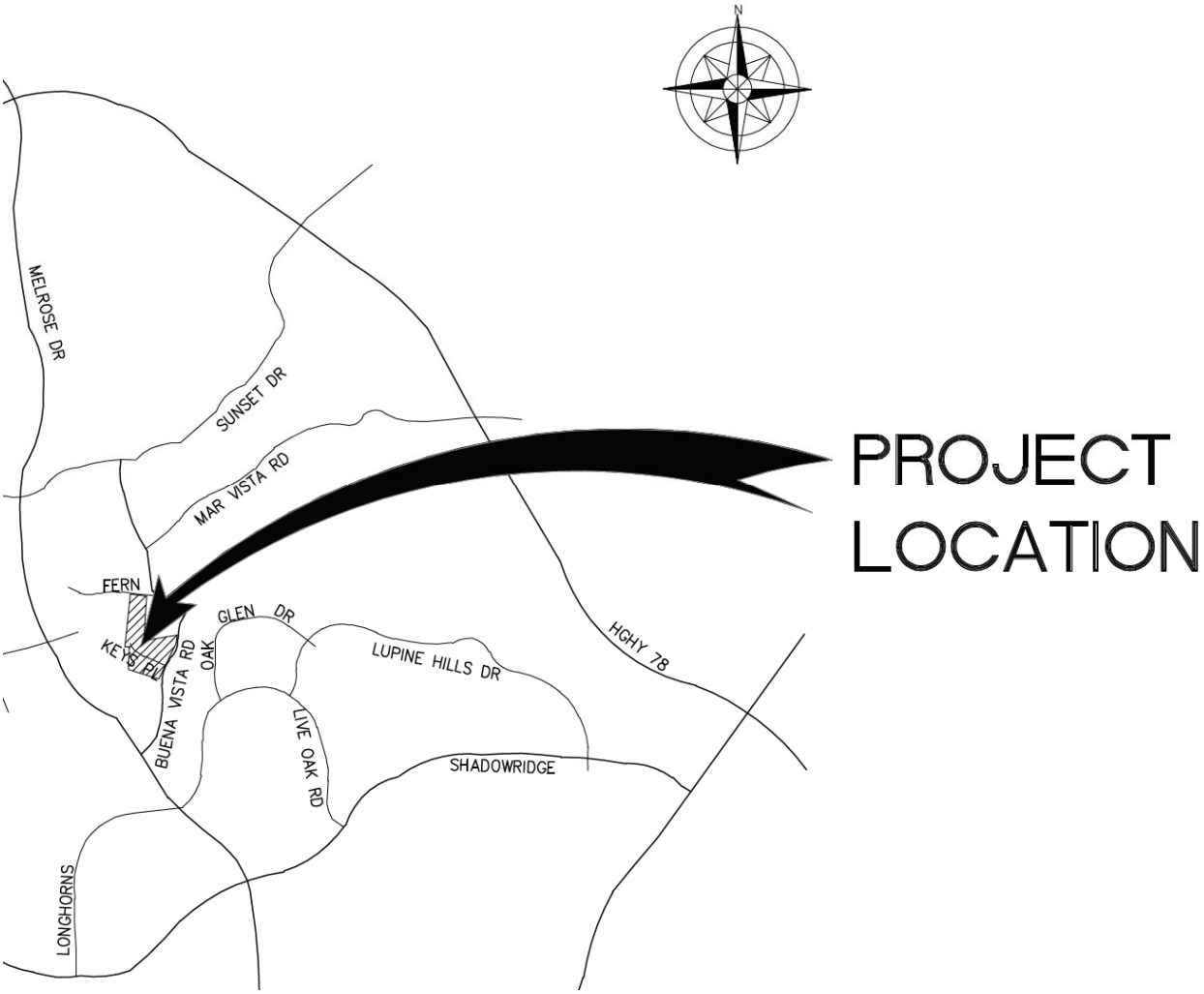
    Date: November 16, 2021

  - 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.

INTRODUCTION

The Good Shepherd Catholic Cemetery project will be located on the west side of Buena Vista Drive at Keys Place in the county of San Diego (see the Vicinity Map). The 14.49-acre site was historically used for agricultural activities and is on a moderately sloping hillside. The majority of the site has been disturbed by the agricultural use and contains pervious cover. The impervious surfaces include a single-family residence with driveway/hardscape at the southeast corner of the site, a few standalone accessory structures at various locations within the site, and Keys Place.



Vicinity Map

The discretionary Major Use Permit site, grading, and utility plans are being prepared by Hofman Planning + Engineering. The project proposes a cemetery with an administration/office building, warehouse, and grave sites. The single-family residence will remain and be used as the administration/office building. A new driveway with parking, walkways, and landscaping will be constructed around the administration/office building. The driveway and parking will consist of permeable pavement. The other existing structures will be demolished and removed. Keys Place

will be demolished and replaced with new street access to the grave site areas. Storm runoff from the impervious surfaces (administration/office area, warehouse, and streets) and permeable pavement will be conveyed in the proposed streets and storm drain system to a single biofiltration basin (BMP 1) near the northwest corner of the site for pollutant and flow control. The grave site areas will meet self-mitigating criteria, so storm runoff from these areas will flow off-site without commingling with the drainage areas tributary to the biofiltration basin.

Under existing conditions, storm runoff from the site flows over the natural ground and pavement surfaces in a northerly to northwesterly direction. The runoff is conveyed to an unnamed natural drainage course with the northerly portion of the site. The drainage course flows northwest and ultimately to Calavera Creek, Agua Hedionda Creek, Agua Hedionda Lagoon, and the Pacific Ocean. Under proposed conditions, the project runoff will continue to be directed to the unnamed natural drainage course.

The project is required to install half-street improvements along the west side of Buena Vista Drive (curb, gutter, sidewalk, and 7± feet of widening. Runoff is conveyed south down the street. The majority of the runoff is directed onto the site by an existing spillway on the west end of the street. There is a recent single-family subdivision near the top of Buena Vista Drive (south end) that discharges a portion of its runoff onto the street. The subdivision was designed by Pasco Laret Suiter & Associates and approved by the city of Vista. Their approved hydrologic data was obtained and used for this report (see Appendix A). A biofiltration basin (BMP 2) near the northeast corner of the site will provide pollutant and flow control for the Buena Vista Drive improvements.

This report contains preliminary CEQA-level existing and proposed condition hydrologic analyses for entitlement purposes.

HYDROLOGIC ANALYSES

The County of San Diego's 2003 *Hydrology Manual* rational method procedure was used for the 100-year hydrologic analyses. The existing and proposed condition rational method input parameters are summarized as follows:

- Precipitation: The 100-year, 6- and 24-hour precipitation values are 3.0 and 6.5 inches, respectively. The isopluvials are included in Appendix A.

- Drainage areas: The existing condition drainage areas were delineated from 1-foot contour interval topographic mapping prepared for the project. A site visit was performed to verify the drainage area delineation. The proposed condition on-site drainage areas were delineated from the preliminary grading plan. The Existing Condition Rational Method Work Map and Proposed Condition Rational Method Work Map are included in Appendix A. There is an off-site multi-family residential development to the southwest that is tributary to the site. The overall existing and proposed condition drainage areas were set equal to allow comparison of the results.

For Buena Vista Drive, the hydrology work map and results for the subdivision to the south were obtained from Pasco Laret Suiter & Associates. Their work map is inserted on the Existing and Proposed Condition Rational Method Work Maps. The detained 100-year flow rate of 3.3 cubic feet per second (cfs) that flows south along Buena Vista Drive was entered as user-input data in the existing and proposed condition models.

- Hydrologic soil groups: The hydrologic soil groups were determined from the National Resources Conservation Service's "Web Soil Survey." The site contains soil groups C and D, which are delineated on the work maps.

- Runoff coefficients: On-site runoff coefficients were established for each drainage subarea based on the estimated impervious percentage, land use, and the underlying soil group. The existing condition land uses primarily include undisturbed natural terrain for the agricultural areas. In addition, the on-site residential development was modeled with a low-density residential (2 DU/Ac) land use and the off-site multi-family development was modeled with a high-density residential (24 DU/Ac) land use. These categories are from Table 3-1 of the County *Hydrology Manual.*

  For proposed conditions, the administration/office building was modeled with a high-density residential (24 DU/Ac) land use, streets were modeled with an industrial (general industrial) land use, and the grave sites and undeveloped areas were modeled as undisturbed natural terrain.

  For off-site Buena Vista Drive, the proposed street was assumed to be 95 percent impervious and existing street to be 90 percent impervious.

- Flow lengths and elevations: The flow lengths and elevations were digitized and obtained from the topographic mapping and grading plan.

The 100-year existing and proposed condition rational method results are in Appendix A. The analyses were performed using CivilDesign's San Diego County Rational Hydrology Program. Separate analyses were performed for existing and proposed conditions of the on-site area and for Buena Vista Drive. The overall existing condition drainage area was set equal to the overall proposed condition drainage area to allow a comparison of the existing and proposed condition results. Table 1 summarizes the 100-year results. Table 1 shows that the project will increase the 100-year runoff from the on-site area by 1.6 cfs.

Study Area	Conditions	C	I, in/hr	A, ac	V_{100}, cfs	Q_{100}, cfs
On-site	Existing	0.40	5.19	21.45	5.6	44.5
On-site	Proposed	0.42	5.24	20.86	8.5	46.1
Buena Vista Drive	Existing	0.59	2.98	6.08	4.3	10.7
Buena Vista Drive	Proposed	0.58	2.98	6.67	10.1	11.5

Note: The proposed condition Q_{100} will be mitigated to the existing condition Q_{100}, as needed.

Table 1. Rational Method Results

The small on-site and Buena Vista Drive flow increases from Table 1 can be mitigated by the two proposed biofiltration basins, if needed. A preliminary detention analysis was performed to estimate the storage volume needed to attenuate the on-site 100-year flow entering the northwest biofiltration basin (proposed condition rational method node 14) from 9.7 to 8.1 cfs. Another preliminary detention analysis was performed to estimate the storage volume needed to attenuate the Buena Vista Drive 100-year flow entering northeast biofiltration basin (proposed condition rational method node 64) from 9.5 to 8.7 cfs. The proposed condition peak flows into each biofiltration basin were converted to a hydrograph using the County's rational method hydrograph procedure. The hydrographs were entered into separate HEC-1 models for the detention analyses. For the entitlement-level conceptual analyses, stage-storage and stage-discharge data is not needed. HEC-1 determines the required volume based on unit storage (i.e., storage depth of 1-foot) and the target outflow. The HEC-1 results are included in Appendix A and show that at least 0.045 acre-feet (1,960 cubic feet) of storage is needed in the northwest basin and 0.044 acre-feet (1,917 cubic feet) is needed in the northeast basin. Since the basins are proposed for conjunctive use, they are required to meet Section 6.2.7 of the *Hydraulic Design Manual*. The flood storage volume shall be provided in addition to the storage volume designated for water quality treatment. The basin will also have to provide a minimum 1-foot of freeboard to meet the requirements for a detention basin. More detailed analyses with stage-storage and stage-discharge data will be performed for final engineering. On the other hand, the flow increases are so small that the final engineering analyses may reveal that the incidental storage provides sufficient flow attenuation.

CONCLUSION

Hydrologic analyses have been performed for the Good Shepherd Catholic Cemetery project being designed by Hofman Planning + Engineering. The analyses have been used to determine the preliminary existing and proposed condition 100-year flow rates. The project will primarily create pervious grave sites, so there is a minor increase in runoff. This can be mitigated by the proposed biofiltration basins, if needed, either through storage attenuation or a lengthened time of concentration.

The existing drainage patterns within the project footprint will be altered, which is typical for development projects. Storm runoff will be conveyed in the proposed streets, drainage facilities, biofiltration basins, and grave sites. The streets and drainage facilities are being designed to convey the 100-eyar flow. Riprap will be installed at the outlets of the proposed storm drain systems in accordance with County standards to prevent erosion. The project will not increase (flow control as well as 100-year detention in a biofiltration basin, as needed, will be provided) or impact the off-site flows. Under existing and proposed conditions, the site runoff is captured by an on-site unnamed natural drainage course that continues off-site. The unnamed natural drainage course will be directed around the proposed biofiltration basin. However, the location where the unnamed natural drainage course leaves the site and the 100-year flow rate in the unnamed natural drainage course at this location will not be altered by the project, so there will be no off-site flooding nor erosion/siltation impacts. The on-site drainage facilities will be designed to adequately convey the design storm, so there will be no on-site flooding.

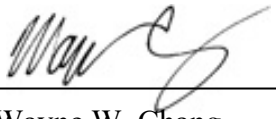
In addition, the site will not substantially alter the existing drainage patterns of the site or area. The majority of the runoff will remain as sheet flow over the naturally sloping terrain. The flow patterns of the minor on-site drainage courses are generally maintained. This in conjunction with the riprap at storm drain outlets will prevent substantial erosion or siltation on- and off-site.

Since the project will not increase the off-site 100-year flow rate, the project will not create nor contribute runoff that will impact the current capacity of existing nor proposed capacity of planned storm water drainage systems. The project will not place structures in a 100-year flood hazard area because there are no proposed structures and there are no such hazard areas mapped at the site by FEMA or the County. There are no dams nor levees that affect the site.

DECLARATION OF RESPONSIBLE CHARGE

I hereby declare that I am the civil engineer of work for this project, that I have exercised responsible charge over the design of the project as defined in Section 6703 of the Business and Professions Code, and that the design is consistent with current design.

I understand that the check of project drawings and specifications by the County of San Diego is confined to a review only and does not relieve me, as engineer of work, of my responsibilities for project design.



November 16, 2021

Wayne W. Chang
RCE 46548
Exp. June 30, 2023

Date

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)*	
6	67,641	0	0	PDS2020-MUP-20-004, Sheet 4
7	419,841	1,054	< 5%	PDS2020-MUP-20-004, Sheet 4
7 - Ph 1	136,062	0	0	PDS2020-MUP-20-004, Sheet 6
				The Phase 1 grave sites are in DMA 7

- "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.

6.3 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)**	
Ph 1	8,936	☐	☒	PDS2020-MUP-20-004, Sheet 6
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	

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.

6.3.2 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)**
Ph 1	Tree Wells 1, 2, 3, 4, and 5 (interconnected)

- 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.

Summary Sheet for Self-retaining DMAs with Tree Wells (complete one sheet per DMA)

DMA #: Ph 1	**DMA Area (ft²): 8,936**		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft³): 241			
b. DCV Multiplier (Fact Sheet SD-A)			
Applicable Structural Performance Standards (select one)	Tree well soil depth (inches)	Underlying soil type (A, B, C, or D)	DCV Multiplier
☐ Pollutant control only	Any	All	1.0
☒ Pollutant control plus hydromodification	36	D	3.17
c. Required Retention Volume (ft³) [DCV * DCV Multiplier]			**764**

Tree Well Credit Volume (add records or copy this sheet as needed for additional tree wells)

Provide the information below for each tree well or group of tree wells within the DMA. A single entry can be used for any group of tree wells of the same species and soil depth.

Tree species or name	Cercis Occidentalis	**No. tree wells**	5
Mature Canopy Diameter (ft)	20	**Credit Volume per tree well (ft³)**	180
Tree well ID #(s)	TW1 to TW5	**Combined Volume (ft³)**	**900**
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft³)**	
Tree well ID #(s)		**Combined Volume (ft³)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft³)**	
Tree well ID #(s)		**Combined Volume (ft³)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft³)**	
Tree well ID #(s)		**Combined Volume (ft³)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft³)**	
Tree well ID #(s)		**Combined Volume (ft³)**	
Total Credit Volume (ft3) Add the combined volumes above. Total credit volume must equal or exceed the RRV.			

Copy and Paste table here for additional DMAs

SSD-BMP Automated Worksheet I-1: Step 1. Calculation of Design Capture Volume (V1.0)													
Category	**#**	**Description**	***i***	***ii***	***iii***	***iv***	***v***	***vi***	***vii***	***viii***	***ix***	***x***	**Units**
Standard Drainage Basin Inputs	1	Drainage Basin ID or Name	Tree Wells										unitless
	2	85th Percentile 24-hr Storm Depth	0.66										inches
	3	Is Hydromodification Control Applicable?	Yes										yes/no
	4	Impervious Surfaces Not Directed to Dispersion Area (C=0.90)	2,855										sq-ft
	5	Semi-Pervious Surfaces Not Serving as Dispersion Area (C=0.30)	5,700										sq-ft
	6	Engineered Pervious Surfaces Not Serving as Dispersion Area (C=0.10)											sq-ft
	7	Natural Type A Soil Not Serving as Dispersion Area (C=0.10)											sq-ft
	8	Natural Type B Soil Not Serving as Dispersion Area (C=0.14)											sq-ft
	9	Natural Type C Soil Not Serving as Dispersion Area (C=0.23)											sq-ft
	10	Natural Type D Soil Not Serving as Dispersion Area (C=0.30)	381										sq-ft
SSD-BMPs Proposed	11	Does Tributary Incorporate Dispersion and/or Rain Barrels?	No										yes/no
	12	Does Tributary Incorporate Tree Wells?	No										yes/no
Dispersion Area & Rain Barrel Inputs (Optional)	13	Impervious Surfaces **Directed to Dispersion Area** per SD-B (Ci=0.90)											sq-ft
	14	Semi-Pervious Surfaces **Serving as Dispersion Area** per SD-B (Ci=0.30)											sq-ft
	15	Engineered Pervious Surfaces **Serving as Dispersion Area** per SD-B (Ci=0.10)											sq-ft
	16	Natural Type A Soil **Serving as Dispersion Area** per SD-B (Ci=0.10)											sq-ft
	17	Natural Type B Soil **Serving as Dispersion Area** per SD-B (Ci=0.14)											sq-ft
	18	Natural Type C Soil **Serving as Dispersion Area** per SD-B (Ci=0.23)											sq-ft
	19	Natural Type D Soil **Serving as Dispersion Area** per SD-B (Ci=0.30)											sq-ft
	20	Number of Rain Barrels Proposed per SD-E											#
	21	Average Rain Barrel Size											gal
Initial Runoff Factor Calculation	22	Total Tributary Area	8,936	0	0	0	0	0	0	0	0	0	sq-ft
	23	Initial Runoff Factor for Standard Drainage Areas	0.49	0.00	0.00	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	0.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	unitless
	26	Initial Design Capture Volume	241	0	0	0	0	0	0	0	0	0	cubic-feet
Dispersion Area Adjustment & Rain Barrel Adjustment	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 for DCV Reduction	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	0.49	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	unitless
	32	Design Capture Volume After Dispersion Techniques	241	0	0	0	0	0	0	0	0	0	cubic-feet
	33	Total Rain Barrel Volume Reduction	0	0	0	0	0	0	0	0	0	0	cubic-feet
Results	34	Final Adjusted Runoff Factor	0.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	unitless
	35	Final Effective Tributary Area	4,379	0	0	0	0	0	0	0	0	0	sq-ft
	36	Initial Design Capture Volume Retained by Dispersion Area and Rain Barrel(s)	0	0	0	0	0	0	0	0	0	0	cubic-feet
	37	Remaining Design Capture Volume Tributary to Tree Well(s)	241	0	0	0	0	0	0	0	0	0	cubic-feet

No Warning Messages

SSD-BMP Automated Worksheet I-3: Step 3. Tree Well Sizing (V1.0)

Category	#	Description	i	ii	iii	ir	v	vi	vii	viii	ix	x	Units
Standard Tree Well Inputs	1	Drainage Basin ID or Name	Tree Wells	-	-	-	-	-	-	-	-	-	unitless
	2	Design Capture Volume Tributary to BMP	241	-	-	-	-	-	-	-	-	-	cubic-feet
	3	Is Hydromodification Control Applicable?	Yes	-	-	-	-	-	-	-	-	-	yes/no
	4	Predominant NRCS Soil Type Within Tree Well(s) Location	D										unitless
	5	Select a Tree Species for the Tree Well(s) Consistent with SD-A Tree Palette Table Note: Numbers shown in list are Tree Species Mature Canopy Diameters	20' - Other										unitless
	6	Tree Well(s) Soil Depth (Installation Depth) Must be 30, 36, 42, or 48 Inches; Select from Standard Depths**	36										inches
	7	Number of Identical* Tree Wells Proposed for this DMA	5										trees
	8	Proposed Width of Tree Well(s) Soil Installation for One (1) Tree	15.0										feet
	9	Proposed Length of Tree Well(s) Soil Installation for One (1) Tree	15.0										feet
Tree Data	10	Botanical Name of Tree Species	Provide in PDP SWQMP	-	-	-	-	-	-	-	-	-	unitless
	11	Tree Species Mature Height per SD-A	Provide in PDP SWQMP	-	-	-	-	-	-	-	-	-	feet
	12	Tree Species Mature Canopy Diameter per SD-A	20	-	-	-	-	-	-	-	-	-	feet
	13	Minimum Soil Volume Required In Tree Well (2 Cubic Feet Per Square Foot of Mature Tree Canopy Projection Area)	628	-	-	-	-	-	-	-	-	-	cubic-feet
	14	Credit Volume Per Tree	180	-	-	-	-	-	-	-	-	-	cubic-feet
Tree Well Sizing Calculations	15	DCV Multiplier To Meet Flow Control Requirements	3.17	-	-	-	-	-	-	-	-	-	unitless
	16	Required Retention Volume (RRV) To Meet Flow Control Requirements	764	-	-	-	-	-	-	-	-	-	cubic-feet
	17	Number of Trees Required	5	-	-	-	-	-	-	-	-	-	trees
	18	Total Area of Tree Well Soil Required for Each Tree	209	-	-	-	-	-	-	-	-	-	sq-ft
	19	Approximate Required Width of Tree Well Soil Area for Each Tree	15	-	-	-	-	-	-	-	-	-	feet
	20	Approximate Required Length of Tree Well Soil Area for Each Tree	15	-	-	-	-	-	-	-	-	-	feet
	21	Number of Trees Proposed for this DMA	5	-	-	-	-	-	-	-	-	-	trees
	22	Total Area of Tree Well Soil Proposed for Each Tree	225	-	-	-	-	-	-	-	-	-	sq-ft
	23	Minimum Spacing Between Multiple Trees To Meet Soil Area Requirements (when applicable)***	20.0	-	-	-	-	-	-	-	-	-	feet
Results	24	Are Tree Well Soil Installation Requirements Met?	Yes	-	-	-	-	-	-	-	-	-	yes/no
	25	Is Remaining DCV Requirement Fully Satisfied by Tree Well(s)?	Yes	-	-	-	-	-	-	-	-	-	yes/no
	26	Is Hydromodification Control Requirement Satisfied by Tree Well(s)?	Yes	-	-	-	-	-	-	-	-	-	yes/no

Attention!

-[Line 12] Applicant to provide supporting documentation for tree species in PDP SWQMP.

See map pocket for landscaping plan.

Notes:

*If using more than one mature canopy diameter within the same DMA, only the smallest mature canopy diameter should be entered. Alternatively, if more than one mature canopy diameter is proposed and/or the dimensions of multiple tree well installations will vary, separate DMAs may be delineated.

**If the actual proposed installation depth is not available in the table of standard depths, select the next lower depth.

***Tree Canopy or Agency Requirements May Also Influence the Minimum Spacing of Trees.

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 Good Shepherd Catholic Cemetery
Permit Application Number PDS2020-MUP-20-004

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

Wayne W. Chang
Print Name

Chang Consultants
Company

January 11, 2024
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.

The project proposes a cemetery with an administration/office building, warehouse, and grave sites. There is an existing single-family residence at the southeast corner of the site that will be repurposed as the administration/office building. A new driveway with parking, walkways, and landscaping will be constructed around the administration/office building. The driveway and parking will consist of permeable pavement. Proposed impervious streets will provide access within the grave site area. Storm runoff from the administration/office area, warehouse, and streets will be conveyed in the streets and storm drain system to a single biofiltration basin for pollutant and flow control.

Grave site areas surround the proposed grading and improvements. The grave sites will be occupied slowly over time and will meet self-mitigating requirements (drought tolerant landscaping, amended soils, not hydraulically connected, and less than 5 percent incidental impervious area). The impervious areas are associated with the headstones. Per the Holy Cross Catholic Cemetery, the average headstone is 288 square inches (2 square feet). A plot covers 320 sq. ft. And contains 12 headstones. Therefore, each plot will contain 24 sq. ft. (12x2 =24) of impervious surfaces. In order to meet the 5 percent criteria, grave site areas will developed such that each plot and surrounding pervious area will cover 480 sq. Ft. (5% of 480=24) on average.

The project will be constructed in two phases: Phase 1 and Phase 2. This SWMQP covers the entire project as well as Phase 1. Phase 1 includes 3.13 acres of grave site area adjacent to Keys Place, a temporary gravel parking area, and paved vehicle hammerhead turnaround at the existing Keys Place terminus. Storm runoff from the parking area and hammerhead constructed by Phase 1 will be treated by Significant Site Design BMPs, which will be five tree wells sized for pollutant control and hydromodification flow control standards. Storm run-on to these two areas will be minimal.

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.										
			Structural BMP Type							
BMP ID #	**DMA #**	**DMA Area (ft^2)**	Harvest and Use	Infiltration	Unlined Biofiltration	Lined Biofiltration	Flow-thru treatment	Hydromodification Management [1]	Other	**Permit # and Sheet #**
1	1-5	112,373	☐	☐	☐	☒	☐	☐	☐	PDS2020-MUP-20-004, Sheet 4
2	8	5,674	☐	☐	☐	☒	☐	☐	☐	PDS2020-MUP-20-004, Sheet 4
			☐	☐	☐	☐	☐	☐	☐	
			☐	☐	☐	☐	☐	☐	☐	
			☐	☐	☐	☐	☐	☐	☐	
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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 #	BMP 1	**Permit # and Sheet #**	PDS2020-MUP-20-004, 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	Adam Kooienga, Hofman Planning & Engineering 3152 Lionshead Avenue Carlsbad, CA 92010, (760) 692-4019

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)

The impervious area (and its tributary areas) runoff will enter a biofiltration basin for pollutant and flow control.

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 #	BMP 2	**Permit # and Sheet #**	PDS2020-MUP-20-004, 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	Adam Kooienga, Hofman Planning & Engineering 3152 Lionshead Avenue Carlsbad, CA 92010, (760) 692-4019

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)

The impervious area (and its tributary areas) runoff will enter a biofiltration basin for pollutant and flow control.

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.

7.4 Storm Water Pollutant Control Worksheet Calculations

- Use this page as a cover sheet for the submittal of any required worksheets below.
- Complete the checklist to identify which BMPDM Appendix B (Storm Water Pollutant Control Hydrologic Calculations and Sizing Methods) worksheets are included with this attachment.
- See BMPDM Appendix B for an explanation of the applicability of individual worksheets and detailed guidance on their completion.

Worksheet	Requirement
☒ Worksheet B.1 Calculation of Design Capture Volume (DCV)	Required
☒ Worksheet B.2 Retention Requirements	Required
☒ Worksheet B.3 BMP Performance	Required
☐ Worksheet B.4 Major Maintenance Intervals for Reduced-sized BMPs	If applicable
☐ Other worksheets	As required

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	BMP 1	BMP 2	Self-Mitigating								unitless
	2	85th Percentile 24-hr Storm Depth	0.66	0.66	0.66								inches
	3	Impervious Surfaces Not Directed to Dispersion Area (C=0.90)	76,233	5,674									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)	36,140		487,482								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)											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	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	112,373	5,674	487,482	0	0	0	0	0	0	0	sq-ft
	23	Initial Runoff Factor for Standard Drainage Areas	0.64	0.90	0.10	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	0.64	0.90	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	unitless
	26	Initial Design Capture Volume	3,956	281	2,681	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	0.64	0.90	0.10	n/a	n/a	n/a	n/a	n/a	n/a	n/a	unitless
	32	Design Capture Volume After Dispersion Techniques	3,956	281	2,681	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	0.64	0.90	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	unitless
	36	Final Effective Tributary Area	71,919	5,107	48,748	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	3,956	281	2,681	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	BMP 1	BMP 2	Self-Mitigating	-	-	-	-	-	-	-	unitless
	2	85th Percentile Rainfall Depth	0.66	0.66	0.66	-	-	-	-	-	-	-	inches
	3	Predominant NRCS Soil Type Within BMP Location	C	D	N/A								unitless
	4	Is proposed BMP location Restricted or Unrestricted for Infiltration Activities?	Restricted	Restricted									unitless
	5	Nature of Restriction	Slopes	Slopes									unitless
	6	Do Minimum Retention Requirements Apply to this Project?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	yes/no
	7	Are Habitable Structures Greater than 9 Stories Proposed?	No	No									yes/no
Advanced Analysis	8	Has Geotechnical Engineer Performed an Infiltration Analysis?	Yes	No									yes/no
	9	Design Infiltration Rate Recommended by Geotechnical Engineer	0.010										in/hr
Result	10	Design Infiltration Rate Used To Determine Retention Requirements	0.000	0.000	-	-	-	-	-	-	-	-	in/hr
	11	Percent of Average Annual Runoff that Must be Retained within DMA	1.5%	1.5%	-	-	-	-	-	-	-	-	percentage
	12	Fraction of DCV Requiring Retention	0.01	0.01	-	-	-	-	-	-	-	-	ratio
	13	Required Retention Volume	40	3	-	-	-	-	-	-	-	-	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	BMP 1	BMP 2	Self-Mitigating	-	-	-	-	-	-	-	sq-ft
	2	Design Infiltration Rate Recommended	0.000	0.000	#VALUE!	-	-	-	-	-	-	-	in/hr
	3	Design Capture Volume Tributary to BMP	3,956	281	2,681	-	-	-	-	-	-	-	cubic-feet
	4	Is BMP Vegetated or Unvegetated?	Vegetated	Vegetated	N/A								unitless
	5	Is BMP Impermeably Lined or Unlined?	Lined	Lined									unitless
	6	Does BMP Have an Underdrain?	Underdrain	Underdrain									unitless
	7	Does BMP Utilize Standard or Specialized Media?	Standard	Standard									unitless
	8	Provided Surface Area	6,655	489									sq-ft
	9	Provided Surface Ponding Depth	12	12									inches
	10	Provided Soil Media Thickness	18	18									inches
	11	Provided Gravel Thickness (Total Thickness)	18	18									inches
	12	Underdrain Offset	3	3									inches
	13	Diameter of Underdrain or Hydromod Orifice (Select Smallest)	2.11	0.35									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	0	0	0	0	0	0	0	0	0	0	cubic-feet
	19	Ponding Pore Space Available for Retention	0.00	0.00	1.00	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	0.40	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	2.10	2.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	inches
	24	Fraction of DCV Retained (Independent of Drawdown Time)	0.29	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	ratio
	25	Calculated Retention Storage Drawdown Time	120	120	0	0	0	0	0	0	0	0	hours
	26	Efficacy of Retention Processes	0.30	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	ratio
	27	Volume Retained by BMP (Considering Drawdown Time)	1,179	86	0	0	0	0	0	0	0	0	cubic-feet
	28	Design Capture Volume Remaining for Biofiltration	2,777	195	2,681	0	0	0	0	0	0	0	cubic-feet
Biofiltration Calculations	29	Max Hydromod Flow Rate through Underdrain	0.2237	0.0062	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	cfs
	30	Max Soil Filtration Rate Allowed by Underdrain Orifice	1.45	0.55	0.00	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	1.45	0.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	in/hr
	33	Depth Biofiltered Over 6 Hour Storm	8.71	3.30	0.00	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	0.00	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	21.60	21.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	inches
	38	Drawdown Time for Surface Ponding	8	22	#VALUE!	0	0	0	0	0	0	0	hours
	39	Drawdown Time for Effective Biofiltration Depth	15	39	0	0	0	0	0	0	0	0	hours
	40	Total Depth Biofiltered	30.31	24.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	inches
	41	Option 1 - Biofilter 1.50 DCV: Target Volume	4,166	292	4,022	0	0	0	0	0	0	0	cubic-feet
	42	Option 1 - Provided Biofiltration Volume	4,166	292	0	0	0	0	0	0	0	0	cubic-feet
	43	Option 2 - Store 0.75 DCV: Target Volume	2,083	146	2,011	0	0	0	0	0	0	0	cubic-feet
	44	Option 2 - Provided Storage Volume	2,083	146	0	0	0	0	0	0	0	0	cubic-feet
	45	Portion of Biofiltration Performance Standard Satisfied	1.00	1.00	#VALUE!	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	No	-	-	-	-	-	-	-	yes/no
	47	Overall Portion of Performance Standard Satisfied (BMP Efficacy Factor)	1.00	1.00	#VALUE!	0.00	0.00	0.00	0.00	0.00	0.00	0.00	ratio
	48	**Deficit of Effectively Treated Stormwater**	**0**	**0**	**#VALUE!**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	cubic-feet

Attention!

-Minimum annual retention criteria are not satisfied for each individual drainage area. Implement additional site design elements, increase structural BMP retention capacity, or demonstrate that such requirements are satisfied at the project-level

Excerpts regarding Infiltration are Attached

Geotechnical Evaluation

Proposed Catholic Cemetery

County of San Diego, California

Holy Cross Cemetery

4470 Hilltop Drive | San Diego, California 92102

July 29, 2019 | Project No. 108788002



Geotechnical | Environmental | Construction Inspection & Testing | Forensic Engineering & Expert Witness

Geophysics | Engineering Geology | Laboratory Testing | Industrial Hygiene | Occupational Safety | Air Quality | GIS

Ninyo & Moore

Geotechnical & Environmental Sciences Consultants

Ninyo & Moore
Geotechnical & Environmental Sciences Consultants

Geotechnical Evaluation
Proposed Catholic Cemetery
County of San Diego, California

Mr. Mario DeBlasio
Holy Cross Cemetery
4470 Hilltop Drive | San Diego, California 92102

July 29, 2019 | Project No. 108788002

Christina A. Tretinjak, PG, CEG
Senior Project Geologist

Kenneth H. Mansir, Jr., PE, GE
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GSW/JTK/CAT/KHM/gg

Distribution: (1) Addressee (via e-mail)

CONTENTS

5 LABORATORY TESTING

Geotechnical laboratory testing was performed on representative soil samples collected from our subsurface exploration. Testing included an evaluation of in-situ moisture content and dry density, shear strength, expansion index, soil corrosivity, and R-value. The results of the in-situ dry density and moisture content tests are presented on the boring logs presented in Appendix A. The results of the other laboratory tests and a description of the test methods used are presented in Appendix B.

6 INFILTRATION TESTING

As a means of evaluating the infiltration characteristics of near-surface materials, infiltration tests were performed at two locations designated IT-1 and IT-2 (Figure 2). Following the excavation of the borings, the locations were prepared for infiltration testing by placing approximately 2 inches of gravel on the bottom, installing a 2-inch diameter perforated PVC pipe, and backfilling the annulus with pea gravel. As part of the test procedure, a presoak was performed on June 26, 2019 to represent adverse conditions for infiltration. The presoak consisted of maintaining approximately 3 feet of water in each test boring for approximately 4 hours. The water level was then allowed to drop overnight.

Infiltration testing was then performed on June 27, 2019 in general accordance with the County of San Diego BMP Design Manual (2019). The infiltration test holes were filled with approximately 3 feet of water and the water depth was measured in 30-minute intervals for the duration of the tests. The test holes were refilled after the 30-minute intervals as needed to restore the initial water level.

Infiltration rates were calculated using the Porchet method. Infiltration test results and calculations are included in Appendix C and summarized in Table 1 below. Per the County of San Diego BMP Design Manual Appendix D, Section D.2.3, a suitability assessment safety factor of 2.25 was calculated. The estimated reliable infiltration rates presented in Table 1 are to be used for preliminary design purposes only. The rates should be corrected for the design infiltration rate after applying the design safety factor determined by the design engineer.

Table 1 – Infiltration Test Results Summary

Infiltration Test	Test Depth (feet)	Description (Geologic Unit)	Observed In-Situ Infiltration Rate (in/hr)	Suitability Assessment Safety Factor[1]	Estimated Factored Infiltration Rate[1] (in/hr)
IT-1	5.0	Clayey Sand (Colluvium)	0.08	2.25	0.04
IT-2	5.0	Silty Sand (Colluvium)	0.02	2.25	<0.01

Notes:
in/hr = inches per hour
[1] Factor of safety of 2.25 used in accordance with Appendix D of the County of San Diego BMP Design Manual (2019).

We note that the in-situ infiltration rates presented in Table 1 represent the infiltration rates at the specific locations and depths indicated in the table. Variation in the infiltration rates can be expected at different depths and/or locations from those shown in the table.

7 GEOLOGIC AND SUBSURFACE CONDITIONS

Our findings regarding regional and site geology at the project location are provided in the following sections.

7.1 Regional Geologic Setting

The project site is situated in the coastal foothill section of the Peninsular Ranges Geomorphic Province. The province encompasses an area that extends approximately 900 miles from the Transverse Ranges and the Los Angeles Basin south to the southern tip of Baja California (Norris and Webb, 1990; Harden, 2004). The province varies in width from approximately 30 to 100 miles. In general, the province consists of rugged mountains underlain by Jurassic metavolcanic and metasedimentary rocks, and Cretaceous igneous rocks of the southern California batholith.

The Peninsular Ranges Province is traversed by a group of sub-parallel faults and fault zones trending roughly northwest (Jennings, 2010). Several of these faults are considered active. The Elsinore, San Jacinto, and San Andreas faults are active fault systems located northeast of the project area and the Rose Canyon, Coronado Bank, San Diego Trough, and San Clemente faults are active faults located west of the project site. Major tectonic activity associated with these and other faults within the regional tectonic framework consists primarily of right-lateral, strike-slip movement. Specifics of faulting are discussed in the following sections of this report.

7.2 Site Geology

Geologic units encountered during our subsurface exploration included fill materials, colluvium, materials of the Santiago Formation, and tonalite, hereafter referred to as granitic rock (Kennedy, 2007). Generalized descriptions of the earth units encountered during our field reconnaissance and subsurface exploration are provided in the subsequent sections. Additional descriptions of the subsurface units are provided on the boring logs in Appendix A. The geology of the site is shown on Figure 3.

APPENDIX C

Infiltration Testing

Test Date:	6/27/2019					Infiltration Test No.:	IT-1	
Test Hole Diameter, D (inches):	8.0					Excavation Depth (feet):	5.0	
Test performed and recorded by:	CMK					Pipe Length (feet):	5.0	
t_1	d_1 (feet)	t_2	d_2 (feet)	Δt (min)	ΔH (feet)	Percolation Rate (min/in)	H_{avg} (feet)	Infiltration Rate (in/hr)
9:28	1.83	9:53	1.90	25	0.07	30	3.14	0.10
9:53	1.90	10:23	1.97	30	0.07	36	3.07	0.09
10:23	1.79	10:53	1.86	30	0.07	36	3.18	0.08
10:53	1.86	11:23	1.93	30	0.07	36	3.11	0.09
11:23	1.85	11:53	1.91	30	0.06	42	3.12	0.07
11:53	1.77	12:23	1.85	30	0.08	31	3.19	0.10
12:23	1.85	12:53	1.91	30	0.06	42	3.12	0.07
12:53	1.91	13:23	1.98	30	0.07	36	3.06	0.09
13:23	1.76	13:53	1.83	30	0.07	36	3.21	0.08
13:53	1.83	14:23	1.90	30	0.07	36	3.14	0.08
14:23	1.90	14:53	1.96	30	0.06	42	3.07	0.07
14:53	1.81	15:23	1.88	30	0.07	36	3.16	0.08

Test Date:	6/27/2019					Infiltration Test No.:	IT-2	
Test Hole Diameter, D (inches):	8.0					Excavation Depth (feet):	5.0	
Test performed and recorded by:	CMK					Pipe Length (feet):	5.0	
t_1	d_1 (feet)	t_2	d_2 (feet)	Δt (min)	ΔH (feet)	Percolation Rate (min/in)	H_{avg} (feet)	Infiltration Rate (in/hr)
9:24	1.31	9:49	1.34	25	0.03	69	3.68	0.04
9:49	1.34	10:19	1.36	30	0.02	125	3.65	0.02
10:19	1.36	10:49	1.38	30	0.02	125	3.63	0.02
10:49	1.38	11:19	1.40	30	0.02	125	3.61	0.02
11:19	1.40	11:49	1.42	30	0.02	125	3.59	0.02
11:49	1.42	12:19	1.44	30	0.02	125	3.57	0.02
12:19	1.28	12:49	1.31	30	0.03	83	3.71	0.03
12:49	1.31	13:19	1.33	30	0.02	125	3.68	0.02
13:19	1.33	13:49	1.35	30	0.02	125	3.66	0.02
13:49	1.35	14:19	1.38	30	0.03	83	3.64	0.03
14:19	1.38	14:49	1.40	30	0.02	125	3.61	0.02
14:49	1.29	15:19	1.31	30	0.02	125	3.70	0.02

Notes:

t_1 = initial time when filling or refilling is completed

d_1 = initial depth to water in hole at t_1

t_2 = final time when incremental water level reading is taken

d_2 = final depth to water in hole at t_2

Δt = change in time between initial and final water level readings

ΔH = change in depth to water or change in height of water column (i.e., $d_2 - d_1$)

H_0 = Initial height of water column

in/hr = inches per hour

Percolation Rate to Infiltration Rate Conversion [1]

$$I_t = \frac{\Delta H \times 60 \times r}{\Delta t\left(r + 2H_{avg}\right)}$$

I_t = tested infiltration rate, inches/hour

ΔH = change in head over the time interval, inches

Δt = time interval, minutes

r = effective radius of test hole

H_{avg} = average head over the time interval, inches

[1] Based on the "Porchet Method" as presented in:
Riverside County Flood Control, 2011, Design Handbook for Low Impact Development Best Management Practices: dated September.

Table D.2-3: Determination of Safety Factor

Consideration		Assigned Weight (w)	Factor Value (v)	Product (p) p = w x v
Suitability Assessment (A)	Infiltration Testing Method	0.25	Refer to Table D.2-4	0.25 x 2 = 0.5
	Soil Texture Class	0.25		0.25 x 2 = 0.5
	Soil Variability	0.25		0.25 x 3 = 0.75
	Depth to Groundwater/Obstruction	0.25		0.25 x 2 = 0.5
	Suitability Assessment Safety Factor, $S_A = \Sigma p$			2.25
Design (B)	Pretreatment	0.50	Refer to Table D.2-4	
	Resiliency	0.25		
	Compaction	0.25		
	Design Safety Factor, $S_B = \Sigma p$			
	Safety Factor, $S = S_A \times S_B$ (Must be always greater than or equal to 2)			

The geotechnical engineer should reference Table D.2-4 below in order to determine appropriate factor values for use in the table above. The values in the table below are subjective in nature and the geotechnical engineer may use professional discretion in how the points are assigned.

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.

A biofiltration basin is proposed to meet flow control requirements. The County's BMP Sizing Spreadsheet was used to size the biofiltration basin. The tributary impervious areas (roofs, streets, and hardscape), semi-pervious areas (driveway and adjacent parking), and pervious areas (landscaping) have been delineated and entered into the spreadsheet. The biofiltration basin will also meet pollutant control requirements.

BMP Sizing Spreadsheet V3.0

Project Name:	Good Shepherd Cemetery
Project Applicant:	The Roman Catholic Diocese of SD County
Jurisdiction:	County of San Diego
Parcel (APN):	169-210-02; 169-220-01, -02, and -03
Hydrologic Unit:	Carlsbad
Rain Gauge:	Oceanside
Total Project Area (sf):	192,654
Channel Susceptibility:	High

BMP Sizing Spreadsheet V3.0			
Project Name:	Good Shepherd Cemetery	Hydrologic Unit:	Carlsbad
Project Applicant:	Roman Catholic Diocese of SD Cou	Rain Gauge:	Oceanside
Jurisdiction:	County of San Diego	Total Project Area:	192,654
Parcel (APN):	69-210-02; 169-220-01, -02, and -0	Low Flow Threshold:	0.1Q2
BMP Name:	BMP 1	BMP Type:	Biofiltration
BMP Native Soil Type:	D	BMP Infiltration Rate (in/hr):	0.025

Areas Draining to BMP						HMP Sizing Factors	Minimum BMP Size
DMA Name	Area (sf)	Pre Project Soil Type	Pre-Project Slope	Post Project Surface Type	Area Weighted Runoff Factor (Table G.2-1)[1]	Surface Area	Surface Area (SF)
DMA 2 - AC Paving Street	21,963	C	Steep	Concrete	1.0	0.075	1647
DMA 2 - AC Paving Street	47,694	D	Steep	Concrete	1.0	0.07	3339
DMA 4 - Hardscaping	1,794	C	Steep	Concrete	1.0	0.075	135
DMA 5 - Landscaping	8,189	C	Steep	Landscape	0.1	0.075	61
DMA 5 - Landscaping	5,554	D	Steep	Landscape	0.1	0.07	39
DMA 3 - Parking Lot	13,453	C	Flat	Concrete	1.0	0.075	1009
DMA 4 - Hardscaping	1,794	C	Flat	Concrete	1.0	0.075	135
DMA 1 - Roof	2,988	C	Flat	Roofs	1.0	0.075	224
DMA 5 - Landscaping	8,678	C	Flat	Landscape	0.1	0.075	65
DMA 5 - Landscaping	266	D	Flat	Landscape	0.1	0.07	2
						0	0
						0	0
						0	0
						0	0
						0	0
BMP Tributary Area	112,373					Minimum BMP Size	6655
						Proposed BMP Size*	6655

* 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.

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:	Good Shepherd Cemetery	Hydrologic Unit:	Carlsbad
Project Applicant:	Roman Catholic Diocese of SD Co	Rain Gauge:	Oceanside
Jurisdiction:	County of San Diego	Total Project Area:	192,654
Parcel (APN):	69-210-02; 169-220-01, -02, and -	Low Flow Threshold:	0.1Q2
BMP Name	BMP 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				
MA 2 - AC Paving Stre	Oceanside	C	Steep	0.499	0.504	0.025	**0.36**
MA 2 - AC Paving Stre	Oceanside	D	Steep	0.576	1.095	0.063	**0.90**
DMA 4 - Hardscaping	Oceanside	C	Steep	0.499	0.041	0.002	**0.03**
DMA 5 - Landscaping	Oceanside	C	Steep	0.499	0.188	0.009	**0.13**
DMA 5 - Landscaping	Oceanside	D	Steep	0.576	0.128	0.007	**0.10**
DMA 3 - Parking Lot	Oceanside	C	Flat	0.488	0.309	0.015	**0.21**
DMA 4 - Hardscaping	Oceanside	C	Flat	0.488	0.041	0.002	**0.03**
DMA 1 - Roof	Oceanside	C	Flat	0.488	0.069	0.003	**0.05**
DMA 5 - Landscaping	Oceanside	C	Flat	0.488	0.199	0.010	**0.14**
DMA 5 - Landscaping	Oceanside	D	Flat	0.571	0.006	0.000	**0.00**

3.75	**0.138**	**1.96**	**1.58**
Max Orifice Head (feet)	**Max Tot. Allowable Orifice Flow (cfs)**	**Max Tot. Allowable Orifice Area (in^2)**	**Max Orifice Diameter (in)**

0.128	**0.138**	**1.96**	**1.580**
Average outflow during surface drawdown (cfs)	Max Orifice Outflow (cfs)	Actual Orifice Area (in^2)	Selected Orifice Diameter (in)

Drawdown (Hrs)	14.4

BMP Sizing Spreadsheet V3.0

Project Name:	Good Shepherd Cemetery
Project Applicant:	The Roman Catholic Diocese of SD County
Jurisdiction:	County of San Diego
Parcel (APN):	169-210-02; 169-220-01, -02, and -03
Hydrologic Unit:	Carlsbad
Rain Gauge:	Oceanside
Total Project Area (sf):	5,674
Channel Susceptibility:	High

BMP Sizing Spreadsheet V3.0			
Project Name:	Good Shepherd Cemetery	Hydrologic Unit:	Carlsbad
Project Applicant:	Roman Catholic Diocese of SD Cou	Rain Gauge:	Oceanside
Jurisdiction:	County of San Diego	Total Project Area:	5,674
Parcel (APN):	69-210-02; 169-220-01, -02, and -0	Low Flow Threshold:	0.1Q2
BMP Name:	BMP 2	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)
DMA 8 - Buena Vista Dr.	5,674	C	Steep	Concrete	1.0	0.075	426
						0	0
Assume all C soil to be conservative						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	5,674					Minimum BMP Size	426
						Proposed BMP Size*	489

* 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.

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.

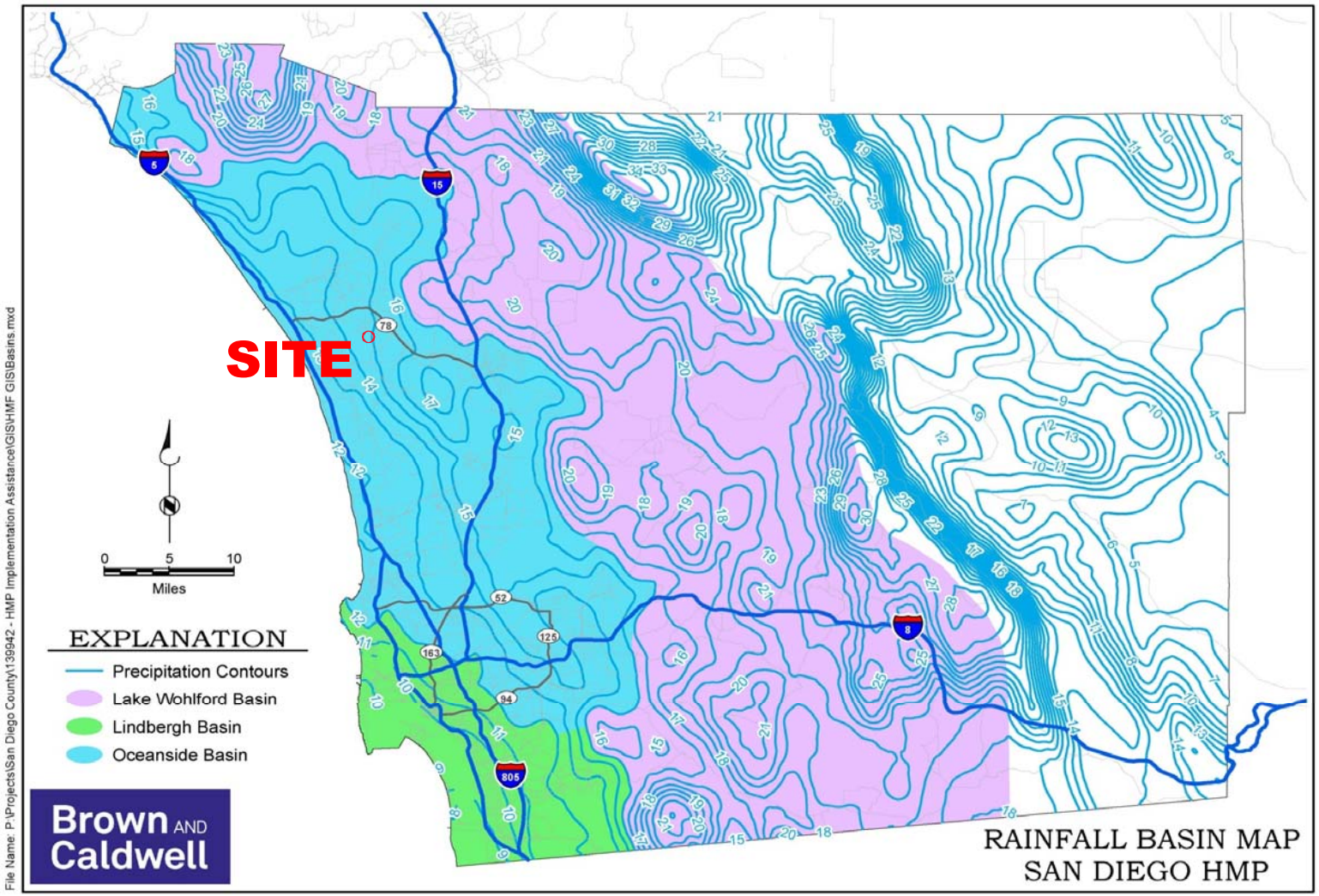
BMP Sizing Spreadsheet V3.0			
Project Name:	Good Shepherd Cemetery	Hydrologic Unit:	Carlsbad
Project Applicant:	Roman Catholic Diocese of SD Co	Rain Gauge:	Oceanside
Jurisdiction:	County of San Diego	Total Project Area:	5,674
Parcel (APN):	69-210-02; 169-220-01, -02, and -	Low Flow Threshold:	0.1Q2
BMP Name	BMP 2	BMP Type:	Biofiltration

DMA Name	Rain Gauge	Pre-developed Condition		Unit Runoff Ratio (cfs/ac)	DMA Area (ac)	Orifice Flow - $\%Q_2$ (cfs)	Orifice Area (in^2)
		Soil Type	Slope				
MA 8 - Buena Vista D	Oceanside	C	Steep	0.499	0.130	0.006	**0.09**
e all C soil to be conse	Oceanside	0	0	0	0.000	0.000	**0.00**

3.75	**0.006**	**0.09**	**0.34**
Max Orifice Head (feet)	**Max Tot. Allowable Orifice Flow (cfs)**	**Max Tot. Allowable Orifice Area (in^2)**	**Max Orifice Diameter (in)**

0.006	**0.006**	**0.09**	**0.340**
Average outflow during surface drawdown (cfs)	Max Orifice Outflow (cfs)	Actual Orifice Area (in^2)	Selected Orifice Diameter (in)

Drawdown (Hrs)	22.9


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\1399942 - HMP Implementation Assistance\GIS\HMF GIS\Basins.mxd

0.1Q$_2$	C	Steep	6	Oceanside	0.07
0.1Q$_2$	D	Flat	3	Oceanside	0.07
0.1Q$_2$	D	Moderate	3	Oceanside	0.07
0.1Q$_2$	D	Steep	3	Oceanside	0.07
0.1Q$_2$	A	Flat	18	Lake Wohlford	0.11
0.1Q$_2$	A	Moderate	18	Lake Wohlford	0.11
0.1Q$_2$	A	Steep	18	Lake Wohlford	0.105
0.1Q$_2$	B	Flat	18	Lake Wohlford	0.09
0.1Q$_2$	B	Moderate	18	Lake Wohlford	0.085
0.1Q$_2$	B	Steep	18	Lake Wohlford	0.085
0.1Q$_2$	C	Flat	6	Lake Wohlford	0.065
0.1Q$_2$	C	Moderate	6	Lake Wohlford	0.065
0.1Q$_2$	C	Steep	6	Lake Wohlford	0.065
0.1Q$_2$	D	Flat	3	Lake Wohlford	0.06
0.1Q$_2$	D	Moderate	3	Lake Wohlford	0.06
0.1Q$_2$	D	Steep	3	Lake Wohlford	0.06

Table G.2-5: Sizing Factors for Hydromodification Flow Control Biofiltration BMPs Designed Using Sizing Factor Method

Lower Flow Threshold	Soil Group	Slope	Rain Gauge	A
0.1Q2	A	Flat	Lindbergh	0.32
0.1Q2	A	Moderate	Lindbergh	0.3
0.1Q2	A	Steep	Lindbergh	0.285
0.1Q2	B	Flat	Lindbergh	0.105
0.1Q2	B	Moderate	Lindbergh	0.1
0.1Q2	B	Steep	Lindbergh	0.095
0.1Q2	C	Flat	Lindbergh	0.055
0.1Q2	C	Moderate	Lindbergh	0.05
0.1Q2	C	Steep	Lindbergh	0.05
0.1Q2	D	Flat	Lindbergh	0.05
0.1Q2	D	Moderate	Lindbergh	0.05
0.1Q2	D	Steep	Lindbergh	0.05
0.1Q2	A	Flat	Oceanside	0.15

0.1Q2	A	Moderate	Oceanside	0.14
0.1Q2	A	Steep	Oceanside	0.135
0.1Q2	B	Flat	Oceanside	0.085
0.1Q2	B	Moderate	Oceanside	0.085
0.1Q2	B	Steep	Oceanside	0.085
0.1Q2	C	Flat	Oceanside	0.075
0.1Q2	C	Moderate	Oceanside	0.075
0.1Q2	C	Steep	Oceanside	0.075
0.1Q2	D	Flat	Oceanside	0.07
0.1Q2	D	Moderate	Oceanside	0.07
0.1Q2	D	Steep	Oceanside	0.07
0.1Q2	A	Flat	Lake Wohlford	0.285
0.1Q2	A	Moderate	Lake Wohlford	0.275
0.1Q2	A	Steep	Lake Wohlford	0.27
0.1Q2	B	Flat	Lake Wohlford	0.15
0.1Q2	B	Moderate	Lake Wohlford	0.145
0.1Q2	B	Steep	Lake Wohlford	0.145
0.1Q2	C	Flat	Lake Wohlford	0.07
0.1Q2	C	Moderate	Lake Wohlford	0.07
0.1Q2	C	Steep	Lake Wohlford	0.07
0.1Q2	D	Flat	Lake Wohlford	0.06
0.1Q2	D	Moderate	Lake Wohlford	0.06
0.1Q2	D	Steep	Lake Wohlford	0.06

Table G.2-6: Sizing Factors for Hydromodification Flow Control Cistern Facilities Designed Using Sizing Factor Method

Lower Flow Threshold	Soil Group	Slope	Rain Gauge	V
0.1Q2	A	Flat	Lindbergh	0.54
0.1Q2	A	Moderate	Lindbergh	0.51
0.1Q2	A	Steep	Lindbergh	0.49
0.1Q2	B	Flat	Lindbergh	0.19
0.1Q2	B	Moderate	Lindbergh	0.18
0.1Q2	B	Steep	Lindbergh	0.18

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	Unnamed natural channel	At biofiltration outlet into unnamed natural drainage channel.
POC 2	Ground surface	At biofiltration outlet onto natural ground surface, which flows to an unnamed natural drainage channel.

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/

9.3 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]

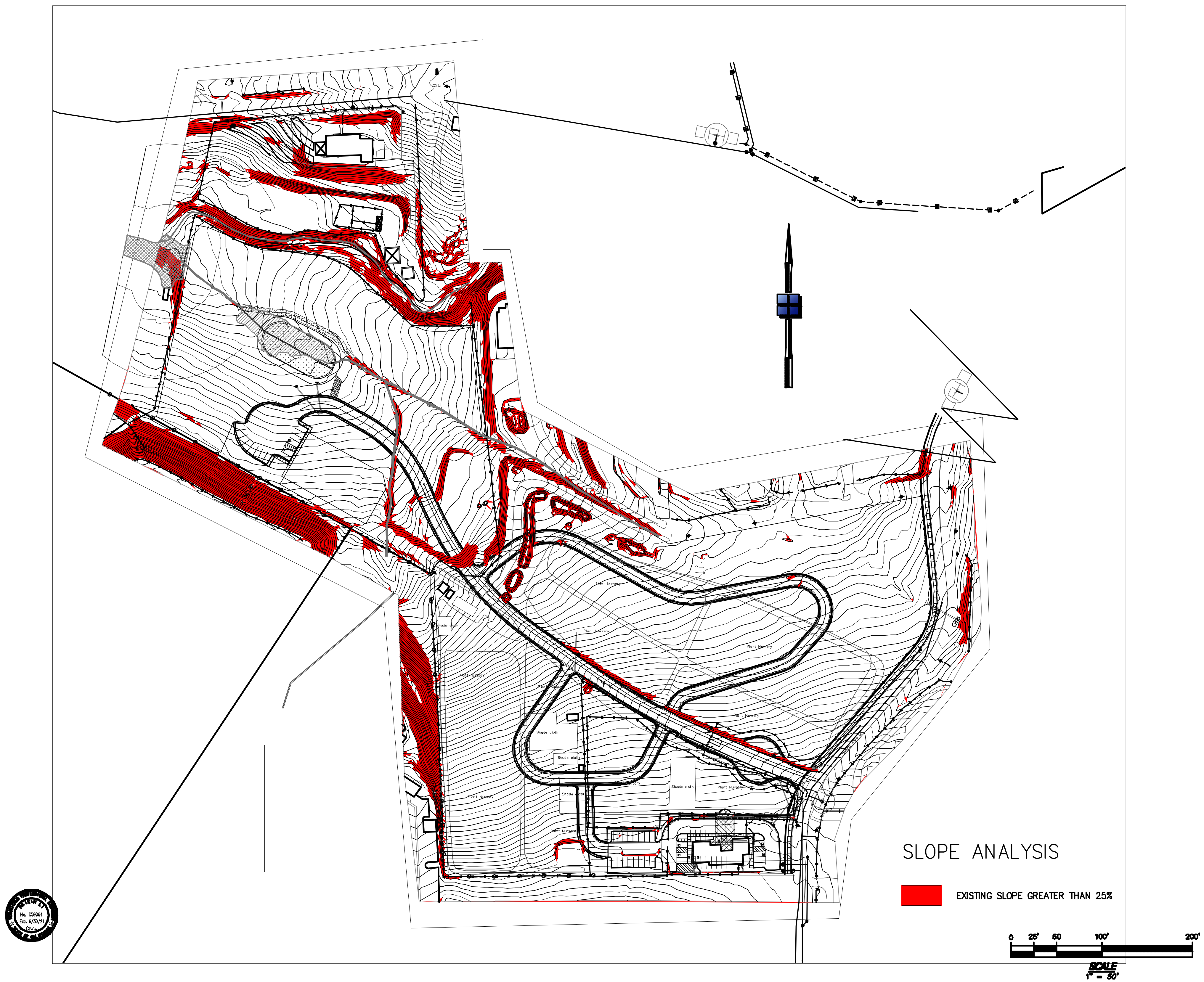
  - **Select** if the project requires one or more discretionary permits;
  - **Demonstrate** that onsite AND upstream offsite CCSYAs will be avoided and/or bypassed.

  ☐ **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.
The project is subject to RPO requirements. The project does not contain steep slopes, i.e., the existing ground is not greater than 25% slope and 50' high. Therefore, there is no obligation to identify and/or avoid on-site CCSYAs.

[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.



SHEET OF 4

PLANNING CASE NO.

DATE	[illegible]
SCALE:	1" = 40'
DRAWN:	HL
JOB NO.	

PROJECT NAME:

GOOD SHEPHERD CATHOLIC CEMETERY

COUNTY of SAN DIEGO, CA

Hofman Planning + Engineering

Lionshead Avenue
Carlsbad, CA
www.hofmanplanning.com

SHEET TITLE:

MAJOR USE PERMIT

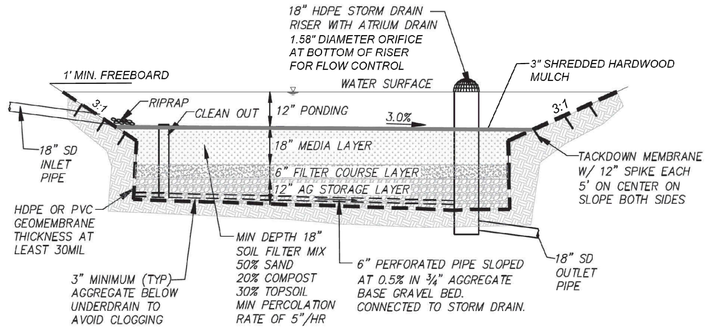
EXISTING GROUND SLOPE ANALYSIS

REVISIONS:

POINT OF COMPLIANCE NOTES:
THERE ARE TWO FLOW CONTROL POCs FOR THE PROJECT. POC 1 IS AT THE BIOFILTRATION BASIN (BMP 1) STORM DRAIN OUTLET NEAR THE NORTHWESTERLY CORNER OF THE SITE. THE DMAs TRIBUTARY TO POC 1 ARE DMA 1, 2, 3, 4, AND 5. THE DRAINAGE BASIN BOUNDARY IS IN BLUE AND ENCOMPASSES THE CEMETERY STREETS, DEVELOPMENT AT THE SOUTHEAST CORNER OF THE SITE, AND BMP 1. THE DRAINAGE BASIN BOUNDARY COVERS 2.82 ACRES.

POC 2 IS AT THE BIOFILTRATION BASIN (BMP 2) STORM DRAIN OUTLET NEAR THE NORTHEASTERLY CORNER OF THE SITE. THE AREAS TRIBUTARY TO POC 2 INCLUDE DMA 8, THE ADJACENT PORTION OF EXISTING BUENA VISTA DRIVE, AND THE SUBDIVISION TO THE SOUTH. THE DRAINAGE BASIN BOUNDARY IS IN BLUE AND COVERS 4.67 ACRES.

THE GRAVE SITE AREAS (DMA 7) MAKING UP THE REMAINDER OF THE SITE ARE SELF-MITIGATING, SO THERE IS NO FLOW CONTROL POC ASSOCIATED WITH THESE AREAS.

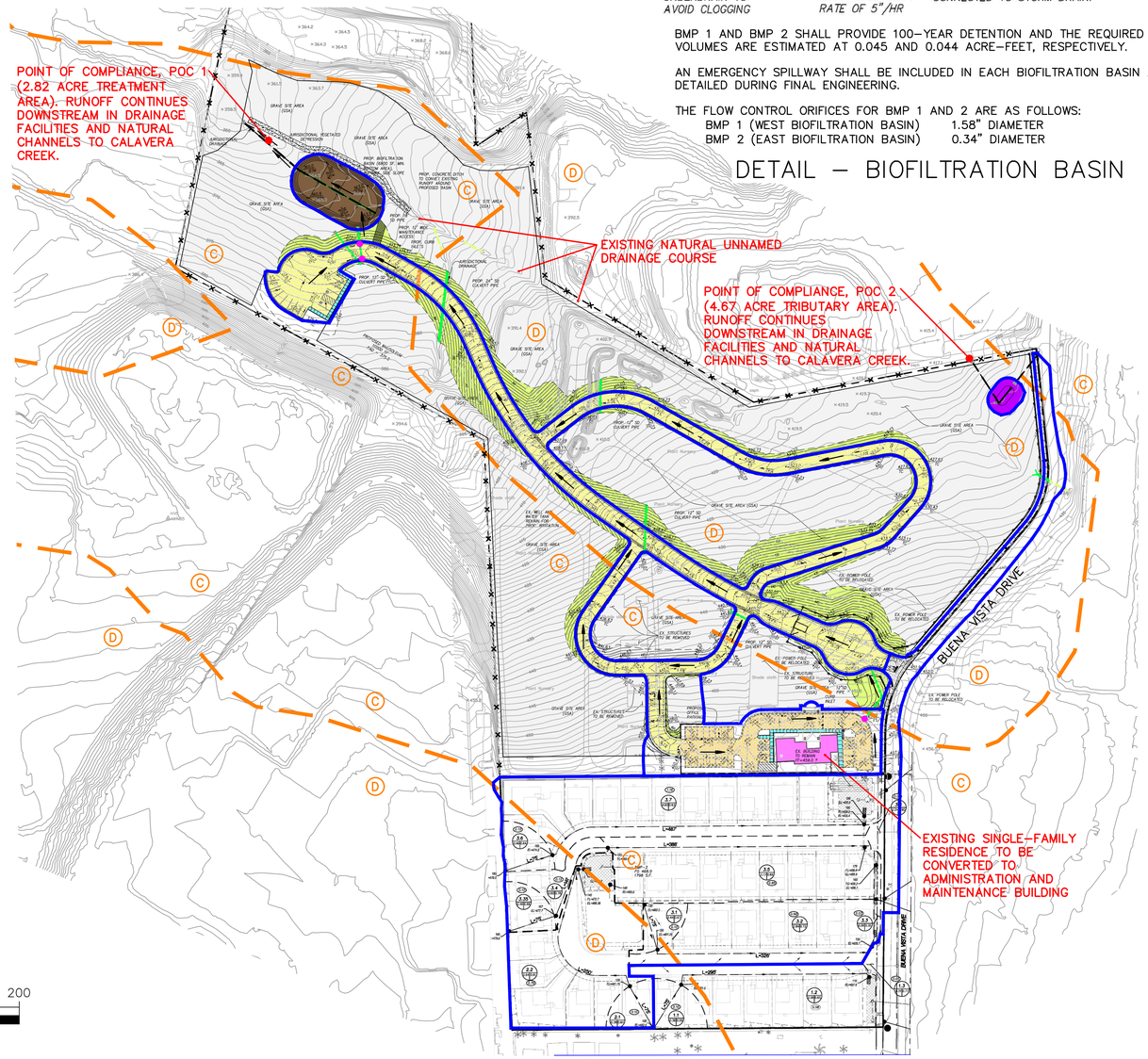


BMP 1 AND BMP 2 SHALL PROVIDE 100-YEAR DETENTION AND THE REQUIRED STORAGE VOLUMES ARE ESTIMATED AT 0.045 AND 0.044 ACRE-FEET, RESPECTIVELY.

AN EMERGENCY SPILLWAY SHALL BE INCLUDED IN EACH BIOFILTRATION BASIN AND WILL BE DETAILED DURING FINAL ENGINEERING.

THE FLOW CONTROL ORIFICES FOR BMP 1 AND 2 ARE AS FOLLOWS:
BMP 1 (WEST BIOFILTRATION BASIN) 1.58" DIAMETER
BMP 2 (EAST BIOFILTRATION BASIN) 0.34" DIAMETER

DETAIL – BIOFILTRATION BASIN



DMA EXHIBIT 1
GOOD SHEPHERD CATHOLIC CEMETERY

LEGEND:

- BMP 1 – PROPOSED WEST BIOFILTRATION BASIN (6,655 SF MIN. TREATMENT AREA)
- BMP 2 – PROPOSED EAST BIOFILTRATION BASIN (450 SF MIN. TREATMENT AREA)
- DMA 1 – PROPOSED ROOF (2,988 SF)
- DMA 2 – PROPOSED AC PAVING (69,657 SF)
- DMA 3 – PROPOSED PERMEABLE PAVING – PARKING LOT (13,453 SF)
- DMA 4 – PROPOSED HARDSCAPING (3,588 SF)
- DMA 5 – PROPOSED LANDSCAPING (22,687 SF)
- DMA 6 – PROPOSED SELF-MITIGATING LANDSCAPING (67,641 SF)
- DMA 7 – PROPOSED SELF-MITIGATING GRAVE SITES (419,841 SF). SEE NOTE BELOW.
- DMA 8 – PROPOSED PUBLIC IMPROVEMENTS ALONG BUENA VISTA DRIVE (5,674 SF)
- PROPOSED STORM DRAIN PIPE
- POINT OF COMPLIANCE
- PROPOSED STORM DRAIN INLET (TO BE STENCILED)
- DRAINAGE BOUNDARY TRIBUTARY TO BIOFILTRATION BASINS (2.82 AC TO WEST BASIN AND 4.67 AC TO EAST BASIN)
- (D) HYDROLOGIC SOIL GROUP
- PROPOSED DIRECTION OF DRAINAGE

THE TOTAL IMPERVIOUS AREA FROM ROOF, AC PAVING, AND HARDSCAPING IS 76,233 SF.

NOTES:
THE APPROXIMATE DEPTH TO GROUNDWATER IS OVER 20 FEET.

THE PROJECT IS SUBJECT TO AND IN COMPLIANCE WITH RESOURCE PROTECTION ORDINANCE REQUIREMENTS. THE PROJECT DOES NOT INCLUDE STEEP SLOPES THAT ARE GREATER THAN 25% SLOPE AND 50' HIGH.

THERE IS A MINOR NATURAL UNNAMED DRAINAGE COURSE THAT FLOWS IN A WESTERLY DIRECTION ALONG THE NORTHERLY PORTION OF THE SITE. THE ON-SITE STORM RUNOFF PRIMARILY SHEET FLOWS IN A NORTHERLY TO NORTHWESTERLY DIRECTION TO THE DRAINAGE COURSE.

THE PRIMARY EXISTING IMPERVIOUS FEATURE IS THE EXISTING SINGLE FAMILY RESIDENCE AND DRIVEWAY AT THE SOUTHEASTERLY PORTION OF THE SITE. THE DRIVEWAY WILL BE DEMOLISHED FOR A NEW DRIVEWAY AND PARKING.

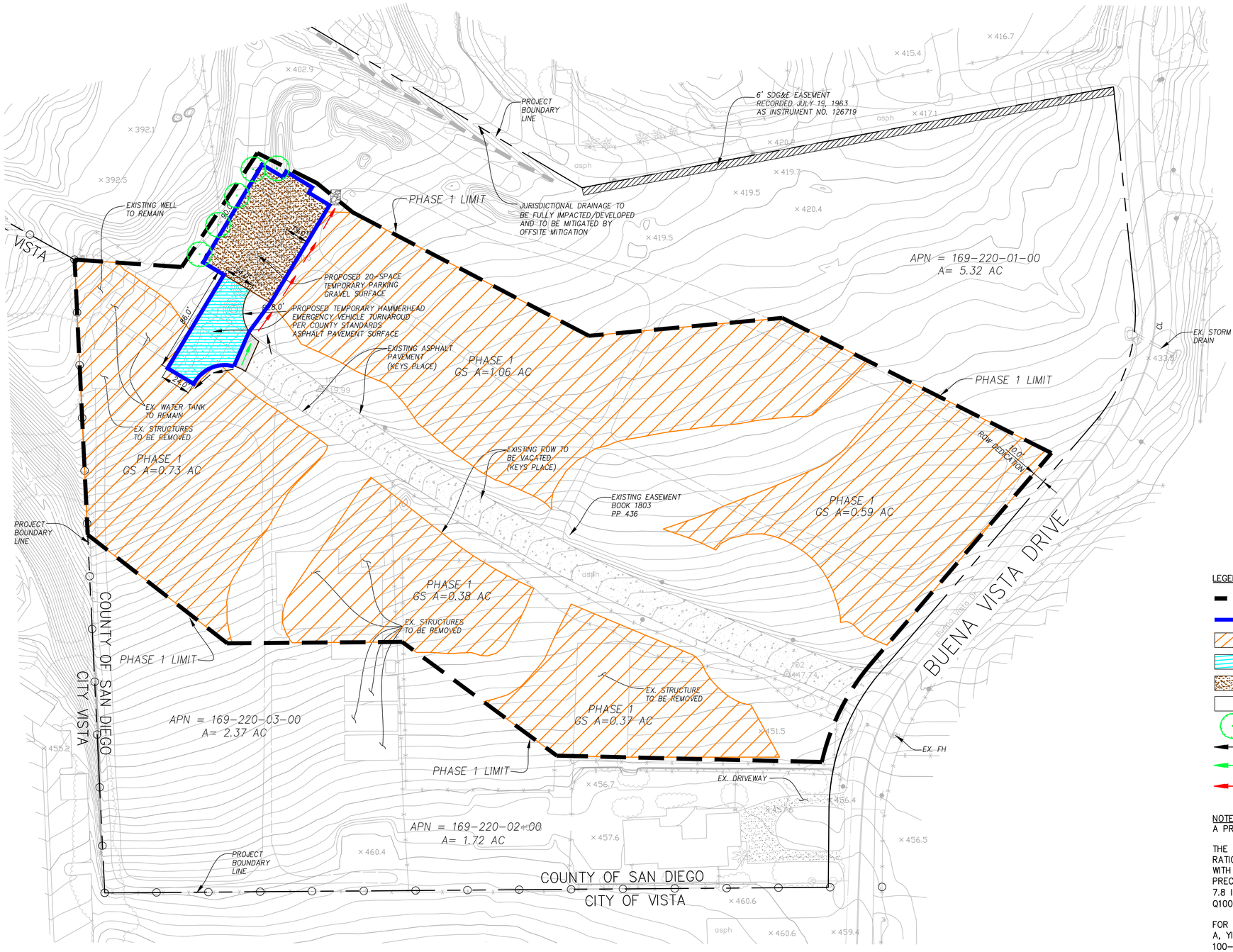
GRAVE SITE AREAS SURROUND THE PROPOSED GRADING AND IMPROVEMENTS. THE GRAVE SITES WILL BE OCCUPIED SLOWLY OVER TIME AND WILL MEET SELF-MITIGATING REQUIREMENTS (DROUGHT TOLERANT LANDSCAPING, AMENDED SOILS, NOT HYDRAULICALLY CONNECTED, AND LESS THAN 5 PERCENT INCIDENTAL IMPERVIOUS AREA). THE IMPERVIOUS AREAS ARE ASSOCIATED WITH THE HEADSTONES. PER THE HOLY CROSS CATHOLIC CEMETERY, THE AVERAGE HEADSTONE IS 288 SQUARE INCHES (2 SQUARE FEET). A PLOT COVERS 320 SQ. FT. AND CONTAINS 12 HEADSTONES. THEREFORE, EACH PLOT WILL CONTAIN 24 SQ. FT. (12X2 =24) OF IMPERVIOUS SURFACES. IN ORDER TO MEET THE 5 PERCENT CRITERIA, GRAVE SITE AREAS WILL DEVELOPED SUCH THAT EACH PLOT AND SURROUNDING PERVIOUS AREA WILL COVER 480 SQ. FT. (5% OF 480=24) ON AVERAGE.

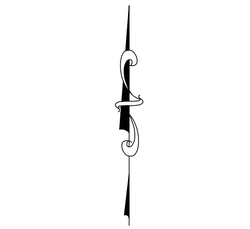
TRASH SHALL BE STORED IN INDIVIDUAL COVERED RECEPTACLES. THE TRASH RECEPTACLES, MATERIALS, AND EQUIPMENT WILL BE STORED IN A PROPOSED MAINTENANCE ROOM AT THE NORTHEAST CORNER OF THE ADMINISTRATION/ MAINTENANCE BUILDING. STORM DRAIN INLETS SHALL BE STENCILED. DRAIN LINES AND FIRE TEST SPRINKLER DISCHARGES SHALL BE ONTO PERVIOUS LANDSCAPING SURFACES SURROUNDING THE BUILDING.

SOURCE CONTROL BMPS INCLUDE INLET STENCILING, MINIMIZING INDOOR AND OUTDOOR PEST CONTROL, STORING TRASH RECEPTACLES IN THE MAINTENANCE ROOM, PROPER CONTROL/DISCHARGE OF FIRE SPRINKLER AND MISCELLANEOUS DRAIN/WASH WATER, AND ROUTINE SWEEPING OF WALKWAYS AND PARKING LOTS.

THE MINIMUM CONSTRUCTION STORM WATER BMPS ARE AS FOLLOWS:

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		





LEGEND:

- PHASE 1 BOUNDARY
- DMA PH 1 – DRAINAGE MANAGEMENT AREA PHASE 1 IMPROVEMENTS (8,936 SF)
- PROPOSED PHASE 1 GRAVE SITES (136,062 SF SELF-MITIGATING)
- PROPOSED AC PAVEMENT FOR HAMMERHEAD TURNAROUND (2,855 SF)
- PROPOSED GRAVEL PARKING LOT (5,700 SF)
- EXISTING NATURAL TYPE D SOIL WITHIN DMA PH 1 (381 SF)
- PROPOSED TREE WELLS (5 TOTAL)
- DIRECTION OF DRAINAGE
- PROPOSED CROSS-GUTTER
- PROPOSED GRAVEL-LINED SWALE

NOTES:

A PROPOSED CROSS-GUTTER AND GRAVEL-LINED SWALE WILL DIRECT STORM RUNOFF AROUND DMA PH 1.

THE PROPOSED CONDITION 100-YEAR FLOW RATE GENERATED BY DMA PH 1 IS DETERMINED FROM THE RATIONAL METHOD EQUATION Q=CIA. DMA PH 1 IS 32 PERCENT IMPERVIOUS (2,855/8,936 x 100 = 32%) WITH D SOIL, SO THE C VALUE IS 0.53. THE RAINFALL INTENSITY FOR THE 100-YEAR, 6-HOUR PRECIPITATION OF 3.0 INCHES AND Tc=5 MINUTES (USE 5 MINUTES SINCE SHORT TRAVEL DISTANCE) IS 7.8 IN/HR. DMA PH 1 COVERS 8,936 SF OR 0.21 AC. BASED ON THIS, PROPOSED CONDITION Q100=(0.53)(7.8)(0.21)=0.9 CFS.

FOR EXISTING CONDITIONS, DMA PH 1 IS COMPLETELY PERVIOUS SO C=0.35. BASED ON THE SAME I AND A, YIELDS Q100=(0.35)(7.8)(0.21)=0.6 CFS. THEREFORE, THE PROJECT HAVE MINIMAL EFFECT ON THE 100-YEAR FLOW RATE. THE PROJECT TREE WELLS WILL PROVIDE RETENTION/DETENTION THAT FURTHER REDUCES THE DIFFERENCE IN 100-YEAR FLOW RATE.

DMA EXHIBIT – PHASE 1

GOOD SHEPHERD CATHOLIC CEMETERY

MAJOR USE PERMIT
GOOD SHEPHERD CATHOLIC CEMETERY
COUNTY OF SAN DIEGO
CALIFORNIA

PROJECT LOCATION

THIS PROJECT IS LOCATED WITHIN THE COUNTY OF SAN DIEGO INCLUDING ASSESSORS PARCEL NUMBERS 169-220-03-00, 169-220-02-00, 169-210-02-00, AND 169-220-01-00.

SITE ADDRESS

1. APN: 169-220-03-00
   1450 KEYS PLACE
   VISTA, SAN DIEGO COUNTY, CA
2. APN: 169-220-02-00
   1505 BUENA VISTA DRIVE
   VISTA, SAN DIEGO COUNTY, CA
3. APN: 169-210-02-00
   1462 KEYS PLACE
   VISTA, SAN DIEGO COUNTY, CA
4. APN: 169-220-01-00
   KEYS PLACE (NO STREET NUMBER)
   VISTA, SAN DIEGO COUNTY, CA

LAND USE DESIGNATIONS

ZONING : A70-LIMITED AGRICULTURE

GENERAL PLAN : SEMI-RURAL RESIDENTIAL (SR-1)

COMMUNITY PLAN AREA : NORTH COUNTY METRO

PROJECT DESCRIPTION

DEVELOP INTO CEMETERY WITH ADMINISTRATION BUILDING AND GRAVE SITE AREAS.

EXISTING LAND AREA

FOUR (4) LOTS WITH A TOTAL OF 14.49 AC

LOT 2 = 2.37 AC, 169-220-03-00
LOT 3 = 1.72 AC, 169-220-02-00
LOT 4 = 5.08 AC, 169-210-02-00
LOT 5 = 5.32 AC, 169-220-01-00

EXISTING BUILDINGS

A. EXISTING TOTAL NUMBER OF UNITS = 1 SINGLE DETACHED RESIDENTIAL UNITS
B. EXISTING PARKING SPACES
   PARKING = 4
   HC PARKING = 0

PROPOSED BUILDINGS

ADMIN. CONVERT EXISTING RESIDENTIAL UNIT

SETBACKS

INTERIOR SIDE YARD (ISY)	= 15'
EXTERIOR SIDE YARD (ESY)	= 35'
FRONT YARD FROM CENTER LINE (C-FY)	= 60'
REAR YARD	= 25'

PARKING STANDARDS

ADMINISTRATION/OFFICE	1 SPACE/250 SQ. FT
HANDICAPPED PARKING	2 MIN. REQUIRED FOR 26 - 50 TOTAL SPACES PROPOSED

PROPOSED PARKING SPACES

ADMINISTRATION:	PARKING SPACES = 23 (INCLUDES 4 HC)
END OF THE DRIVEWAY:	PARKING SPACES = 14 (INCLUDES 2 HC)

INFRASTRUCTURE FOR ELECTRIC VEHICLE (EV) CHARGING STATIONS WILL BE INSTALLED IN ACCORDANCE WITH THE CALIFORNIA BUILDING CODE REQUIREMENTS.

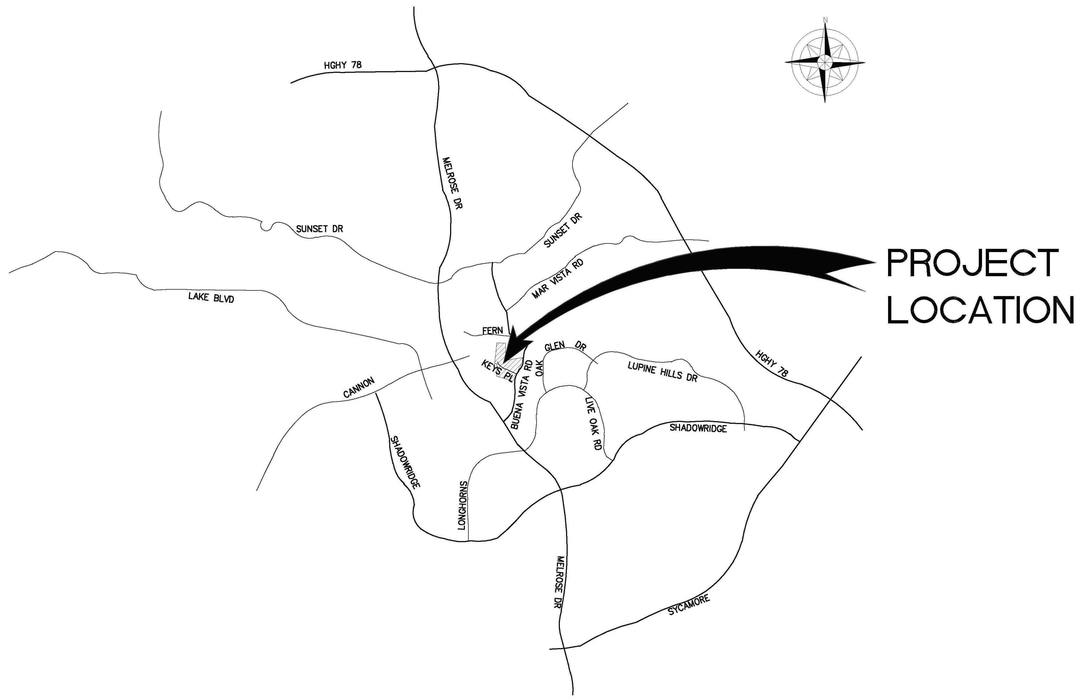
LEGEND

PROPOSED

PROPOSED BUILDING	
PROPOSED EASEMENT LINES	
PROPOSED PARKING	
PROPOSED CENTERLINE	

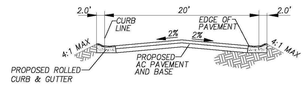
EXISTING

EXISTING EASEMENT LINES	
PROJECT BOUNDARY LINES	
PROPERTY LINE/ROW	PL
CENTERLINE	CL
WATER SERVICE	WM
WATER VALVE	WV
FIRE HYDRANT	FH
SANITARY SEWER MANHOLE	SSMH
SPOT ELEVATION	x101.0
CHAIN LINK FENCE	CLF
EDGE OF PAVEMENT	EP
CONCRETE	CONC
CONTOUR MAJOR	450
CONTOUR MINOR	451
SANITARY SEWER LINE	SS
WATER LINE	W
STORM DRAIN	SD
BUILDING	BLDG
CONCRETE SURFACE	CONC

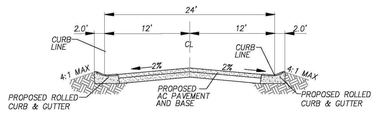


VICINITY MAP
NTS

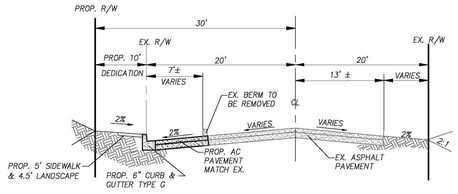
SHEET INDEX



PROPOSED 20' ONE WAY PRIVATE ACCESS
NOT TO SCALE



PROPOSED 24' TWO WAY PRIVATE ACCESS
NOT TO SCALE



BUENA VISTA DRIVE (PUBLIC)
NOT TO SCALE

ABBREVIATIONS

SPOT ELEV. 364.2 EG
FS = FINISHED SURFACE ELEVATION (HARDSCAPE)
FL = FLOWLINE ELEVATION (GUTTER)
RIM = RIM ELEVATION
I.E. = INVERT ELEVATION
TC = TOP OF CURB ELEVATION
SWR = SANITARY SEWER
R = RIGHT
L = LEFT
WTR = WATER
LAT = LATERAL
EX = EXISTING
BF = BACKFLOW PREVENTOR
TOP = TOP OF PIPE
SVC = SERVICE
HORZ = HORIZONTAL
VERT = VERTICAL
PROP = PROPOSED
MTR = METER
S = SLOPE
R/W = RIGHT-OF-WAY
DOC = DOCUMENT
REC = RECORDED
HP = HIGH POINT
XING = UTILITIES CROSSING
CL = CENTER LINE
RW = RECLAIMED WATER
PVT = PRIVATE
LA = LANDSCAPE PLAN

EARTHWORK QUANTITIES

CUT: 5,300 CY, FILL: 7,800 CY, NET IMPORT: 2,500 CY

NOTE: EARTHWORK IS CALCULATED AS GEOMETRIC VOLUME BASED ON PRELIMINARY GRADING, NOT INCLUDING UTILITY TRENCH SPOILS OR GRAVEL YARD SPOILS.

OWNER

MR. MARIO DE BLASIO
DIOCESE OF SAN DIEGO
3888 PADUCAH DRIVE
SAN DIEGO, CA 92117
PHONE NUMBER: (619)-264-3137
EMAIL : MARRUJO@SDCATHOLIC.ORG

SIGNATURE _____ DATE _____

LEGAL DESCRIPTION

1.0 APN: 169-220-02-00
ALL THAT PORTION OF LOT 20 OF RANCHO MAR VISTA, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 2051, OFFICIAL RECORDS OF SAID COUNTY, LYING EASTERLY OF THE FOLLOWING DESCRIBED LINE:

COMMENCING AT A POINT IN THE SOUTH LINE OF SAID LOT 20, DISTANT THEREOF NORTH 89°04'00" EAST, 238.85 FEET FROM THE SOUTHWEST CORNER OF SAID LOT 20; THENCE FROM SAID POINT OF COMMENCEMENT NORTH 03°13'00" WEST, 314.59 FEET MORE OR LESS TO A POINT IN THE NORTHEASTERLY LINE OF SAID LOT 20.

2.0 APN: 169-220-01-00

LOT 21 OF RANCHO MAR VISTA, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 2051, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, AUGUST 17, 1927.

3.0 APN: 169-210-02-00
THE LAND REFERRED TO HEREIN IS SITUATED IN THE INCORPORATED AREA OF VISTA, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOW:
LOT 26 OF RANCHO MAR VISTA, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 20151, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, AUGUST 17, 1927.

4.0 APN: 169-220-03-00
ALL THAT PORTION OF LOT 20 OF RANCHO MAR VISTA, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 2051, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, AUGUST 17, 1927, DESCRIBED AS FOLLOWS:
COMMENCING AT A POINT IN THE SOUTH LINE OF SAID LOT 20, DISTANT THEREOF NORTH 89°04'00" EAST 238.85 FEET FROM THE SOUTHWEST CORNER OF SAID LOT 20; THENCE FROM SAID POINT OF COMMENCEMENT NORTH 03°13'00" WEST 314.59 FEET, MORE OR LESS TO A POINT IN THE NORTHEASTERLY LINE OF SAID LOT 20.

UTILITIES:

1. GAS & ELECTRIC	:	SAN DIEGO GAS & ELECTRIC CO.
2. TELEPHONE	:	COX CABLE/PACIFIC BELL
3. WATER SERVICE	:	VISTA IRRIGATION DISTRICT
4. SEWER SERVICE	:	CITY OF VISTA-SANITATION (CURRENTLY ONLY SEPTIC ON-SITE)
5. FIRE PROTECTION:		CITY OF VISTA-FIRE PROTECTION DEPARTMENT
6. SCHOOL	:	UNIFIED VISTA SCHOOL DISTRICT

SOURCE OF TOPOGRAPHY

AERIAL TOPOGRAPHY SHOWN ON THESE PLANS WAS GENERATED BY TERRASCRIBE, INC. DATED JUNE 29, 2017,

APPLICANT

FIRM: HOFMAN PLANNING AND ENGINEERING
ADDRESS: 3152 LIONSHEAD AVE.
CITY, ST.: CARLSBAD, CALIFORNIA
TELEPHONE: (760) 692-4100

BY: HAIXIN LI DATE: _____

P.E.: C 59064
REGISTRATION EXPIRATION DATE: 06-30-2021

BASIS OF BEARING & COORDINATE SYSTEM:

THE BASIS OF BEARING IS THE CALIFORNIA COORDINATE SYSTEM OF 1983 (CCS83) ZONE 6 COORDINATES BETWEEN CITY OF VISTA SURVEY CONTROL MONUMENTS DESIGNATED 2017 AND 2059 AS ESTABLISHED ON RECORD SURVEY NO. 14023 BEING N8215'49"E.

CONTOUR INTERVAL: 1' FOOT

BENCHMARK:

THE BENCHMARK IS THE CITY OF VISTA SURVEY CONTROL POINT DESIGNATED 20159 AS ESTABLISHED ON RECORD SURVEY NO. 14023

ELEVATION: 460.81' (NGVD 29)

SIGHT DISTANCE CERTIFICATON:

THERE IS OVER 300 FEET OF UNOBSTRUCTED INTERSECTIONAL SIGHT DISTANCE IN BOTH DIRECTIONS ALONG BUENA VISTA DRIVE FROM THE PROPOSED PRIVATE ROAD IN ACCORDANCE WITH THE METHODOLOGY DESCRIBED IN SECTION 6.1.(E), TABLE 5 OF THE MARCH 2012 COUNTY OF SAN DIEGO PUBLIC ROAD STANDARDS. THESE SIGHT DISTANCES EXCEED THE REQUIRED INTERSECTIONAL SIGHT DISTANCE REQUIREMENTS OF 300 FEET AS DESCRIBED IN SECTION 6.1.(E), TABLE 5 BASED ON A SPEED OF 30 MPH, WHICH I HAVE VERIFIED TO BE THE HIGHER OF THE PREVAILING SPEED OR THE MINIMUM DESIGN SPEED OF THE ROAD CLASSIFICATION. I HAVE EXERCISED RESPONSIBLE CHARGE FOR THE CERTIFICATION AS DEFINED IN SECTION 6703 OF THE PROFESSIONAL ENGINEERS ACT OF THE CALIFORNIA BUSINESS AND PROFESSIONS CODE, AND SAID LINES OF SIGHT FALL WITHIN THE EXISTING AND PROPOSED DEDICATION OF RIGHT-OF-WAY.

BY: HAIXIN LI, PE _____ DATE
PE: C59064, EXPIRES: 06/30/2021

REGISTERED PROFESSIONAL ENGINEER
HAIXIN LI
No. C59064
Exp. 06/30/23
CIVIL
STATE OF CALIFORNIA

SHEET 1 OF 5

PLANNING CASE NO.

DATE 10/18/2021

SCALE:

DRAWN: HL

JOB NO. CEME

PROJECT NAME:
GOOD SHEPHERD CATHOLIC CEMETERY
COUNTY of SAN DIEGO, CA

Hofman Planning + Engineering
3152 Lionshead Avenue
Carlsbad, CA 92010
(760) 692-4100
www.hofmanplanning.com

SHEET TITLE:
MAJOR USE PERMIT
COVER SHEET

REVISIONS:

PLANNING CASE NO.

DATE 10/18/2021

SCALE: 1" = 40'

DRAWN: HL

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SHEET TITLE:

MAJOR USE PERMIT EXHIBIT EXISTING SITE PLAN

REVISIONS:

FERN PLACE

BUENA VISTA DRIVE

EX. 12" CMP

EXISTING 6" PVC WATER LINE

EX. WATER METER

EX. 8" PVC SEWER LINE

EX. 10" PVC WATER LINE

EX. FH

EXISTING 6" PVC WATER LINE

APN = 169-210-03-00
A= 1.77 AC
NOT A PART

APN = 169-210-02-00
A= 5.08 AC

APN = 169-220-01-00
A= 5.32 AC

APN = 169-220-02-00
A= 1.72 AC

APN = 169-220-03-00
A= 2.37 AC

PROJECT BOUNDARY LINE

JURISDICTIONAL DRAINAGE TO REMAIN

EX. RPO WETLAND

JURISDICTIONAL DRAINAGE TO BE FULLY IMPACTED/DEVELOPED AND TO BE MITIGATED BY OFFSITE MITIGATION

EX. JURISDICTIONAL VEGETATED DEPRESSION

JURISDICTIONAL DRAINAGE

JURISDICTIONAL DRAINAGE TO BE FULLY IMPACTED/DEVELOPED AND TO BE MITIGATED BY OFFSITE MITIGATION

JURISDICTIONAL DRAINAGE TO BE FULLY IMPACTED/DEVELOPED AND TO BE MITIGATED BY OFFSITE MITIGATION

C/L 2" PIPELINE EASEMENT RECORDED SEPTEMBER 3, 1930 AS BOOK 1803 PAGE 436, DEEDS

6' SDG&E EASEMENT RECORDED JULY 19, 1963 AS INSTRUMENT NO. 126719

EXISTING EASEMENT BOOK 1803 PP 436

EXISTING ROW TO BE VACATED (KEYS PLACE)

EXISTING WELL TO REMAIN

EX. WATER TANK TO REMAIN

EX. STRUCTURES TO BE REMOVED

EX. STRUCTURE TO BE REMOVED

EX. DRIVEWAY TO BE IMPROVED

EX. STORM DRAIN

EX. WATER SERVICE

Plant Nursery

Shade cloth

asph

CANNON RD

COUNTY OF SAN DIEGO
CITY OF OCEANSIDE

CITY OF OCEANSIDE
CITY OF VISTA

CITY OF VISTA

COUNTY OF SAN DIEGO
CITY VISTA

COUNTY OF SAN DIEGO
CITY OF VISTA

EASEMENT NOTES:

2" PIPELINE EASEMENT RECORDED SEPTEMBER 3, 1930 AS BOOK 1803 PAGE 436, DEEDS

6' SDG&E EASEMENT RECORDED JULY 19, 1963 AS INSTRUMENT NO. 126719.

EASEMENTS CANNOT BE DETERMINED FROM RECORD:

- VISTA IRRIGATION EASEMENT RECORDED OCTOBER 6, 1925 IN BOOK 1125, PAGE 201 OF DEEDS. AFFECTS APN 169-210-03.
- EASEMENT FOR PIPELINE OR PIPELINES AND INCIDENTAL PROPOSES IN THE DOCUMENT RECORDED SEPTEMBER 15, 1931 AS BOOK 33, PAGE 155 OF OFFICIAL RECORDS. AFFECTS APN 169-220-01.
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- CROSS-ARM EASEMENT DEDICATED ON MAP FILED AUGUST 27, 1924 AS MAP NO. 2051 ALONG THE RIGHT OF WAY OF ALL HIGHWAYS LESS THAN 60 FEET IN WIDTH TO HANG OVER THE ABUTTING PROPERTY, NO WIDTH.

LEGEND

EXISTING RPO WETLAND (PER LSA REPORT DATED _____)

EXISTING JURISDICTIONAL VEGETATED DEPRESSION (PER LSA REPORT DATED _____)

CDFW JURISDICTIONAL STREAMBED/BANKS

PROJECT BOUNDARY WITH 8' SEE THROUGH FENCE

COUNTY OF SAN DIEGO/CITY BOUNDARY

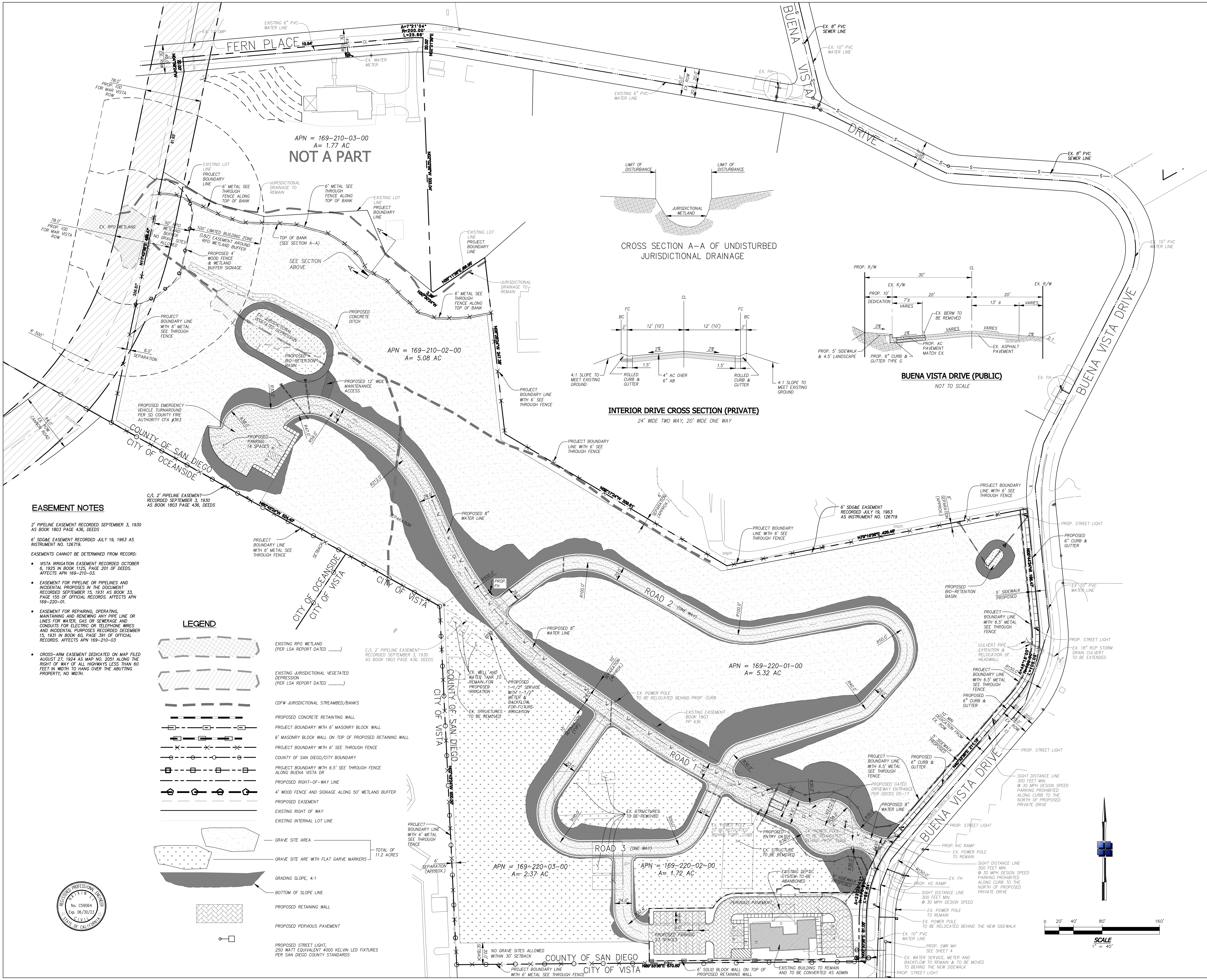
EXISTING RIGHT OF WAY

EXISTING INTERNAL LOT LINE

REGISTERED PROFESSIONAL ENGINEER
HEATH L. HOFMAN
No. C59064
Exp. 06/30/23
CIVIL
STATE OF CALIFORNIA

0 20' 40' 80' 160'

SCALE
1" = 40'



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- EXISTING JURISDICTIONAL VEGETATED DEPRESSION (PER LSA REPORT DATED ______)
- CDFW JURISDICTIONAL STREAMBED/BANKS
- PROPOSED CONCRETE RETAINTING WALL
- PROJECT BOUNDARY WITH 6' MASONRY BLOCK WALL
- 6' MASONRY BLOCK WALL ON TOP OF PROPOSED RETAINING WALL
- PROJECT BOUNDARY WITH 6' SEE THROUGH FENCE
- COUNTY OF SAN DIEGO/CITY BOUNDARY
- PROJECT BOUNDARY WITH 6.5' SEE THROUGH FENCE ALONG BUENA VISTA DR
- PROPOSED RIGHT-OF-WAY LINE
- 4' WOOD FENCE AND SIGNAGE ALONG 50' WETLAND BUFFER
- PROPOSED EASEMENT
- EXISTING RIGHT OF WAY
- EXISTING INTERNAL LOT LINE
- GRAVE SITE AREA
- GRAVE SITE ARE WITH FLAT GARVE MARKERS

TOTAL OF 11.2 ACRES

- GRADING SLOPE, 4:1
- BOTTOM OF SLOPE LINE
- PROPOSED RETAINING WALL
- PROPOSED PERVIOUS PAVEMENT
- PROPOSED STREET LIGHT, 250 WATT EQUIVALENT 4000 KELVIN LED FIXTURES PER SAN DIEGO COUNTY STANDARDS

SHEET 3 OF 5

PLANNING CASE NO.

DATE	10/18/2021
SCALE:	1" = 40'
DRAWN:	HL
JOB NO.	CEME

PROJECT NAME:

GOOD SHEPHERD CATHOLIC CEMETERY

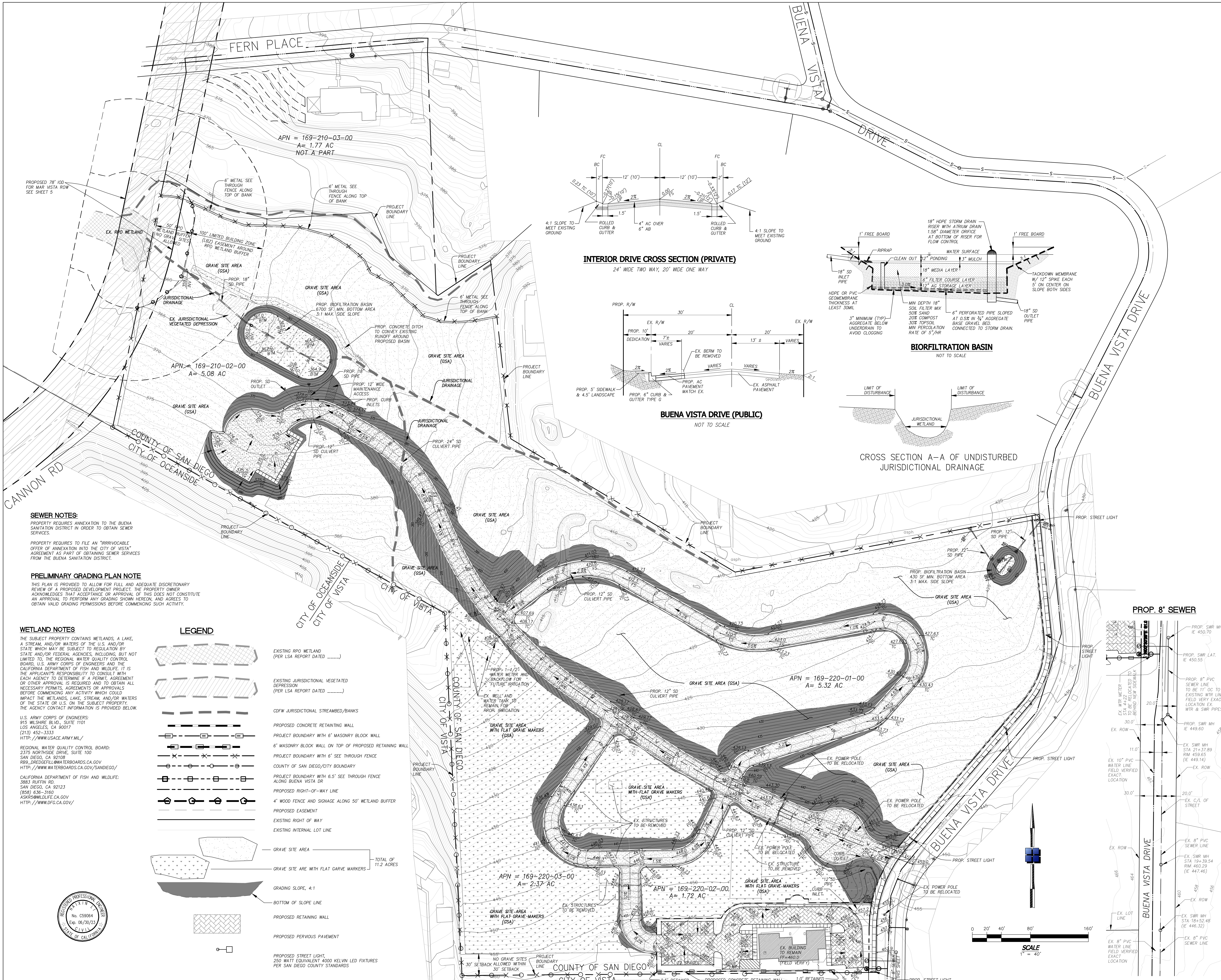
COUNTY of SAN DIEGO, CA

Hofman
Planning + Engineering
3152 Lionshead Avenue
Carlsbad, CA 92010
(760) 692-4100
www.hofmanplanning.com

SHEET TITLE:

MAJOR USE PERMIT EXHIBIT PROPOSED SITE PLAN

REVISIONS:



SEWER NOTES:

PROPERTY REQUIRES ANNEXATION TO THE BUENA SANITATION DISTRICT IN ORDER TO OBTAIN SEWER SERVICES.

PROPERTY REQUIRES TO FILE AN "IRRRIVOCABLE OFFER OF ANNEXATION INTO THE CITY OF VISTA" AGREEMENT AS PART OF OBTAINING SEWER SERVICES FROM THE BUENA SANITATION DISTRICT.

PRELIMINARY GRADING PLAN NOTE

THIS PLAN IS PROVIDED TO ALLOW FOR FULL AND ADEQUATE DISCRETIONARY REVIEW OF A PROPOSED DEVELOPMENT PROJECT. THE PROPERTY OWNER ACKNOWLEDGES THAT ACCEPTANCE OR APPROVAL OF THIS DOES NOT CONSTITUTE AN APPROVAL TO PERFORM ANY GRADING SHOWN HEREON, AND AGREES TO OBTAIN VALID GRADING PERMISSIONS BEFORE COMMENCING SUCH ACTIVITY.

WETLAND NOTES

THE SUBJECT PROPERTY CONTAINS WETLANDS, A LAKE, A STREAM, AND/OR WATERS OF THE U.S. AND/OR STATE WHICH MAY BE SUBJECT TO REGULATION BY STATE AND/OR FEDERAL AGENCIES, INCLUDING, BUT NOT LIMITED TO, THE REGIONAL WATER QUALITY CONTROL BOARD, U.S. ARMY CORPS OF ENGINEERS AND THE CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE. IT IS THE APPLICANT'S RESPONSIBILITY TO CONSULT WITH EACH AGENCY TO DETERMINE IF A PERMIT, AGREEMENT OR OTHER APPROVAL IS REQUIRED AND TO OBTAIN ALL NECESSARY PERMITS, AGREEMENTS OR APPROVALS BEFORE COMMENCING ANY ACTIVITY WHICH COULD IMPACT THE WETLANDS, LAKE, STREAM, AND/OR WATERS OF THE STATE OR U.S. ON THE SUBJECT PROPERTY. THE AGENCY CONTACT INFORMATION IS PROVIDED BELOW.

U.S. ARMY CORPS OF ENGINEERS:
915 WILSHIRE BLVD., SUITE 1101
LOS ANGELES, CA 90017
(213) 452-3333
HTTP://WWW.USACE.ARMY.MIL/

REGIONAL WATER QUALITY CONTROL BOARD:
2375 NORTHSIDE DRIVE, SUITE 100
SAN DIEGO, CA 92108
RB9_DREDGEFILL@WATERBOARDS.CA.GOV
HTTP://WWW.WATERBOARDS.CA.GOV/SANDIEGO/

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE:
3883 RUFFIN RD.
SAN DIEGO, CA 92123
(858) 636-3160
ASKR5@WILDLIFE.CA.GOV
HTTP://WWW.DFG.CA.GOV/

LEGEND

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- GRAVE SITE AREA
- GRAVE SITE ARE WITH FLAT GARVE MARKERS

  (TOTAL OF 11.2 ACRES)
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- BOTTOM OF SLOPE LINE
- PROPOSED RETAINING WALL
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- PROPOSED STREET LIGHT, 250 WATT EQUIVALENT 4000 KELVIN LED FIXTURES PER SAN DIEGO COUNTY STANDARDS

PLANNING CASE NO.	
DATE	10/18/2021
SCALE:	1" = 40'
DRAWN:	HL
JOB NO.	CEME

PROJECT NAME:

GOOD SHEPHERD CATHOLIC CEMETERY

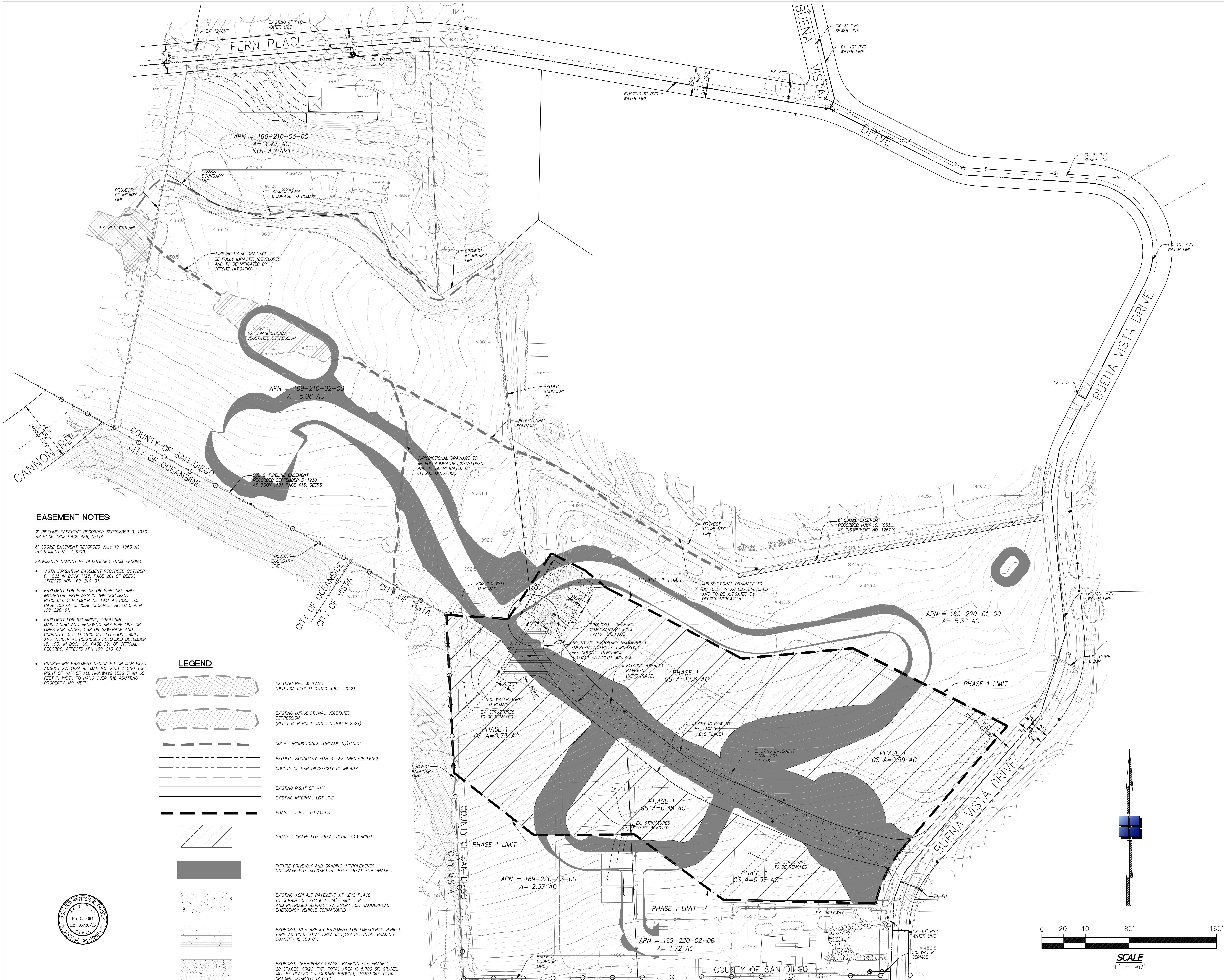
COUNTY of SAN DIEGO, CA

Hofman
Planning + Engineering
3152 Lionshead Avenue
Carlsbad, CA 92010
(760) 692-4100
www.hofmanplanning.com

SHEET TITLE:

MAJOR USE PERMIT PROPOSED GRADING AND UTILITY PLAN

REVISIONS:



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EXISTING JURISDICTIONAL VEGETATED DEPRESSION (PER LSA REPORT DATED OCTOBER 2021)

CDFW JURISDICTIONAL STREAMBED/BANKS

PROJECT BOUNDARY WITH 8' SEE THROUGH FENCE

COUNTY OF SAN DIEGO/CITY BOUNDARY

EXISTING RIGHT OF WAY

EXISTING INTERNAL LOT LINE

PHASE 1 LIMIT, 5.0 ACRES

PHASE 1 GRAVE SITE AREA, TOTAL 3.13 ACRES

FUTURE DRIVEWAY AND GRADING IMPROVEMENTS NO GRAVE SITE ALLOWED IN THESE AREAS FOR PHASE 1

EXISTING ASPHALT PAVEMENT AT KEYS PLACE TO REMAIN FOR PHASE 1, 24'± WIDE TYP. AND PROPOSED ASPHALT PAVEMENT FOR HAMMERHEAD EMERGENCY VEHICLE TORNAROUND

PROPOSED NEW ASPALT PAVEMENT FOR EMERGENCY VEHICLE TURN AROUND. TOTAL AREA IS 3,127 SF. TOTAL GRADING QUANTITY IS 120 CY.

PROPOSED TEMPORARY GRAVEL PARKING FOR PHASE 1 20 SPACES, 9'X20' TYP. TOTAL AREA IS 5,700 SF. GRAVEL WILL BE PLACED ON EXISTING BROUND, THEREFORE TOTAL GRADING QUANTITY IS 0 CY.

PLANNING CASE NO.	
DATE	04/20/2022
SCALE:	1" = 40'
DRAWN:	HL
JOB NO.	CEME

PROJECT NAME:

GOOD SHEPHERD CATHOLIC CEMETERY

COUNTY of SAN DIEGO, CA

Hofman
Planning + Engineering
3152 Lionshead Avenue
Carlsbad, CA 92010
(760) 692-4100
www.hofmanplanning.com

SHEET TITLE:

MAJOR USE PERMIT EXHIBIT TEMPORARY PHASE 1

REVISIONS:

CT 00-00 / PUD 00-00 / CDP 00-00

PROJECT TEAM

Property Owner:
Catholic Church,
St,
City, CA #####
contact: SAME
ph:

Landscape Architect:
DMLA
contact: David Miertschin
email: david@dmlaonline.com
ph: (949) 388-3369

ENGINEER:
Hofman Planning +Engineering, Inc.
contact: Adam Kooienga
email:
akooienga@hofmanplanning.com
ph: 760.692.4019 Tel

GOOD SHEPHERD CATHOLIC CEMETERY

1505 Buena Vista Drive,
County of San Diego, Ca 92081

PHS 1 LANDSCAPE PLANS

ABBREVIATIONS

A/C	AIR CONDITIONER
ADV	ANTI-DRAIN VALVE
AVG	AVERAGE
B	BRASS
BF	BACK FLOW
BS	BOTTOM OF STEP
BTH	BROWN TRUNK HEIGHT
BV	BALL VALVE
BW	BOTH WAYS
C	COPPER
CF	CUBIC FEET
CL	CENTERLINE
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
CNTRL	CONTROLLER
CV	CHECK VALVE
DIA	DIAMETER
EA	EACH
EJ	EXPANSION JOINT
EQ	EQUAL
ETo	EVAPOTRANSPIRATION
ETAF	EVAPOTRANSPIRATION ADJUSTMENT FACTOR
ETWU	ESTIMATED TOTAL WATER USE
FC	FOUNTAIN COPING
FF	FINISH FLOOR ELEVATION
FL	FLOW LINE
FOC	FACE OF COLUMN
FOW	FACE OF WALL
FS	FINISH SURFACE
FT	FEET
FYSB	FRONT YARD SETBACK
GAL	GALLON (S)
G/C	GROUND COVER
GF	GARAGE FINISH FLOOR
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GV	GATE VALVE
G/Y	GALLONS PER YEAR
H	HIGH
HP	HIGH POINT
HT	HEIGHT
HxW	HEIGHTxWIDTH
HZ	HYDROZONE
IE	IRRIGATION EFFICIENCY
INV	INVERT ELEVATION
L	LOW
LIC	LICENSE
M	MEDIUM/MODERATE
MAWA	MAXIMUM ALLOWABLE WATER AMOUNT
MAX	MAXIMUM
MFG	MANUFACTURER
MIN	MINIMUM
NA	NOT APPLICABLE
NAP	NOT A PART
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OAR	OWNER'S AUTHORIZED REPRESENTATIVE
OC	ON CENTER
PA	PLANTER AREA
PC	POOL COPING
PERF	PERFORATED PIPE
PF	PLANT FACTOR
PIP	PROTECT IN PLACE
PL	PROPERTY LINE
POC	POINT OF CONNECTION
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
PVC	POLY VINYL CHLORIDE
QC	QUICK COUPLER
QTY	QUANTITY
R	RADIUS
RCV	REMOTE CONTROL VALVE
REG-RTG	REGION- RATING
REQ	REQUIRED
REQD	REQUIRED
REQS	REQUIREMENTS
RLA	REGISTERED LANDSCAPE ARCHITECT
RM	RECLAIMED WATER METER
RP	REDUCED PRESSURE BACKFLOW
RWS	ROOT WATERING SYSTEM
RYSB	REAR YARD SETBACK
S	WALL STEP
SC	SPA COPING
SCH	SCHEDULE
SB	SETBACK
SF	SQUARE FOOT
SLA	SPECIAL LANDSCAPE AREA
SP	SEALED PLANTER
SPEC'D.	SPECIFIED
STD	STANDARD (S)
SYM	SYMBOL
SYSB	SIDE YARD SETBACK
TBS	TO BE SELCTED
TC	TOP OF CURB
TF	TOP OF FOOTING
TFNC	TOP OF FENCE
TG	TOP OF GRATE
TP	TOP OF PILASTER
TS	TOP OF STEP
TW	TOP OF WALL
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VAC	VOLTS ALTERNATING CURRENT
VL	VERY LOW
WL	WATERLINE
WM	WATER METER
W/	WITH
W/O	WITHOUT

SCOPE OF WORK

DMLA TO PREPARE LANDSCAPE ARCHITECTURAL WORKING DRAWINGS FOR COUNTY AND WATER DISTRICT APPROVAL.

CODE COMPLIANCE

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

- 2022 CALIFORNIA ADMINISTRATIVE CODE
- 2022 CALIFORNIA GREEN BUILDING STANDARDS CODE
- 2022 CALIFORNIA BUILDING CODE
- 2022 CALIFORNIA ELECTRICAL CODE
- 2022 CALIFORNIA FIRE CODE
- SAN DIEGO COUNTY, CA MUNICIPAL CODES

SHEET INDEX

LANDSCAPE SUBMITTALS

Submittal 1 6/16/23

TITLE SHEET

LICENSED LANDSCAPE ARCHITECT DAVID M. MIERTSCHIN 5276 RENEWAL JULY 31, 2023 6-16-23 STATE OF CALIFORNIA

Landscape Architect:

DMLA Landscape Architecture
34032 Alcazar Drive,Dana Point, Ca 92673
949.388.3369 david@dmlaonline.com

Hofman Planning + Engineering
3152 Lionshead Avenue
Carlsbad, CA 92010
(760) 692-4100
www.hofmanplanning.com

	DESCRIPTION	DATE

CLIENT:
Diocese of San Diego
4470 Hilltop Drive
San Diego, CA 92102
Mario DeBlasio
619-264-3127
marioholycrosssd.com

PROJECT ADDRESS:
1505 Duena Vista Drive
County of San Diego, Ca
APN: 169-210-02, 169-210-03
169-220-01 thru 03

PROJECT NO.:	
DRAWING FILE:	
DRAWN BY:	**dmm**
CHECKED BY:	

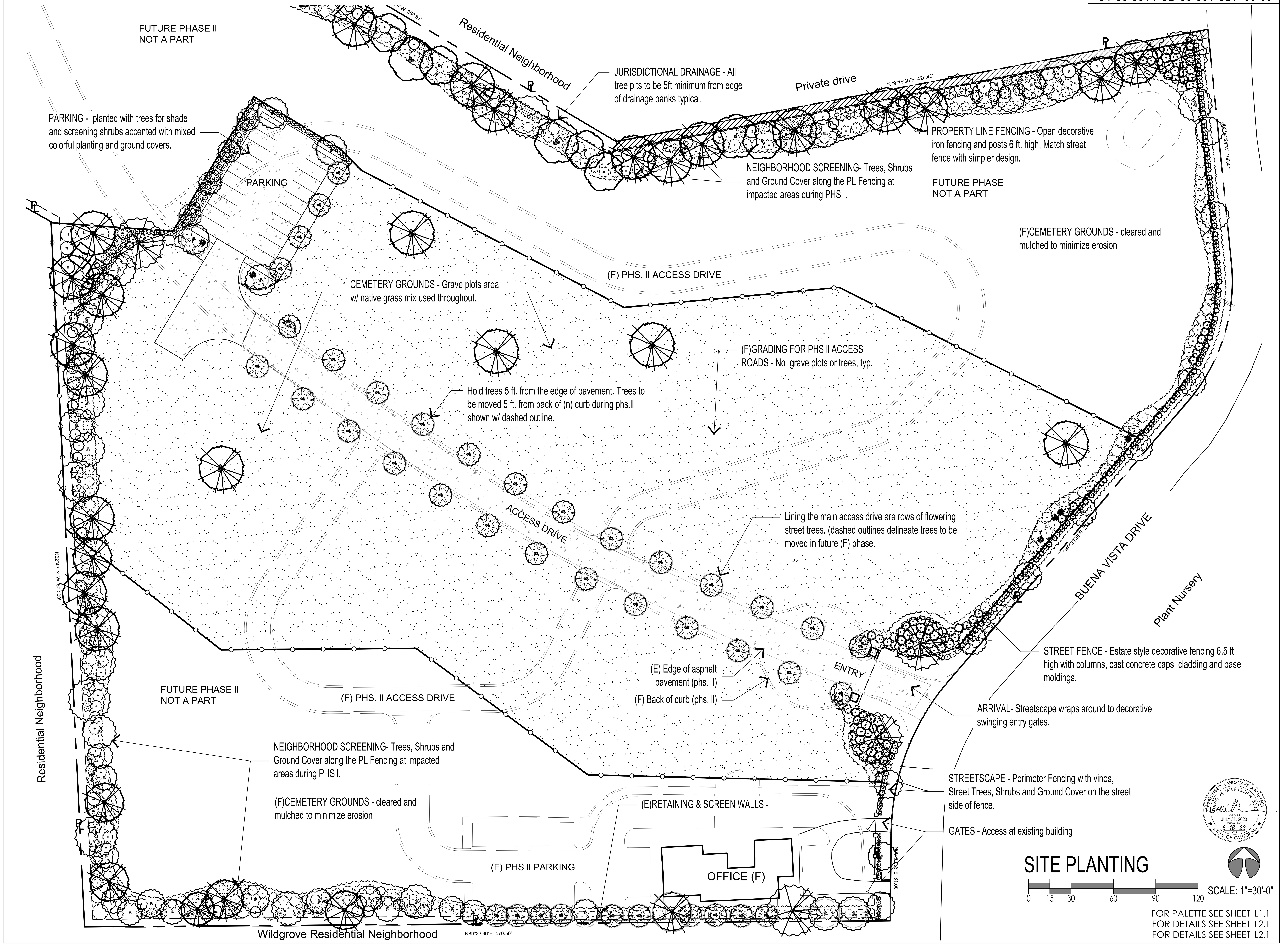
PROJECT:
Good Sheperd Catholic Cemetery County of San Diego, Ca

SHEET TITLE:
TITLE SHEET
PHS I

SHEET NO.:
T1.0

Print Date: 4/20/2023

CT 00-00 / PUD 00-00 / CDP 00-00



FUTURE PHASE II
NOT A PART
Residential Neighborhood
JURISDICTIONAL DRAINAGE - All tree pits to be 5ft minimum from edge of drainage banks typical.
Private drive
N79°15'36"E 426.46'
PARKING - planted with trees for shade and screening shrubs accented with mixed colorful planting and ground covers.
PARKING
PROPERTY LINE FENCING - Open decorative iron fencing and posts 6 ft. high, Match street fence with simpler design.
NEIGHBORHOOD SCREENING- Trees, Shrubs and Ground Cover along the PL Fencing at impacted areas during PHS I.
FUTURE PHASE
NOT A PART
(F)CEMETERY GROUNDS - cleared and mulched to minimize erosion
(F) PHS. II ACCESS DRIVE
CEMETERY GROUNDS - Grave plots area w/ native grass mix used throughout.
(F)GRADING FOR PHS II ACCESS ROADS - No grave plots or trees, typ.
Hold trees 5 ft. from the edge of pavement. Trees to be moved 5 ft. from back of (n) curb during phs.II shown w/ dashed outline.
ACCESS DRIVE
Lining the main access drive are rows of flowering street trees. (dashed outlines delineate trees to be moved in future (F) phase.
BUENA VISTA DRIVE
Plant Nursery
N02°43'24"W 500.00'
STREET FENCE - Estate style decorative fencing 6.5 ft. high with columns, cast concrete caps, cladding and base moldings.
(E) Edge of asphalt pavement (phs. I)
ENTRY
(F) Back of curb (phs. II)
FUTURE PHASE II
NOT A PART
(F) PHS. II ACCESS DRIVE
ARRIVAL- Streetscape wraps around to decorative swinging entry gates.
Residential Neighborhood
NEIGHBORHOOD SCREENING- Trees, Shrubs and Ground Cover along the PL Fencing at impacted areas during PHS I.
(F)CEMETERY GROUNDS - cleared and mulched to minimize erosion
(E)RETAINING & SCREEN WALLS -
STREETSCAPE - Perimeter Fencing with vines, Street Trees, Shrubs and Ground Cover on the street side of fence.
GATES - Access at existing building
(F) PHS II PARKING
OFFICE (F)
SITE PLANTING
0 15 30 60 90 120
SCALE: 1"=30'-0"
JULY 31, 2023
6-16-23
STATE OF CALIFORNIA
Wildgrove Residential Neighborhood
N89°33'36"E 570.50'

FOR PALETTE SEE SHEET L1.1
FOR DETAILS SEE SHEET L2.1
FOR DETAILS SEE SHEET L2.1

Landscape Architect:

DMLA
Landscape Architecture
34032 Alcazar Drive,Dana Point, Ca 92673
949.388.3369 david@dmlaonline.com

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DESCRIPTION	DATE

CLIENT:
Diocese of San Diego
4470 Hilltop Drive
San Diego, CA 92102
Mario DeBlasio
619-264-3127
marioholycrosssd.com

PROJECT ADDRESS:
1505 Duena Vista Drive
County of San Diego, Ca
APN: 169-210-02, 169-210-03
169-220-01 thru 03

PROJECT NO.:	
DRAWING FILE:	
DRAWN BY:	dmm
CHECKED BY:	

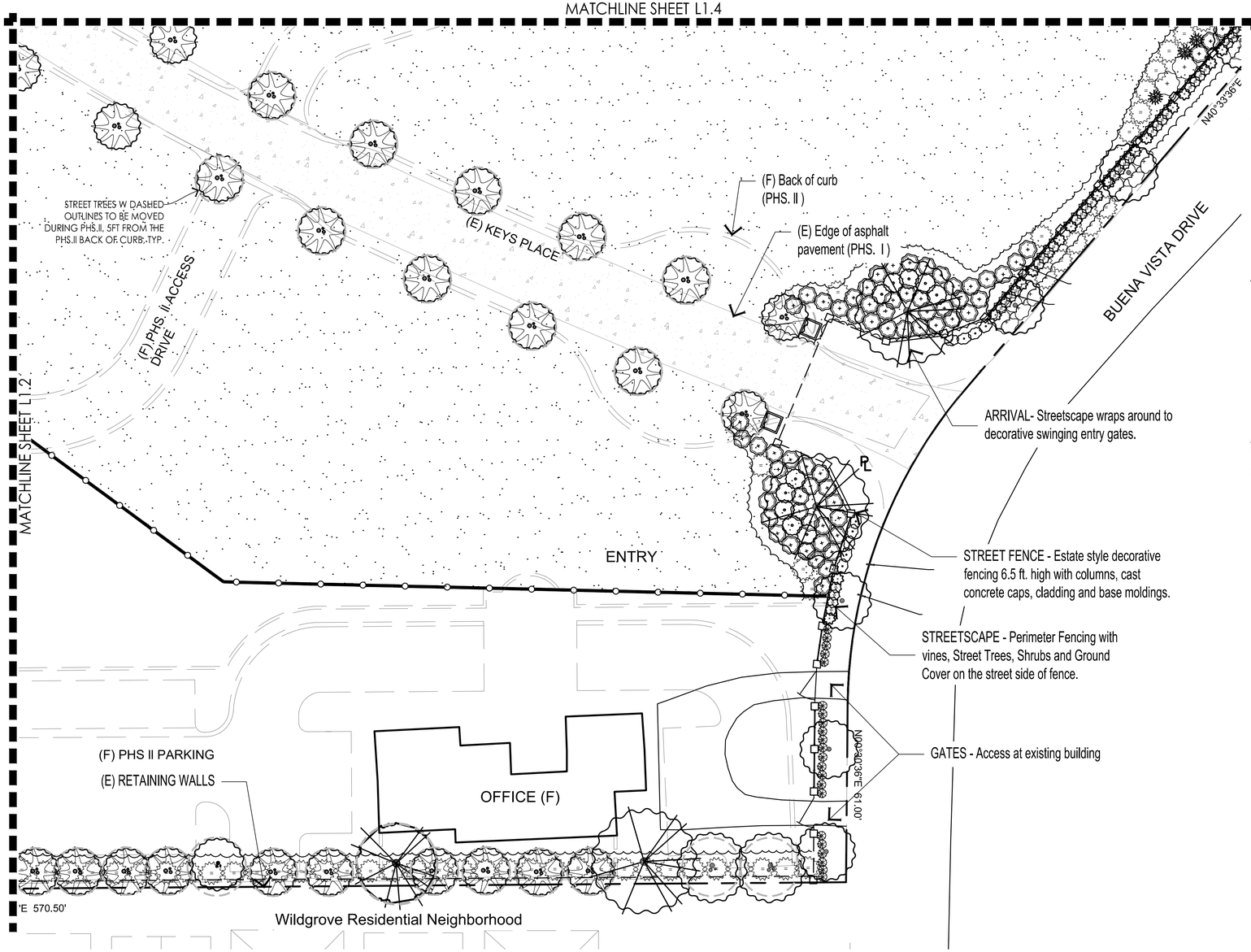
PROJECT:
Good Sheperd Catholic Cemetery County of San Diego, Ca

SHEET TITLE:
PLANTING PLAN
PHS I

SHEET NO.:
L1.0

 Print Date: 4/20/2023

CT 00-00 / PUD 00-00 / CDP 00-00



PLANTING LEGEND

SHRUBS

SYMBOL	KEY	BOTANICAL/ COMMON NAME	REMARKS	SIZE	QTY.	DTL/SHT	MATURE HxW	WUCOLS IV REG.-RTG.
SMALL TO MEDIUM SHRUBS 1'-3'+/-HT								
	ARC EME	ARCTOSTAPHYLOS 'EMERALD CARPET' EMERALD CARPET MANZANITA		5 GAL			1'x5'	
	BAC PID	BACCHARIS P. "PIGEON POINT" DWARF COYOTE BRUSH		1 GAL			1'x6'+	
	CEA YAN	CEANOTHUS HORIZONTALIS "YANKEE POINT" CARMEL CREEPER		1 GAL			2'x8'+	
	CER ALN	CERCOCARPUS ALNIFOLIUS ISLAND MOUNTAIN MAHOGANY		5 GAL			8'x4'+	
	LIG HED	LIGUSTRUM J. 'TEXANUM' WAXLEAF PRIVET		5 GAL			4'x3'	
	MUH RIG	MUHLENBERGIA RIGENS DEER GRASS		1 GAL			3'x4'	
	MYR COM	MYRTUS COMMUNIS "COMPACTA" DWARF MYRTLE		5 GAL			3'x3'	
	PIT CRA	PITTOSPORUM C. 'COMPACTUM' DWARF KARO		5 GAL			3'x3'	
	RHA SEA	RHAMNUS CALIFORNICA "SEA VIEW" DWARF COFFEEBERRY		5 GAL			18"x3'	
	ROS ICE	ROSA 'ICEBERG' ICEBERG WHITE FLORIBUNDA ROSE		5 GAL			3'x3'+	
	ROS TUS	ROSMARINUS O. 'TUSCAN BLUE' UPRIGHT ROSEMARY		5 GAL		V	3'x3'	
MEDIUM SHRUBS 4'-6'+/- HT								
	ARC HOW	ARCTOSTAPHYLOS 'HOWARD MCMINN' MANZANITA		5 GAL		V	6'x6'	
	FUR MED	FURCRAEA MEDIOPICTA VARIEGATED FURCRAEA		15 GAL			4'x4'+	
	HET ARB	HETEROMELES ARBUTIFOLIA TOYON		5 GAL		V	10'x8'	
	PIT TOB	PITTOSPORUM TOBIRA GREEN PITTOSPORUM		15 GAL			4'x6'+	
	RHA CAL	RHAMNUS CALIFORNICA "EVE CASE" COFFEE BERRY		5 GAL		V	6'x6'	
	RIB SPO	RIBES V. "SPOONER'S MESA" SAN DIEGO EVERGREEN CURRANT		5 GAL		V	4'x6'	
	YUC REC	YUCCA RECURVIFOLIA SOFT LEAF YUCCA		15 GAL			4'x3'	
SCREENING AT PARKING LOTS								
	ARC SUN	ARCTOSTAPHYLOS 'SUNSET' SUNSET MANZANITA		5 GAL			3'x6'	
	LIG HED	LIGUSTRUM J. 'TEXANUM' WAXLEAF PRIVET		5 GAL			3'x3'	
	MYR COM	MYRTUS COMMUNIS "COMPACTA" DWARF MYRTLE		5 GAL			3'x3'	
	PIT CRA	PITTOSPORUM C. 'COMPACTUM' DWARF KARO		5 GAL			3'x3'	
SCREENING AT PROPERTY LINES								
	ARC SUN	ARCTOSTAPHYLOS 'HOWARD MCMINN' MANZANITA		5 GAL			6'x6'	
	CEA OWL	CEANOTHUS ARBOREUS "OWLSWOOD BLUE" OWLSWOOD BLUE ISLAND MTN. LILAC		5 GAL			10'x8'+	
	CEA JUL	CEANOTHUS 'JULIA PHELPS' JULIA PHELPS CALIFORNIA LILAC		5 GAL			5'x8'+	
	HET ARB	HETEROMELES ARBUTIFOLIA TOYON		5 GAL			10'x8'	
	RHA MOU	RHAMNUS "MOUND SAN BRUNO" SAN BRUNO COFFEEBERRY		5 gal			6'x8'	
	RHU INT	RHUS INTEGRIFOLIA LEMONADE BERRY		5 GAL			10'x6'+	

VINES

SYMBOL	KEY	BOTANICAL/ COMMON NAME	REMARKS	SIZE	QTY.	DTL/SHT	MATURE HxW	WUCOLS IV REG.-RTG.

GROUND COVERS

SYMBOL	KEY	BOTANICAL/ COMMON NAME	REMARKS	SIZE	QTY.	DTL/SHT	MATURE HxW	WUCOLS IV REG.-RTG.
	ARC EME	ARCTOSTAPHYLOS 'EMERALD CARPET' EMERALD CARPET MANZANITA		5 GAL			1'x5'	
	BAC PID	BACCHARIS P. "PIGEON POINT" DWARF COYOTE BRUSH		1 GAL			1'x6'+	
	CAR GRE	CARISSA M. "GREEN CARPET" GREEN CARPET NATAL PLUM		1 GAL @2'OC			1'x4'+	
	CEA YAN	CEANOTHUS HORIZONTALIS "YANKEE POINT" CARMEL CREEPER		1 GAL			2'x8'+	
	ESC NEW	ESCALLONIA "NEWPORT DWARF" DWARF PINK ESCALLONIA		5 GAL			1.5'x4'	

TREES

SYMBOL	KEY	BOTANICAL/ COMMON NAME	REMARKS	SIZE	QTY.	DTL/SHT #	MATURE (20YR.) HxW	MAINTAIN TO: HxW	WUCOLS IV REG.-RTG.
	ARB MAR	ARBUTUS M. "MARINA" MARINA STRAWBERRY TREE	MULTI TRUNK OR LOW BRANCH	24" BOX			25'x22'	SAME	
	CIN CAM	CINNAMOMUM CAMPHORA CAMPHOR TREE	LOW BRANCH STANDARDS	72" BOX			50'x50'+	SAME	
	CER OCC	CERCIS OCCIDENTALIS WESTERN REDBUD	MULTI TRUNK OR LOW BRANCH	36 BOX			20'x20' +/-	SAME	
	LOP CON	LOPHOSTEMON CONFERTA BRISBANE BOX		36" BOX			60'x40'+	SAME	
	OLE SWA	OLEA EUROPEA "SWAN HILL" SWAN HILL FRUITLESS OLIVE	LOW BRANCH	48" BOX			20'x25' +/-	SAME	
	PLA RAC	PLATANUS RACEMOSA CALIFORNIA SYCAMORE	MIX MULTI TRUNK & LOW BRANCH STD.	36" BOX			60'x40'+	SAME	
	PYR KAW	PYRUS KAWAKAMII EVERGREEN PEAR	STANDARD TRUNK	36" box			20'x20'	SAME	
	QUE AGR	QUERCUS AGRIFOLIA COAST LIVE OAK	MIX MULTI TRUNK & LOW BRANCH STD.	48" BOX 36" BOX			35'x30' +/-	SAME	
	ULM PAR	ULMUS PARVIFOLIA EVERGREEN ELM	STREET TREES PER CITY HIGH BRANCH STD.	24" BOX			35'x30'	SAME	

ENLARGED PLANTING

0 10 20 40 60 80 SCALE: 1"=20'-0"

FOR NOTES & SPEC'S SEE SHEET L2.0
FOR DETAILS SEE SHEET L2.1

DONALD M. MYERTSCHIN LICENSED LANDSCAPE ARCHITECT JULY 31, 2023 RENEWAL 6-16-23 STATE OF CALIFORNIA

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	DESCRIPTION	DATE

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PROJECT ADDRESS:
1505 Duena Vista Drive
County of San Diego, Ca
APN: 169-210-02, 169-210-03
169-220-01 thru 03

PROJECT NO.:	
DRAWING FILE:	
DRAWN BY:	dmm
CHECKED BY:	

PROJECT:
Good Sheperd Catholic Cemetery County of San Diego, Ca

SHEET TITLE:
PLANTING PLAN PHS I

SHEET NO.:
L1.1

Print Date: 4/20/2023