civil engineering
structural engineering
land surveying

COUNTY OF SAN DIEGO
PRIORITY DEVELOPMENT PROJECT
STORM WATER QUALITY MANAGEMENT PLAN
(PDP-SWQMP)

6 CARAT CARWASH
PDS2022-MUP-22-003

28874 VALLEY CENTER ROAD, BUILDING 'C'
VALLEY CENTER, CALIFORNIA 92082
APN: 188-231-47-00

PREPARED FOR:
6 CARAT ENTERPRISE INC.
ATTN: DAVID CARATTINI
270 NORTH EL CAMINO REAL #523
ENCINITAS, CALIFORNIA 92024
(760) 822-0004

PREPARED BY:
WYNN ENGINEERING, INC.
27315 VALLEY CENTER ROAD
VALLEY CENTER, CALIFORNIA 92082
(760) 749-8722

Revision 1: *June 28, 2023*
Original Date: *March 23, 2023*

I hereby declare that I am the Engineer of Record 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 standards.

Gary R. Wynn
R.C.E. No. 43202

6/28/23
Date

SDC PDS RCVD 07-24-23
MUP22-003

27315 Valley Center Road – Valley Center, CA 92082 – (760) 749-8722 – Fax (760) 749-9412
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FORWARD

This PDP-SWQMP is for the 6 Carat Carwash located at 28874 Valley Center Road, Building C in Valley Center, California 92082. This entire site was a portion of the Miller Road Plaza project that was designed, entitled, and is under construction under PDS2012-2700-15688 and PDS2020-LPDCHG-00902.

This is being stated because the entire 6 Carat Carwash Site was designed as DMA3 of the original PDP-SWQMP. The revised design is essentially the same; however, the prupose of this PDP-SWQMP is to illustrate that the 6 Carat Carwash, as presented, will not impact the previously installed systems and is within the imperviousness set forth in the original PDP-SWQMP and certifies that the old (existing) BMPs do not need to be redesigned.

Portions of this PDP-SWQMP point to the existing PDP-SWQMP and the entire old report is provided in Attachment 4 as required and selections are pulled and provided in other sections of this PDP-SWQMP as required as well.

TABLE OF CONTENTS

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		Development type ☒ New development ☐ Redevelopment
Project Name	6 Carat Carwash	
Project Address	28874 Valley Center Road Bldg 'C,' Valley Center, California 92082	
Assessor's Parcel # (APN)	188-231-47-00	
Permit # / Record ID	PDS2012-2700-15688 (Main)	
Project category (select one)	☒ Commercial	☐ Minor subdivision*
	☐ Industrial	☐ Major subdivision*
	☐ Single family residential lot	☐ Multi-family residential*
	*If residential, is a Homeowners Association (HOA) proposed? ☐ Yes ☐ No	

Project Applicant / Project Proponent		
Name	6 Carat Enterprice Inc.	
Address	270 North El Camino Real #523, Encinitas, California 92024	
Phone	(760) 822-0004	**Email:** davidcarattini1@gmail.com

SWQMP Preparer		
Name	Gary R. Wynn	
Company (if applicable)	Wynn Engineering, Inc.	
Address	27315 Valley Center Road, Valley Center, California 92082	
Phone	(760) 749-8722	**Email:** gary@wynnengineering.com
PE Number (if applicable)	43202	

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** June 28, 2023

COUNTY ACCEPTED

SWQMP Approved By: *Approval Date*:

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

Scope of SWQMP Submittal (Required)

Select the option 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***	Identify below the elements addressed in this submittal and in future submittals.

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

The construction of the single-family residence on the previously graded lot to include the house, pool house (future), sports court (future), pool, patios, various impervious paving, amended soils, and landscaping.

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

The pool house and sports court are future elements but they are included now for inclusion in BMPs now to avoid future changes to the SWQMP at their time of construction.

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		Initial Submittal
2		
3		
Final Design		
1	3/23/2023	Initial Submittal
2	6/28/2023	Revisions per Plan Check Comments
3		
Plan Changes		
1		Initial Submittal
2		
3		

Use the ***Submittal Scope*** table to dUse the ***Submittal Record*** table to list the dates of any updates to the SWQMP or construction plans. Briefly describe key changes from previous versions. If responding to plan check comments, note this in the entry and attach the responses as applicable.

PDP SWQMP Submittal Checklist

SWQMP Tables: All of the 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: Reserved for Future Use

☒ 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: BMP 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, Submittal Templates.

Table 1 – Baseline BMPs for Existing and Proposed Site Features

A. BMPs for Existing Natural Site Features (See Fact Sheet BL-1)

1. Check the boxes below for each existing feature on the site.

2. Select the BMPs to be implemented for each identified feature. Explain why any BMP not selected is infeasible in Table 3.

	Conserve natural features (SD-G)	Provide buffers around waterbodies (SD-H)
☐ Natural waterbodies	☐	☐
☐ Natural storage reservoirs & drainage corridors	☐	---
☐ Natural areas, soils, & vegetation (incl. trees)	☐	---

B. BMPs for Common Impervious Outdoor Site Features (See Fact Sheet BL-2)

1. Check the boxes below for each proposed feature.

*2. Select the BMPs to be implemented for each proposed feature. If neither BMP **SD-B** nor **SD-I** is selected for a feature, explain why both BMPs are infeasible in Table 3.*

	Direct runoff to pervious areas (SD-B)	b. Construct surfaces from permeable materials (SD-I)	c. Minimize the size of impervious areas
☒ Streets and roads	☐	☐	☒ *Check this box to confirm that all impervious areas on the site will be minimized where feasible.*
☒ Sidewalks & walkways	☒	☐	
☒ Parking areas & lots	☒	☐	
☒ Driveways	☒	☐	*If this box is not checked, identify the surfaces that cannot be minimized in Table 3, and explain why it is infeasible to do so.*
☒ Patios, decks, & courtyards	☒	☐	
☐ Hardcourt recreation areas	☐	☐	
☐ Other:	☐	☐	

C. ☒ **BMPs for Rooftop Areas:** *Check this box if rooftop areas are proposed and select at least one BMP below.* **(See Fact Sheet BL-3)**

If no BMPs are selected, explain why they are infeasible in Table 3.

1. Direct runoff to pervious areas (SD-B)	2. Install green roofs (SD-C)	3. Install rain barrels (SD-E)
☒	☐	☐

D. ☒ **BMPs for Landscaped Areas:** *Check this box if landscaping is proposed and select at least one BMP below.* **(See Fact Sheet BL-4)**

If no BMPs are selected, explain why they are infeasible in Table 3.

1. Sustainable Landscaping (SD-K)
☒

Note: All features and BMPs must be shown on applicable construction plans. See applicable Fact Sheets for additional information.

Note: Use Table 3 to explain BMP infeasibility or inapplicability, or to describe features or BMPs not listed in this table. Additional explanation may be required by the County.

Table 2 – Baseline BMPs for Pollutant-generating Sources

☐ If this is a **Small Residential Project**, check this box and skip the rest of this table.

A. Management of Stormwater Discharges

1. Identify all proposed outdoor work areas below (☐ *Check here if none are proposed*)	**2. Which BMPs will be used to prevent materials from contacting rainfall or runoff?** **(See Fact Sheet BL-5)** *(Select all feasible BMPs for each work area[2])*			**3. Where will runoff from the work area be routed?** **(See Fact Sheet BL-6)** *(Select one or more option for each work area)*			
	Overhead covering (rooftops, etc.) (SC-A)	**Separation of flows from adjacent areas (berms, etc.) (SC-B)**	**Wind protection (screens, etc.) (SC-C)**	**Sanitary sewer[3] (SC-D)**	**Containment system (SC-E)**	**Stormwater S-BMP or SSD-BMP[4]**	**Other[5]**
☒ Trash & Refuse Storage	☒	☐	☐	☒	☐	☐	☐
☐ Materials & Equipment Storage	☐	☐	☐	☐	☐	☐	☐
☐ Loading & Unloading	☐	☐	---	☐	☐	☐	☐
☒ Fueling	☒	☐	---	☐	☒	☒	☐
☐ Maintenance & Repair	☐	☐	---	☐	☐	☐	☐
☐ Vehicle & Equipment Cleaning	☐	☐	---	☐	☐	☐	☐
☐ Other:	☐	☐	---	☐	☐	☐	☐

B. Prevention of Non-stormwater Discharges **(See Fact Sheet BL-7)**

Select one option for each feature below:

- **Storm drain inlets and catch basins …** ☐ are not proposed ☒ will be labeled with stenciling or signage to discourage dumping **(SC-F)**
- **Educational BMP Signage …** ☒ are not proposed ☐ will be labeled with educational signage for BMP **(SC-G)**
- **Interior work surfaces, floor drains, & sumps …** ☐ are not proposed ☒ will not discharge directly or indirectly to the MS4 or receiving waters
- **Drain lines (e.g., air conditioning, boiler, etc.) …** ☐ are not proposed ☒ will not discharge directly or indirectly to the MS4 or receiving waters
- **Fire sprinkler test water …** ☐ are not proposed ☒ will not discharge directly or indirectly to the MS4 or receiving waters

Note: All outdoor features and BMPs in this table must be shown on applicable construction plans. See applicable Fact Sheets for additional information.
Note: Use Table 3 to explain BMP infeasibility or inapplicability, or to describe features or BMPs not listed in this table. Additional explanation may be required by the County.

[2] Each BMP is required where feasible. If none are selected for any feature, explain why they are infeasible in Table 3.
[3] Separate wastewater agency approvals may be required.
[4] Structural Treatment Control BMPs (S-BMPs) and Significant Site Design BMPs (SSD-BMPs) may not receive discharges from work areas that concentrate pollutants in a manner that will impair their functioning. Discharges from the proposed work area must also be included in DCV calculations for the applicable BMP.
[5] Describe other proposed options for managing stormwater discharges in Table 3.

Table 3 – Explanations and Justifications for Table 1 and 2 Baseline BMPs

☐ **Check here if no explanations or justifications for Table 1 or 2 BMPs are required.**

- **Required Justifications**: Provide explanations of BMP inapplicability and/or infeasibility as indicated per Tables 1 and 2.
- **If Requested**: Justify why specific BMPs will not be implemented or will only be partially implemented.
- **Additional Explanation**: Describe any proposed features and/or BMPs not listed in Tables 1 or 2.

BMP-Feature Combination		**Explanation**
Feature	Natural Areas	Site is part of a previous PDP-SWQMP that has had minor site plan changes. No Natural areas exist to preserve.
BMP	N/A	
Feature		
BMP		
Feature		
BMP		
Feature		
BMP		
Feature		
BMP		
Feature		
BMP		
Feature		
BMP		

Table 4: 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]
36,134	35,786	99.1%

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

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

Part B – Compliance Strategies and Required Attachments

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

Att. 1	Att. 2	Att. 3	Att. 4	Att. 5
Storm Water Intake Form ☒	DMA Exhibits and Construction Plan Sheets ☒	N/A ☐	Previous SWQMP Submittals (see inside cover) ☒	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 BMP 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 Control BMPs (BMPDM Chapter 6)			☒	☒	☒	☒	
☐Alternative Compliance Project (BMPDM Section 1.8)				☐	☐	☐	☐

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

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

Table 5: 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**[6]

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**

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

Table 6 –Minimum Construction Stormwater BMPs

Minimum Required BMPs by Activity Type Select all applicable activities and at least one BMP for each.	References Caltrans[7]	 County of San Diego	
☒ **Erosion Control for Disturbed Slopes** (choose at least 1 per season)			
☐ Vegetation Stabilization Planting[8] (Summer)	SS-2, SS-4		
☒ Hydraulic Stabilization Hydroseeding (Summer)	SS-4		
☒ Bonded Fiber Matrix or Stabilized Fiber Matrix[9] (Winter)	SS-3		
☐ Physical Stabilization Erosion Control Blanket (Winter)	SS-7		
☒ **Erosion control for disturbed flat areas (slope < 5%)**			
☐ County Standard Lot Perimeter Protection Detail	SC-2	PDS 659[10]	
☒ 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[11]	
☐ 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[12]	
☒ **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[13]**			
☒ Waste Management Concrete Waste Management	WM-8		
☒ Solid Waste Management	WM-5		
☒ Sanitary Waste Management	WM-9		
☒ Hazardous Waste Management	WM-6		

[7] See Caltrans 2017 Construction Site Best Management Practices (BMP) Manual available at: https://dot.ca.gov/programs/construction/storm-water-and-water-pollution-control/manuals-and-handbooks
[8] 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.
[9] All slopes over three feet must have established vegetative cover prior to final permit approval.
[10] County PDS 659. Standard Lot Perimeter Protection Design System (Bldg. Division)
[11] County PDS 660. County Standard Desilting Basin for Disturbed Areas of 1 Acre or Less Bldg. Division
[12] Regional Standard Drawing D-40 – Rip Rap Energy Dissipater (also acceptable for velocity reduction)
[13] Applicants are responsible to apply appropriate BMPs for specific wastes (e.g., BMP WM-8 for concrete).

Table 7 – Explanations and Justifications for Construction Phase BMPs

☒ **Check here if no explanations or justifications for Table 6 BMPs are required.**		
Justifications for Table 6 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 6.		
Activity Type / BMP		**Explanation**
Activity Type		
BMP		
Activity Type		
BMP		
Activity Type		
BMP		
Activity Type		
BMP		
Activity Type		
BMP		
Activity Type		
BMP		
Activity Type		
BMP		

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

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

Part 1. Project Information	
Project Name:	6 Carat Carwash
Record ID (Permit) No(s):	PDS2022-MUP-22-003
Assessor's Parcel No(s):	188-231-47
Street Address (or Intersection):	28874 Valley Center Road, Building C
City, State, Zip:	Valley Center, California 92082

Part 2. Applicant / Project Proponent Information	
Name:	David Carattini
Company:	5 Carat Enterprise Inc.
Street Address:	270 North El Camino Real #523
City, State, Zip:	Encinitas, California 92024
Phone Number	(760) 822-0004
Email:	Davidcarattini1@gmail.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)**
	36,134 sq-ft	35,786 sq-ft	38,335 sq-ft)

Ⓑ	☒ Check here and provide a WDID# if this project is subject to the California Construction General Permit (Order No. 2009-0009-DWQ)[1]	**WDID # (if issued)**
		9 37C367589

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:

- ***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.

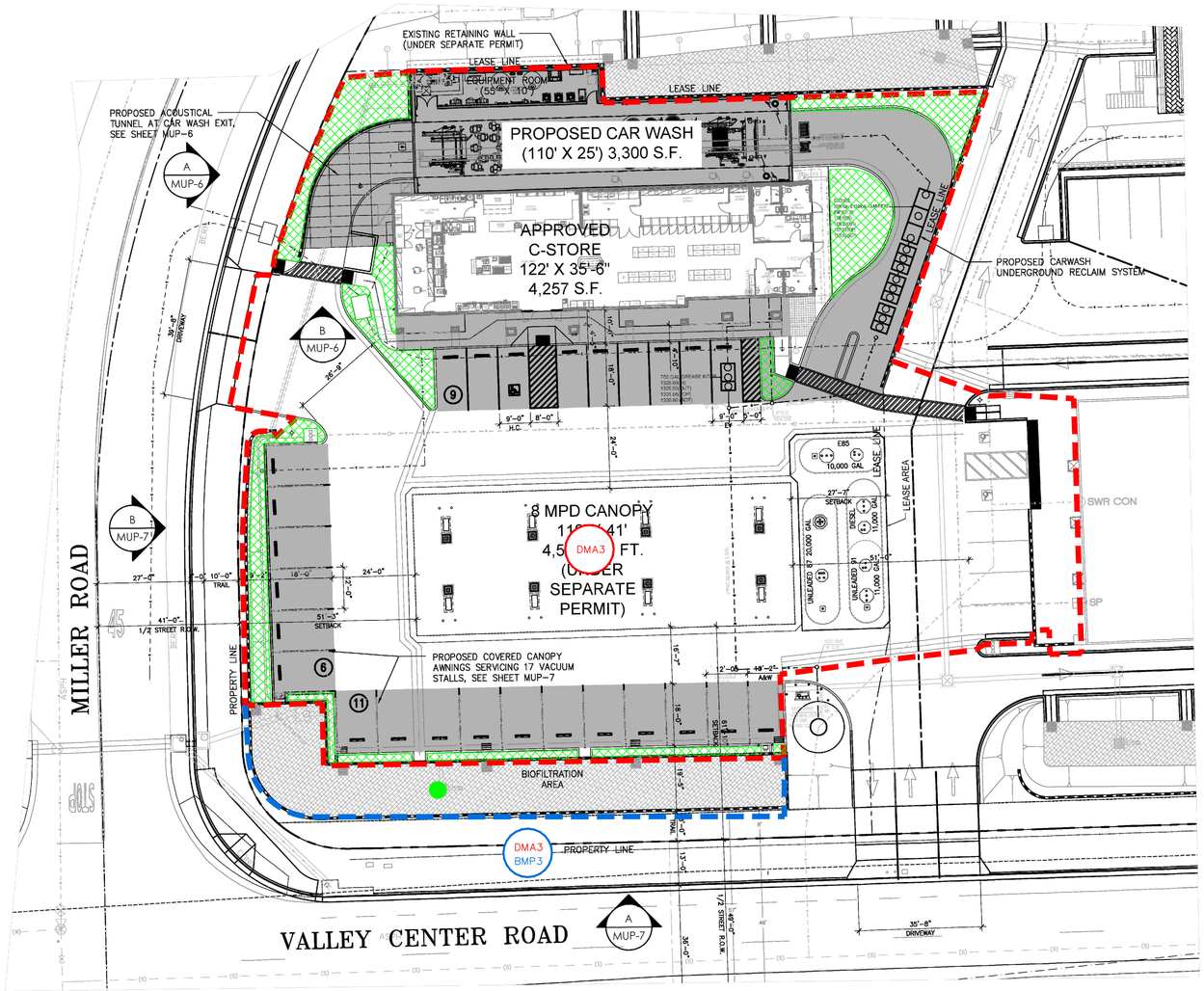
Sub-attachments	Requirement
☒ **2.1: DMA Exhibits**	All PDPs
☐ **2.2: Individual Structural BMP DMA Mapbook**	PDPs with structural BMPs
☒ **2.3: Construction Plan Sets**	All projects

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 #:	**6 Carat Carwash Attachment 1c - DMA Exhibit**	
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.



DMA LEGEND

- DMA SUB-AREA BOUNDARY
- BMP BOUNDARY
- DMA# — DMA ID
- DMA# / BMP# — DMA ID / BMP ID
- STORM DRAIN STENCILING (ONLY IF > 12" AREA DRAINS ONLY)

TABLE 2 LEGEND

GROUP 1 ELEMENTS:	
N/A	
GROUP 2 ELEMENTS:	
SIDEWALKS & WALKWAYS	NO SYMBOL
DRIVEWAYS	NO SYMBOL
PATIOS, DECKS & COURTYARDS	NO SYMBOL
GROUP 3 ELEMENTS:	
ROOFTOP AREAS	NO SYMBOL
LANDSCAPE AREAS	
GROUP 4 ELEMENTS	
N/A	

HYDROLOGIC BASIN INFORMATION:

BASIN NUMBER:	903.16
HYDROLOGIC UNIT:	SAN LUIS REY HU
HYDROLOGIC AREA:	LOWER SAN LUIS HA
HYDROLOGIC SUB-AREA:	RINCON HSA
RECEIVING WATERS:	UNNAMED INTERMITTENT STREAMS

BASIN BENEFICIAL USES:

NOTE: THESE ARE FOR THE BASIN PLAN RECEIVING WATERS ALONG THE PATH TO THE PACIFIC OCEAN FOR 903.16:

INLAND WATERS:	MUN, AGR, IND, POW, REC1, REC2, WARM, WILD, RARE
COASTAL WATERS:	REC1, REC2, WILD, RARE, MAR, MIGR
RESV & LAKES:	N/A
GROUND WATERS:	N/A

BASIN 303(d) INFORMATION:

RECEIVING WATERS:	UNNAMED INTERMITTENT STREAMS (903.16)
POLLUTANTS/STRESSORS:	NOT LISTED AT THIS TIME

TMDL INFORMATION

RECEIVING WATERS:	UNNAMED INTERMITTENT STREAMS (903.16)
YEAR LISTED:	NOT LISTED AT THIS TIME
POLLUTANTS/STRESSORS:	NOT LISTED AT THIS TIME

POLLUTANTS OF CONCERN:

THE FOLLOWING ARE ANTICIPATED POLLUTANTS OF CONCERN FOR THE PROJECT SITE: SEDIMENT, NUTRIENTS, TRASH & DEBRIS, OXYGEN DEMANDING SUBSTANCES, OIL & GREASE, BACTERIA & VIRUSES, PESTICIDES

THERE ARE NO POTENTIAL POLLUTANTS OF CONCERN AS DESCRIBED IN THE STANDARDS.

GROUNDWATER STATEMENT:

THE PROJECT SITE IS LOCATED IN AN AREA OF KNOWN HIGH GROUNDWATER. GROUNDWATER WILL BE AN ISSUE.

HYDROLOGIC FEATURES STATEMENT:

THE FOLLOWING NATURAL HYDROLOGIC FEATURES ARE PRESENT, EXISTING, OR PROPOSED ON THE PROJECT SITE:

1. NATURAL WATERCOURSES:	NONE
2. NATURAL SEEPS:	NONE
3. NATURAL SPRINGS:	NONE
4. NATURAL WETLANDS:	NONE
5. MAN-MADE WETLANDS:	NONE

SEDIMENT STATEMENT:

THERE ARE NO CRITICAL COARSE SEDIMENT YIELD AREAS TO BE PROTECTED ON SITE AND NO IMPACTS AT THIS TIME.

SOIL CLASSIFICATION

THE PROJECT SITE IS CLASSIFIED AS C AND D SOILS PER LUEG MAPPING.

INFILTRATION FEASIBILITY:

THE PROJECT SITE IS CLASSIFIED AS: NO INFILTRATION

NORTH
SCALE: 1" = 20'

GRAPHIC SCALE
20 0 20 40 60

DMA, DCV AND HMP SUMMARY AND COMPARISON DATA TABLE

DESIGN ELEMENT	MILLER RD PLAZA PDP-SWQMP	6 CARAT CARWASH PDP-SWQMP	COMPARISON
DMA PERMEABLE AREA CONTRIBUTION	2,201	2,549	+348
DMA IMPERVIOUS AREA CONTRIBUTION	36,134	35,786	-348
TOTAL DMA AREA CONTRIBUTION	38,335	38,335	NO CHANGE
DCV (CU-FT)	2,084	2,061	-23
HMP SIZING REQUIRED (SQ-FT)	2,545	2,523	-22
HMP SIZING PROVIDED (SQ-FT)	2,627	2,627	NO CHANGE
HMP ORIFICE (IN)	0.96	0.96	NO CHANGE
HMP DRAWDOWN (HOURS)	15.4	15.4	NO CHANGE

WYNN ENGINEERING, INC.
27315 VALLEY CENTER ROAD
VALLEY CENTER, CA. 92082
(760) 749-8722 (310) 306-9728
FAX (760) 749-9412

6 CARAT CARWASH
PDS2022-MUP-22-003
APN 188-231-36
PDP-SWQMP
ATTACHMENT 1C - DMA EXHIBIT

2.2 Individual Structural BMP DMA Mapbook

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

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

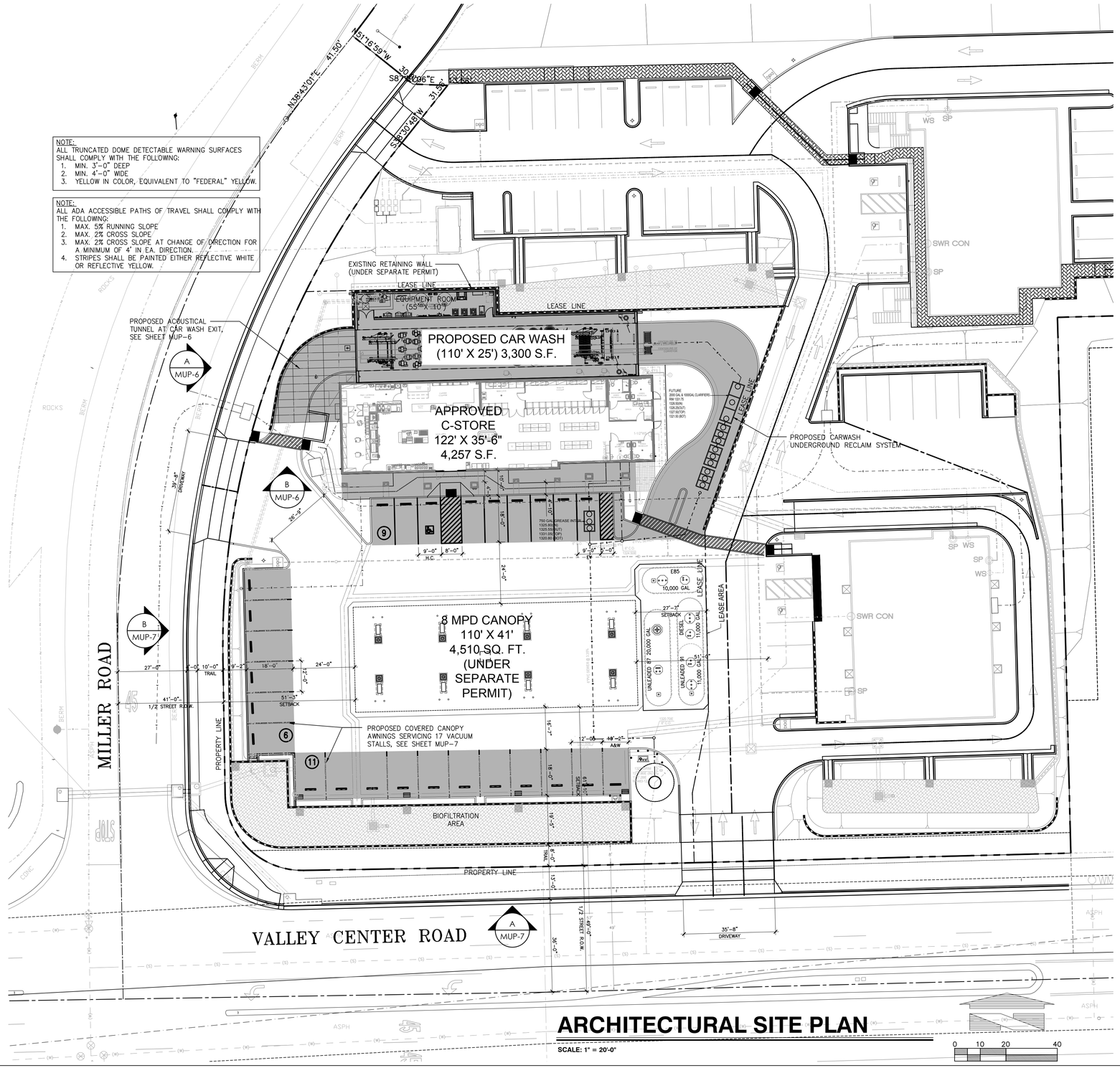
2.3 Construction Plan Sets

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

Plan Type	**BMP Built under PDS2012-2700-15688 and PDS2020-LDPCHG-00902**
Required Information[4]	
☐ Structural BMP(s) and Significant Site Design BMPs (if applicable) with ID numbers.	
☐ The grading and drainage design shown on the plans must be consistent with the delineation of DMAs shown on the DMA exhibit.	
☐ Details and specifications for construction of Structural BMP(s) and Significant Site Design BMPs (if applicable).	
☐ Signage indicating the location and boundary of structural BMP(s) as required by County staff.	
☐ How to access the structural BMP(s) to inspect and perform maintenance.	
☐ Features that are provided to facilitate inspection (e.g., observation ports, cleanouts, silt posts, or other features that allow the inspector to view necessary components of the structural BMP and compare to maintenance thresholds).	
☐ Maintenance thresholds specific to the structural BMP(s), with a location-specific frame of reference (e.g., level of accumulated materials that triggers removal of the materials, to be identified based on viewing marks on silt posts or measured with a survey rod with respect to a fixed benchmark within the BMP).	
☐ Recommended equipment to perform maintenance.	
☐ When applicable, necessary special training or certification requirements for inspection and maintenance personnel such as confined space entry or hazardous waste management.	
☐ Include landscaping plan sheets (if available) showing vegetation requirements for vegetated structural BMP(s).	
☐ All BMPs must be fully dimensioned on the plans.	
☐ When proprietary BMPs are used, site-specific cross-section with outflow, inflow, and manufacturer model number must be provided. Photocopies of general brochures are not acceptable.	
☐ Include all source control and site design measures described in the SWQMP.	
☐ Include all construction BMPs described in the SWQMP.	

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

MAJOR USE PERMIT
EXXONMOBIL & CIRCLE K W/ 6 CARAT ENTERPRISE INC.



ARCHITECTURAL SITE PLAN

SCALE: 1" = 20'-0"

0 10 20 40

SITE DATA

ADDRESS:	28874 VALLEY CENTER ROAD, BUILDING C VALLEY CENTER, CA 92082
PERMIT NUMBERS:	TBD
A.P.N.:	188-231-36-00
LOT SIZE:	LEASE GROSS AREA: 41,182 S.F. (0.95 ACRES)
COUNTY:	SAN DIEGO
EXISTING ZONE:	GENERAL COMMERCIAL
PROPOSED ZONE:	GENERAL COMMERCIAL
EXISTING LAND USE:	COMMERCIAL / RETAIL
PROPOSED LAND USE:	COMMERCIAL / RETAIL
BUILDING AREA:	CAR WASH: 3,300 S.F.
CONSTRUCTION TYPE:	V-B/SPRINKLERED
OCCUPANCY:	M
OCCUPANT LOAD:	MAX OCCUPANTS: 86
HEIGHTS:	32'-6" T.O. HIGH PARAPET
STORIES:	ONE
PARKING REQUIREMENTS:	1 SPACE / 250 S.F. (4,257 S.F./250) TOTAL REQUIRED: 17 SPACES TOTAL PROVIDED: 26 SPACES (1 H.C. & 1 E.V. & 15 VACUUM)
LOT COVERAGE:	BUILDING: 12,067 S.F. (29%) LANDSCAPING: 10,699 S.F. (26%) IMPERVIOUS: 18,416 S.F. (45%) TOTAL LEASED AREA: 41,182 S.F. (100%)

CODE INFORMATION

ALL CONSTRUCTION TO COMPLY WITH:

BUILDING CODE:	2019 CALIFORNIA BUILDING CODE
PLUMBING CODE:	2019 CALIFORNIA PLUMBING CODE
ELECTRICAL CODE:	2019 CALIFORNIA ELECTRIC CODE
MECHANICAL CODE:	2019 CALIFORNIA MECHANICAL CODE
ENERGY CODE:	2019 CALIFORNIA ENERGY CODE
GREEN BUILDING:	2019 CALIFORNIA GREEN BUILDING CODE
FIRE CODE:	2019 CALIFORNIA FIRE CODE (2015 IFC)

PROJECT OWNER / APPLICANT

6 CARAT ENTERPRISE INC.
DAVID CARATTINI
270 NORTH EL CAMINO REAL #523
ENCINITAS, CA 92024
PHONE: 760-822-0004
E-MAIL: davidcarattini1gmail.com

APPLICANT'S REP.

VANCE AND ASSOCIATES - PLANNING
LEE VANCE
224 SEEMAN DRIVE
ENCINITAS, CA 92024
PHONE: 760-492-2147
E-MAIL: vanceplan@cox.net

ARCHITECT

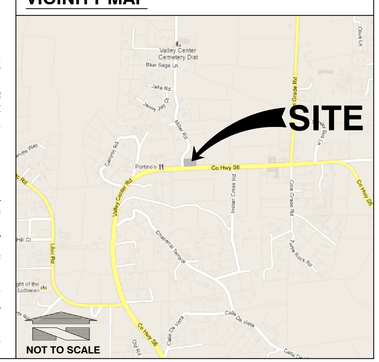
EMPIRE DESIGN GROUP, INC.
511 N MAIN STREET
LAKE ELSINORE, CA 92530
CONTACT: GREGORY HANN, ARCHITECT
PHONE: (951) 696-1490
CELL PHONE: (951) 809-7601
E-MAIL: ghann@empiregr.biz

SCOPE OF WORK

1. MAJOR USE PERMIT APPLICATION IS TO ALLOW FOR A CAR WASH FACILITY TO BE ADDED TO THE APPROVED USE ON APN 188-231-36-00. EXISTING APPROVED SITE PLAN PDS 3500-08-013 ALLOWS FOR OTHER USES SHOWN ON THIS PLOT PLAN.

DRAWING INDEX

VICINITY MAP



NOT TO SCALE

EMPIRE DESIGN GROUP Inc.
511 N Main St.
Lake Elsinore, CA 92530
951-696-1490
EmpireDesignGroup.biz

CLIENT:

6 CARAT ENTERPRISE INC.

MUP FOR CAR WASH @ EXXONMOBIL & CIRCLE K
28874 VALLEY CENTER ROAD, BLDG. C
VALLEY CENTER, CA 92082

ARCHITECT OF RECORD:
GREGORY S. HANN, AIA
511 N. MAIN STREET
LAKE ELSINORE, CA 92530
TEL: 951-696-1490
CELL: 951-809-7601
E-MAIL: ghann@empiregr.biz

SEAL:

STATE OF CALIFORNIA
GREGORY SCOTT HANN
C-26663
REN. 9/30/23
LICENSED ARCHITECT

Date:	FEBRUARY 8, 2022
Project Number:	EDG#04548

NO.	DATE	REVISION DESCRIPTION
1	6-20-22	1ST MUP REVISIONS

DESIGNED BY:	GH
CHECKED BY:	GH
DRAWN BY:	AH

DRAWING TITLE:

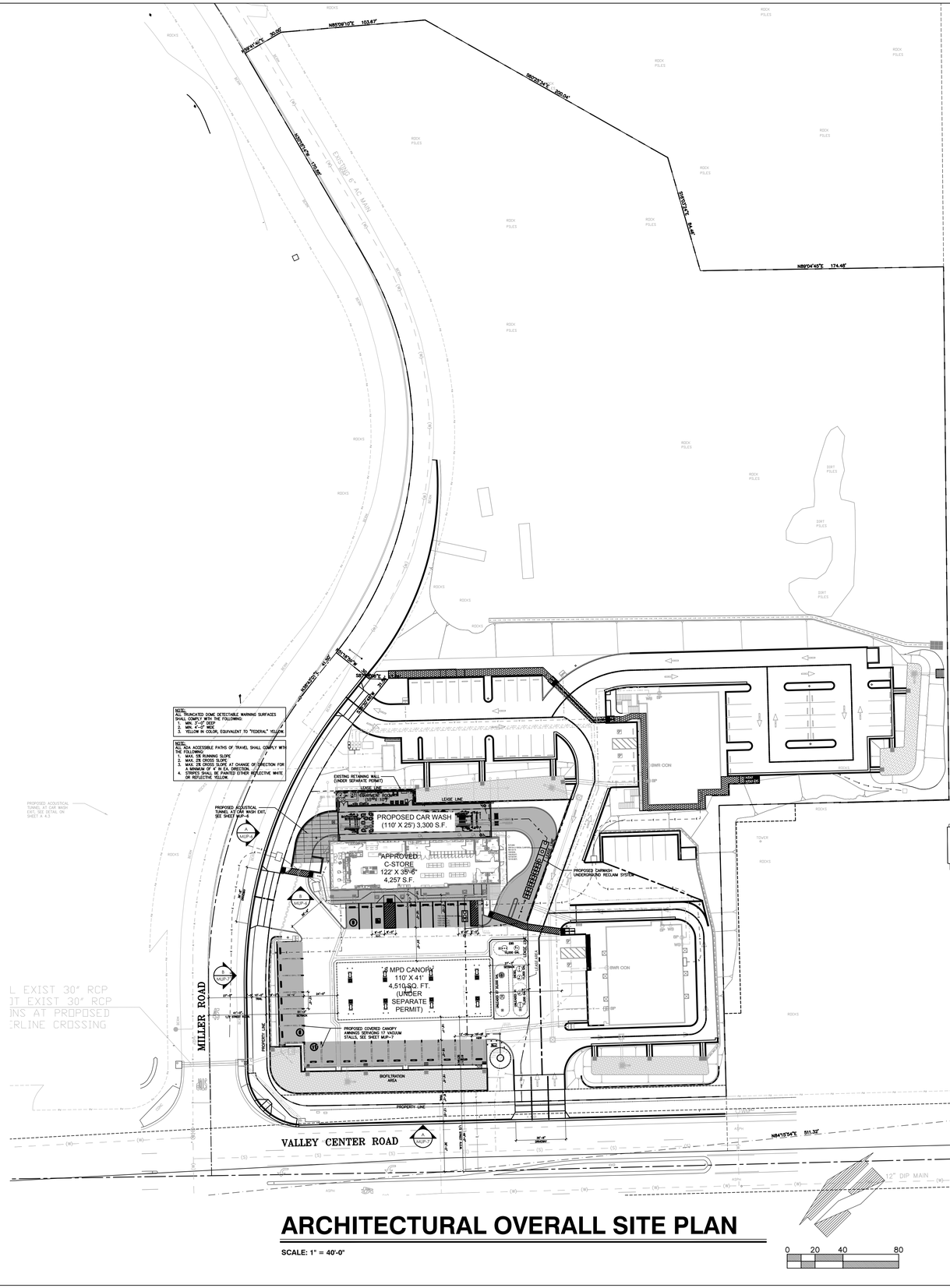
COVER SHEET & ARCHITECTURAL SITE PLAN

SHEET NO:

MUP-1

NOTES:

1. EXISTING APPROVED SITE PLAN PDS 3500-08-013 ALLOWS FOR OTHER USES SHOWN ON THIS PLOT PLAN.



ARCHITECTURAL OVERALL SITE PLAN

SCALE: 1" = 40'-0"

0 20 40 80

EMPIRE DESIGN GROUP Inc.

511 N Main St.
Lake Elsinore, CA 92530
951-696-1490
EmpireDesignGroup.biz

CLIENT:

6 CARAT ENTERPRISE INC.

MUP FOR CAR WASH @
EXXONMOBIL & CIRCLE K
28874 VALLEY CENTER ROAD, BLDG. C
VALLEY CENTER, CA 92082

ARCHITECT OF RECORD:
GREGORY S. HANN, AIA
511 N. MAIN STREET
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TEL: 951-696-1490
CELL: 951-809-7601
E-MAIL: ghann@empiregr.biz

SEAL:

STATE OF CALIFORNIA
GREGORY SCOTT HANN
C-26663
REN. 9/30/23
LICENSED ARCHITECT

Date:	FEBRUARY 8, 2022
Project Number:	EDG#04548

NO.	DATE	REVISION DESCRIPTION
1	6-20-22	1ST MUP REVISIONS

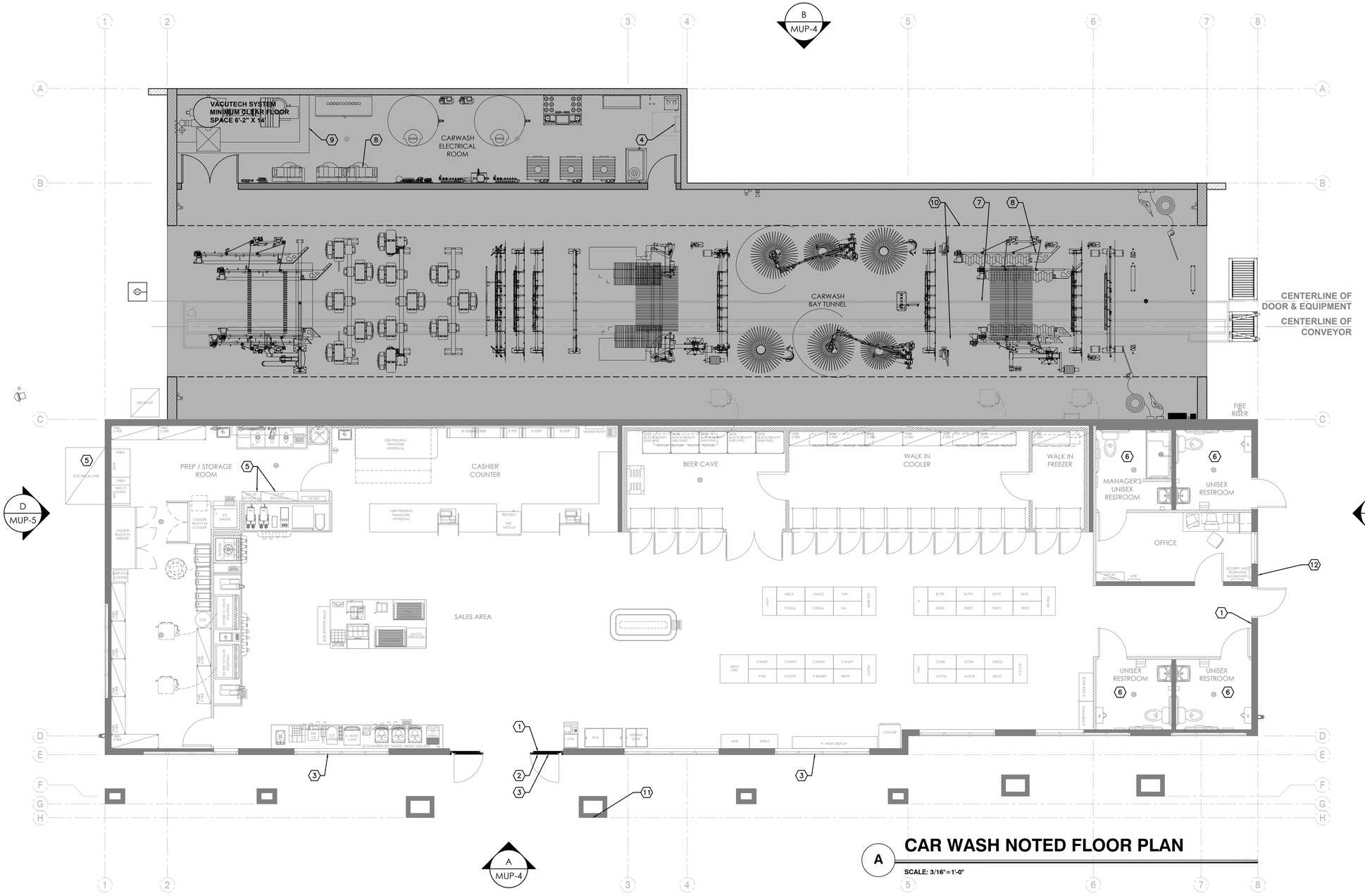
DESIGNED BY:	GH
CHECKED BY:	GH
DRAWN BY:	AH

DRAWING TITLE:

ARCHITECTURAL OVERALL SITE PLAN

SHEET NO:

MUP-2



A CAR WASH NOTED FLOOR PLAN

SCALE: 3/16"=1'-0"

CARWASH FINISHES:

CARWASH BAY

FLOORING
SMOOTH MACHINE TOWELED FINISH

WALLS
OCTAFORM QUICK LINER PVC WALL AND CEILING PANELS OR EQUAL OVER 6 MIL PLASTIC OVER 5/8" PLYWOOD

CEILING
OCTAFORM QUICK LINER PVC WALL AND CEILING PANELS OR EQUAL OVER 6 MIL PLASTIC OVER 5/8" PLYWOOD

CARWASH EQUIPMENT ROOM

FLOORING
SMOOTH MACHINE TOWELED FINISH

WALLS
FRP OVER 5/8" PLYWOOD

CEILING
MOISTURE RESISTANT GYP OVER 5/8" PLYWOOD

KEYED NOTES:

1. EXISTING TACTICAL EXIT SIGNAGE (TYP. AT ALL EXITS) SEE DETAIL 2 SHEET ADA1
2. EXISITNG ADA INTERNATIONAL ACCESSIBLE SYMBOL @ ENTRANCE COMPLYING WITH CBC 1117B.5.8 AND MOUNTED PER CBC 1117B.5.7
3. EXISTING DOORS AND WINDOWS TO REMAIN
4. EXISTING ROOF ACCESS HATCH AND LADDER
5. EXISTING ELECTRICAL SWITCH GEAR AND ELECTRICAL PANELS AT THIS LOCATION SEE ELECTRICAL
6. EXISTING UNISEX RESTROOM
7. EXISTING TRENCH DRAIN IN CONCRETE, SEE MACNEIL PROPOSED AUTOMATED CAR WASH PACKAGE
8. PROPOSED CARWASH EQUIPMENT, SEE MACNEIL AUTOMATED CARWASH PACKAGE
9. PROPOSED VACUUM EQUIPMENT, SEE VACUTECH VACUUM PACKAGE
10. DASHED LINE OF EXISTING CARWASH BAY 6" CURB LINE BELOW
11. EXISTING RECESSED RAPID ENTRY KNOX BOX AND TAMPER SWITCH PER MANUF. SPECIFICATIONS, INSTALL AT 60" A.F.F., SEE EXTERIOR ELEVATIONS

EMPIRE DESIGN GROUP Inc.
24861 Washington Ave.
Murrieta, Calif. 92562
Tel 951-696-1490 Fax 951-696-1443

CLIENT:

6 CARAT ENTERPRISE INC.

PROPOSED CARWASH @ EXXONMOBIL & CIRCLE K
28874 VALLEY CENTER ROAD, BLDG. C
VALLEY CENTER, CA 92082

Architect of Record:
GREGORY S. HANN, AIA
24861 WASHINGTON AVE.
MURRIETA, CA 92562
TEL: 951-696-1490
CEL: 951-809-7601
FAX: 951-696-1443
E-MAIL: ghann@empiregr.biz

SEAL:

STATE OF CALIFORNIA
GREGORY SCOTT HANN
C-24663
REN. 9/30/21
LICENSED ARCHITECT

Date: JULY 1, 2019
Project Number: EDG#04548

NO.	DATE	REVISION DESCRIPTION

DESIGNED BY: GH
CHECKED BY: GH
DRAWN BY: AH

DRAWING TITLE:

PROPOSED FLOOR PLAN

SHEET NO:

MUP-3

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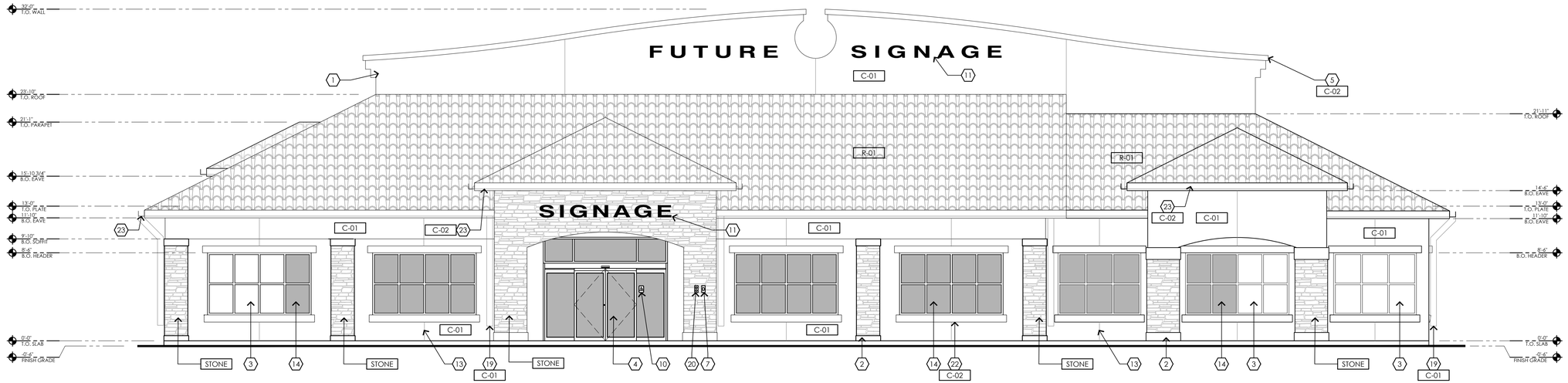
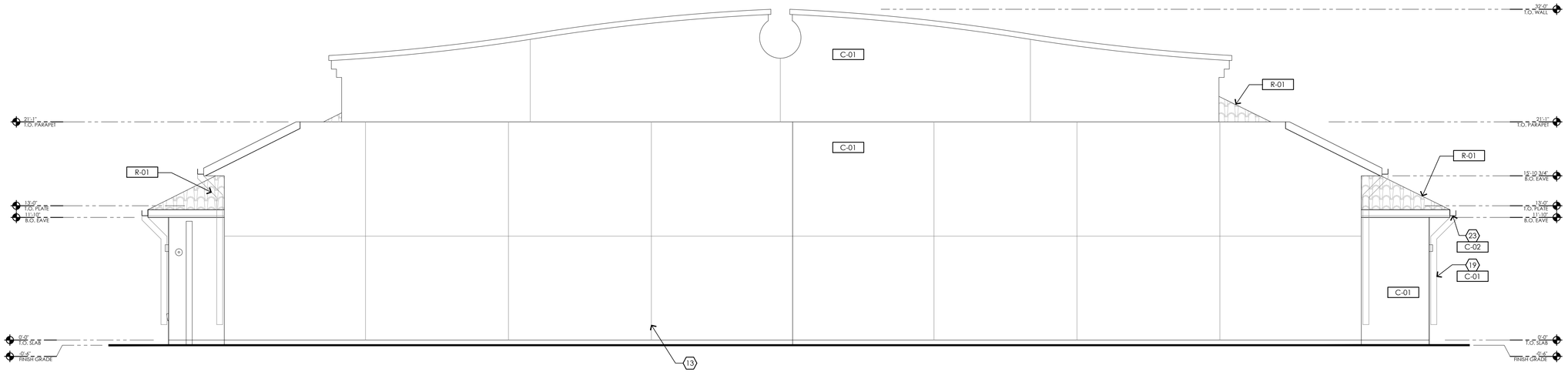


A SOUTH ELEVATION

SCALE: 3/16"=1'-0"



B NORTH ELEVATION

SCALE: 3/16"=1'-0"

KEYED NOTES:

1. APPROVED BUILDING ADDRESS EACH CHARACTER SHALL BE A MINIMUM 12" HIGH AND A MINIMUM OF .5" WIDE. THEY SHALL BE INSTALLED ON A CONTRASTING BACKGROUND AND TO BE PLAINLY VISIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY
2. SMOOTH BRUSHED CONCRETE BASE, TYP.
3. SPANDREL GLASS WINDOWS AT NON HATCHED LOCATIONS AS SHOWN
4. STANLEY DURA GLIDE 2000 AUTOMATIC SLIDE ENTRANCE DOOR
5. PARAPET WALL WITH 22 GAUGE FLASHING ABOVE, PAINT C-02 (TYP.)
6. OPEN BEYOND, CAR WASH TUNNEL
7. EMERGENCY SHUTOFF VALVES REFER TO MECHANICAL AND TANK DRAWINGS FOR DETAILS (TYP. OF 1 ON BUILDING)
8. NOT USED
9. NOT USED
10. ADA ACCESSIBILITY SIGN
11. FUTURE SIGNAGE LOCATION UNDER SEPERATE PERMIT
12. 5-1/2" Z199 POLISHED BRONZE DOWNSPOUT NOZZLE NO-BUB (TYP.) MANUFACTURE TO BE ZURN OR EQUAL
13. CONTROL JOINTS AS SHOWN
14. STOREFRONT 1/4" BLUE-GREEN GLAZING WITH ANODIZED ALUMINUM 2" HOLLOW METAL FRAMES, TYP.
15. SINGLE HUNG WINDOW AT THIS LOCATION (TYP. OF 1)
16. EXTERIOR FIRE RISER LOCATION, SEE CIVIL, FIRE BELL ABOVE
17. ELECTRICAL SWITCH GEAR LOCATION, PAINT C-01
18. LSI - XLCW WALL PACKS (TYP. OF 3) MOUNTED AT 10'-0" A.F.F. O.C.
19. GUTTER DOWNSPOUT LOCATIONS, (TYP.), PAINT C-01
20. RECESSED RAPID ENTRY KNOX BOX AND TAMPER SWITCH PER MANUF. SPECIFICATIONS, INSTALL AT 60" A.F.F.
21. HOLLOW METAL DOOR TYP. SEE DOOR SCHEDULE, PAINT C-01(TYP.)
22. 8" WIDE, 2" DEEP FOAM ARCHITECTURAL ACCENT, PAINT C-02 (TYP.)
23. 6" STEEL GALVANIZED GUTTER SYSTEM SURROUNDING ROOF, BY SAN DIEGO RAIN GUTTERS OR EQUAL, PAINT C-02 (TYP.)

EXTERIOR PAINTS:

C-01	OMEGA PRODUCTS - COLORTEK STUCCO #437, ROUGH KHAKI
C-02	OMEGA PRODUCTS - COLORTEK STUCCO #437, TOFFEE CRUNCH

EXTERIOR FINISHES:

STUCCO	LAHABRA ACRYLIC ELECTROMETRIC FINISH (20/30 SAND FLOAT) OVER THREE PART 7/8" PORTLAND CEMENT PLASTER OVER METAL LATH. PROVIDE CONTROL JOINTS AS SHOWN
STONE	KONI STONE SERIES: CANYON STONE COLOR: MONTANA

ROOFING:

R-01	1-PIECE "S" TILE - FIRE FLASH US TILE BY BORAL SKU:1USDU6074 ASTM C1167

GENERAL NOTES:

1. INSTALLATION OF ROOFING SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

EMPIRE DESIGN GROUP Inc.

511 N Main St.
Lake Elsinore, CA 92530
951-696-1490
EmpireDesignGroup.biz

CLIENT:

6 CARAT ENTERPRISE INC.

MUP FOR CAR WASH @
EXXONMOBIL & CIRCLE K
28874 VALLEY CENTER ROAD, BLDG. C
VALLEY CENTER, CA 92082

ARCHITECT OF RECORD:
GREGORY S. HANN, AIA
511 N MAIN STREET
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TEL: 951-696-1490
CELL: 951-809-7601
E-MAIL: ghann@empiregr.biz

SEAL:

STATE OF CALIFORNIA
GREGORY SCOTT HANN
C-26663
REN. 9/30/23
LICENSED ARCHITECT

Date: FEBRUARY 8, 2022

Project Number: EDG#04548

NO.	DATE	REVISION DESCRIPTION
1	6-20-22	1ST MUP REVISIONS

DESIGNED BY:	GH	
CHECKED BY:	GH	
DRAWN BY:	AH	

DRAWING TITLE:

PROPOSED BUILDING EXTERIOR ELEVATIONS

SHEET NO:

MUP-4

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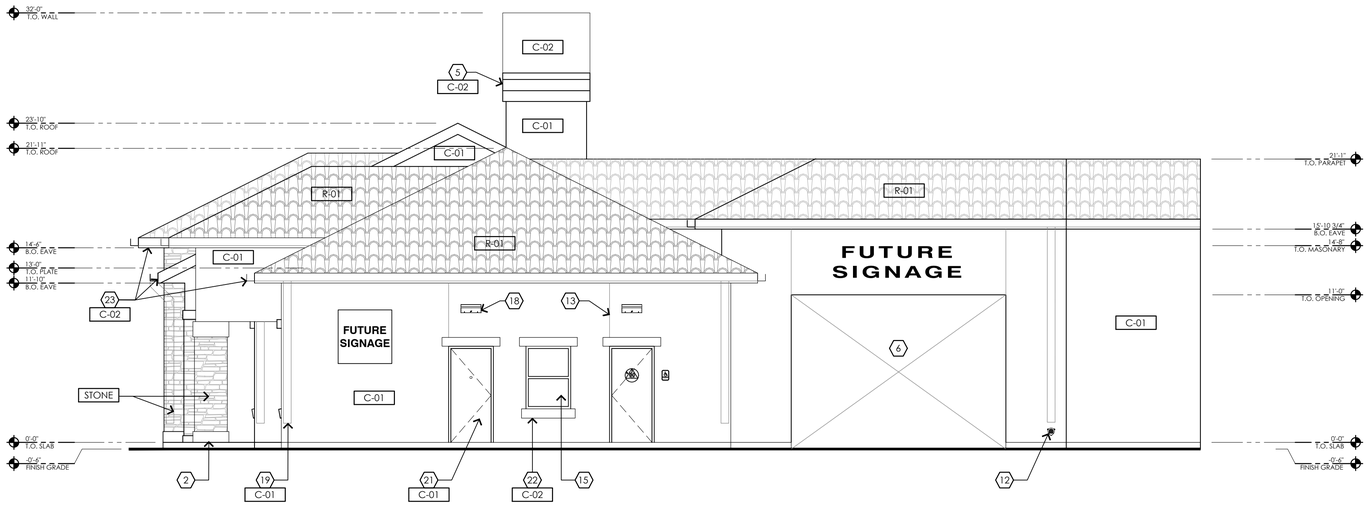
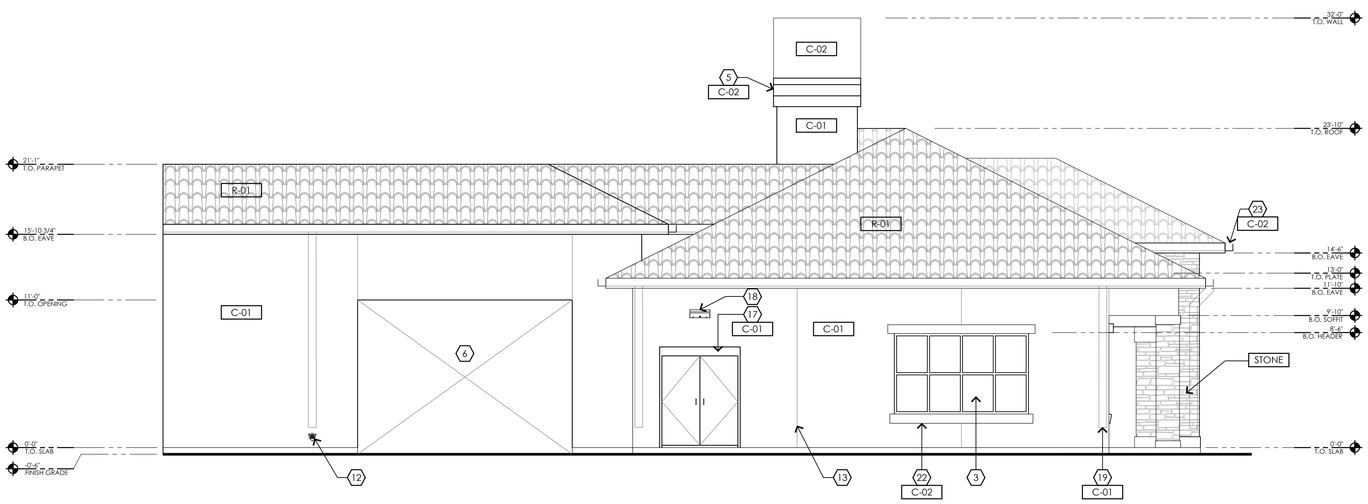


C EAST ELEVATION

SCALE: 3/16"=1'-0"



D WEST ELEVATION

SCALE: 3/16"=1'-0"

KEYED NOTES:

1. APPROVED BUILDING ADDRESS EACH CHARACTER SHALL BE A MINIMUM 12" HIGH AND A MINIMUM OF .5" WIDE. THEY SHALL BE INSTALLED ON A CONTRASTING BACKGROUND AND TO BE PLAINLY VISIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY
2. SMOOTH BRUSHED CONCRETE BASE, TYP.
3. SPANDREL GLASS WINDOWS AT THIS LOCATIONS SHOWN
4. STANLEY DURA GLIDE 2000 AUTOMATIC SLIDE ENTRANCE DOOR
5. PARAPET WALL WITH 22 GAUGE FLASHING ABOVE, PAINT C-02 (TYP.)
6. OPEN BEYOND, CAR WASH TUNNEL
7. EMERGENCY SHUTOFF VALVES REFER TO MECHANICAL AND TANK DRAWINGS FOR DETAILS
8. NOT USED
9. NOT USED
10. ADA ACCESSIBILITY SIGN
11. FUTURE SIGNAGE UNDER SEPERATE PERMIT
12. 5-1/2" Z199 POLISHED BRONZE DOWNSPOUT NOZZLE NO-BUB (TYP.) MANUFACTURE TO BE ZURN OR EQUAL
13. CONTROL JOINTS AS SHOWN
14. STOREFRONT 1/4" BLUE-GREEN GLAZING WITH ANODIZED ALUMINUM 2" HOLLOW METAL FRAMES, TYP.
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18. LSI - XLCW WALL PACKS (TYP. OF 3) MOUNTED AT 10'-0" A.F.F. O.C.
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20. RECESSED RAPID ENTRY KNOX BOX AND TAMPER SWITCH PER MANUF. SPECIFICATIONS, INSTALL AT 60" A.F.F.
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STONE	KONI STONE SERIES: CANYON STONE COLOR: MONTANA

ROOFING:

R-01	1-PIECE "S" TILE - FIRE FLASH US TILE BY BORAL SKU:1USDU6074 ASTM C1167

GENERAL NOTES:

1. INSTALLATION OF ROOFING SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

EMPIRE DESIGN GROUP Inc.

511 N Main St.
Lake Elsinore, CA 92530
951-696-1490
EmpireDesignGroup.biz

CLIENT:

6 CARAT ENTERPRISE INC.

MUP FOR CAR WASH @ EXXONMOBIL & CIRCLE K
28874 VALLEY CENTER ROAD, BLDG. C
VALLEY CENTER, CA 92082

ARCHITECT OF RECORD:
GREGORY S. HANN, AIA
511 N MAIN STREET
LAKE ELSINORE, CA 92530
TEL: 951-696-1490
CELL: 951-809-7601
E-MAIL: ghann@empiregr.biz

SEAL:

STATE OF CALIFORNIA
GREGORY SCOTT HANN
C-26663
REN. 9/30/23
LICENSED ARCHITECT

Date:	FEBRUARY 8, 2022
Project Number:	EDG#04548

NO.	DATE	REVISION DESCRIPTION
1	6-20-22	1ST MUP REVISIONS

DESIGNED BY:	GH
CHECKED BY:	GH
DRAWN BY:	AH

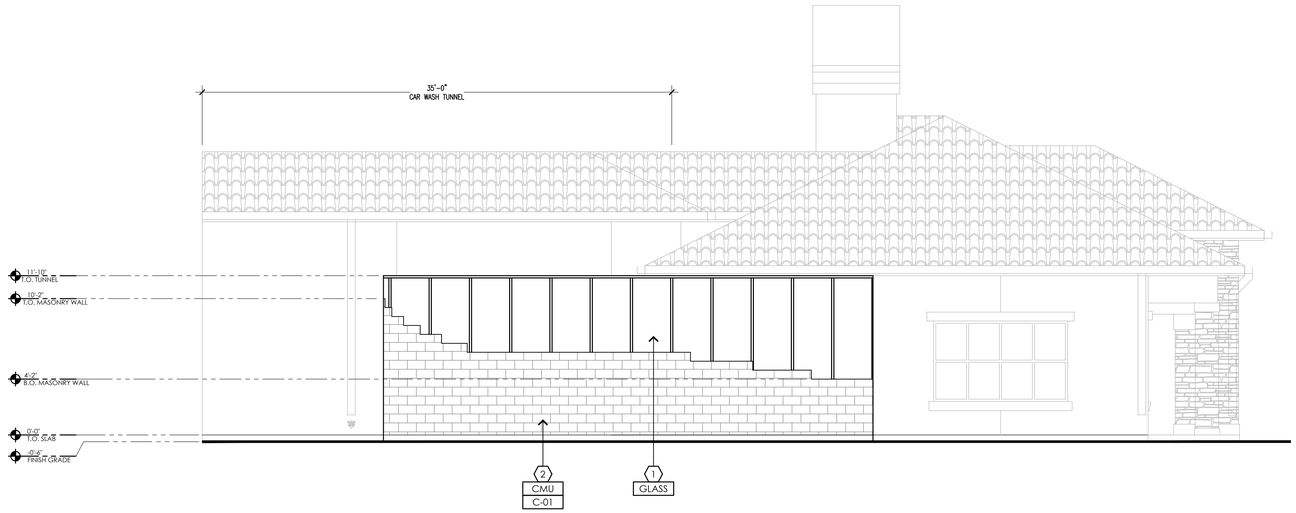
DRAWING TITLE:

PROPOSED BUILDING EXTERIOR ELEVATIONS

SHEET NO:

MUP-5

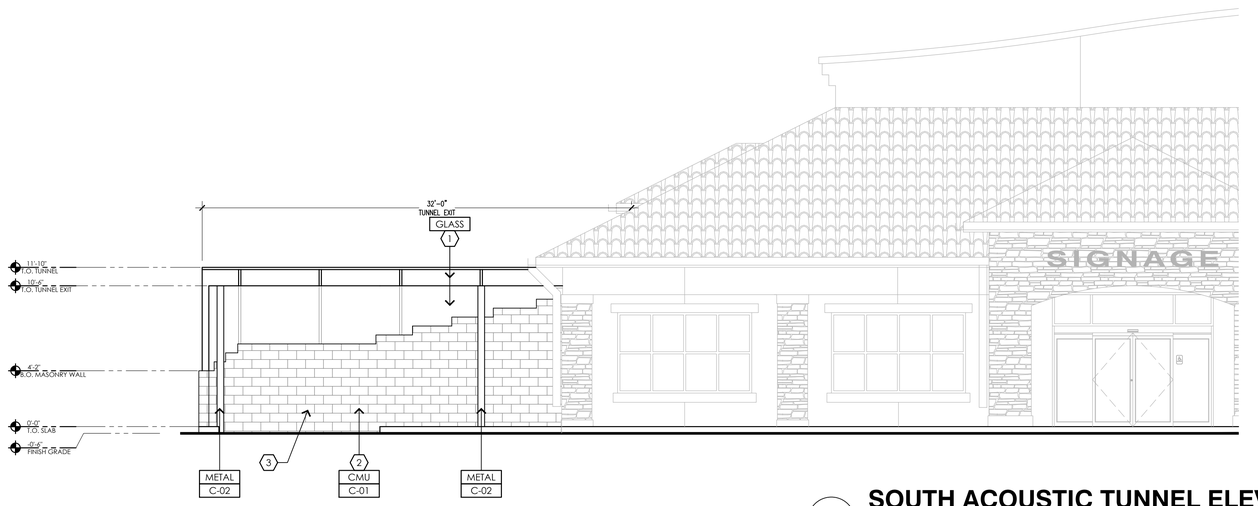
6/17/2022 4:53:24 PM



A WEST ACOUSTIC TUNNEL ELEVATION

SCALE: 3/16"=1'-0"

"AS VIEWED FROM MILLER RANCH ROAD"



B SOUTH ACOUSTIC TUNNEL ELEVATION

SCALE: 3/16"=1'-0"

"AS VIEWED FROM VALLEY CENTER ROAD"

KEYED NOTES:

1. SPANDREL GLASS WINDOWS AT LOCATIONS SHOWN BY CALCRAFT
2. CMU RETAINING WALL BY CIVIL ENGINEER
3. CAR WASH TUNNEL EXIT LOCATION

EXTERIOR PAINTS:

C-01	OMEGA PRODUCTS - COLORTEK STUCCO #437, ROUGH KHAKI
C-02	OMEGA PRODUCTS - COLORTEK STUCCO #437, TOFFEE CRUNCH

EXTERIOR FINISHES:

CMU	CONCRETE MASONRY UNIT
METAL	PREFABRICATED METAL SUPPORT POST
GLASS	SUNPAL POLYCARBONATE PANELS SUPPORT CLIPS PER MFG.

GENERAL NOTES:

1. INSTALLATION OF EXIT TUNNEL SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

EMPIRE DESIGN GROUP Inc.
511 N Main St.
Lake Elsinore, CA 92530
951-696-1490
EmpireDesignGroup.biz

CLIENT:

6 CARAT ENTERPRISE INC.

MUP FOR CAR WASH @
EXXONMOBIL & CIRCLE K
28874 VALLEY CENTER ROAD, BLDG. C
VALLEY CENTER, CA 92082

ARCHITECT OF RECORD:
GREGORY S. HANN, AIA
511 N MAIN STREET
LAKE ELSINORE, CA 92530
TEL: 951-696-1490
CELL: 951-809-7601
E-MAIL: ghann@empiregr.biz

SEAL:

STATE OF CALIFORNIA
GREGORY SCOTT HANN
C-26663
REN. 9/30/23
LICENSED ARCHITECT

Date: FEBRUARY 8, 2022

Project Number: EDG#04548

NO.	DATE	REVISION DESCRIPTION
1	6-20-22	1ST MUP REVISIONS

DESIGNED BY:	GH
CHECKED BY:	GH
DRAWN BY:	AH

DRAWING TITLE:

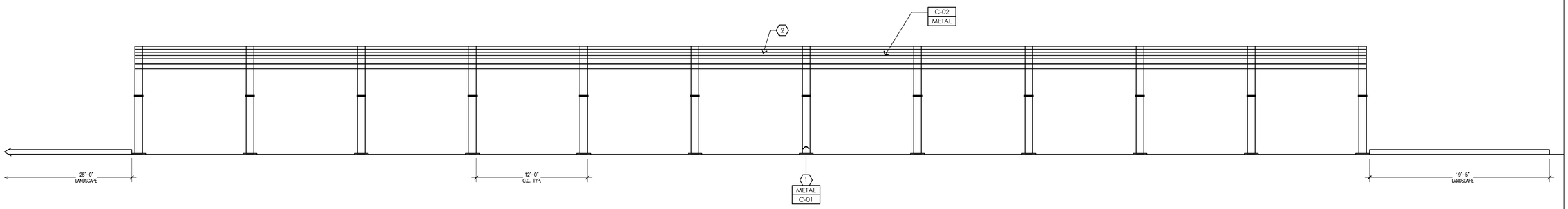
1

PROPOSED EXIT TUNNEL EXTERIOR ELEVATIONS

SHEET NO:

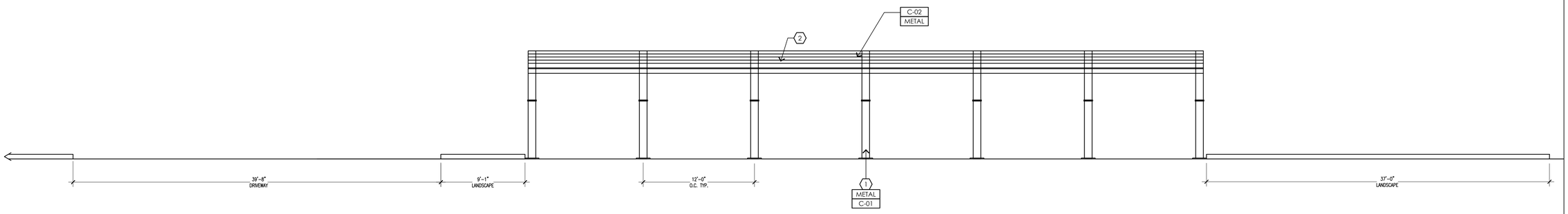
MUP-6

6/14/2022 10:54:41 PM



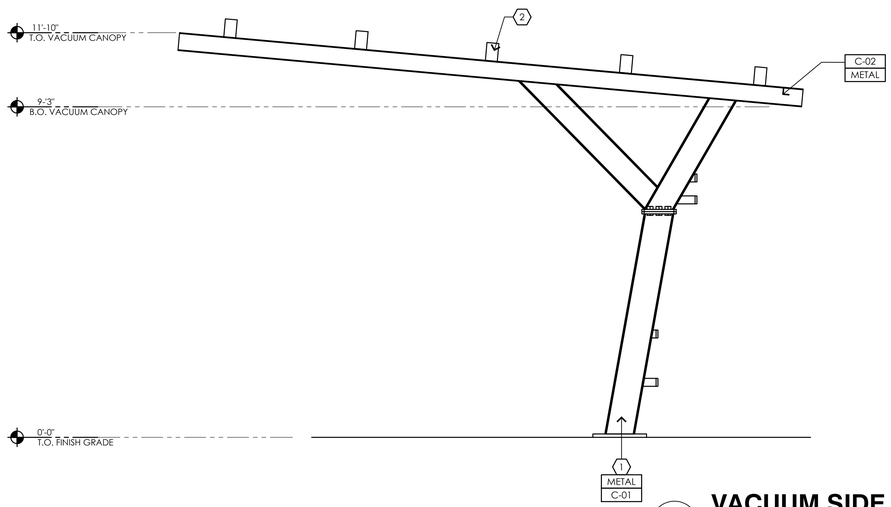
A VALLEY CENTER ROAD VACUUM ELEVATIONS

SCALE: 3/16"=1'-0"



B MILLER ROAD VACUUM ELEVATIONS

SCALE: 3/16"=1'-0"



1 VACUUM SIDE ELEVATION

SCALE: N/A

KEYED NOTES:

1. METAL VACUUMS AWNING BY VACUTECH
2. MOUNTS FOR SOLAR PANELS

EXTERIOR PAINTS:

C-01	OMEGA PRODUCTS - COLORTEK STUCCO #437, ROUGH KHAKI
C-02	OMEGA PRODUCTS - COLORTEK STUCCO #437, TOFFEE CRUNCH

EXTERIOR FINISHES:

METAL	PREFABRICATED METAL VACUUM EQUIPMENT AND COVER

GENERAL NOTES:

1. INSTALLATION OF AWNING & VACUUMS SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

EMPIRE DESIGN GROUP Inc.
511 N Main St.
Lake Elsinore, CA 92530
951-696-1490
EmpireDesignGroup.biz

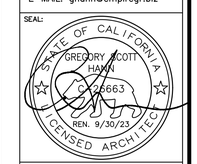
CLIENT:

6 CARAT ENTERPRISE INC.

MUP FOR CAR WASH @
EXXONMOBIL & CIRCLE K
28874 VALLEY CENTER ROAD, BLDG. C
VALLEY CENTER, CA 92082

ARCHITECT OF RECORD:
GREGORY S. HANN, AIA
511 N MAIN STREET
LAKE ELSINORE, CA 92530
TEL: 951-696-1490
CELL: 951-809-7601
E-MAIL: ghann@empiregr.biz

SEAL:



Date: FEBRUARY 8, 2022
Project Number: EDG#04548

NO.	DATE	REVISION DESCRIPTION
1	6-20-22	1ST MUP REVISIONS

DESIGNED BY: GH
CHECKED BY: GH
DRAWN BY: AH

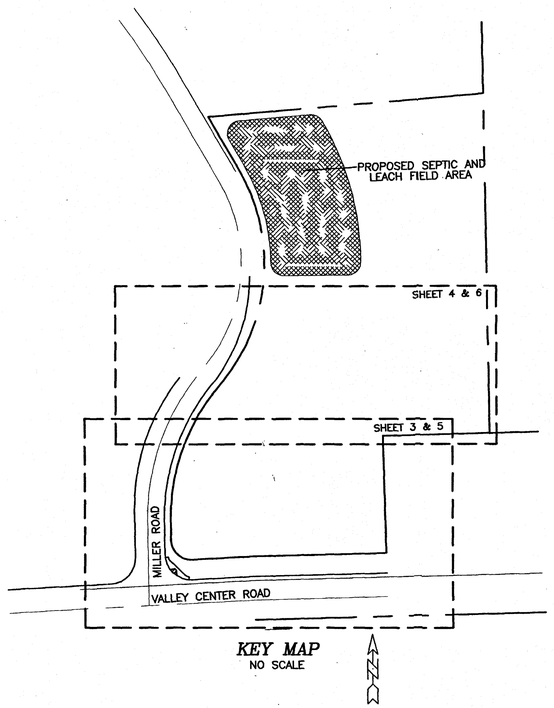
DRAWING TITLE:

1 PROPOSED VACUUM AWNING EXTERIOR ELEVATIONS

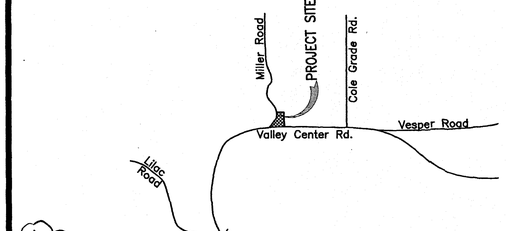
SHEET NO:

MUP-7

2/8/2022 8:53:47 PM



KEY MAP
NO SCALE



VICINITY MAP
NO SCALE
THOMAS BROS. PAGE 1090, E-1

SOILS ENGINEER CERTIFICATION

THIS GRADING PLAN HAS BEEN REVIEWED BY THE UNDERSIGNED AND FOUND TO BE CONFORMANCE WITH THE RECOMMENDATIONS AS OUTLINED IN OUR SOILS REPORT FOR THIS PROJECT. THE SOILS REPORT SHALL BE CONSIDERED AS A PART OF THIS PLAN, AND ALL GRADING WORK SHALL BE DONE IN ACCORDANCE WITH THE SPECIFICATIONS AND RECOMMENDATIONS OF SAID REPORT DATED FEBRUARY 27, 2009
PREPARED BY: GEOSOILS, INC., PROJECT NO. W.O 5654-A2-SC
TITLED: "PRELIMINARY GEOTECHNICAL EVALUATION, PROPOSED VALLEY CENTER VIEW PROPERTIES RETAIL APN 188-231-34, VALLEY CENTER, SAN DIEGO COUNTY, CALIFORNIA"
AND GEOSOILS LETTER DATED OCTOBER 24, 2012

BY: John P. Franklin DATE 11/16/18
JOHN P. FRANKLIN CGE 1340

BY: David W. Skelly DATE 8/27/13 11/16/18
DAVID W. SKELLY PGE 47857 EXPIRES 12/31/19
5741 PALMER WAY
CARLSBAD, CA 92010
TELE: 760-438-3155

PROFESSIONAL GEOLOGIST JOHN P. FRANKLIN No. 1340 Certified Engineering Geologist STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER DAVID W. SKELLY No. RCE 47857 Exp. 12/31/19 STATE OF CALIFORNIA CIVIL

SPECIAL NOTES

PRE-CONSTRUCTION MEETING: (Prior to Preconstruction Conference, and prior to any clearing, grubbing, trenching, grading, or any land disturbances.)

(BIOLOGICAL RESOURCES)
1. BREEDING SEASON AVOIDANCE: [DPLU, PCC] [DPW, PDC] DPLU, FEE X2]. Intent: Avoid impacts to migratory birds, which are sensitive biological resources pursuant to CEQA and the Migratory Bird Treaty Act. Description of Requirement: There shall be no brushing, clearing and/or grading between February 15 and August 31. The Director of Planning and Land Use [DPLU, PCC] may waive this condition, provided that there are no nesting or breeding birds within 300 feet of the brushing, clearing or grading. The waiver shall be based on a pre-construction survey completed no more than 30 days before initial brushing, clearing, grubbing, or grading of the project site. Documentation: The applicant may submit a written request for waiver of this condition, approval of which shall be in writing. Timing: Throughout the duration of any clearing, grubbing, trenching, grading, or any land disturbances compliance with this condition is mandatory unless the requirement is waived by the County. Monitoring: The [DPW, PDC] shall not allow any grading during the specified dates unless this condition is waived in writing by the [DPLU, PCC].

DURING CONSTRUCTION: (The following actions shall occur throughout the duration of the grading construction).

(PALEONTOLOGICAL RESOURCES)
2. PALEONTOLOGICAL MONITORING: [DPW, PDC] [DPLU, PCC] [PC] [DPLU, FEE X2]
INTENT: In order to comply with Mitigation Monitoring and Reporting Program pursuant to the approved Site Plan 08-013, a Paleontological Resource Grading Monitoring Program shall be implemented. DESCRIPTION OF REQUIREMENT: This project site is has marginal to low levels of sensitive Paleontological resources. All grading activities are subject to the County of San Diego Grading Ordinance Section 87.430, if any significant resources (Fossils) are encountered during grading activities.

a. The grading contractor is responsible to monitor for paleontological resources during all grading activities. If any fossils are found greater than 12 inches in any dimension, stop all grading activities and contact the [DPLU, PCC] before continuing grading operations.

b. If any paleontological resources are discovered and salvaged, the monitoring, recovery, and subsequent work determined necessary shall be completed by or under the supervision of a Qualified Paleontologist pursuant to the San Diego County Guidelines for Determining Significance for Paleontological Resources.

TIMING: The following actions shall occur throughout the duration of the grading construction. MONITORING: The [DPW, PDC] shall make sure that the grading contractor is on-site performing the Monitoring duties of this condition. The [DPW, PDC] shall contact the [DPLU, PCC] if the grading contractor or applicant fails to comply with this condition.

ROUGH GRADING: (Prior to rough grading approval and issuance of any building permit).

(PALEONTOLOGICAL RESOURCES)
3. PALEONTOLOGICAL MONITORING: [DPLU, PCC] [RG, BP] [DPLU, FEE]. INTENT: In order to comply with the adopted Mitigation Monitoring and Reporting Program (MMRP) pursuant to the approved Site Plan 08-013, and the County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements for Paleontological Resources, a Grading Monitoring Program shall be implemented. DESCRIPTION OF REQUIREMENT: One of the following letters shall be performed upon completion of the grading activities that require monitoring:

a. If no paleontological resources were discovered, submit a "No Fossils Found" letter from the grading contractor to the [DPLU, PCC] stating that the monitoring has been completed and that no fossils were discovered, and including the names and signatures from the fossil monitors. The letter shall be in the format of Attachment E of the County of San Diego Guidelines for Determining Significance for Paleontological Resources.

b. If Paleontological resources were encountered during grading, a letter shall be prepared stating that the field grading monitoring activities have been completed, and that resources have been encountered. The letter shall detail the anticipated time schedule for completion of the curration phase of the monitoring.

DOCUMENTATION: The applicant shall submit the letter report to the [DPLU, PCC] for review and approval. TIMING: Upon completion of all grading activities, and prior to Rough Grading final Inspection (Grading Ordinance SEC 87.421.a.2), the letter report shall be completed. MONITORING: The [DPLU, PCC] shall review the final negative letter report or field monitoring memo for compliance with the project MMRP, and inform [DPW, PDC] that the requirement is completed.

WORK TO BE DONE

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

ITEM	REGIONAL STANDARD DRAWING NO.	SYMBOL
CONCRETE PAVEMENT (6.5" CONC. / NATIVE) OR AS DETERMINED BY SOILS ENGINEER		
ASPHALT PAVEMENT (4" AC. / 6" CLASS II) OR AS DETERMINED BY SOILS ENGINEER		NO HATCH
5 OPEN JOINT BRICK PAVEMENT		
RIP RAP ENERGY DISSIPATER	S.D.R.S.D. D-40 (TYPE 2)	
BROW DITCH	S.D.R.S.D. D-75 (TYPE D)	
MASONRY RETAINING WALL DESIGNS PER THESE PLANS (SPECIAL INSPECTIONS)		
6" CONCRETE CURB PER S.D.R.S.D. G- (6")		
TYPE "F" CATCH BASIN PER S.D.R.S.D. D-7		
STORM DRAIN PIPE		
DETENTION BASIN MONITORING OR JUNCTION STRUCTURE PER DETAIL "F" ON SHEET 2		
STORM DRAIN CLEAN OUT PER S.D.R.S.D. D-9 (TYPE A-4)		
CUT SLOPE (2:1 MAX)		
FILL SLOPE (2:1 MAX)		
CUT/FILL DAYLIGHT LINE		
BIORETENTION SWALE		
5 UNDERGROUND DETENTION BASIN		
BIORETENTION AREA		
5 ANCHOR WALL REINFORCEMENT GRID (SPECIAL INSPECTION)		

EARTHWORK QUANTITIES

	CUT	FILL
EXCAVATION (RAW):	59,474 ~~51,329~~ C.Y.	1,627 ~~1493~~ C.Y.
COMPACTION (RAW):	<0 C.Y.>	
CLEAR & GRUB:	-0- C.Y.	1,627
PAVEMENT SECTION:		
TOTALS:	59,474 ~~51,329~~ C.Y.	~~1493~~ C.Y.
EXPORT:	57,847 ~~49,836~~ C.Y.	

5

THE EARTHWORK QUANTITIES SHOWN WERE CALCULATED BASED ON THE PRISMOIDAL (CONTOUR SLICE) METHOD. THE QUANTITIES INCLUDE STREET PAVEMENT AND BASE (RAW) VOLUMES.
THE EARTHWORK QUANTITIES SHOWN DO NOT ACCOUNT FOR THE IMPACTS OF THE FINAL EARTH MOVING QUANTITIES OF THE FOLLOWING ITEMS.

1) SHRINK OR SWELL OF THE NATIVE OR IMPORTED MATERIAL
2) EXCAVATION OF BUILDING AND COLUMN FOOTINGS
3) SPOIL MATERIAL CREATED FROM PIPE TRENCHING AND BACKFILL
4) PLACEMENT OF LANDSCAPING TOP SOILS
5) RETAINING WALL EXCAVATION AND BACKFILL

THE CONTRACTOR SHALL PREPARE SEPARATE EARTHWORK QUANTITY CALCULATIONS PRIOR TO BIDDING AND SHALL BASE HIS/HER BASE BID EXCLUSIVELY ON HIS/HER OWN COMPUTATION.

OWNER'S CERTIFICATE

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

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

I FURTHER AGREE TO COMMENCE WORK ON ANY IMPROVEMENTS SHOWN ON THESE PLANS WITHIN EXISTING COUNTY RIGHT-OF-WAY WITHIN 60 DAYS AFTER ISSUANCE OF THE CONSTRUCTION PERMIT AND TO PURSUE SUCH WORK ACTIVELY ON EVERY NORMAL WORKING DAY UNTIL COMPLETED, IRRESPECTIVE AND INDEPENDENT OF OTHER WORK ASSOCIATED WITH THIS PROJECT UNDER MY CONTROL.

OWNER/PERMITTEE: 11-16-16
BY: ~~Napoleon Zervas~~ DATE Aug 27, 2013 4
NAPOLEON ZERVAS ~~HENRY JACKSON~~
VALLEY CENTER VIEW PROPERTIES, LP 12-3-13

REGISTERED PROFESSIONAL ENGINEER GARY R. WYNN No. C 43202 CIVIL STATE OF CALIFORNIA

SPECIAL GRADING NOTE

RESTRICT ALL BRUSHING, CLEARING AND/ OR GRADING SUCH THAT NONE WILL BE ALLOWED DURING THE AMAN BREEDING SEASON. THIS IS DEFINED AS OCCURRING BETWEEN FEBRUARY 1 AND AUGUST 1. THE DIRECTOR OF PLANNING AND LAND USE, MAY WAIVE THIS CONDITION, THROUGH WRITTEN CONCURRENCE FROM THE UNITED STATES FISH AND WILDLIFE SERVICE AND THE CALIFORNIA DEPARTMENT OF FISH AND GAME, THAT NO NESTING BIRDS ARE PRESENT IN THE VICINITY OF THE BRUSHING, CLEARING OR GRADING.

FIRE DEPARTMENT NOTE

ALL ONSITE FIRE HYDRANTS MUST BE COMMERCIAL HYDRANTS AND HAVE A MINIMUM FIRE FLOW OF 2000 G.P.M. AT 25 P.S.I. ALL COMPONENTS MUST MEET THE APPROVAL OF THE VALLEY CENTER FIRE PROTECTION DISTRICT AND THE VALLEY CENTER MUNICIPAL WATER DISTRICT. DESIGN OF THE WATER SUPPLY, TYPE AND LOCATION OF THE FIRE HYDRANTS MUST BE SUBMITTED TO THE FIRE MARSHALL FOR APPROVAL PRIOR TO ANY BUILDING MATERIALS BEING PLACED ON SITE.

REGISTERED PROFESSIONAL ENGINEER GARY LIPSKA No. 23080 CIVIL STATE OF CALIFORNIA

SEE ADDITIONAL NOTES ON SHEET 2

GENERAL NOTES

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

SAN DIEGO GAS & ELECTRIC:	TELEPHONE NO. 619-232-4252, EXT. 1658
S.B.C.	TELEPHONE NO: 619-296-0595
CATV: ADELPHIA CABLE COMMUNICATIONS,	TELEPHONE: 760-728-5002
WATER: FALLBROOK PUBLIC UTILITY DIST.	TELEPHONE NO: 760-749-1600
DIGALERT:	TELEPHONE NO: 1-800-422-4133

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

5
CUT-2:1
FILL-2:1
EXCAVATION: ~~51,329~~ C.Y. 59,474
FILL: ~~1493~~ C.Y. 1,627
EXPORT: ~~49,836~~ C.Y. 57,847
(NOTE: A SEPARATE VALID PERMIT MUST EXIST FOR EITHER WASTE OR IMPORT AREAS)

14. SPECIAL CONDITION: IF ANY ARCHEOLOGICAL RESOURCES ARE DISCOVERED ON THE SITE OF THIS GRADING DURING GRADING OPERATIONS, SUCH OPERATIONS WILL CEASE IMMEDIATELY, AND THE PERMITTEE WILL NOTIFY THE DIRECTOR OF PUBLIC WORKS OF THE DISCOVERY. GRADING OPERATIONS WILL NOT RECOMMENCE UNTIL THE PERMITTEE HAS RECEIVED WRITTEN AUTHORITY FROM THE DIRECTOR OF PUBLIC WORKS TO DO SO.
15. FINISHED GRADING SHALL BE CERTIFIED BY A REGISTERED CIVIL ENGINEER AND INSPECTED BY THE COUNTY ENGINEER FOR DRAINAGE CLEARANCE. (APPROVAL OF ROUGH GRADING DOES NOT CERTIFY FINISH BECAUSE OF POTENTIAL SURFACE DRAINAGE PROBLEMS THAT MAY BE CREATED BY LANDSCAPING ACCOMPLISHED AFTER ROUGH GRADING CERTIFICATION.
16. PROPOSED DISTURBED AREA =2.51 ACRES

STORM WATER TREATMENT CONTROL, LID AND HYDROMODIFICATION BMP TABLE

DESCRIPTION / TYPE	5 SHEET NO.	MAINTENANCE CATEGORY	REVISIONS
BIORETENTION AREA "A"	SHT 3A & 5A	SECOND	
BIORETENTION AREA "B"	SHT 3A & 5A	SECOND	
BIORETENTION AREA "C"	SHT 3A & 5A	SECOND	
BIORETENTION SWALE	SHT 3A & 5A	SECOND	
MEDIA FLUME FILTER	SHT 3A & 5A	SECOND	

BMP'S APPROVED AS PART OF THE STORMWATER MANAGEMENT PLAN (SWMP) DATED JANUARY 10TH 19 ON FILE WITH DPW. ANY CHANGES TO THE ABOVE BMP'S WILL REQUIRE SWMP REVISION AND PLAN CHANGE APPROVALS.

SHEET LEGEND

NO.	DESCRIPTION	NO.	DESCRIPTION
1	TITLE SHEET	~~13~~	~~ANCHOR NOTES~~
2	NOTES AND DETAILS	14 A	EROSION CONTROL OFFSITE
3 A	GRADING PLAN	15 A	EROSION CONTROL OFFSITE
4 A	GRADING PLAN	16 A	BASIN SECTIONS
5 A	DRAINAGE PLAN	~~17~~	~~ANCHOR WALL DETAILS~~
~~6~~	~~DRAINAGE PLANS~~	~~18~~	~~ANCHOR WALL SECTIONS~~
7	RETAINING WALL NOTES	~~19~~	~~GEOSTORAGE NOTES~~
8	RETAINING WALL "S" DETAILS	~~20~~	~~GEOSTORAGE PLAN VIEW AND SECTIONS (UPPER BASIN)~~
9 A	EROSION CONTROL PLAN	~~21~~	~~GEOSTORAGE PLAN VIEW AND SECTIONS (LOWER BASIN)~~
~~10~~	~~EROSION CONTROL PLAN~~	~~22~~	~~GEOSTORAGE SECTIONS~~
11	EROSION CONTROL DETAILS	~~23~~	~~GEOSTORAGE COVER DETAILS~~
12 A	DMA AND TREATMENT CONTROL	~~24~~ 25	EROSION CONTROL PLAN

WALL "B" PROFILE 7A
WALL "D" PLAN 7B
WALL "C" PROFILE 7C
RETAINING WALL NOTES 8A
RETAINING WALL DETAILS 8B

2 WYNN ENGINEERING, INC.
27315 VALLEY CENTER ROAD
VALLEY CENTER, CA. 92082
(760) 749-8722 (310) 306-9728
CIVIL ENGINEERING • LAND PLANNING
Aguaterra Engineering Inc.
~~1842 Cangelosi Place~~
~~Oceanside, CA 92054~~
~~Tele: (760) 439-3902~~
~~Fax: (760) 439-3985~~

OWNER'S / PERMITTEE'S

NAME: VALLEY CENTER VIEW PROPERTIES
ADDRESS: 3936 HORTENSIA STREET
SAN DIEGO, CA 92110
TELEPHONE NO: 619-523-0133
SHORT LEGAL DESCRIPTION: PORTION OF PARCEL 2 AND 3 OR PARCEL MAP NO PARCEL MAP NO. 8636, FILED APRIL 1979
A.P.N. NO: 188-231-~~34~~ 36 5
SITE ADDRESS: VALLEY CENTER ROAD

PDS ENVIRONMENTAL REVIEW

APPROVED FOR COMPLIANCE WITH ENVIRONMENTAL REVIEW
APPROVAL: EMMET AQUINO
DATE: JUNE 12, 2013

FIRE AGENCY

VALLEY CENTER FIRE PROTECTION DISTRICT
APPROVAL: ~~DE Omaa~~ 5
DATE: 8-29-2013 11/29/18

RECORD PLAN

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

DECLARATION OF RESPONSIBLE CHARGE

4
I HEREBY DECLARE THAT I AM THE 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 STANDARDS.

I UNDERSTAND THAT THE CHECK OF PROJECT DRAWINGS AND SPECIFICATIONS BY THE COUNTY OF SAN DIEGO IS CONFINED TO REVIEW ONLY AND DOES NOT RELIEVE ME, AS ENGINEER OF WORK, OF MY RESPONSIBILITIES FOR PROJECT DESIGN. 12-1-18

BY: Gary Lipska DATE: 8/26/13
GARY LIPSKA
RCE NO: 23080 EXPIRES: ~~12/31/18~~ 3/31/20

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:
1	REVISE SHT. 9 ADD SHT. ~~24~~ & 25 REVISE SHEET COUNT	KBD	8/11/15
2	CHANGE OF E.O.R.	~~KBD~~	~~5/6/17~~
3	PERMIT EXTENSION NEW PERMIT	KBD	7/24/17
4		KBD	11/10/18
5	VOIDED SHEETS: 3 - 6, 9, 10, 12 - 23 ADDED SHEETS: 3A-5A, 7A-9A AND 12A AND 14A-16A	KBD	12.16.21

PERMITS

LANDSCAPE PLAN NO. _____
SITE PLAN REVIEW NO. S-08-013 STP-08-013M3 1
STREET IMPROVEMENT PLANS PDS2013-LDPIIP-00005
NOTICE OF INTENT(WDID): 9 37C367589

BENCH MARK

DESCRIPTION: 2-1/2" BRASS CAP STAMPED "S.D. SURV. MON. 19 PT."
LOCATION: IN WELL MONUMENT AT POINT EGCS-3048
RECORD FROM: RECORD OF SURVEY MAP 14236
ELEVATION: 1336.773 DATUM: NGVD 29 MSL

PRIVATE CONTRACT

1 5
SHEET 1 | COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS | 25 ~~25~~ SHEETS 19

GRADING PLAN FOR:
MILLER ROAD PLAZA 2 GARY WYNN 4
POR. PARCEL 2 & 3, P.M. NO. 8636 5-8-17
CALIFORNIA COORDINATE INDEX 390-1770

APPROVED FOR:
MOHAMAD FAKHRIDDINE
COUNTY ENGINEER
Kenneth G. Brazell
DATE 4-11-14

ENGINEER OF WORK: Gary Lipska R.C.E. 23080 EXPIRES 12/31/19 5-8-17
CHECKED BY: N/A GRADING PERMIT NO. ~~4-11-14~~
APPROVAL DATE: 4-11-14 PDS2012-2700-15688

2 WYNN ENGINEERING, INC.
TELEPHONE (760) 749-8722
ENGINEER: 760-439-2802
TELEPHONE: 760-439-2802

5 PDS-2020-LDPCHG-00902
4 PDS-2018-LDPCHG-00648
PLOT DATE: 8/26/13
PDS2014-LDPCHG-00109
PDS2016-LDPCHG-00390
PDS2017-LDPCHG-00534

ENGINEER'S NOTES

THE FOLLOWING NOTES ARE PROVIDED TO GIVE DIRECTIONS TO THE CONTRACTOR BY THE ENGINEER OF WORK. THE COUNTY ENGINEER'S SIGNATURE ON THESE PLANS DOES NOT CONSTITUTE APPROVAL OF THESE PLANS DOES NOT CONSTITUTE APPROVAL OF THESE NOTES AND THE COUNTY WILL NOT BE RESPONSIBLE FOR THEIR ENFORCEMENT.

1) NEITHER THE OWNER NOR THE ENGINEER OF WORK WILL ENFORCE SAFETY MEASURES OR REGULATIONS. THE CONTRACTOR SHALL DESIGN, CONSTRUCT, AND MAINTAIN ALL SAFETY DEVICES, INCLUDING SHORING AND SHALL BE SOLELY RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE AND FEDERAL SAFETY HEALTH STANDARDS, LAWS AND REGULATIONS.

2) CONTRACTOR WILL MAKE EXPLORATION EXCAVATIONS AND LOCATE EXISTING UNDERGROUND FACILITIES SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT REVISIONS TO PLANS IF REVISION IS NECESSARY BECAUSE OF NEW WORK.

3) CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN HEREON AND ANY OTHER EXISTING LINES NOT OF RECORD OR NOT SHOWN ON THESE PLANS.

4) CONTRACTOR SHALL NOTIFY SAN DIEGO GAS & ELECTRIC CO. PRIOR TO STARTING WORK NEAR COMPANY FACILITIES AND SHALL COORDINATE HIS WORK WITH COMPANY REPRESENTATIVES. FOR LOCATION OF ELECTRICAL CABLES, GAS PIPING AND APPURTENANCES, CONTACT THE SAN DIEGO GAS & ELECTRIC COMPANY, TELEPHONE 232-4252, EXT. 1658.

5) CONTRACTOR SHALL NOTIFY THE PACIFIC TELEPHONE CO. PRIOR TO STARTING WORK NEAR COMPANY FACILITIES AND SHALL COORDINATE HIS WORK NEAR COMPANY FACILITIES AND SHALL COORDINATE HIS WORK WITH COMPANY REPRESENTATIVES. FOR LOCATION OF CABLES AND APPURTENANCES, CONTACT THE PACIFIC TELEPHONE COMPANY, TELEPHONE 298-0595.

6) CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, AND THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.

7) THE CONTRACTOR SHALL BE RESPONSIBLE TO INSURE THAT ALL WATER UTILITIES AND STORM DRAINS ARE BUILT IN ACCORDANCE WITH THESE PLANS. IF THERE IS ANY QUESTION REGARDING THESE PLANS OR FIELD STAKES, THE CONTRACTOR SHALL REQUEST AN INTERPRETATION BEFORE DOING ANY WORK BY CALLING THE ENGINEER OF WORK AT 760-439-2802 THE CONTRACTOR SHALL ALSO TAKE THE NECESSARY STEPS TO PROTECT ANY ADJACENT PROPERTY FROM HIS OPERATIONS BY APPROPRIATE MEANS (SAND BAGS, HAY BALES, TEMPORARY DESILTING BASIN, DIKES, SHORING, ETC.) UNTIL SUCH TIME THAT THE PROJECT IS COMPLETED AND ACCEPTED FOR MAINTENANCE BY WHATEVER OWNER, AGENCY OR ASSOCIATION IS TO BE ULTIMATELY RESPONSIBLE FOR MAINTENANCE.

PDS ENVIRONMENTAL NOTE

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

ANCHOR RETAINING WALL NOTES

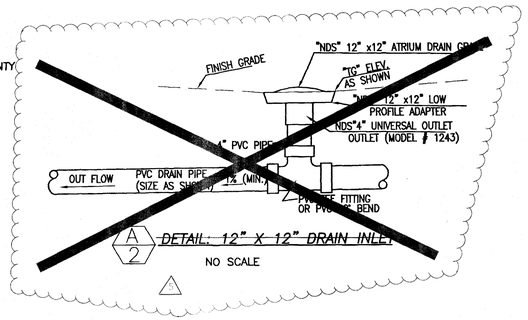
1. ANCHOR RETAINING WALLS WILL BE CONSTRUCTED WITH FULL INSPECTION ACCORDING TO MANUFACTURE'S SPECIFICATIONS..
2. ANCHOR RETAINING WALL WILL BE CERTIFIED BY THE DEIGN ENGINEER AS BEING CONSTRUCTED IN ACCORDANCE TO THE MANUFACTURE'S SPECIFICATIONS.

EXPORT HAUL ROUTE NOTES

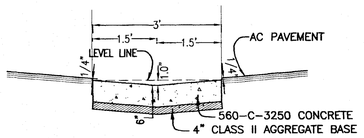
PRIOR TO BEGINNING OF GRADING, PERMITTEE SHALL SUBMIT A TRAFFIC CONTROL PLAN TO DPW TRAFFIC SECTION, FOR APPROVAL INCLUDING:
1. SPECIFIC TRUCK TRAVEL ROUTE.
2. ANTICIPATED LENGTH OF GRADING PERIOD INVOLVING THE NEED FOR TRUCK EXPORT OF SOIL.
3. TIME OF OPERATIONS.
4. EXISTING CONDITIONS OF IMPACTED ROAD AREAS-INCLUDING TRAFFIC AND ROAD CONDITIONS.
5. TRAFFIC SAFETY INCLUDING SAFETY TO RESIDENTS ON FOOT, ON BICYCLE AND IN VEHICLES AND POSSIBLE MITIGATION FOR AVOIDANCE OF SIGNIFICANT PEAK HOUR TRAFFIC AT CERTAIN INTERCHANGES AND
6. INTERCHANGE GEOMETRY TO DETERMINE IF IT WILL ALLOW SAFE USE BY THE TRUCKS.

BMP STENCIL REPLACEMENT NOTES

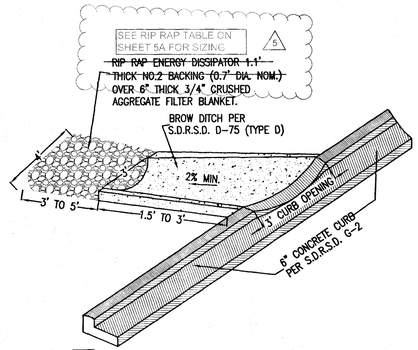
1. ALL STORM DRAIN INLETS AND CATCH BASINS WITHIN THE PROJECT AREA SHALL HAVE A STENCIL OR TILE PLACED WITH PROHIBITIVE LANGUAGE (SUCH AS "NO DUMPING-I LIVE IN THE PACIFIC OCEAN") AND/OR GRAPHICAL ICONS TO DISCOURAGE ILLEGAL DUMPING.
2. SIGNS AND PROHIBITIVE LANGUAGE AND OF GRAPHICAL ICONS, WHICH PROHIBIT ILLEGAL DUMPING, MUST BE POSTED AT PUBLIC ACCESS POINTS ALONG CHANNELS AND CREEKS WITHIN THE PROJECT AREA.
3. LEGIBILITY OF STENCILS, TILES AND SIGNS MUST BE MAINTAINED AND TILES MUST BE PLACED FLUSH WITH THE TOP OF CONCRETE TO REDUCE TRIPPING BY PEDESTRIANS.



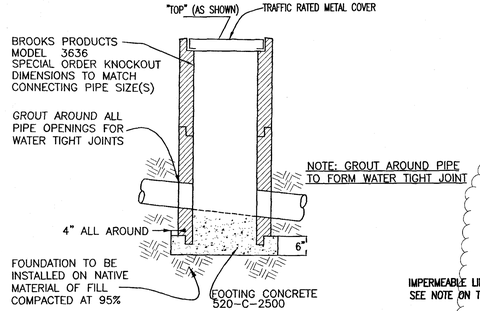
A/2 DETAIL: 12" X 12" DRAIN INLET
NO SCALE



D/2 DETAIL: CONCRETE RIBBON GUTTER
NO SCALE

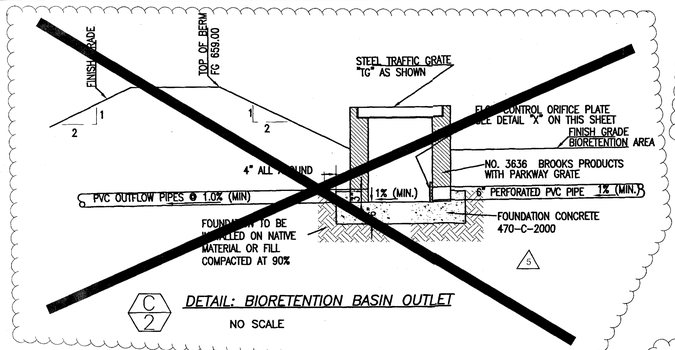


J/2 DETAIL: DOWN DRAIN TRANSITION
NO SCALE

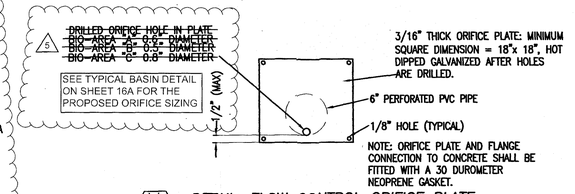


PAINT NOTE: ALL STEEL COVERS SHALL BE CLEANED, PRIMED AND PAINTED BLACK WITH URETHANE PAINT PER SECTION 310-2 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.

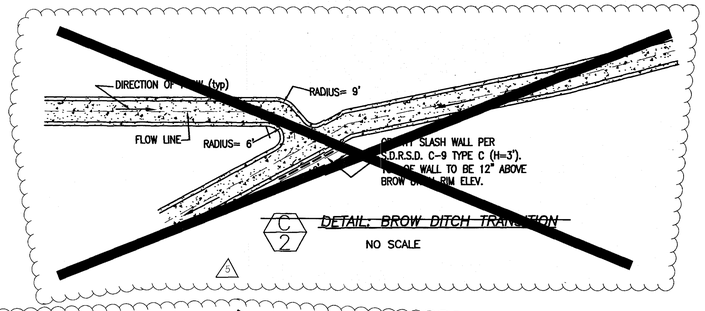
F/2 MONITORING / JUNCTION STRUCTURE
NO SCALE



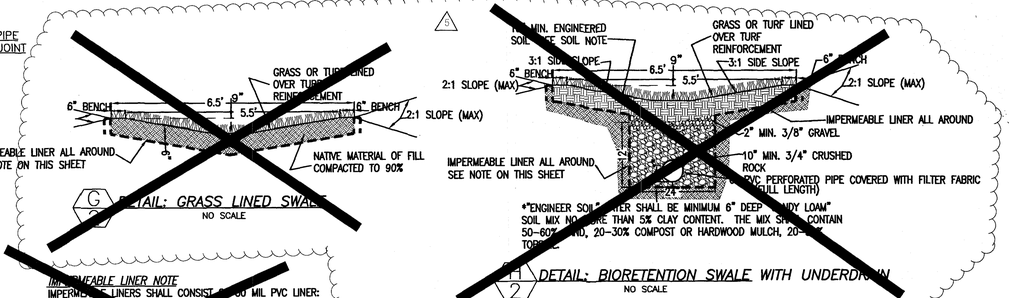
C/2 DETAIL: BIORETENTION BASIN OUTLET
NO SCALE



X/2 DETAIL: FLOW CONTROL ORIFICE PLATE
NO SCALE



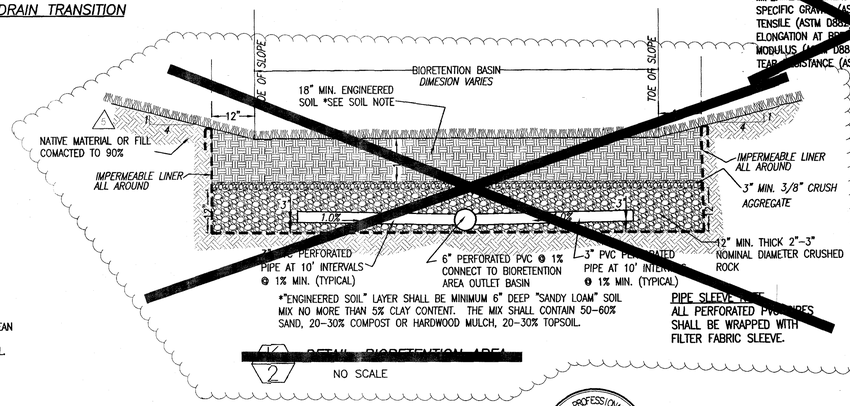
C/2 DETAIL: BROW DITCH TRANSITION
NO SCALE



G/2 DETAIL: GRASS LINED SWALE
NO SCALE

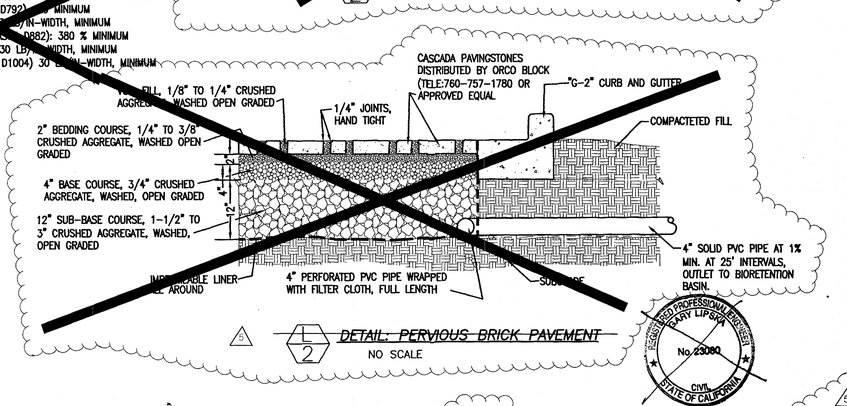
H/2 DETAIL: BIORETENTION SWALE WITH UNDERDRAIN
NO SCALE

IMPERMEABLE LINER NOTE
IMPERMEABLE LINERS SHALL CONSIST OF 30 MIL PVC LINER:
SPECIFIC GRAVITY (ASTM D792): MINIMUM
TENSILE (ASTM D882): 75 LB/IN-WIDTH, MINIMUM
ELONGATION AT BREAK (ASTM D882): 380 % MINIMUM
MODULUS (ASTM D882): 30 LB/IN-WIDTH, MINIMUM
TEAR RESISTANCE (ASTM D1004) 30 LB/IN-WIDTH, MINIMUM

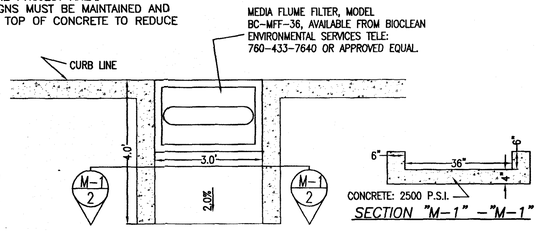


PIPE SLEEVE NOTE
ALL PERFORATED PVC PIPES SHALL BE WRAPPED WITH FILTER FABRIC SLEEVE.

I/2 DETAIL: BIORETENTION AREA
NO SCALE



L/2 DETAIL: PERVIOUS BRICK PAVEMENT
NO SCALE



SECTION "M-1" -"M-1"

M/2 PLAN VIEW: MEDIA FLUME FILTER OUTLET
NO SCALE

SYMBOL LEGEND

DESCRIPTION	SYMBOL
ELEVATION, TOP OF FOOTING	TF
ELEVATION, TOP OF WALL	TW
ELEVATION, TOP OF CURB	TC
ELEVATION, FINISH SURFACE	FS
ELEVATION, FINISH GRADE	FG
ELEVATION, TOP OF GRATE	TG
ELEVATION, BOTTOM OF FOOTING	BF
ELEVATION, FLOW LINE	FL
ELEVATION, INVERT ELEVATION	IE
ELEVATION LABEL, EXISTING	(596.00)
ELEVATION LABEL, PROPOSED	596.00
ELEVATION FINISH FLOOR	FF
DETAIL REFERENCE	C/2 DETAIL LABEL, SHEET NO.

REGISTERED PROFESSIONAL ENGINEER GARY R. WYNN No. C 43202 CIVIL STATE OF CALIFORNIA

RECORD PLAN

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

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:
	1 REVISE SHEET SILT COUNT 2 CHANGE OF E.O.R.		5/5/17
5	REVISE TOTAL NUMBER OF SHEETS REMOVED DETAILS		12.16.21

PERMITS

5

LANDSCAPE PLAN NO. _____
SITE PLAN REVIEW NO. S-08-013 STP-08-013M3
STREET IMPROVEMENT PLANS PDS2013-LDRUP-00005
NOTICE OF INTENT(WDID): 9 37C367589

BENCH MARK

DESCRIPTION: 2-1/2" BRASS CAP STAMPED "S.D. SURV. MON. 19 PT."
LOCATION: IN WELL MONUMENT AT POINT EGCS-3048
RECORD FROM: RECORD OF SURVEY MAP 14236
ELEVATION: 1336.773 DATUM: NGVD 29 MSL

PRIVATE CONTRACT

1

SHEET 2 | COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS | 25 23 19 SHEETS

GRADING PLAN FOR:
MILLER ROAD PLAZA
POR. PARCEL 2 & 3, P.M. NO. 8636
CALIFORNIA COORDINATE INDEX 390-1770

2 GARY WYNN 12-1-8

APPROVED FOR: MOHAMAD FAKHREDDINE COUNTY ENGINEER
BY: Kenneth G. Brazell DATE: 4-11-14
ENGINEER OF WORK: GARY R. WYNN, R.C.E. 43202 EXPIRES 12/31/15 DATE: 3-4-14
CHECKED BY: N/A GRADING PERMIT NO.
EXPIRATION DATE: 4-11-14 PDS2012-2700-15688

2 WYNN ENGINEERING, INC.
27315 VALLEY CENTER ROAD
VALLEY CENTER, CA. 92082
(760) 749-8722 (310) 306-9728

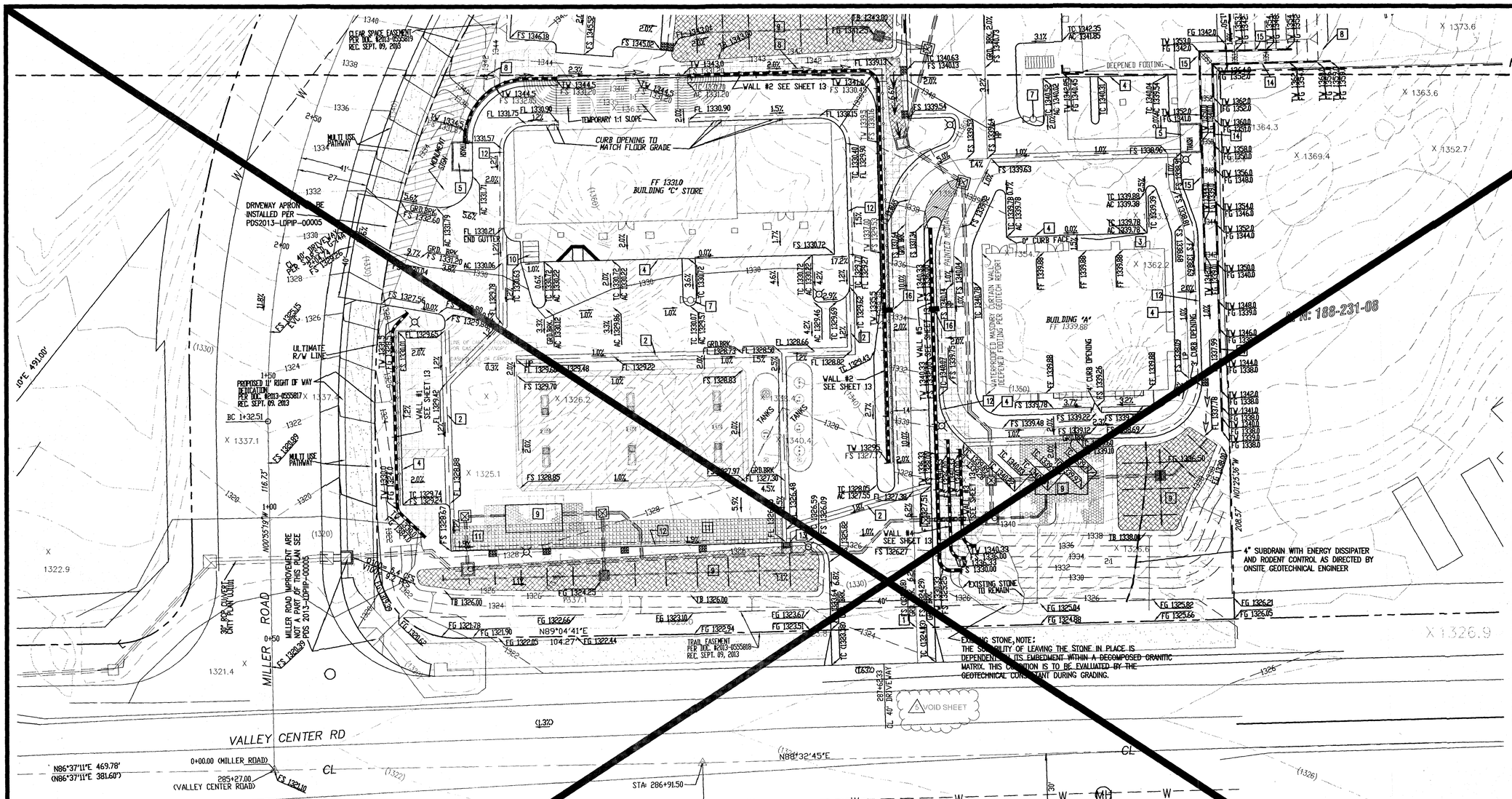
20 0 20 40
Scale: 1" = 20'

Architecture Engineering Landscape Architecture
terra Engineering Inc.
1843 Campecino Place
Oceanside, CA 92054
Tele: (760) 439-3868
Fax: (760) 439-3866
CIVIL ENGINEERING • LAND PLANNING

REGISTERED PROFESSIONAL ENGINEER GARY LIPSKY No. 23080 CIVIL STATE OF CALIFORNIA

2 WYNN ENGINEERING, INC.
TELEPHONE: (760) 749-8722
ENGINEER: GARY R. WYNN, R.C.E. 43202
TELEPHONE: 760-439-2802

PLOT DATE: 03/29/15



CONSTRUCTION LEGEND FOR SURFACE IMPROVEMENTS

1. CONCRETE DRIVEWAY PER S.D.R.S.D. G-14-B
2. CONCRETE RIBBON GUTTER PER DETAIL "D" ON SHEET 2
3. CONCRETE SIDEWALK / HARDSCAPE PER S.D.R.S.D. G-7, G-9, G-10
4. 6" CONCRETE CURB PER S.D.R.S.D. G-1
5. TRASH ENCLOSURE
7. PROPOSED FIRE HYDRANT
8. CONCRETE BROW DITCH PER S.D.R.S.D. D-75
9. BIORETENTION DEVICE SEE SHEETS 5 AND 6
10. BICYCLE PARKING SPACES PER OWNER'S SPECIFICATION
11. PERVIOUS BRICK PAVEMENT PER DETAIL "J" ON SHEET 2
12. CONCRETE AND GUTTER PER S.D.R.S.D. G-2
13. MEDIA FLUME FILTER PER DETAIL "M" ON SHEET 2
14. MASONRY RETAINING WALL "C" PER DETAIL "S" ON SHEET 8
15. MASONRY RETAINING WALL "D" PER DETAIL "T" ON SHEET 8
16. 15" DIA METAL SLEEVE FOR WATER LINE, SEE WATER PLANS

SYMBOL LEGEND

DESCRIPTION	SYMBOL
ELEVATION, TOP OF FOOTING	TF
ELEVATION, TOP OF WALL	TW
ELEVATION, TOP OF CURB	TC
ELEVATION, FINISH SURFACE	FS
ELEVATION, FINISH GRADE	FG
ELEVATION, TOP OF GRATE	TG
ELEVATION, BOTTOM OF FOOTING	BF
ELEVATION, FLOW LINE	FL
ELEVATION, INVERT ELEVATION	IE
ELEVATION LABEL, EXISTING	(596.00)
ELEVATION LABEL, PROPOSED	596.00
ELEVATION FINISH FLOOR	FF
DETAIL REFERENCE	C/2 DETAIL LABEL, SHEET NO.

GRADING PLAN

SCALE: 1"=20'

SEE DRAINAGE IMPROVEMENTS ON SHEET 5 AND 6

ENGINEER'S NOTES

1) ALL PVC DRAINAGE PIPES SHALL CONFORM TO SDR-35 PER ASTM D3034, OR "SURE-LOK F477" AS MANUFACTURED BY HANCOR INC (AASHTO M252, TYPE S)
2) LENGTHS ON DRAINAGE PIPE ARE FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
3) CONTRACTOR TO VERIFY HORIZONTAL AND VERTICAL LOCATION OF EXISTING UNDERGROUND SEWER AND STORM DRAINAGE SYSTEMS PRIOR TO TRENCHING FOR NEW CONNECTING FACILITIES. IN THE EVENT ACTUAL LOCATION VARIES SIGNIFICANTLY FROM THAT SHOWN ON PLAN, THE ENGINEER OF WORK SHALL BE NOTIFIED PRIOR TO PROCEEDING

BMP NOTE

PERMANENT POST CONSTRUCTION BMP DEVICES (BIORETENTION AREAS AND SWALES) SHOWN ON THIS PLAN SHALL NOT BE REMOVED OR MODIFIED WITHOUT THE APPROVAL OF THE COUNTY OF SAN DIEGO.

REGISTERED PROFESSIONAL ENGINEER GARY LIPSKA No. 23080 CIVIL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER GARY R. WYNN No. C 43202 CIVIL STATE OF CALIFORNIA

Scale: 1" = 20'

Aguirre Engineering Inc.
ENGINEERING • LAND PLANNING
1843 Campesino Place
Oceanside, CA 92054
Tel: (760) 439-2802
Fax: (760) 439-2866

2 WYNN ENGINEERING, INC.
27315 VALLEY CENTER ROAD
VALLEY CENTER, CA. 92082
(760) 749-8722 (310) 306-9728

RECORD PLAN

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

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:
1	REVISE SHEET COUNT		5/5/17
2	CHANGE OF E.O.R.		
3	VOID SHEET		12.16.21

PERMITS

LANDSCAPE PLAN NO. PDS2013-LP-13-066
SITE PLAN REVIEW NO. S-08-013
STREET IMPROVEMENT PLANS PDS2013-LDPIP-00005
NOTICE OF INTENT(WDID): 9 37C367589

BENCH MARK

DESCRIPTION: 2-1/2" BRASS CAP STAMPED "S.D. SURV. MON. 19 PT."
LOCATION: IN WELL MONUMENT AT POINT EGCS-3048
RECORD FROM: RECORD OF SURVEY MAP 14236
ELEVATION: 1336.773 DATUM: NGVD 29 MSL

PRIVATE CONTRACT

1

SHEET 3 | COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS | 25 ~~23~~ SHEETS

GRADING PLAN FOR
MILLER ROAD PLAZA
POR. PARCEL 2 & [illegible] P.M. NO. 8636
CALIFORNIA COORDINATE INDEX [illegible]-1770

2 GARY WYNN RCE 43202 DATE 12/31/18

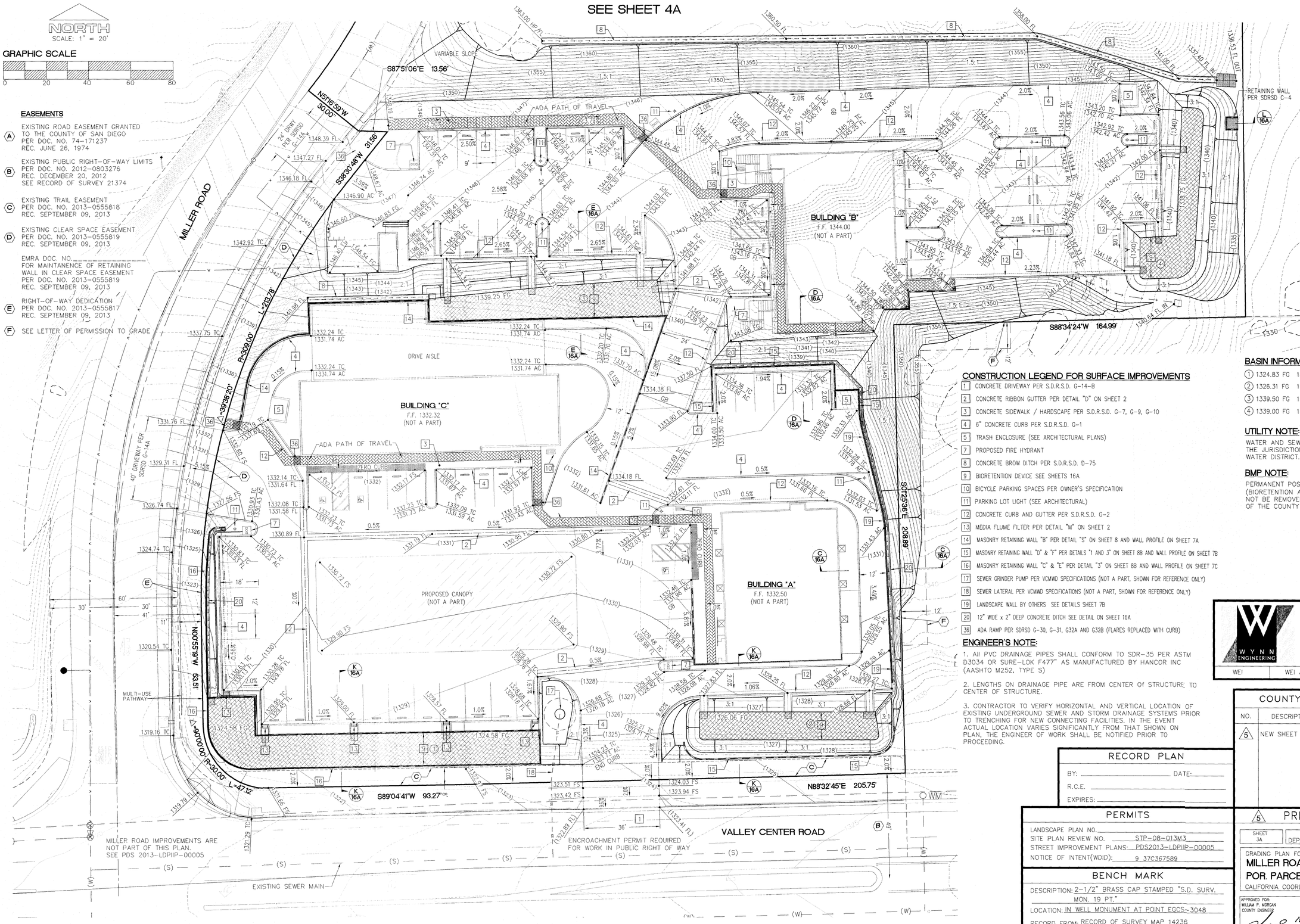
APPROVED FOR: MOHAMAD FAGHRIDDINE COUNTY ENGINEER
by: Kenneth J. Brazell DATE: 4-11-14

ENGINEER OF WORK: GARY LIPSKA R.C.E. 23080 EXPIRES 12/31/15 DATE: 5/5/17

CHECKED BY: [illegible] DRAWING NO. PDS2012-2700-[illegible]
DATE: 4-11-14

2 WYNN ENGINEERING, INC.
TELEPHONE: (760) 749-8722
ENGINEER: AGUIRRE ENGINEERING INC.
TELEPHONE: 760-439-2802

PLOT DATE: 03/29/14



ABBREVIATIONS

BC	BEGIN CURVE
BVC	BEGIN VERTICAL CURVE
BO	BLOW-OFF
BW	BOTTOM OF WALL ELEVATION
CL	CENTERLINE
CO	CLEAN-OUT
EA	EACH
EC	END CURVE
EP	EDGE OF PAVEMENT ELEVATION
EVC	END VERTICAL CURVE
FB	FREE BOARD
FG	FINISHED GRADE ELEVATION
FH	FIRE HYDRANT
FL	FLOW LINE ELEVATION
FS	FINISHED SURFACE ELEVATION
G	GUTTER ELEVATION
GB	GRADE BREAK
GV	GATE VALVE
H	HEIGHT
HP	HIGH POINT
IE	INVERT ELEVATION
LF	LINEAR FEET
LP	LOW POINT
MAX	MAXIMUM
MIN	MINIMUM
MH	MANHOLE
OAE	OR APPROVED EQUIVALENT
PCC	POINT OF COMPOUND CURVE
PRC	POINT OF REVERSING CURVE
PL	PROPERTY LINE
S	SEWER
SD	STORM DRAIN
SHLDR	SHOULDER ELEVATION
SF	SQUARE FEET
TB	TOP OF BERM
TC	TOP OF CURB ELEVATION
TF	TOP OF FOOTING ELEVATION
TG	TOP OF GRATE ELEVATION
TOB	TOP OF BOX ELEVATION
TW	TOP OF WALL ELEVATION
TYP	TYPICAL
W	WATER
WM	WATER METER

BASIN INFORMATION

(1)	1324.83 FG	1325.83 TG
(2)	1326.31 FG	1327.31 TG
(3)	1339.50 FG	1340.50 TG
(4)	1339.00 FG	1340.00 TG

CONSTRUCTION LEGEND FOR SURFACE IMPROVEMENTS

1. CONCRETE DRIVEWAY PER S.D.R.S.D. G-14-B
2. CONCRETE RIBBON GUTTER PER DETAIL "D" ON SHEET 2
3. CONCRETE SIDEWALK / HARDSCAPE PER S.D.R.S.D. G-7, G-9, G-10
4. 6" CONCRETE CURB PER S.D.R.S.D. G-1
5. TRASH ENCLOSURE (SEE ARCHITECTURAL PLANS)
7. PROPOSED FIRE HYDRANT
8. CONCRETE BROW DITCH PER S.D.R.S.D. D-75
9. BIORETENTION DEVICE SEE SHEETS 16A
10. BICYCLE PARKING SPACES PER OWNER'S SPECIFICATION
11. PARKING LOT LIGHT (SEE ARCHITECTURAL)
12. CONCRETE CURB AND GUTTER PER S.D.R.S.D. G-2
13. MEDIA FLUME FILTER PER DETAIL "M" ON SHEET 2
14. MASONRY RETAINING WALL "B" PER DETAIL "S" ON SHEET 8 AND WALL PROFILE ON SHEET 7A
15. MASONRY RETAINING WALL "D" & "F" PER DETAILS "1 AND 3" ON SHEET 8B AND WALL PROFILE ON SHEET 7B
16. MASONRY RETAINING WALL "C" & "E" PER DETAIL "3" ON SHEET 8B AND WALL PROFILE ON SHEET 7C
17. SEWER GRINDER PUMP PER VCMWD SPECIFICATIONS (NOT A PART, SHOWN FOR REFERENCE ONLY)
18. SEWER LATERAL PER VCMWD SPECIFICATIONS (NOT A PART, SHOWN FOR REFERENCE ONLY)
19. LANDSCAPE WALL BY OTHERS SEE DETAILS SHEET 7B
20. 12" WIDE x 2" DEEP CONCRETE DITCH SEE DETAIL ON SHEET 16A
36. ADA RAMP PER SDRSD G-30, C-31, G32A AND G32B (FLARES REPLACED WITH CURB)

ENGINEER'S NOTE:

1. All PVC DRAINAGE PIPES SHALL CONFORM TO SDR-35 PER ASTM D3034 OR SURE-LOK F477" AS MANUFACTURED BY HANCOR INC (AASHTO M252, TYPE S)
2. LENGTHS ON DRAINAGE PIPE ARE FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
3. CONTRACTOR TO VERIFY HORIZONTAL AND VERTICAL LOCATION OF EXISTING UNDERGROUND SEWER AND STORM DRAINAGE SYSTEMS PRIOR TO TRENCHING FOR NEW CONNECTING FACILITIES. IN THE EVENT ACTUAL LOCATION VARIES SIGNIFICANTLY FROM THAT SHOWN ON PLAN, THE ENGINEER OF WORK SHALL BE NOTIFIED PRIOR TO PROCEEDING.

UTILITY NOTE:

WATER AND SEWER ARE PER SEPARATE PERMIT UNDER THE JURISDICTION OF THE VALLEY CENTER MUNICIPAL WATER DISTRICT.

BMP NOTE:

PERMANENT POST CONSTRUCTION BMP DEVICES (BIORETENTION AREAS) SHOWN ON THIS PLAN SHALL NOT BE REMOVED OR MODIFIED WITHOUT THE APPROVAL OF THE COUNTY OF SAN DIEGO.

REGISTERED PROFESSIONAL ENGINEER GARY R. WYNN No. C 43202 CIVIL STATE OF CALIFORNIA

WYNN ENGINEERING, INC.
27315 VALLEY CENTER ROAD
VALLEY CENTER, CA. 92082
(760) 749-8722 (310) 306-9728
FAX (760) 749-9412

WEI	WEI JOB NO. 16-027	12-01-2021

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:
5	NEW SHEET	DPW	12.16.21

RECORD PLAN

BY: _____ DATE: _____

R.C.E. _____

EXPIRES: _____

PERMITS

LANDSCAPE PLAN NO. _____
SITE PLAN REVIEW NO. STP-08-013M3
STREET IMPROVEMENT PLANS: PDS2013-LDPIIP-00005
NOTICE OF INTENT(WDID): 9 37C367589

BENCH MARK

DESCRIPTION: 2-1/2" BRASS CAP STAMPED "S.D. SURV. MON. 19 PT."
LOCATION: IN WELL MONUMENT AT POINT EGCS-3048
RECORD FROM: RECORD OF SURVEY MAP 14236
ELEVATION: 1336.773 DATUM: NGVD 29 MSL

PRIVATE CONTRACT

SHEET	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	19 SHEETS
3A		

GRADING PLAN FOR:
MILLER ROAD PLAZA
POR. PARCEL 2 AND 3, P.M. NO. 8636
CALIFORNIA COORDINATE INDEX: 386-1761

APPROVED FOR: WILLIAM P. MORGAN COUNTY ENGINEER
BY _____ DATE 12.16.21

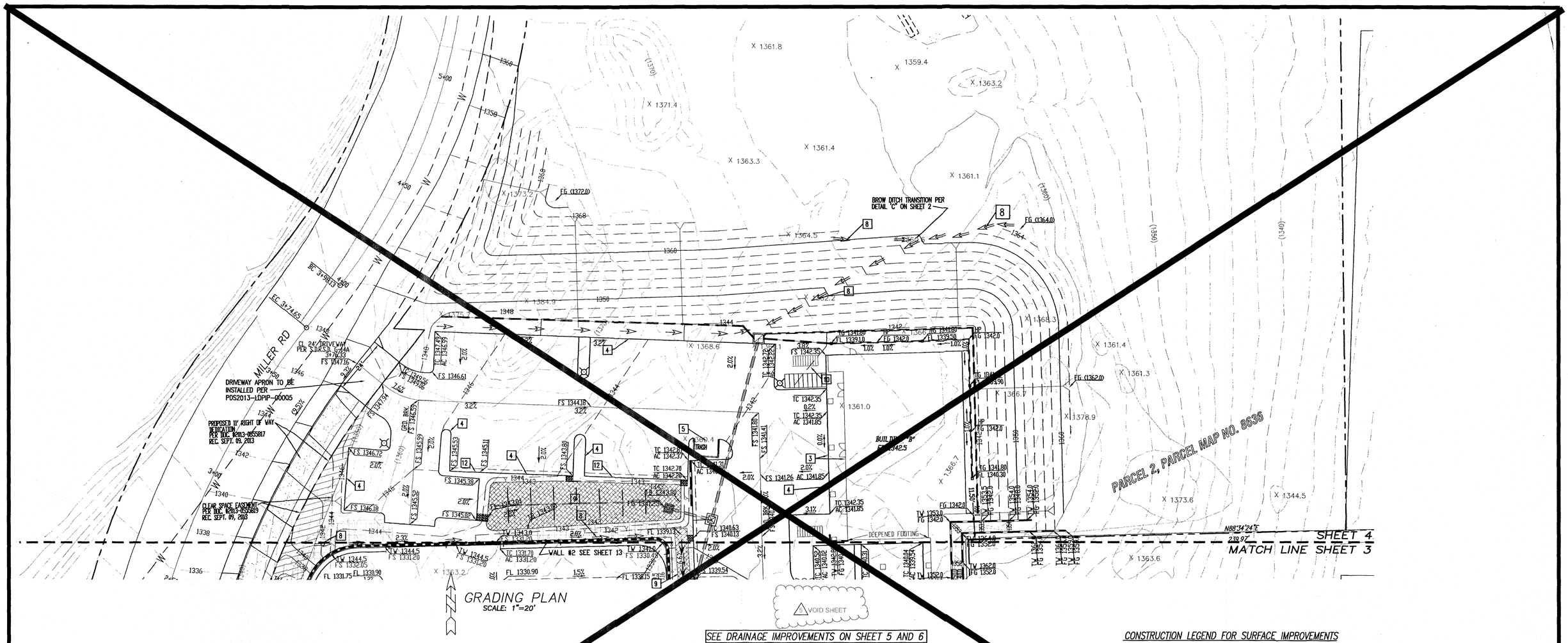
ENGINEER OF WORK _____ DATE
GARY R. WYNN P.E.C.E. 43202

CHECKED BY: _____ GRADING PERMIT NO.
APPROVAL DATE: _____ PDS2012-2700-15688

ENGINEER: WYNN ENGINEERING INC.
TELEPHONE: 1-760-749-8722

F:\2016\16-027 ZERVAS - MILLER ROAD\DWG\SITE PLAN 2021\ 16-027 ZERVAS MILLER ROAD DPW-LGP-PC.DWG

Date Plotted : Dec 01, 2021 - 5:31pm



CONSTRUCTION LEGEND FOR SURFACE IMPROVEMENTS

- [2] CONCRETE RIBBON GUTTER PER DETAIL "D" ON SHEET 2
- [3] CONCRETE SIDEWALK / HARDSCAPE PER S.D.R.S.D. G-7, G-9, G-10
- [4] 6" CONCRETE CURB PER S.D.R.S.D. G-1
- [5] TRASH ENCLOSURE
- [7] PROPOSED FIRE HYDRANT
- [8] CONCRETE BROW DITCH PER S.D.R.S.D. D-75
- [9] BIORETENTION DEVICE SEE SHEETS 5 AND 6
- [10] BICYCLE PARKING SPACES PER OWNER'S SPECIFICATION
- [11] PERVIOUS BRICK PAVEMENT PER DETAIL "L" ON SHEET 2
- [12] CONCRETE AND GUTTER PER S.D.R.S.D. G-2
- [13] NOT USED
- [14] MASONRY RETAINING WALL "C" PER DETAIL "S" ON SHEET 8
- [15] MASONRY RETAINING WALL "D" PER DETAIL "S" ON SHEET 8

BMP NOTE

PERMANENT POST CONSTRUCTION BMP DEVICES (BIORETENTION AREAS AND SWALES) SHOWN ON THIS PLAN SHALL NOT BE REMOVED OR MODIFIED WITHOUT THE APPROVAL OF THE COUNTY OF SAN DIEGO.

1) ALL PVC DRAINAGE PIPES SHALL CONFORM TO SDR-35 PER ASTM D3034, OR "SURE-LOK F477" AS MANUFACTURED BY HANCOR INC (AASHTO M252, TYPE S)
2) LENGTHS ON DRAINAGE PIPE ARE FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
3) CONTRACTOR TO VERIFY HORIZONTAL AND VERTICAL LOCATION OF EXISTING UNDERGROUND SEWER AND STORM DRAINAGE SYSTEMS PRIOR TO TRENCHING FOR NEW CONNECTING FACILITIES. IN THE EVENT ACTUAL LOCATION VARIES SIGNIFICANTLY FROM THAT SHOWN ON PLAN, THE ENGINEER OF WORK SHALL BE NOTIFIED PRIOR TO PROCEEDING

SYMBOL LEGEND

DESCRIPTION	SYMBOL
ELEVATION, TOP OF FOOTING	TF
ELEVATION, TOP OF WALL	TW
ELEVATION, TOP OF CURB	TC
ELEVATION, FINISH SURFACE	FS
ELEVATION, FINISH GRADE	FG
ELEVATION, TOP OF GRATE	TG
ELEVATION, BOTTOM OF FOOTING	BF
ELEVATION, FLOW LINE	FL
ELEVATION, INVERT ELEVATION	IE
ELEVATION LABEL, EXISTING	(596.00)
ELEVATION LABEL, PROPOSED	596.00
ELEVATION FINISH FLOOR	FF
DETAIL REFERENCE	C/2 DETAIL LABEL, SHEET NO.

REGISTERED PROFESSIONAL ENGINEER — GARY LIPSKA — No. 23080 — CIVIL — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — GARY R. WYNN — No. C 43202 — CIVIL — STATE OF CALIFORNIA

Scale: 1" = 20'

ENGINEERING • LAND PLANNING
~~Sierra Engineering Inc.~~
~~1843 Campesino Place~~
~~Oceanside, CA 92054~~
~~Tele: (760) 439-2802~~
~~Fax: (760) 439-2886~~

2 WYNN ENGINEERING, INC.
27315 VALLEY CENTER ROAD
VALLEY CENTER, CA. 92082
(760) 749-8722 (310) 306-9728

RECORD PLAN

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

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:
1	REVISE SHEET COUNT		5/5/17
2	CHANGE OF E.O.R.		
3	VOID SHEET		12.16.21

PERMITS

LANDSCAPE PLAN NO. PDS2013-LP-13-066
SITE PLAN REVIEW NO. S-08-013
STREET IMPROVEMENT PLANS PDS2013-LDPIIP-00005
NOTICE OF INTENT(WDID): 9 37C367589

BENCH MARK

DESCRIPTION: 2-1/2" BRASS CAP STAMPED "S.D. SURV. MON. 19 PT."
LOCATION: IN WELL MONUMENT AT POINT EGCS-3048
RECORD FROM: RECORD OF SURVEY MAP 14236
ELEVATION: 1336.773 DATUM: NGVD 29 MSL

PRIVATE CONTRACT

SHEET 4 | COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS | 25 ~~23~~ SHEETS

GRADING PLAN FOR
MILLER ROAD PLAZA
POR. PARCEL 2 & ~~3~~ P.M. NO. 8636
CALIFORNIA COORDINATE INDEX ~~6-1761~~

2 GARY WYNN 12-16-21

APPROVED FOR: MOHAMAD FAGHIHDEDINE
COUNTY ENGINEER
Kenneth J. Brazell
BY: 4-11-14 DATE

ENGINEER OF WORK
GARY LIPSKA R.C.E. 23080 EXPIRES 12/31/18
DATE 10/7/13

CHECKED BY: N/A
APPROVING DEPT. 4-11-14
GRADING PERMIT NO. PDS2012-2700-~~5588~~

ENGINEER: ~~SIERRA ENGINEERING, INC.~~ 2 WYNN ENGINEERING, INC.
TELEPHONE: ~~760-439-2802~~ TELEPHONE: (760) 749-8722.

PLOT DATE: 10/7/13

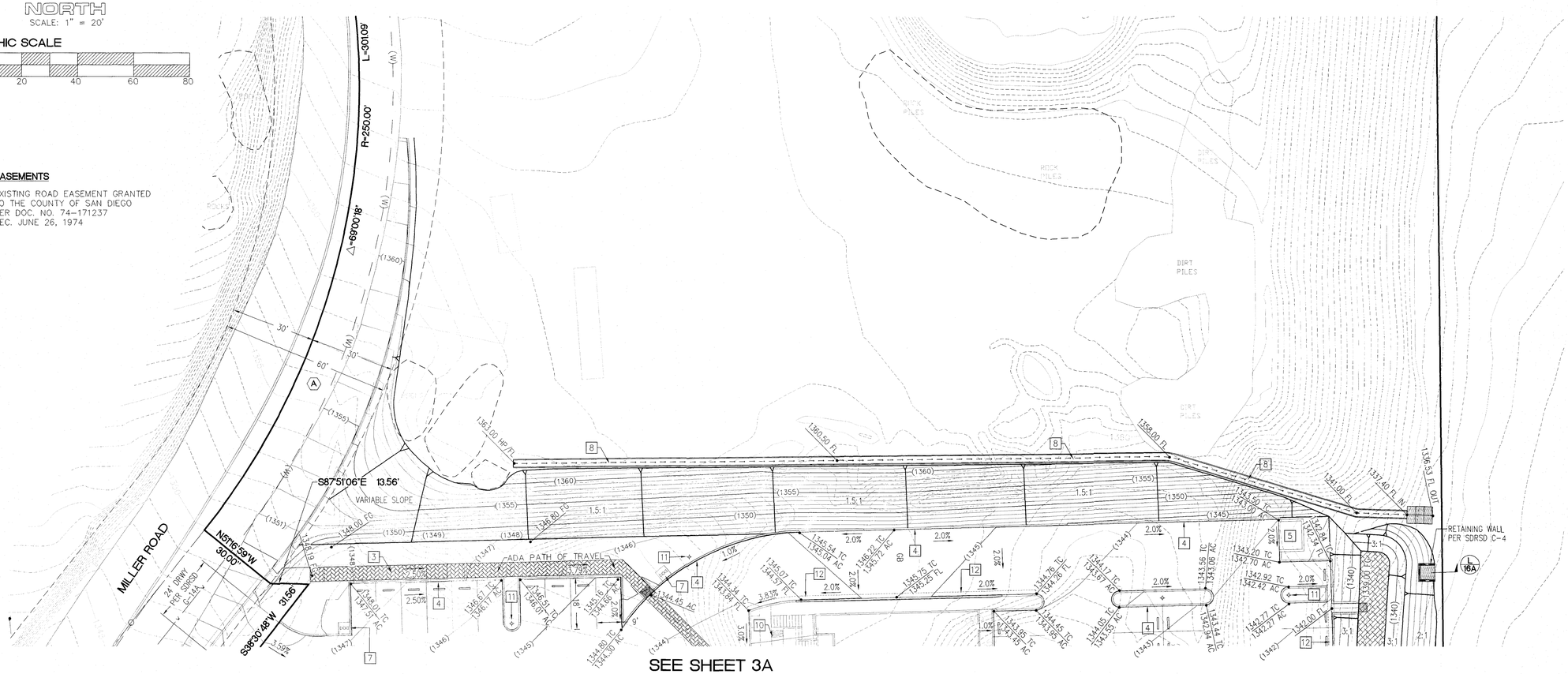
NORTH
SCALE: 1" = 20'

GRAPHIC SCALE

0 20 40 60 80

EASEMENTS

(A) EXISTING ROAD EASEMENT GRANTED TO THE COUNTY OF SAN DIEGO PER DOC. NO. 74-171237 REC. JUNE 26, 1974



SEE SHEET 5A FOR DRAINAGE PLAN

ABBREVIATIONS

BC BEGIN CURVE
BVC BEGIN VERTICAL CURVE
BO BLOW-OFF
BW BOTTOM OF WALL ELEVATION
CL CENTERLINE
CO CLEAN-OUT
EA EACH
EC END CURVE
EP EDGE OF PAVEMENT ELEVATION
EVC END VERTICAL CURVE
FB FREE BOARD
FG FINISHED GRADE ELEVATION
FH FIRE HYDRANT
FL FLOW LINE ELEVATION
FS FINISHED SURFACE ELEVATION
G GUTTER ELEVATION
GB GRADE BREAK
GV GATE VALVE
H HEIGHT
HP HIGH POINT
IE INVERT ELEVATION
LF LINEAR FEET
LP LOW POINT
MAX MAXIMUM
MIN MINIMUM
MH MANHOLE
OAE OR APPROVED EQUIVALENT
PCC POINT OF COMPOUND CURVE
PRC POINT OF REVERSING CURVE
PL PROPERTY LINE
S SEWER
SD STORM DRAIN
SHLDR SHOULDER ELEVATION
SF SQUARE FEET
TB TOP OF BERM
TC TOP OF CURB ELEVATION
TF TOP OF FOOTING ELEVATION
TG TOP OF GRATE ELEVATION
TOB TOP OF BOX ELEVATION
TW TOP OF WALL ELEVATION
TYP TYPICAL
W WATER
WM WATER METER

CONSTRUCTION LEGEND FOR SURFACE IMPROVEMENTS

[3] CONCRETE SIDEWALK / HARDSCAPE PER S.D.R.S.D. G-7, G-9, G-10
[4] 6" CONCRETE CURB PER S.D.R.S.D. G-1
[7] PROPOSED FIRE HYDRANT
[8] CONCRETE BROW DITCH PER S.D.R.S.D. D-75
[10] BICYCLE PARKING SPACES PER OWNER'S SPECIFICATION
[11] PARKING LOT LIGHT (SEE ARCHITECTURAL)
[12] CONCRETE CURB AND GUTTER PER S.D.R.S.D. G-2

BMP NOTE:

PERMANENT POST CONSTRUCTION BMP DEVICES (BIORETENTION AREAS AND SWALES) SHOWN ON THIS PLAN SHALL NOT BE REMOVED OR MODIFIED WITHOUT THE APPROVAL OF THE COUNTY OF SAN DIEGO.

UTILITY NOTE:

WATER AND SEWER ARE PER SEPARATE PERMIT UNDER THE JURISDICTION OF THE VALLEY CENTER MUNICIPAL WATER DISTRICT.

ENGINEER'S NOTE:

1. All PVC DRAINAGE PIPES SHALL CONFORM TO SDR-35 PER ASTM D3034 OR SURE-LOK F477" AS MANUFACTURED BY HANCOR INC (AASHTO M252, TYPE S)

2. LENGTHS ON DRAINAGE PIPE ARE FROM CENTER Of STRUCTURE TO CENTER OF STRUCTURE.

3. CONTRACTOR TO VERIFY HORIZONTAL AND VERTICAL LOCATION OF EXISTING UNDERGROUND SEWER AND STORM DRAINAGE SYSTEMS PRIOR TO TRENCHING FOR NEW CONNECTING FACILITIES. IN THE EVENT ACTUAL LOCATION VARIES SIGNIFICANTLY FROM THAT SHOWN ON PLAN, THE ENGINEER OF WORK SHALL BE NOTIFIED PRIOR TO PROCEEDING.

REGISTERED PROFESSIONAL ENGINEER GARY R. WYNN No. C 43202 CIVIL STATE OF CALIFORNIA

WYNN ENGINEERING
WYNN ENGINEERING, INC.
27315 VALLEY CENTER ROAD
VALLEY CENTER, CA. 92082
(760) 749-8722 (310) 306-9728
FAX (760) 749-9412

WEI	WEI JOB NO. 16-027	12-01-2021

RECORD PLAN

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

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:
5	NEW SHEET		12.16.21

PERMITS

LANDSCAPE PLAN NO. _____
SITE PLAN REVIEW NO. STP-08-013M3
STREET IMPROVEMENT PLANS: PDS2013-LDPIIP-00005
NOTICE OF INTENT(WDID): 9 37C367589

BENCH MARK

DESCRIPTION: 2-1/2" BRASS CAP STAMPED "S.D. SURV. MON. 19 PT."
LOCATION: IN WELL MONUMENT AT POINT EGCS-3048
RECORD FROM: RECORD OF SURVEY MAP 14236
ELEVATION: 1336.773 DATUM: NGVD 29 MSL

5 PRIVATE CONTRACT 5

SHEET 4A	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	19 SHEETS

GRADING PLAN FOR:
MILLER ROAD PLAZA
POR. PARCEL 2 AND 3, P.M. NO. 8636
CALIFORNIA COORDINATE INDEX: 386-1761

APPROVED FOR:
WILLIAM P. MORGAN
COUNTY ENGINEER
BY: _____ DATE: 12.16.21

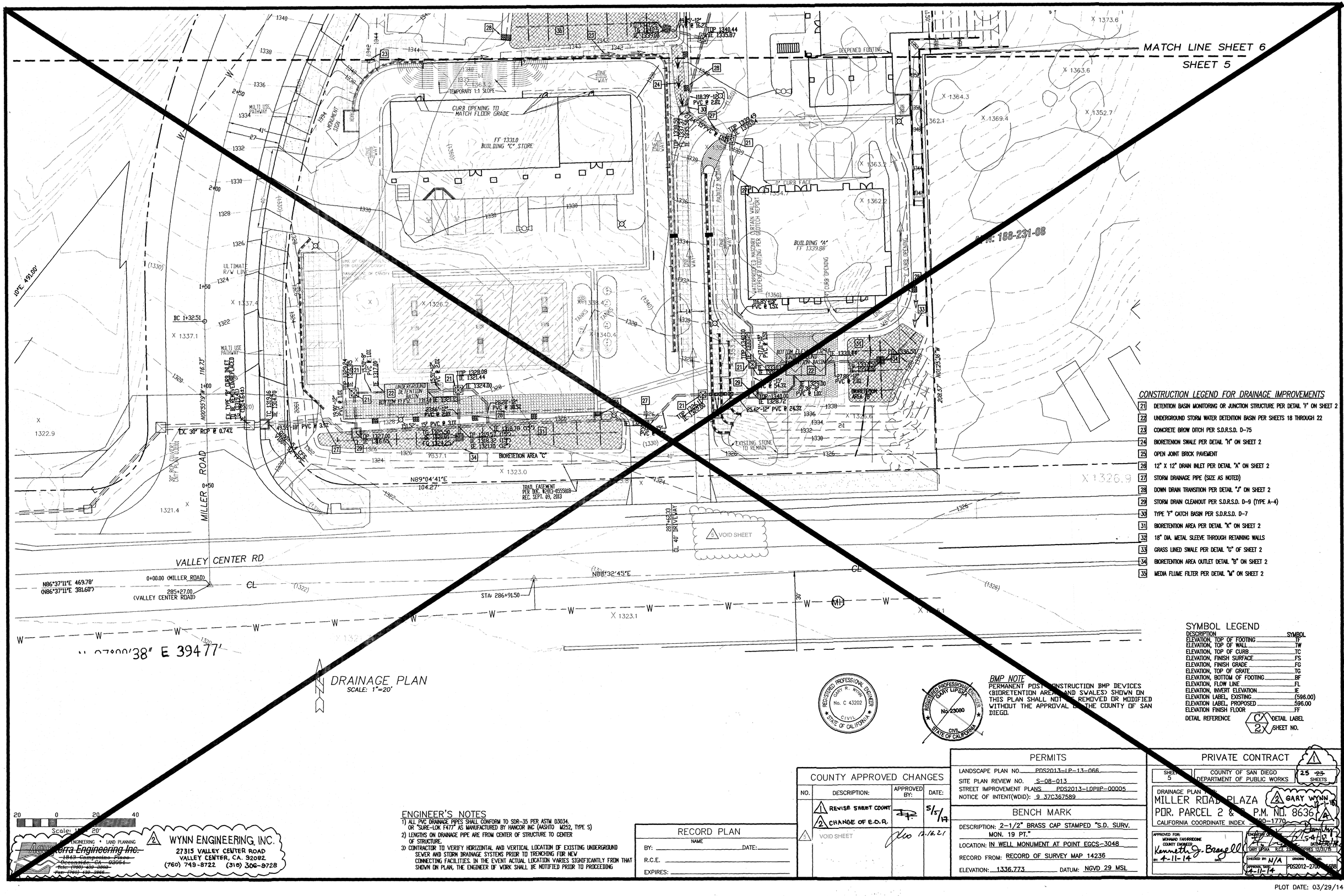
ENGINEER OF WORK
GARY R. WYNN P.E. C-43202
DATE: _____

CHECKED BY: _____
APPROVAL DATE: _____
GRADING PERMIT NO.
PDS2012-2700-15688

Date Plotted : Dec 01, 2021 - 5:31pm

F:\2016\16-027 ZERVAS - MILLER ROAD\DWG\SITE PLAN 2021\ 16-027 ZERVAS MILLER ROAD DPW-LGP-PC.DWG

ENGINEER: WYNN ENGINEERING INC.
TELEPHONE: 1-760-749-8722



CONSTRUCTION LEGEND FOR DRAINAGE IMPROVEMENTS

21 DETENTION BASIN MONITORING OR JUNCTION STRUCTURE PER DETAIL "I" ON SHEET 2
22 UNDERGROUND STORM WATER DETENTION BASIN PER SHEETS 18 THROUGH 22
23 CONCRETE BROW DITCH PER S.D.R.S.D. D-75
24 BIORETENION SWALE PER DETAIL "H" ON SHEET 2
25 OPEN JOINT BRICK PAVEMENT
26 12" X 12" DRAIN INLET PER DETAIL "A" ON SHEET 2
27 STORM DRAINAGE PIPE (SIZE AS NOTED)
28 DOWN DRAIN TRANSITION PER DETAIL "J" ON SHEET 2
29 STORM DRAIN CLEANOUT PER S.D.R.S.D. D-9 (TYPE A-4)
30 TYPE "I" CATCH BASIN PER S.D.R.S.D. D-7
31 BIORETENTION AREA PER DETAIL "K" ON SHEET 2
32 18" DIA. METAL SLEEVE THROUGH RETAINING WALLS
33 GRASS LINED SWALE PER DETAIL "G" OF SHEET 2
34 BIORETENTION AREA OUTLET DETAIL "B" ON SHEET 2
35 MEDIA FILUME FILTER PER DETAIL "M" ON SHEET 2

SYMBOL LEGEND

DESCRIPTION	SYMBOL
ELEVATION, TOP OF FOOTING	TF
ELEVATION, TOP OF WALL	TW
ELEVATION, TOP OF CURB	TC
ELEVATION, FINISH SURFACE	FS
ELEVATION, FINISH GRADE	FG
ELEVATION, TOP OF GRATE	TG
ELEVATION, BOTTOM OF FOOTING	BF
ELEVATION, FLOW LINE	FL
ELEVATION, INVERT ELEVATION	IE
ELEVATION LABEL, EXISTING	(596.00)
ELEVATION LABEL, PROPOSED	596.00
ELEVATION FINISH FLOOR	FF
DETAIL REFERENCE	C/2 DETAIL LABEL / SHEET NO.

REGISTERED PROFESSIONAL ENGINEER GARY R. WYNN No. C 43202 CIVIL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER GARY LIPSKA No. 23080 CIVIL STATE OF CALIFORNIA

BMP NOTE

PERMANENT POST CONSTRUCTION BMP DEVICES (BIORETENTION AREAS AND SWALES) SHOWN ON THIS PLAN SHALL NOT BE REMOVED OR MODIFIED WITHOUT THE APPROVAL OF THE COUNTY OF SAN DIEGO.

20 0 20 40
Scale: 1" = 20'

ENGINEERING • LAND PLANNING
~~Sierra Engineering Inc.~~
~~1843 Campanile Place~~
~~Oceanside, CA 92054~~
~~Tel: (760) 439-3868~~
~~Fax: (760) 439-3866~~

2 WYNN ENGINEERING, INC.
27315 VALLEY CENTER ROAD
VALLEY CENTER, CA. 92082
(760) 749-8722 (310) 306-9728

ENGINEER'S NOTES

1) ALL PVC DRAINAGE PIPES SHALL CONFORM TO SDR-35 PER ASTM D3034, OR "SURE-LOK F477" AS MANUFACTURED BY HANCOR INC (AASHTO M252, TYPE S)
2) LENGTHS ON DRAINAGE PIPE ARE FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
3) CONTRACTOR TO VERIFY HORIZONTAL AND VERTICAL LOCATION OF EXISTING UNDERGROUND SEWER AND STORM DRAINAGE SYSTEMS PRIOR TO TRENCHING FOR NEW CONNECTING FACILITIES. IN THE EVENT ACTUAL LOCATION VARIES SIGNIFICANTLY FROM THAT SHOWN ON PLAN, THE ENGINEER OF WORK SHALL BE NOTIFIED PRIOR TO PROCEEDING

RECORD PLAN

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

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:
1	REVISE SHEET COUNT	~~[illegible]~~	5/5/17
2	CHANGE OF E.O.R.		
3	VOID SHEET	[illegible]	12.16.21

PERMITS

LANDSCAPE PLAN NO. PDS2013-LP-13-066
SITE PLAN REVIEW NO. S-08-013
STREET IMPROVEMENT PLANS PDS2013-LDPIIP-00005
NOTICE OF INTENT(WDID): 9 37C367589

BENCH MARK

DESCRIPTION: 2-1/2" BRASS CAP STAMPED "S.D. SURV. MON. 19 PT."
LOCATION: IN WELL MONUMENT AT POINT EGCS-3048
RECORD FROM: RECORD OF SURVEY MAP 14236
ELEVATION: 1336.773 DATUM: NGVD 29 MSL

PRIVATE CONTRACT

SHEET 5 — COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS — 25 ~~23~~ SHEETS

DRAINAGE PLAN FOR
MILLER ROAD PLAZA
PDR, PARCEL 2 & P.M. NO. 8636
CALIFORNIA COORDINATE INDEX [illegible]-1770

APPROVED FOR:
MOHAMAD FAKHRREDINE
COUNTY ENGINEER
Kenneth J. Brazell
BY: 4-11-14 DATE

ENGINEER OF WORK: GARY LIPSKA RCE 23080 EXPIRES 12/31/15
DATE: ~~4/5/14~~ 4/7/14
PREPARED BY: N/A
GRADING PLAN NO. PDS2012-2700-5688
APPROVAL DATE: 4-11-14

2 WYNN ENGINEERING, INC.
TELEPHONE: (760) 749-8722
ENGINEER: GARY LIPSKA RCE 23080 EXPIRES 12/31/15
TELEPHONE: 760-439-2802

PLOT DATE: 03/29/14

NORTH
SCALE: 1" = 20'

GRAPHIC SCALE
0 20 40 60 80

S87°51'06"E 13.56'
N51°16'59"W 30.00'
S38°30'48"W 31.56'
MILLER ROAD
Δ=39°38'20"
R=309.00'
L=213.78'
S88°34'24"W 164.99'
S02°25'36"E 208.89'
N00°55'19"W 53.51'
Δ=90°00'00"
R=30.00'
L=47.12'
S89°04'41"W 93.27'
N88°32'45"E 205.75'
VALLEY CENTER ROAD
EXISTING SEWER MAIN

(15)-12" PVC @ 1.0%
1336.25 IE (OUT)
1349.75 TG
1336.10 IE (OUT)
1335.93 FL (OUT)
(4')-12" PVC @ 1.0%
1328.30 IE (IN)
340.58 TG

1337.80 IE (IN)
1341.08 TG
(4')-12" PVC @ 1.0%
1340.25 TG
1335.75 IE (OUT)
(20')-12" PVC @ 1.0%
1335.39 IE (IN)
1340.55 TG
1335.29 IE (OUT)
(67')-16" PVC @ 13.00%
1325.59 IE (IN)
1332.94 TG
1325.49 IE (OUT)

(28')-18" RCP @ 1.0%
1314.97 IE (OUT)
1327.00 RIM
1320.00 IE (IN)
Q100=8.6 CFS
V100=6.5 FPS
18" RCP
1319.25 RIM
Q100=0.9 CFS
V100=4.9 FPS
CURB INLET
1314.35 IE (OUT)
1314.70 IE (IN)
(38)-16" PVC @ 3.72%
1329.39 TG
1321.45 IE (IN)
(146')-16" PVC @ 0.9%
1321.35 IE (OUT)
1321.55 IE (IN)
1322.56 IE (OUT)
(22')-12" PVC @ 5.0%
1326.41 TG
1325.58 TG
(4')-12" PVC @ 1.0%
1324.13 IE (IN)
Q100=1.9 CFS
V100=2.6 FPS
CURB INLET

1324.44 IE (IN)
1327.65 TG
1322.88 IE (IN)
1322.78 IE (OUT)
(48')-16" PVC @ 0.5%
1328.16 TG
1323.21 IE (IN)
1323.11 IE (OUT)
1323.56 IE (OUT)
1327.89 TG
(4')-12" PVC @ 1.0%
(20')-12" PVC @ 2.0%
1327.06 TG
1325.61 IE (IN)

CONSTRUCTION LEGEND FOR DRAINAGE IMPROVEMENTS

21	DETENTION BASIN MONITORING OR JUNCTION STRUCTURE PER DETAIL "F" ON SHEET 2
28	DOWN DRAIN TRANSITION PER DETAIL "J" ON SHEET 2
29	STORM DRAIN CLEANOUT PER S.D.R.S.D. D-9 (TYPE A-4)
30	CATCH BASIN TYPE G-1 PER S.D.R.S.D. D-08
31	BIORETENTION AREA PER DETAIL ON SHEET 16A
34	BIORETENTION AREA OUTLET DETAIL ON SHEET 16A
35	MEDIA FLUME FILTER PER DETAIL "M" ON SHEET 2

RIP RAP DATA TABLE

NO.	L	W	ROCK	THICK	TYPE	Q_{100}	V_{100}
1	5'	5'	NO. 2 BACKING	1.1'	2	1.8	1.9
2	9'	6'	1/4 TON	2.7'	2	2.5	2.2
3	3'	3'	NO. 2 BACKING	1.1'	2	1.1	2.1
4	3'	3'	NO. 2 BACKING	1.1'	2	0.7	1.7
5	3'	3'	NO. 2 BACKING	1.1'	2	0.9	1.9
6	3'	3'	NO. 2 BACKING	1.1'	2	0.1	1.0
7	3'	3'	NO. 2 BACKING	1.1'	2	2.1	2.5
8	3'	3'	NO. 2 BACKING	1.1'	2	1.3	2.2
9	3'	3'	NO. 2 BACKING	1.1'	2	0.3	1.4
10	3'	3'	NO. 2 BACKING	1.1'	2	0.4	1.5
11	3'	3'	NO. 2 BACKING	1.1'	2	0.2	1.2
12	6'	3'	NO. 2 BACKING	1.1'	2	2.3	2.6
13	3'	3'	NO. 2 BACKING	1.1'	2	0.2	1.1
14	3'	3'	NO. 2 BACKING	1.1'	2	0.4	1.4
15	3'	3'	NO. 2 BACKING	1.1'	2	2.5	2.8
16	3'	3'	NO. 2 BACKING	1.1'	2	0.7	1.9
17	3'	3'	NO. 2 BACKING	1.1'	2	1.9	2.6
18	3'	3'	NO. 2 BACKING	1.1'	2	0.1	1.0
19	3'	3'	NO. 2 BACKING	1.1'	2	0.1	0.6

ENGINEER'S NOTE:

1. All PVC DRAINAGE PIPES SHALL CONFORM TO SDR-35 PER ASTM D3034 OR SURE-LOK F477" AS MANUFACTURED BY HANCOR INC (AASHTO M252, TYPE S)

2. LENGTHS ON DRAINAGE PIPE ARE FROM CENTER Of STRUCTURE TO CENTER OF STRUCTURE.

3. CONTRACTOR TO VERIFY HORIZONTAL AND VERTICAL LOCATION OF EXISTING UNDERGROUND SEWER AND STORM DRAINAGE SYSTEMS PRIOR TO TRENCHING FOR NEW CONNECTING FACILITIES. IN THE EVENT ACTUAL LOCATION VARIES SIGNIFICANTLY FROM THAT SHOWN ON PLAN, THE ENGINEER OF WORK SHALL BE NOTIFIED PRIOR TO PROCEEDING.

BASIN INFORMATION

1	1339.25 FG	1340.25 TG
2	1326.06 FG	1327.06 TG
3	1324.58 FG	1325.58 TG
4	1338.75 FG	1339.75 TG

UTILITY NOTE:

WATER AND SEWER ARE PER SEPARATE PERMIT UNDER THE JURISDICTION OF THE VALLEY CENTER MUNICIPAL WATER DISTRICT.

BMP NOTE:

PERMANENT POST CONSTRUCTION BMP DEVICES (BIORETENTION AREAS) SHOWN ON THIS PLAN SHALL NOT BE REMOVED OR MODIFIED WITHOUT THE APPROVAL OF THE COUNTY OF SAN DIEGO.

REGISTERED PROFESSIONAL ENGINEER
GARY R. WYNN
No. C 43202
CIVIL
STATE OF CALIFORNIA

WYNN ENGINEERING, INC.
27315 VALLEY CENTER ROAD
VALLEY CENTER, CA. 92082
(760) 749-8722 (310) 306-9728
FAX (760) 749-9412

WEI	WEI JOB NO. 16-027	12-01-2021

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:
5	NEW SHEET	[signature]	12.16.21

RECORD PLAN

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

PERMITS

LANDSCAPE PLAN NO. _____
SITE PLAN REVIEW NO. STP-08-013M3
STREET IMPROVEMENT PLANS: PDS2013-LDPIIP-00005
NOTICE OF INTENT(WDID): 9 37C367589

BENCH MARK

DESCRIPTION: 2-1/2" BRASS CAP STAMPED "S.D. SURV. MON. 19 PT."
LOCATION: IN WELL MONUMENT AT POINT EGCS-3048
RECORD FROM: RECORD OF SURVEY MAP 14236
ELEVATION: 1336.773 DATUM: NGVD 29 MSL

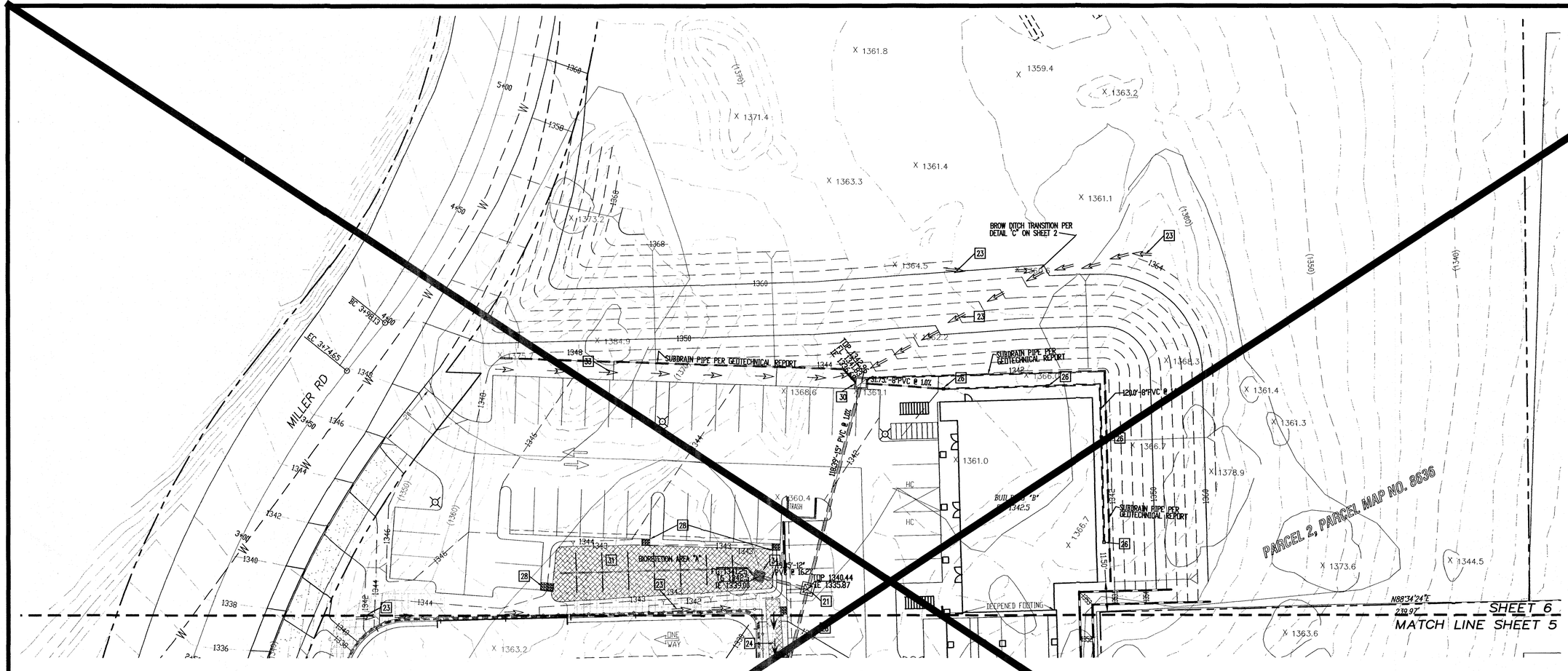
5 PRIVATE CONTRACT 5

SHEET 5A	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	19 SHEETS

DRAINAGE PLAN FOR:
MILLER ROAD PLAZA
POR. PARCEL 2 AND 3, P.M. NO. 8636
CALIFORNIA COORDINATE INDEX: 386-1761

APPROVED FOR: WILLIAM P. MORGAN COUNTY ENGINEER	ENGINEER OF WORK: GARY R. WYNN P.E.C-43202 DATE
BY: [signature] DATE: 12.16.21	CHECKED BY: APPROVAL DATE: GRADING PERMIT NO. PDS2012-2700-15688

SEE SHEET 5A FOR DRAINAGE PLAN



DRAINAGE PLAN
SCALE: 1"=20'

5 VOID SHEET

CONSTRUCTION LEGEND FOR DRAINAGE IMPROVEMENTS

21 DETENTION BASIN MONITORING OR JUNCTION STRUCTURE PER DETAIL 'I' ON SHEET 2
22 UNDERGROUND STORM WATER DETENTION BASIN PER SHEETS 18 THROUGH 22
23 CONCRETE BROW DITCH PER S.D.R.S.D. D-75
24 BIORETENTION SWALE PER DETAIL "H" ON SHEET 2
25 OPEN JOINT BRICK PAVEMENT
26 12" X 12" DRAIN INLET PER DETAIL "A" ON SHEET 2
27 STORM DRAINAGE PIPE (SIZE AS NOTED)
28 DOWN DRAIN TRANSITION PER DETAIL "E" ON SHEET 2
29 STORM DRAIN CLEANOUT PER S.D.R.S.D. D-[illegible] TYPE A-4)
30 TYPE 'I' CATCH BASIN PER S.D.R.S.D. D-7
31 BIORETENTION AREA PER DETAIL "K" ON SHEET 2
32 18" DIA. METAL SLEEVE THROUGH RETAINING WALLS
33 GRASS LINED SWALE PER DETAIL "G" OF SHEET 2
34 BIORETENTION AREA OUTLET DETAIL "B" ON SHEET 2

REGISTERED PROFESSIONAL ENGINEER GARY R. WYNN No. C 43202 CIVIL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER GARY LEE SIKA No. 23080 CIVIL STATE OF CALIFORNIA

SYMBOL LEGEND

DESCRIPTION	SYMBOL
ELEVATION, TOP OF FOOTING	TF
ELEVATION, TOP OF WALL	TW
ELEVATION, TOP OF CURB	TC
ELEVATION, FINISH SURFACE	FS
ELEVATION, FINISH GRADE	FG
ELEVATION, TOP OF GRATE	TG
ELEVATION, BOTTOM OF FOOTING	BF
ELEVATION, FLOW LINE	FL
ELEVATION, INVERT ELEVATION	IE
ELEVATION LABEL, EXISTING	(596.00)
ELEVATION LABEL, PROPOSED	596.00
ELEVATION FINISH FLOOR	FF

DETAIL REFERENCE — C/2 (DETAIL LABEL / SHEET NO.)

BMP NOTE
PERMANENT POST CONSTRUCTION BMP DEVICES (BIORETENTION AREAS AND SWALES) SHOWN ON THIS PLAN SHALL NOT BE REMOVED OR MODIFIED WITHOUT THE APPROVAL OF THE COUNTY OF SAN DIEGO.

1) ALL PVC DRAINAGE PIPES SHALL CONFORM TO SDR-35 PER ASTM D3034, OR "SURE-LOK F477" AS MANUFACTURED BY HANCOR INC (AASHTO M252, TYPE S)
2) LENGTHS ON DRAINAGE PIPE ARE FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
3) CONTRACTOR TO VERIFY HORIZONTAL AND VERTICAL LOCATION OF EXISTING UNDERGROUND SEWER AND STORM DRAINAGE SYSTEMS PRIOR TO TRENCHING FOR NEW CONNECTING FACILITIES. IN THE EVENT ACTUAL LOCATION VARIES SIGNIFICANTLY FROM THAT SHOWN ON PLAN, THE ENGINEER OF WORK SHALL BE NOTIFIED PRIOR TO PROCEEDING

20 0 20 40
Scale: 1" = 20'

Aguirre Engineering Inc.
CIVIL ENGINEERING • LAND PLANNING
1945 Campanile Place
Oceanside, CA 92054
Tele: (760) 439-3800
Fax: (760) 439-3906

2 WYNN ENGINEERING, INC.
27315 VALLEY CENTER ROAD
VALLEY CENTER, CA. 92082
(760) 749-8722 (310) 306-9728

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

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:
1	REVISE SHEET COUNT		5/5/17
2	CHANGE OF E.O.R.		
5	VOID SHEET	Lao	12.16.21

PERMITS
LANDSCAPE PLAN NO. PDS2013-LP-13-066
SITE PLAN REVIEW NO. S-08-013
STREET IMPROVEMENT PLANS PDS2013-LDPIIP-00005
NOTICE OF INTENT(WDID): 9 37C367589

BENCH MARK
DESCRIPTION: 2-1/2" BRASS CAP STAMPED "S.D. SURV. MON. 19 PT."
LOCATION: IN WELL MONUMENT AT POINT EGCS-3048
RECORD FROM: RECORD OF SURVEY MAP 14236
ELEVATION: 1336.773 DATUM: NGVD 29 MSL

PRIVATE CONTRACT

SHEET	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	25 ~~23~~ SHEETS
6		

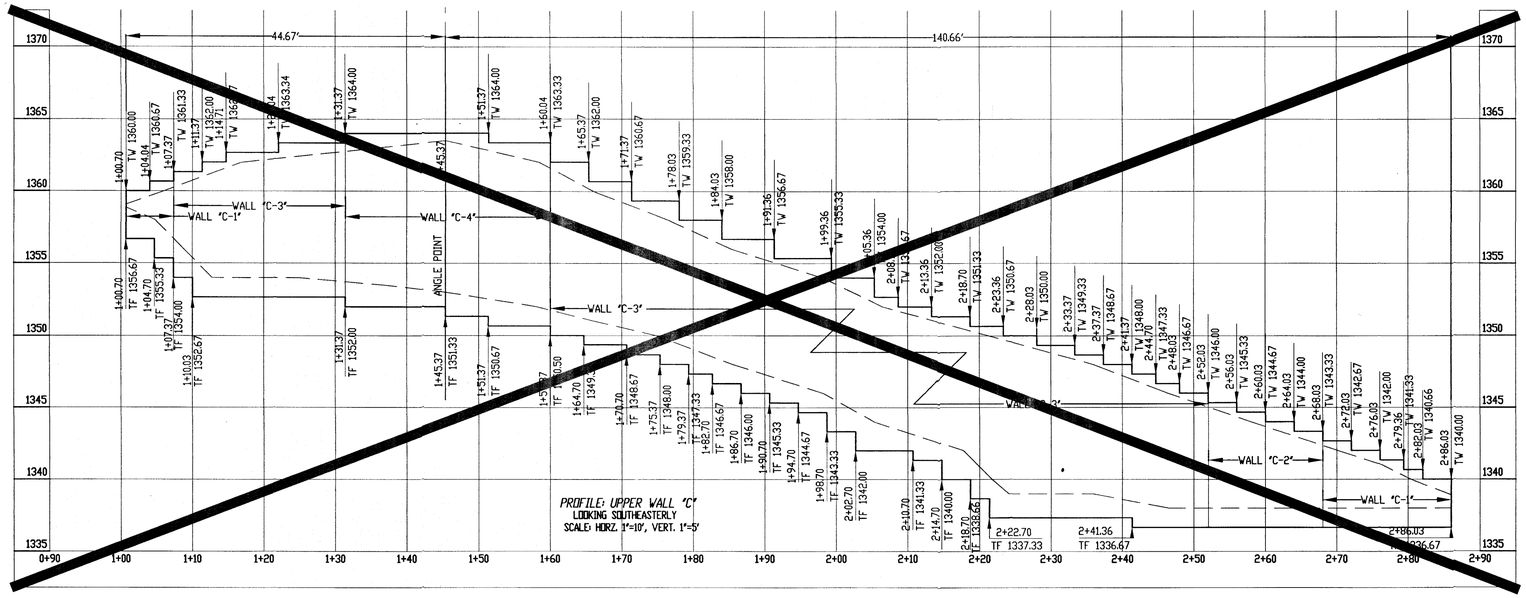
DRAINAGE PLAN FOR:
MILLER ROAD PLAZA
POR. PARCEL 2 & [illegible] P.M. NO. 8636
CALIFORNIA COORDINATE INDEX [illegible]86-1761

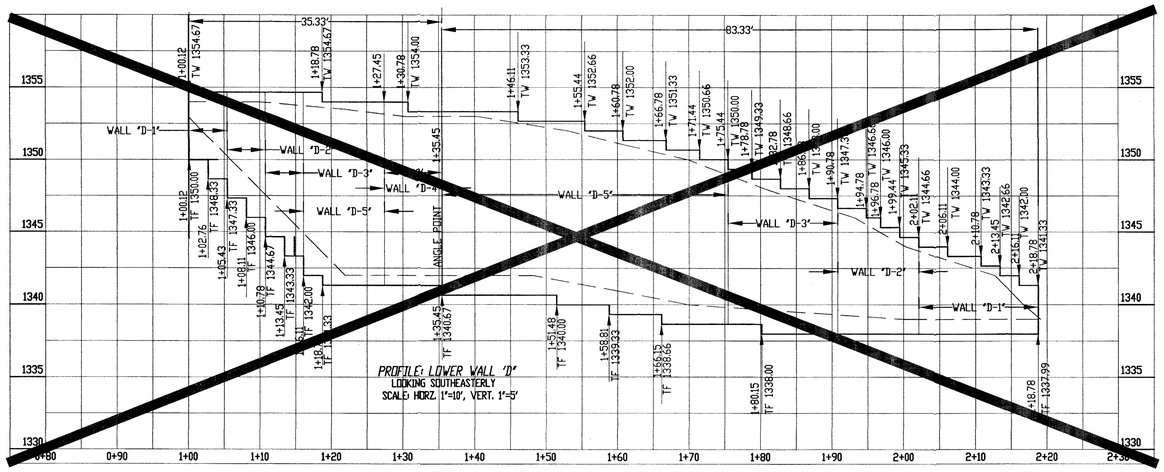
APPROVED FOR:
MOHAMAD FAKHREDDINE
COUNTY ENGINEER
Kenneth J. Brazell
BY: 4-11-14 DATE

ENGINEER OF WORK
GARY R. WYNN R.C.E. 43202 EXPIRES 12/31/15
DATE 12-1-(18)
CHECKED BY: N/A
APPROVAL DATE: 4-11-14
DRAWING NO. PDS2012-2700[illegible]5688

2 WYNN ENGINEERING, INC.
TELEPHONE: (760) 749-8722
ENGINEER OF WORK
TELEPHONE: 760-439-2802

PLOT DATE: 10/7/13





VOID PARTIAL SHEET

SPECIAL INSPECTION NOTES FOR RETAINING WALLS

YOU ARE HEREBY NOTIFIED THAT, IN ADDITION TO THE INSPECTION OF CONSTRUCTION PROVIDED BY PLANNING & DEVELOPMENT SERVICES, BUILDING DIVISION, AN APPROVED REGISTERED SPECIAL INSPECTOR IS REQUIRED TO PROVIDE SPECIAL INSPECTION AND/OR STRUCTURAL OBSERVATION DURING CONSTRUCTION OF THE PROPOSED PROJECT AS INDICATED ON THIS FORM. THIS FORM SHALL BE COMPLETED. ALL WORK REQUIRING SPECIAL INSPECTION MUST BE IDENTIFIED AS WELL AS THE NAME AND PHONE NUMBER OF THE SPECIAL INSPECTOR IDENTIFIED TO PERFORM THE SPECIAL INSPECTIONS.

THE REGISTERED SPECIAL INSPECTOR SHALL BE APPROVED BY THE BUILDING OFFICIAL PRIOR TO THE ISSUANCE OF THE BUILDING PERMIT. SPECIAL INSPECTORS HAVING A CURRENT CERTIFICATION FROM THE CITY OF SAN DIEGO ARE APPROVED AS SPECIAL INSPECTORS FOR THE TYPE OF CONSTRUCTION FOR WHICH THEY ARE CERTIFIED.

SPECIAL INSPECTION AND/OR STRUCTURAL OBSERVATION REQUIREMENTS AND REPORTS SHALL BE IN COMPLIANCE WITH THE 2013 CALIFORNIA BUILDING CODE, CHAPTER 17.

THE INSPECTIONS REQUIRED TO BE PERFORMED BY A SPECIAL INSPECTOR ARE IN ADDITION TO AND DO NOT CHANGE THE REQUIREMENTS FOR THE INSPECTIONS NORMALLY REQUIRED BY THE 2013 CALIFORNIA BUILDING CODE AS AMENDED AND ADOPTED BY THE COUNTY OF SAN DIEGO AND PERFORMED BY THE BUILDING DIVISION INSPECTION PERSONNEL.

THE SPECIAL INSPECTOR IS NOT AUTHORIZED TO INSPECT AND APPROVE ANY WORK OTHER THAN THAT FOR WHICH THEY ARE CERTIFIED. THE SPECIAL INSPECTOR IS NOT AUTHORIZED TO ACCEPT ALTERNATE MATERIALS, STRUCTURAL CHANGES, OR ANY REQUESTS FOR PLAN CHANGES. THE SPECIAL INSPECTOR IS REQUIRED TO SUBMIT TO THE BUILDING INSPECTOR IN THE FIELD WRITTEN REPORTS OF ALL WORK THAT THEY INSPECTED AND APPROVED. APPROVAL OF FINAL INSPECTION WILL NOT BE GRANTED BY PLANNING & DEVELOPMENT SERVICES, BUILDING DIVISION, UNTIL A LAST AND FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTION REPORTS HAS BEEN SUBMITTED TO THE BUILDING INSPECTOR IN THE FIELD AND APPROVED BY THE BUILDING DIVISION.

FOR OCCUPANCIES IN GROUP R-3 AND OCCUPANCIES IN GROUP U THAT ARE ACCESSORY TO A RESIDENTIAL OCCUPANCY, SOME EXCEPTIONS ARE PERMITTED PER PLANNING & DEVELOPMENT SERVICES, BUILDING DIVISION, SPECIAL INSPECTION POLICY TO NOT REQUIRE SPECIAL INSPECTION OR TO ALLOW STRUCTURAL OBSERVATION IN LIEU OF THE REQUIRED SPECIAL INSPECTIONS. THESE EXCEPTIONS ARE NOTED IN THE TABLE ON PAGE TWO OF THIS FORM. IN CASES WHERE THE DESIGN ENGINEER OF RECORD HAS SPECIFIED A MORE RESTRICTIVE REQUIREMENT FOR SPECIAL INSPECTION AND/OR STRUCTURAL OBSERVATION, THE PROJECT SHALL COMPLY WITH THE REQUIREMENTS OF THE ENGINEER OF RECORD.

STRUCTURAL OBSERVATION IS THE VISUAL OBSERVATION OF THE STRUCTURAL SYSTEM BY A REGISTERED DESIGN PROFESSIONAL. A LETTER SHALL BE PROVIDED DESCRIBING THE RESULTS OF STRUCTURAL OBSERVATION PRIOR TO APPROVAL OF FINAL INSPECTION. THE LETTER SHALL BE SUBMITTED TO THE BUILDING INSPECTOR IN THE FIELD AND APPROVED BY THE BUILDING DIVISION.

WORK REQUIRING SPECIAL INSPECTION	ITEM DESCRIPTION AND LOCATION	DESIGN STRENGTH	NAME OF SPECIAL INSPECTOR	PHONE NUMBER OF SPECIAL INSPECTOR
SPECIAL INSPECTIONS REQUIRED BY CBC SECTION 1705				
CONCRETE CONSTRUCTION				
REINFORCING STEEL		Fy= 40,000 psi		
REINFORCING STEEL	PLACEMENT & SPACING PER DETAILS			
STRUCTURAL FOOTING		Fc= 2500 psi		
MASONRY CONSTRUCTION				
REINFORCING STEEL		Fy= 40,000 psi		
REINFORCING STEEL	PLACEMENT & SPACING PER DETAILS			
MASONRY UNITS		F'm= 1500 psi		
GROUT		2000 psi		
MORTAR		1800 psi		

FOR ADDITIONAL DETAILS AND SPECIFICATION SEE S.D.R.S.D. C-7 & C-8.

WYNN ENGINEERING, INC.
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VALLEY CENTER, CA. 92082
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CIVIL ENGINEERING • LAND PLANNING
~~Agriterra Engineering Inc.~~
~~1848 Campshaw Place~~
~~Oceanside, CA 92054~~
~~Tele: (760) 439-3808~~
~~Fax: (760) 439-3868~~

10 0 10 20
Scale: 1" = 10'

20 0 20 40
Scale: 1" = 20'

SYMBOL LEGEND

DESCRIPTION	SYMBOL
ELEVATION, TOP OF FOOTING	TF
ELEVATION, TOP OF WALL	TW
ELEVATION, TOP OF CURB	TC
ELEVATION, FINISH SURFACE	FS
ELEVATION, FINISH GRADE	FG
ELEVATION, TOP OF GRATE	TG
ELEVATION, BOTTOM OF FOOTING	BF
ELEVATION, FLOW LINE	FL
ELEVATION, INVERT ELEVATION	IE
ELEVATION LABEL, EXISTING	(596.00)
ELEVATION LABEL, PROPOSED	596.00
ELEVATION FINISH FLOOR	FF
DETAIL REFERENCE	C/2 DETAIL LABEL, SHEET NO.

RECORD PLAN

NAME

BY: _____ DATE: _____

R.C.E. _____

EXPIRES: _____

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:
1	REVISE SHEET COUNT		5/5/17
2	CHANGE OF E.O.R.		
3	REVISE TOTAL NUMBER OF SHEETS		12.16.21

PERMITS

LANDSCAPE PLAN NO. _____

SITE PLAN REVIEW NO. ~~5-08-013~~ STP-08-013M3

STREET IMPROVEMENT PLANS PDS2013-LDPIP-00005

NOTICE OF INTENT(WDID): 9 37C367589

BENCH MARK

DESCRIPTION: 2-1/2" BRASS CAP STAMPED "S.D. SURV. MON. 19 PT."

LOCATION: IN WELL MONUMENT AT POINT EGCS-3048

RECORD FROM: RECORD OF SURVEY MAP 14236

ELEVATION: 1336.773 DATUM: NGVD 29 MSL

PRIVATE CONTRACT

SHEET 7 | COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS | ~~25~~ ~~23~~ SHEETS 16

RETAINING WALL SECTIONS FOR:

MILLER ROAD PLAZA

POR. PARCEL 2 & 3, P.M. NO. 8636

CALIFORNIA COORDINATE INDEX 386-1761

GARY WYNN 12-1-18

APPROVED FOR: MOHAMAD FAKHRICINE, COUNTY ENGINEER
Kenneth J. Brazell
BY: 4-11-14 DATE

ENGINEER OF WORK: GARY CIPSKA R.C.E. 23080 EXPIRES 12/31/15 DATE 4-11-14

CHECKED BY: N/A

GRADING PERMIT NO. PDS2012-2700-15688

APPROVAL DATE 4-11-14

REGISTERED PROFESSIONAL ENGINEER GARY R. WYNN No. C 43202 CIVIL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER GARY LIPSKA No. 23080 CIVIL STATE OF CALIFORNIA

WYNN ENGINEERING, INC.
TELEPHONE: (760) 749-8722
ENGINEER: ~~RETAINING ENGINEERING INC.~~
TELEPHONE: 760-439-2802

PLOT DATE: 03/29/14

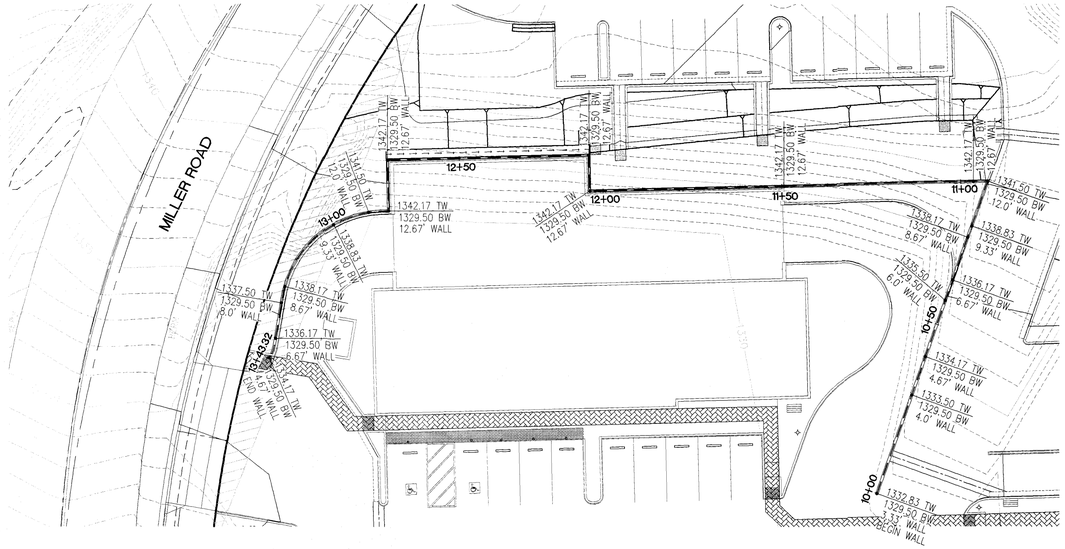
NORTH
SCALE: 1" = 20'

GRAPHIC SCALE

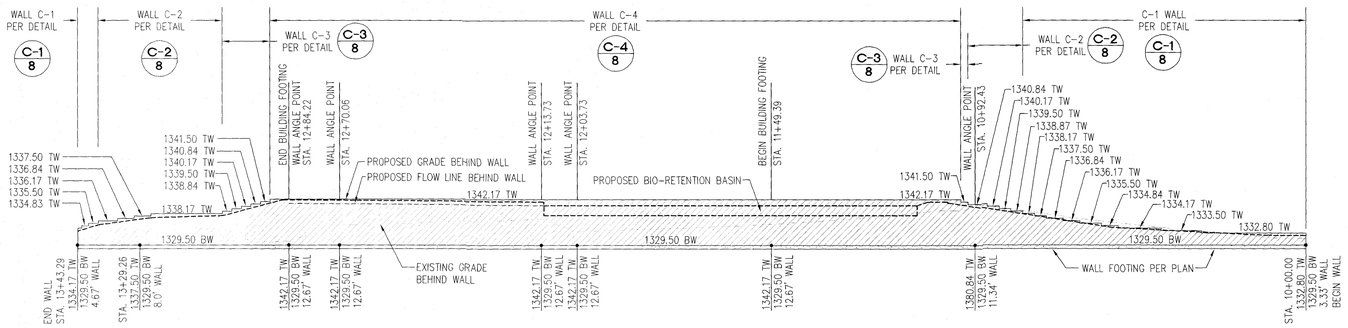
0 20 40 60 80

ABBREVIATIONS

BC BEGIN CURVE
BVC BEGIN VERTICAL CURVE
BO BLOW-OFF
BW BOTTOM OF WALL ELEVATION
CL CENTERLINE
CO CLEAN-OUT
EA EACH
EC END CURVE
EP EDGE OF PAVEMENT ELEVATION
EVC END VERTICAL CURVE
FB FREE BOARD
FG FINISHED GRADE ELEVATION
FH FIRE HYDRANT
FL FLOW LINE ELEVATION
FS FINISHED SURFACE ELEVATION
G GUTTER ELEVATION
GB GRADE BREAK
GV GATE VALVE
H HEIGHT
HP HIGH POINT
IE INVERT ELEVATION
LF LINEAR FEET
LP LOW POINT
MAX MAXIMUM
MIN MINIMUM
MH MANHOLE
OAE OR APPROVED EQUIVALENT
PCC POINT OF COMPOUND CURVE
PRC POINT OF REVERSING CURVE
PL PROPERTY LINE
S SEWER
SD STORM DRAIN
SHLDR SHOULDER ELEVATION
SF SQUARE FEET
TB TOP OF BERM
TC TOP OF CURB ELEVATION
TF TOP OF FOOTING ELEVATION
TG TOP OF GRATE ELEVATION
TOB TOP OF BOX ELEVATION
TW TOP OF WALL ELEVATION
TYP TYPICAL
W WATER
WM WATER METER



WALL "B" PLAN VIEW
HORIZONTAL: 1" = 20'



WALL "B" PROFILE
HORIZONTAL: 1" = 20'
VERTICAL: 1" = 20'

WYNN ENGINEERING, INC.
27315 VALLEY CENTER ROAD
VALLEY CENTER, CA. 92082
(760) 749-8722 (310) 306-9728
FAX (760) 749-9412

WEI	WEI JOB NO. 16-027	12-01-2021

RECORD PLAN
BY: _____ DATE: _____
R.C.E. _____
EXPIRES: _____

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:
5	NEW SHEET		12.16.21

PERMITS
LANDSCAPE PLAN NO. _____
SITE PLAN REVIEW NO. STP-08-013M3
STREET IMPROVEMENT PLANS: PDS2013-LDPIIP-00005
NOTICE OF INTENT(WDID): 9 37C367589

BENCH MARK
DESCRIPTION: 2-1/2" BRASS CAP STAMPED "S.D. SURV. MON. 19 PT."
LOCATION: IN WELL MONUMENT AT POINT EGCS-3048
RECORD FROM: RECORD OF SURVEY MAP 14236
ELEVATION: 1336.773 DATUM: NGVD 29 MSL

5 PRIVATE CONTRACT 5

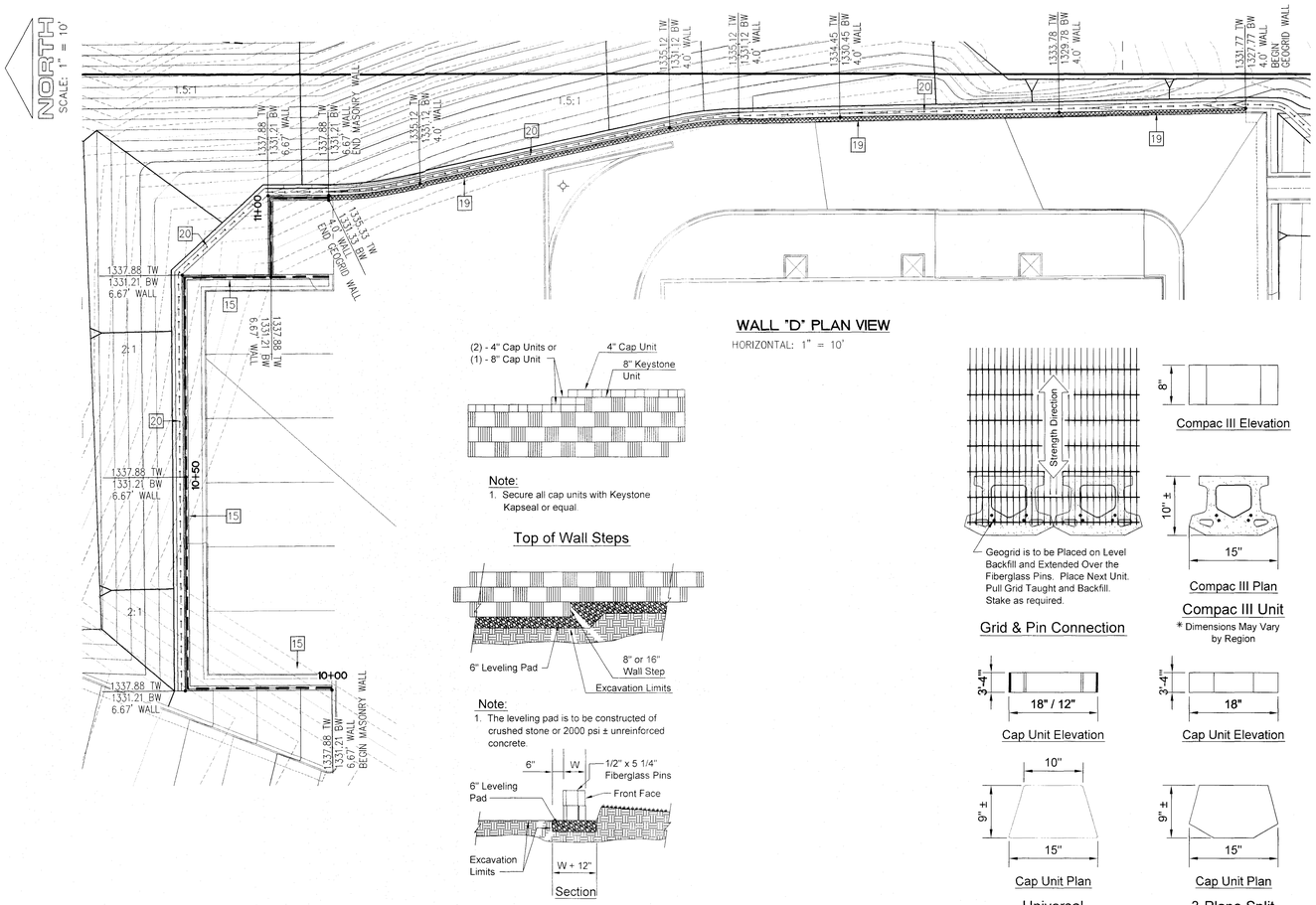
SHEET 7A	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	19 SHEETS

WALL PLAN AND PROFILE FOR:
MILLER ROAD PLAZA
POR. PARCEL 2 AND 3, P.M. NO. 8636
CALIFORNIA COORDINATE INDEX: 386-1761

APPROVED FOR: WILLIAM P. MORGAN COUNTY ENGINEER
BY: _____ DATE 12.16.21
ENGINEER OF WORK: GARY R. WYNN R.C.E. 43202 DATE _____
CHECKED BY: _____ APPROVAL DATE: _____
GRADING PERMIT NO. PDS2012-2700-15688

F:\2016\16-027 ZERVAS - MILLER ROAD\DWG\SITE PLAN 2021\ 16-027 ZERVAS MILLER ROAD DPW-LGP-PC.DWG Plotted By: BRYANB Date Plotted: Dec 01, 2021 - 5:32pm

ENGINEER: WYNN ENGINEERING INC.
TELEPHONE: 1-760-749-8722



WALL "D" PLAN VIEW

HORIZONTAL: 1" = 10'

Note:
1. Secure all cap units with Keystone Kapseal or equal

Top of Wall Steps

Note:
1. The leveling pad is to be constructed of crushed stone or 2000 psi ± unreinforced concrete.

Leveling Pad Detail

Geogrid is to be Placed on Level Backfill and Extended Over the Fiberglass Pins. Place Next Unit. Pull Grid Taught and Backfill. Stake as required.

Grid & Pin Connection

Compac III Unit
* Dimensions May Vary by Region

Cap Unit Elevation

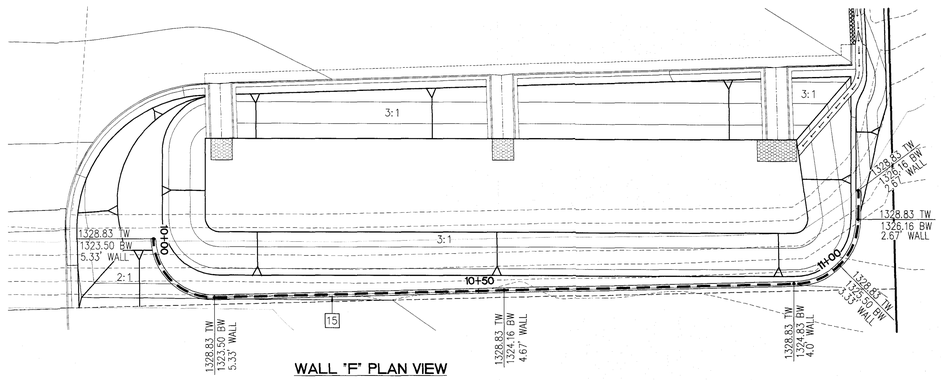
Cap Unit Elevation

Cap Unit Plan

Universal Cap Unit Option
* Dimensions & Availability Will Vary by Region

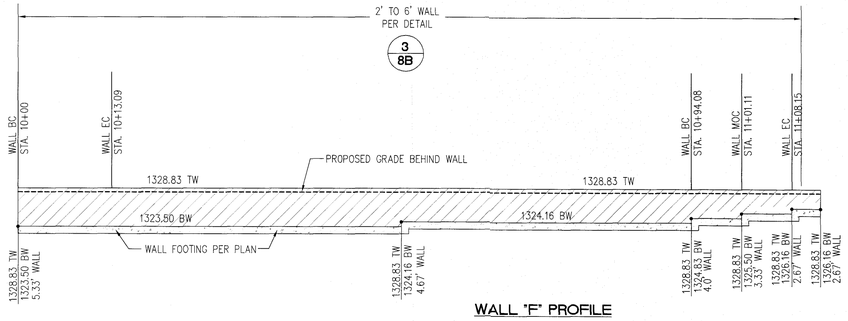
Cap Unit Plan

3-Plane Split Cap Unit Option
* Dimensions & Availability Will Vary by Region



WALL "F" PLAN VIEW

HORIZONTAL: 1" = 10'

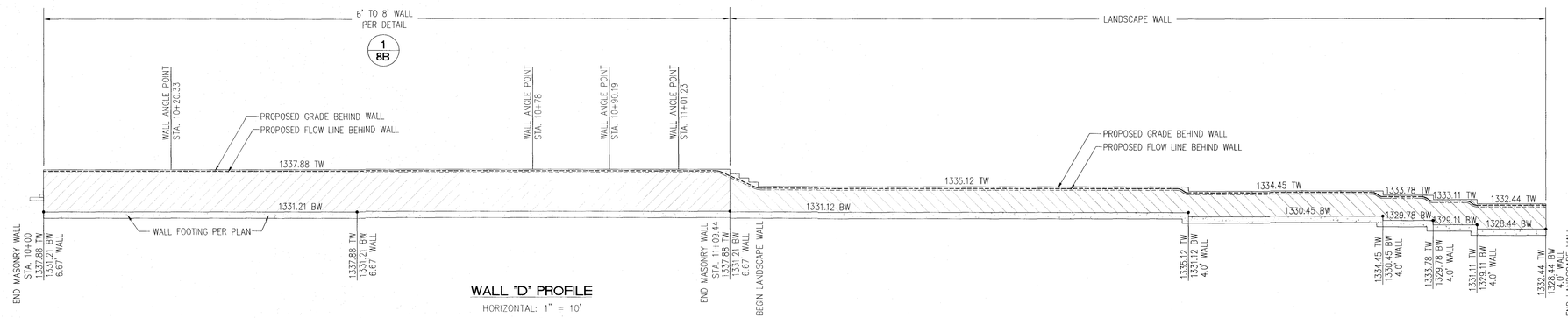


WALL "F" PROFILE

HORIZONTAL: 1" = 10'
VERTICAL: 1" = 10'

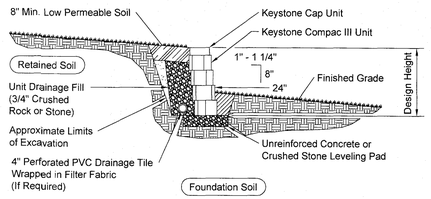
CONSTRUCTION LEGEND FOR SURFACE IMPROVEMENTS

- 15 MASONRY RETAINING WALL "D" & "F" PER DETAILS "1 AND 3" ON SHEET 8B AND WALL PROFILE ON SHEET 7B
- 19 LANDSCAPE WALL BY OTHERS SEE DETAILS SHEET 7B
- 20 12" WIDE x 2" DEEP CONCRETE DITCH SEE DETAIL ON SHEET 16A



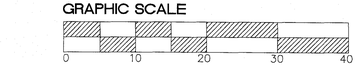
WALL "D" PROFILE

HORIZONTAL: 1" = 10'
VERTICAL: 1" = 10'



Typical Gravity Wall Section
Compac III Unit - 1" Setback

GRAPHIC SCALE



ABBREVIATIONS

BC	BEGIN CURVE	G	GUTTER ELEVATION	S	SEWER
BVC	BEGIN VERTICAL CURVE	GB	GRADE BREAK	SD	STORM DRAIN
BO	BLOW-OFF	GV	GATE VALVE	SHLDR	SHOULDER ELEVATION
BW	BOTTOM OF WALL ELEVATION	H	HEIGHT	SF	SQUARE FEET
CL	CENTERLINE	HP	HIGH POINT	TB	TOP OF BERM
CO	CLEAN-OUT	IE	INVERT ELEVATION	TC	TOP OF CURB ELEVATION
EA	EACH	LF	LINEAR FEET	TF	TOP OF FOOTING ELEVATION
EC	END CURVE	LP	LOW POINT	TG	TOP OF GRATE ELEVATION
EP	EDGE OF PAVEMENT ELEVATION	MAX	MAXIMUM	TOB	TOP OF BOX ELEVATION
EVC	END VERTICAL CURVE	MIN	MINIMUM	TW	TOP OF WALL ELEVATION
FB	FREE BOARD	MH	MANHOLE	TYP	TYPICAL
FG	FINISHED GRADE ELEVATION	OAE	OR APPROVED EQUIVALENT	W	WATER
FH	FIRE HYDRANT	PCC	POINT OF COMPOUND CURVE	WM	WATER METER
FL	FLOW LINE ELEVATION	PRC	POINT OF REVERSING CURVE		
FS	FINISHED SURFACE ELEVATION	PL	PROPERTY LINE		

REGISTERED PROFESSIONAL ENGINEER
GARY R. WYNN
No. C 43202
CIVIL
STATE OF CALIFORNIA

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(760) 749-8722 (310) 306-9728
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WEI	WEI JOB NO. 16-027	12-01-2021

RECORD PLAN

BY: _____ DATE: _____

R.C.E. _____

EXPIRES: _____

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:
5	NEW SHEET		12.6.21

PERMITS

LANDSCAPE PLAN NO. _____
SITE PLAN REVIEW NO. STP-08-013M3
STREET IMPROVEMENT PLANS: PDS2013-LDPIIP-00005
NOTICE OF INTENT(WDID): 9 37C367589

BENCH MARK

DESCRIPTION: 2-1/2" BRASS CAP STAMPED "S.D. SURV. MON. 19 PT."
LOCATION: IN WELL MONUMENT AT POINT EGCS-3048
RECORD FROM: RECORD OF SURVEY MAP 14236
ELEVATION: 1336.773 DATUM: NGVD 29 MSL

5 PRIVATE CONTRACT 5

SHEET 7B	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	19 SHEETS

WALL PLAN AND PROFILE FOR:
MILLER ROAD PLAZA
POR. PARCEL 2 AND 3, P.M. NO. 8636
CALIFORNIA COORDINATE INDEX: 386-1761

APPROVED FOR:
WILLIAM P. MORGAN
COUNTY ENGINEER
BY: _____ DATE: 12.16.21

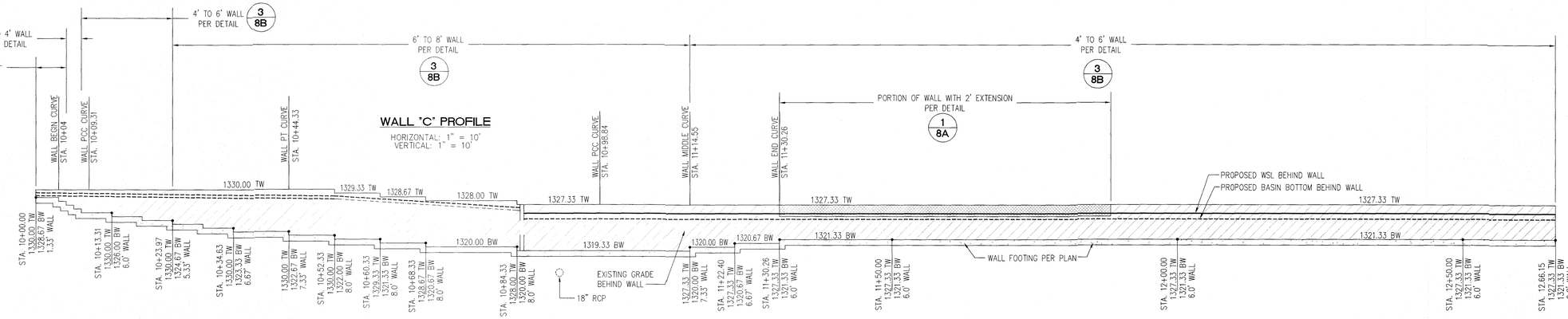
ENGINEER OF WORK
GARY R. WYNN P.E. C-43202
DATE

CHECKED BY:
APPROVAL DATE:
GRADING PERMIT NO.
PDS2012-2700-15688

ENGINEER: WYNN ENGINEERING INC.
TELEPHONE: 1-760-749-8722

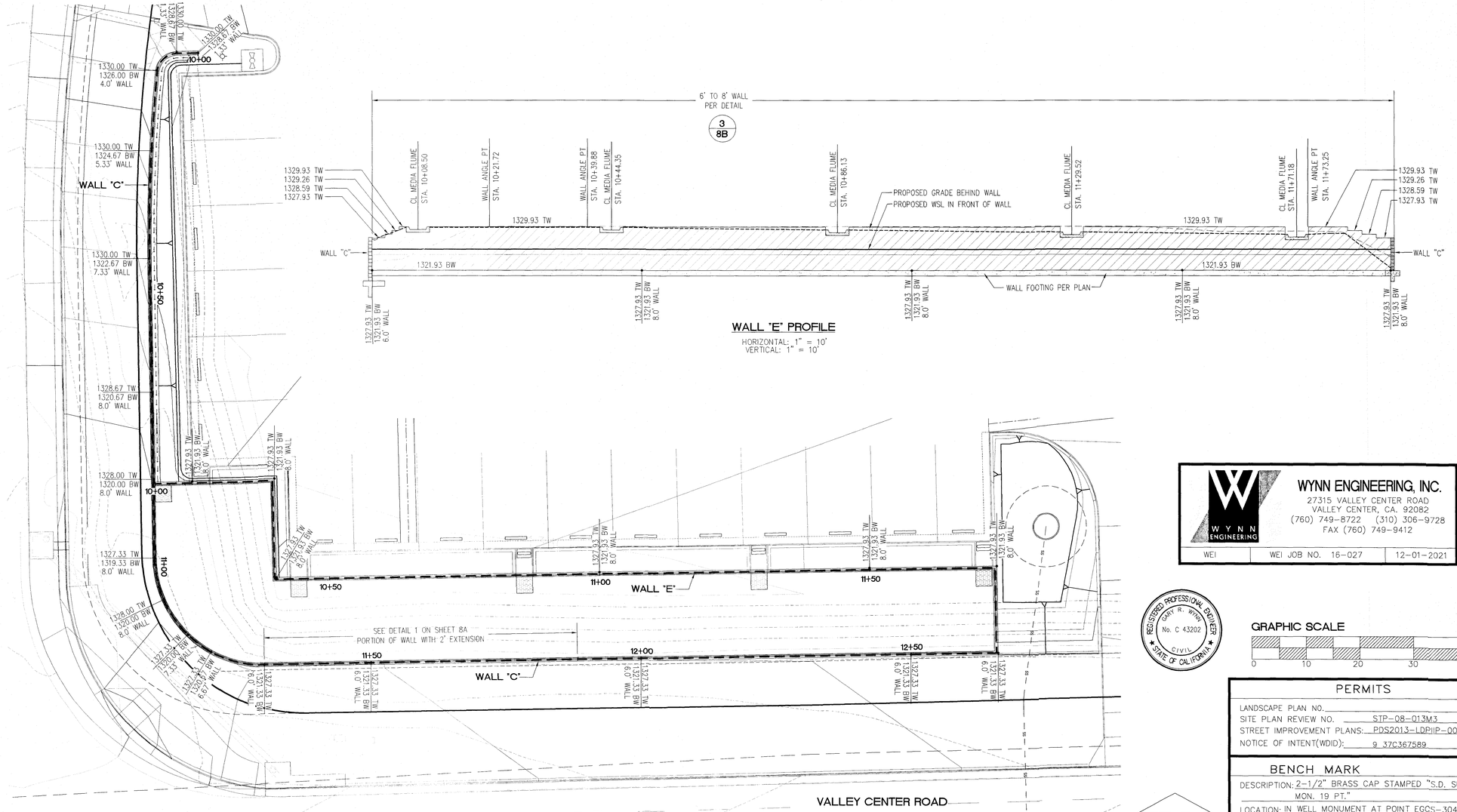
F:\2016\16-027 ZERVAS - MILLER ROAD\DWG\SITE PLAN 2021\ 16-027 ZERVAS MILLER ROAD DPW-LGP-PC.DWG

Date Plotted : Dec 01, 2021 - 5:32pm



WALL "C" PROFILE

HORIZONTAL: 1" = 10'
VERTICAL: 1" = 10'



WALL "C" AND "E" PLAN VIEW

HORIZONTAL: 1" = 10'

WALL "E" PROFILE

HORIZONTAL: 1" = 10'
VERTICAL: 1" = 10'

NORTH
SCALE: 1" = 10'

ABBREVIATIONS

BC	BEGIN CURVE
BVC	BEGIN VERTICAL CURVE
BO	BLOW-OFF
BW	BOTTOM OF WALL ELEVATION
CL	CENTERLINE
CO	CLEAN-OUT
EA	EACH
EC	END CURVE
EP	EDGE OF PAVEMENT ELEVATION
EVC	END VERTICAL CURVE
FB	FREE BOARD
FG	FINISHED GRADE ELEVATION
FH	FIRE HYDRANT
FL	FLOW LINE ELEVATION
FS	FINISHED SURFACE ELEVATION
G	GUTTER ELEVATION
GB	GRADE BREAK
GV	GATE VALVE
H	HEIGHT
HP	HIGH POINT
IE	INVERT ELEVATION
LF	LINEAR FEET
LP	LOW POINT
MAX	MAXIMUM
MIN	MINIMUM
MH	MANHOLE
OAE	OR APPROVED EQUIVALENT
PCC	POINT OF COMPOUND CURVE
PRC	POINT OF REVERSING CURVE
PL	PROPERTY LINE
S	SEWER
SD	STORM DRAIN
SHLDR	SHOULDER ELEVATION
SF	SQUARE FEET
TB	TOP OF BERM
TC	TOP OF CURB ELEVATION
TF	TOP OF FOOTING ELEVATION
TG	TOP OF GRATE ELEVATION
TOB	TOP OF BOX ELEVATION
TW	TOP OF WALL ELEVATION
TYP	TYPICAL
W	WATER
WM	WATER METER

WYNN ENGINEERING, INC.
27315 VALLEY CENTER ROAD
VALLEY CENTER, CA. 92082
(760) 749-8722 (310) 306-9728
FAX (760) 749-9412

WEI	WEI JOB NO. 16-027	12-01-2021

REGISTERED PROFESSIONAL ENGINEER GARY R. WYNN No. C 43202 CIVIL STATE OF CALIFORNIA

GRAPHIC SCALE
0 10 20 30 40

RECORD PLAN
BY: _____ DATE: _____
R.C.E. _____
EXPIRES: _____

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:
5	NEW SHEET		12.16.21

PERMITS
LANDSCAPE PLAN NO. _____
SITE PLAN REVIEW NO. STP-08-013M3
STREET IMPROVEMENT PLANS: PDS2013-LDPIIP-00005
NOTICE OF INTENT(WDID): 9 37C367589

BENCH MARK
DESCRIPTION: 2-1/2" BRASS CAP STAMPED "S.D. SURV. MON. 19 PT."
LOCATION: IN WELL MONUMENT AT POINT EGCS-3048
RECORD FROM: RECORD OF SURVEY MAP 14236
ELEVATION: 1336.773 DATUM: NGVD 29 MSL

5 PRIVATE CONTRACT 5

SHEET 7C	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	19 SHEETS

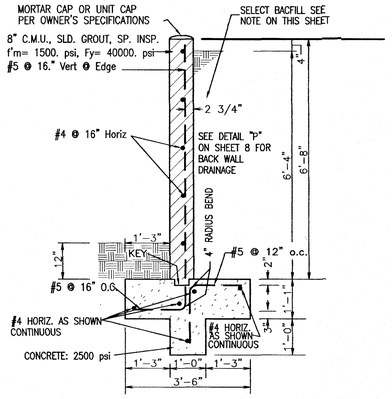
WALL PLAN AND PROFILE FOR:
MILLER ROAD PLAZA
POR. PARCEL 2 AND 3, P.M. NO. 8636
CALIFORNIA COORDINATE INDEX: 386-1761

APPROVED FOR: WILLIAM P. MORGAN COUNTY ENGINEER
BY: _____ DATE: 12.16.21

ENGINEER OF WORK: GARY R. WYNN R.C.E. 43202 DATE

CHECKED BY: _____ GRADING PERMIT NO.
APPROVAL DATE: _____ PDS2012-2700-15688

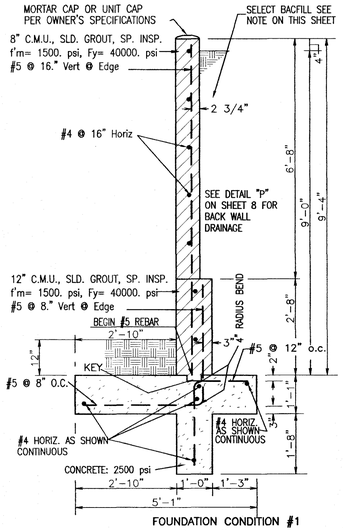
Date Plotted : Dec 01, 2021 - 5:33pm
F:\2016\16-027 ZERVAS - MILLER ROAD\DWG\SITE PLAN 2021\ 16-027 ZERVAS MILLER ROAD DPW-LGP-PC.DWG
ENGINEER: WYNN ENGINEERING INC.
TELEPHONE: 1-760-749-8722



FOUNDATION CONDITION #1

RETAINING WALL "C-1", MAX. HEIGHT =6.67'

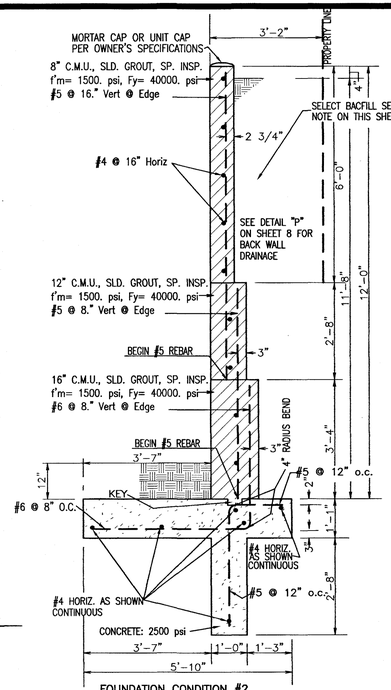
Scale: 1" = 2'



FOUNDATION CONDITION #1

RETAINING WALL"C-2", MAX. HEIGHT =9.33'

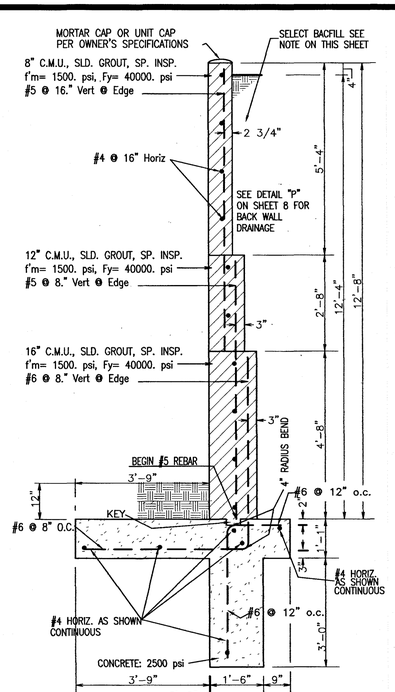
Scale: 1" = 2'



FOUNDATION CONDITION #2

RETAINING WALL"C-3", MAX. HEIGHT =12.00'

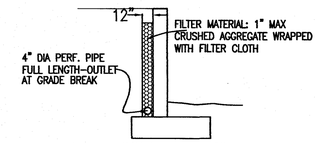
Scale: 1" = 2'



FOUNDATION CONDITION #2

RETAINING WALL"C-4", MAX. HEIGHT =12.67'

Scale: 1" = 2'



SEE ALSO RECOMMENDATIONS IN REPORT BY GEOSOILS INC. DATED 2/27/09 AND LETTER DATED 10/24/12

P 8 RETAINING WALL DRAIN DETAIL

NO SCALE

NOTES:

1) FOR RETAINING WALLS WITH HEIGHTS OF 3.67' OF LESS USE S.D.R.S.D. C-5.
2) FOR ADDITIONAL DETAILS AND SPECIFICATION SEE S.D.R.S.D. C-7 & C-8.
3) SEE SPECIAL INSPECTION NOTES ON SHEET 7

RETAINING WALL FOUNDATION CONDITION NOTES:

CONDITION #1 (MAXIMUM ALLOWABLE BEARING 2000 p.s.f.)
THE WALL FOUNDATION SHALL BE SUPPORTED BY APPROVED BEDROCK OR ENGINEERED FILL COMPACTED TO AT LEAST 90% OF LABORATORY STANDARD (ASTM D1557)

CONDITION #2 (MAXIMUM ALLOWABLE BEARING 2000 TO 2500 P.S.F.)
THE WALL FOUNDATION SHALL BE SUPPORTED BY APPROVED BEDROCK OR ENGINEERED FILL COMPACTED TO AT LEAST 95% OF LABORATORY STANDARD (ASTM D1557)

CONDITION #3 (MAXIMUM ALLOWABLE BEARING 2500 TO 3000 P.S.F.)
THE WALL FOUNDATION SHALL BE SUPPORTED ON APPROVED BEDROCK ONLY).

RETAINING WALL FOOTING EMBEDMENT NOTE:

ALL RETAINING WALL FOOTING SHALL HAVE EMBEDMENT OF AT LEAST 18" BELOW THE LOWEST ADJACENT FINISH GRADE WITH THE EXCEPTION OF WALL SECTION D-4 WHICH WILL HAVE EMBEDMENT OF AT LEAST 16". EMBEDMENT DOES NOT INCLUDED THE LANDSCAPE LAYER WHICH THE UPPER 6" OF THE FINISHED GRADE.

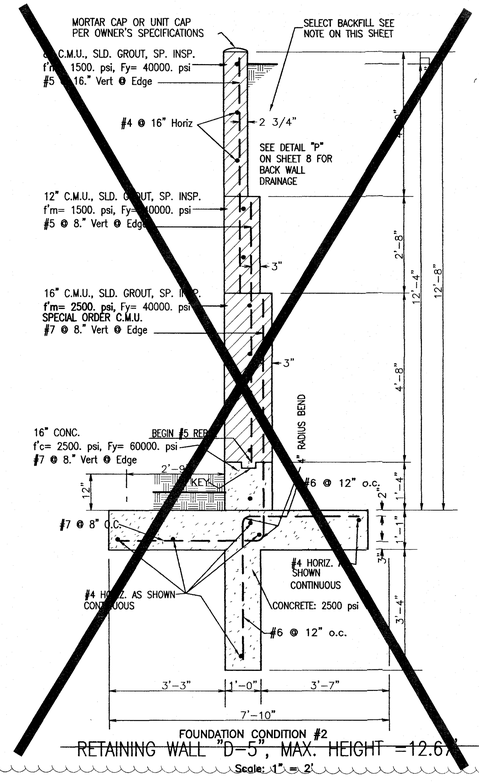
SELECT BACKFILL NOTE:

SELECT BACKFILL MATERIAL SHALL BE TESTED AND MEET THE FOLLOWING STANDARDS "SE" EQUAL TO OR GREATER THAN 35, "P.I." LESS THAN 15, "E.I." LESS THAN 21, VOLUME PASSING 200 SIEVE LESS THAN OR EQUAL 10%. SEE GEOTECHNICAL REPORT.

SEE SPECIAL INSPECTION NOTES ON SHEET 7

RETAINING WALL "C" DETAILS

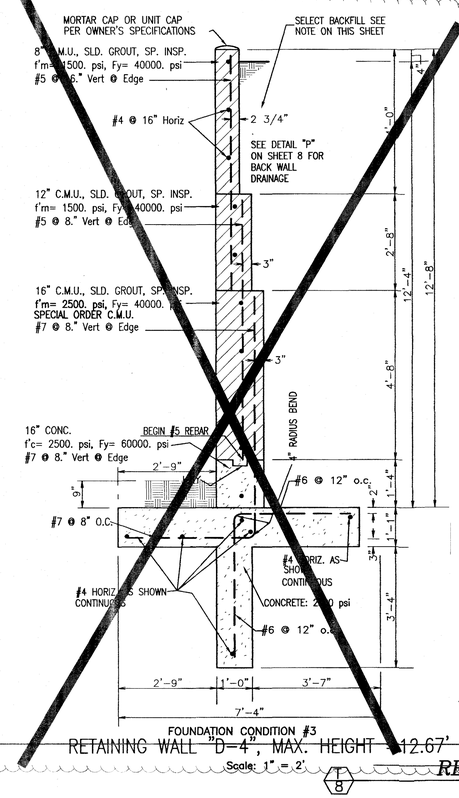
D 8



FOUNDATION CONDITION #2

RETAINING WALL "D-5", MAX. HEIGHT =12.67'

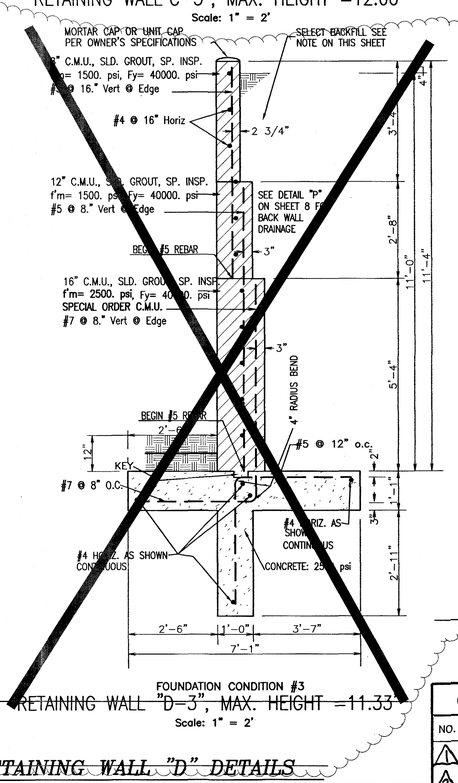
Scale: 1" = 2'



FOUNDATION CONDITION #3

RETAINING WALL "D-4", MAX. HEIGHT =12.67'

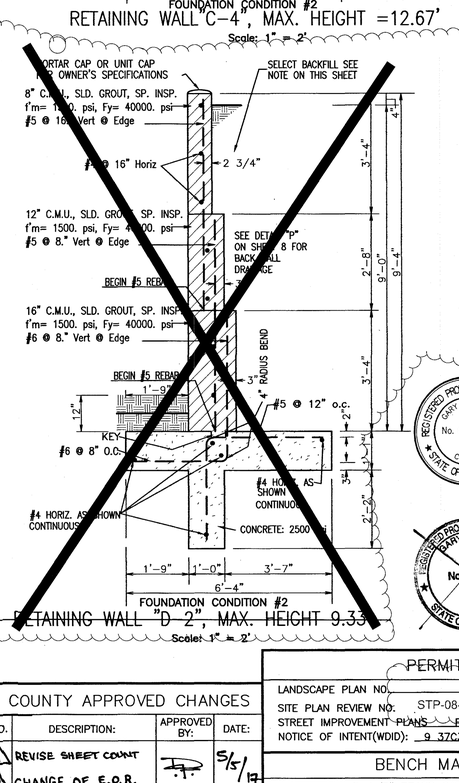
Scale: 1" = 2'



FOUNDATION CONDITION #3

RETAINING WALL "D-3", MAX. HEIGHT =11.33'

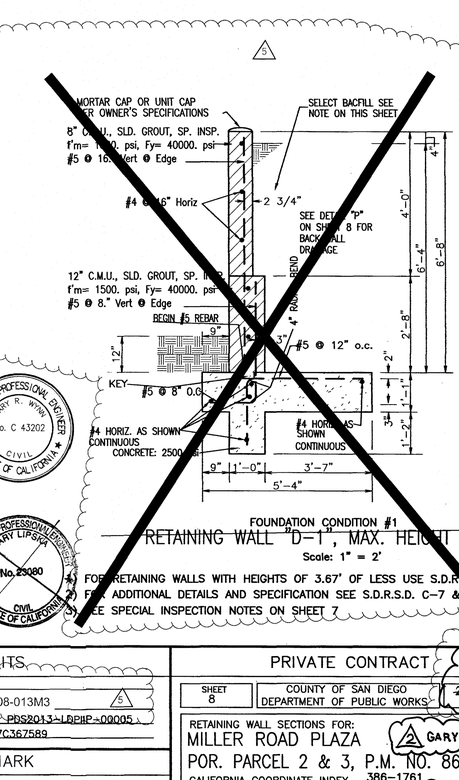
Scale: 1" = 2'



FOUNDATION CONDITION #2

RETAINING WALL "D-2", MAX. HEIGHT 9.33'

Scale: 1" = 2'



FOUNDATION CONDITION #1

RETAINING WALL "D-1", MAX. HEIGHT =6.67'

Scale: 1" = 2'

1) FOR RETAINING WALLS WITH HEIGHTS OF 3.67' OF LESS USE S.D.R.S.D. C-6.
2) FOR ADDITIONAL DETAILS AND SPECIFICATION SEE S.D.R.S.D. C-7 & C-8.
3) SEE SPECIAL INSPECTION NOTES ON SHEET 7

RETAINING WALL "D" DETAILS

T 8

REGISTERED PROFESSIONAL ENGINEER GARY R. WYNN No. C 43202 CIVIL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER GARY LIPSKA No. 25080 CIVIL STATE OF CALIFORNIA

COUNTY APPROVED CHANGES			
NO.	DESCRIPTION:	APPROVED BY:	DATE:
1	REVISE SHEET COUNT	[illegible]	5/5/17
2	CHANGE OF E.O.R.	[illegible]	[illegible]
5	REVISE TOTAL NUMBER OF SHEETS	[illegible]	12.16.21

RECORD PLAN

NAME

BY: _____ DATE: _____

R.C.E. _____

EXPIRES: _____

PERMITS

LANDSCAPE PLAN NO. _____

SITE PLAN REVIEW NO. STP-08-013M3 5

STREET IMPROVEMENT PLANS PDS2013-LDPIP-00005

NOTICE OF INTENT(WDID): 9 37C367589

BENCH MARK

DESCRIPTION: 2-1/2" BRASS CAP STAMPED "S.D. SURV. MON. 19 PT."

LOCATION: IN WELL MONUMENT AT POINT EGCS-3048

RECORD FROM: RECORD OF SURVEY MAP 14236

ELEVATION: 1336.773 DATUM: NGVD 29 MSL

PRIVATE CONTRACT

1 2 GARY WYNN 8-1-14

SHEET 8	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	25 ~~25~~ SHEETS 19

RETAINING WALL SECTIONS FOR:

MILLER ROAD PLAZA

POR. PARCEL 2 & 3, P.M. NO. 8636

CALIFORNIA COORDINATE INDEX 386-1761

APPROVED FOR: MOHAMAD FAGHIHZADEH COUNTY ENGINEER

Kenneth G. Brazell BY: 4-11-14 DATE

EXPIRATION OF WORK 12-31-14

GARY LIPSKA RCE 25080 EXPIRES 12/31/15

CHECKED BY: N/A GRADING PERMIT NO. N/A

EXPIRATION DATE: 4-1-14 PDS2012-2700-15688

20 0 20 40

Scale: 1" = 20'

CIVIL ENGINEERING * LAND PLANNING
Agriculterra Engineering Inc.
~~1649 Campanile Place~~
~~Oceanside, CA 92054~~
~~Tele. (760) 439-2005~~
~~Fax. (760) 439-8066~~

2 WYNN ENGINEERING, INC.
27315 VALLEY CENTER ROAD
VALLEY CENTER, CA. 92082

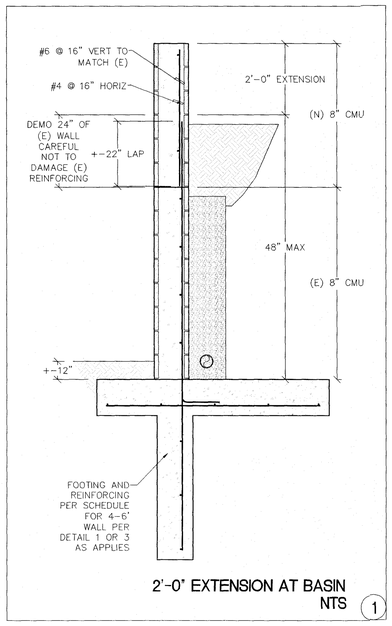
PLOT DATE: 03/29/14

2 WYNN ENGINEERING, INC.
TELEPHONE: (760) 749-8722
ENGINEER: ~~AGRICULTERRA ENGINEERING INC.~~
TELEPHONE: 760-439-2802

TMS 602 TABLE 4 REQUIRED VERIFICATION AND SPECIAL INSPECTION OF MASONRY

OCCUPANCY CATEGORY II MASONRY: F'm=2000psi @ 28 DAYS

INSPECTION TASK LEVEL 1	CONTINUOUS DURING TASK LISTED	PERIODIC DURING TASK LISTED
1. AS MASONRY CONSTRUCTION, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE A. CONSTRUCTION OF MORTOR JOINT B. LOCATION OF REINFORCEMENT CONNECTORS & ANCHORAGE		X
2. THE INSPECTION PROGRAM SHALL VERIFY A. TYPE, SIZE AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY STRUCTURAL MEMBERS		X
3. PRIOR TO GROUTING, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE A. GROUT SPACING IS CLEAN B. PLACEMENT OF REINFORCEMENT C. PROPORTION OF SITE-PREPARED GROUT D. CONSTRUCTION OF MORTAR JOINTS		X
4. GROUT PLACEMENT SHALL BE VERIFIED TO ENSURE COMPLIANCE WITH CODE AND CONSTRUCTION DOCUMENT PROVISIONS	X	
5. PREPARATION OF ANY REQUIRED GROUT SPECIMENS AND/OR PRISMS SHALL BE OBSERVED	X	
6. COMPLIANCE WITH REQUIRED INSPECTION PROVISIONS OF THE CONSTRUCTION DOCUMENTS AND THE APPROVED SUBMITTALS SHALL BE VERIFIED		X



2'-0" EXTENSION AT BASIN
NTS (1)

SPECIAL INSPECTIONS AND TESTS

1705.3 Concrete construction. Special inspections and tests of concrete construction shall be performed in accordance with this section and Table 1705.3.

Exception: Special inspections and tests shall not be required for:

1. Isolated spread concrete footings of buildings three stories or less above grade plane that are fully supported on earth or rock.
2. Continuous concrete footings supporting walls of buildings three stories or less above grade plane that are fully supported on earth or rock where:
   2.1. The footings support walls of light-frame construction.
   2.2. The footings are designed in accordance with Table 1809.7.
   2.3. The structural design of the footing is based on a specified compressive strength, f'_c, not more than 2,500 pounds per square inch (psi) (17.2 MPa), regardless of the compressive strength specified in the approved construction documents or used in the footing construction.

TABLE 1705.3
REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION	REFERENCED STANDARD[a]	IBC REFERENCE
1. Inspect reinforcement, including prestressing tendons, and verify placement.	—	X	ACI 318: Ch. 20, 25.2, 25.3, 26.5.1-26.5.3	1908.4
2. Reinforcing bar welding: a. Verify weldability of reinforcing bars other than ASTM A706. b. Inspect single-pass fillet welds, maximum $^5/_{16}$", and c. Inspect all other welds	— — X	X X	AWS D1.4 ACI 318: 26.5.4	—
3. Inspect anchors cast in concrete.	—	X	ACI 318: 17.8.2	—
4. Inspect anchors post-installed in hardened concrete members: a. Adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension loads. b. Mechanical anchors and adhesive anchors not defined in 4.a.	X	— X	ACI 318: 17.8.2.4 ACI 318: 17.8.2	—
5. Verify use of required design mix.	—	X	ACI 318: Ch. 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3
6. Prior to concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	X	—	ASTM C172 ASTM C31 ACI 318: 26.4.5, 26.12	1908.10
7. Inspect concrete and shotcrete placement for proper application techniques.	X	—	ACI 318: 26.4.5	1908.6, 1908.7, 1908.8
8. Verify maintenance of specified curing temperature and techniques	—	X	ACI 318: 26.4.7-26.4.9	1908.9
9. Inspect prestressed concrete for: a. Application of prestressing forces, and b. Grouting of bonded prestressing tendons.	X X	— —	ACI 318: 26.9.2.1 ACI 318: 26.9.2.3	—
10. Inspect erection of precast concrete members.	—	X	ACI 318: Ch. 26.8	—
11. Verify in-situ concrete strength, prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms from beams and structural slabs.	—	X	ACI 318: 26.10.2	—
12. Inspect formwork for shape, location and dimensions of the concrete member being formed	—	X	ACI 318: 26.10.1(b)	—

For SI: 1 inch = 25.4 mm.

a. Where applicable, see also Section 1705.12, Special inspections for seismic resistance.

b. Specific reporting data or special inspection shall be included in the research report for the anchor issued by an approved source in accordance with 17.8.2 in ACI 318 or other qualification procedures. Where specific requirements are not provided, special inspection requirements shall be specified by the registered design professional and shall be approved by the building official prior to the commencement of the work.

TABLE 1705.6
REQUIRED SPECIAL INSPECTIONS AND TESTS OF SOILS

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION
1. Verify materials below shallow foundations are adequate to achieve the design bearing capacity.	—	X
2. Verify excavations are extended to proper depth and have reached proper material.	—	X
3. Perform classification and testing of compacted fill materials.	—	X
4. Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.	X	—
5. Prior to placement of compacted fill, inspect subgrade and verify that site has been prepared properly.	—	X

REQUIRED SPECIAL INSPECTION

The following items require Special Inspection in accordance with Sections 1704 & 1705 of the 2019 California Building Code:

(only checked items are required)

Inspection Item	Notes
Structural Concrete (CBC Table 1705.3)	
☐ Foundations[1] ☐ Grade Beams / Piles ☐ Beams / Slabs ☐ Walls / Columns ☐ Welding of Reinforcement ☐ Anchor Bolts ☐ Shotcrete / Gunnite ☐ Seismic Resisting System ☐ Other:	
Structural Steel (AISC 360-16 Chapter N)	
☐ Field Welding[2] ☐ High Strength Bolting ☐ Seismic Resisting System ☐ Other:	See AISC 341-10 Chapter J
Structural Masonry (TMS 602 Table 4)	
☑ Concrete Masonry (CMU) ☐ Seismic Resisting System ☐ Other:	
Structural Wood (CBC 1705.5)	
☐ High Load Diaphragms ☐ Seismic Resisting System[3] ☐ Pre-Fabricated Truss Bracing[4]	Wood Shearwalls, Diaphragms, Collectors
Miscellaneous Items	
☑ Epoxy Anchors ☐ Epoxy Anchors	Hilti HIT-HY 270 (ICC-ER 4143) Simpson SET-XP (ICC-ESR 2508)

1. FOUNDATION SPECIAL INSPECTION IS NOT REQUIRED FOR BUILDINGS THREE STORIES OR LESS IN HEIGHT.
2. SPECIAL INSPECTION NEED NOT BE PROVIDED FOR WELDING PERFORMED IN THE SHOP OF AN APPROVED FABRICATOR.
3. SPECIAL INSPECTION IS NOT REQUIRED FOR SHEARWALLS WHERE NAIL SPACING IS 4" OC OR LARGER.
4. SPECIAL INSPECTION IS NOT REQUIRED FOR TRUSSES LESS THAN 5'-0" TALL.

Q. SPECIAL INSPECTION NOTES

1. THE CONSTRUCTION INSPECTIONS LISTED ARE IN ADDITION TO THE CALLED INSPECTIONS REQUIRED BY CALIFORNIA BUILDING CODE (CBC). THE SPECIAL INSPECTIONS IDENTIFIED ON PLANS ARE IN ADDITION TO, AND NOT A SUBSTITUTE FOR THOSE INSPECTIONS REQUIRED TO BE PERFORMED BY A COUNTY OF SAN DIEGO (COUNTY), DEPARTMENT OF PUBLIC WORKS (DPW), PRIVATE DEVELOPMENT CONSTRUCTION INSPECTION (PDCI) INSPECTOR. SPECIALLY INSPECTED WORK WHICH IS INSTALLED OR COVERED WITHOUT THE APPROVAL OF THE COUNTY PDCI INSPECTOR IS SUBJECT TO REMOVAL OR EXPOSURE.
2. SPECIAL INSPECTION IS REQUIRED DURING THE PERFORMANCE OF THE WORK PER CBC REFERENCED ABOVE.
3. IT IS THE RESPONSIBILITY OF THE OWNER OR CONTRACTOR TO NOTIFY THE SPECIAL INSPECTOR OR INSPECTION AGENCY AT LEAST TWO WORKING DAYS PRIOR TO PERFORMING ANY WORK THAT REQUIRES SPECIAL INSPECTION. ALL WORK PERFORMED WITHOUT SPECIAL INSPECTION IS SUBJECT TO REMOVAL.
4. A CERTIFICATE OF SATISFACTORY COMPLETION OF WORK REQUIRING SPECIAL INSPECTION MUST BE COMPLETED AND SUBMITTED TO THE DPW PDCI.
5. THE SPECIAL INSPECTOR MUST BE CERTIFIED BY THE COUNTY IN THE CATEGORY OF WORK REQUIRED TO HAVE SPECIAL INSPECTION.
6. THE CONSTRUCTION MATERIALS TESTING LABORATORY MUST BE APPROVED BY THE COUNTY DPW MATERIALS LABORATORY FOR TESTING OF MATERIALS SYSTEMS, COMPONENTS AND EQUIPMENT.
7. A PROPERTY OWNER'S FINAL REPORT FOR WORK REQUIRED TO HAVE SPECIAL INSPECTIONS, TESTING AND STRUCTURAL OBSERVATIONS MUST BE COMPLETED BY THE PROPERTY OWNER, PROPERTY OWNER'S AGENT OF RECORD, ARCHITECT AND/OR ENGINEER OF RECORD AND SUBMITTED TO THE COUNTY DPW PDCI OFFICIAL.
8. NOTICE TO THE APPLICANT/OWNER'S AGENT/ARCHITECT OR ENGINEER OF RECORD BY USING THIS PERMITTED CONSTRUCTION DRAWINGS FOR CONSTRUCTION/INSTALLATION OF THE WORK SPECIFIED HEREIN, YOU AGREE TO COMPLY WITH THE REQUIREMENTS OF COUNTY OF SAN DIEGO FOR SPECIAL INSPECTIONS, STRUCTURAL OBSERVATIONS, CONSTRUCTION MATERIAL TESTING AND OFF-SITE FABRICATION OF BUILDING COMPONENTS, CONTAINED IN THE STATEMENT OF SPECIAL INSPECTION AND, AS REQUIRED BY THE CALIFORNIA CONSTRUCTION CODES.
9. NOTICE TO THE CONTRACTOR/BUILDER/INSTALLER/SUB-CONTRACTOR/OWNER-BUILDER: BY USING THIS PERMITTED CONSTRUCTION DRAWINGS FOR CONSTRUCTION/INSTALLATION OF THE WORK SPECIFIED HEREIN, YOU AGREE TO COMPLY WITH THE REQUIREMENTS OF COUNTY OF SAN DIEGO FOR SPECIAL INSPECTIONS, STRUCTURAL OBSERVATIONS, CONSTRUCTION MATERIAL TESTING AND OFF-SITE FABRICATION OF BUILDING COMPONENTS, CONTAINED IN THE STATEMENT OF SPECIAL INSPECTION AND, AS REQUIRED BY THE CALIFORNIA CONSTRUCTION CODES.
10. THE SPECIAL INSPECTOR MUST BE CERTIFIED BY THE COUNTY OF SAN DIEGO, DEVELOPMENT SERVICES, IN THE CATEGORY WORK REQUIRED TO HAVE SPECIAL INSPECTION.
11. THE CONSTRUCTION MATERIALS TESTING LABORATORY MUST BE APPROVED BY THE COUNTY OF SAN DIEGO, DEVELOPMENT SERVICES, FOR TESTING OF MATERIAL SYSTEMS, COMPONENTS AND EQUIPMENT.
12. THE SPECIAL INSPECTIONS IDENTIFIED ON PLANS ARE, IN ADDITION TO, AND NOT SUBSTITUTE FOR, THOSE INSPECTIONS REQUIRED TO BE PERFORMED BY COUNTY'S PDCI.

D. CONCRETE AND FORMWORK

1. CEMENT SHALL CONFORM TO THE REQUIREMENTS OF ASTM C150 TYPE II.
2. SPECIFIED COMPRESSIVE STRENGTH F'C SHALL BE AS FOLLOWS:
   I. FOOTINGS AND SLABS ON GRADE..... 2500psi
   II. RETAINING WALL STEMS..... 2500psi
3. COARSE AGGREGATE TO BE HARD, DURABLE CRUSHED STONE OR GRAVEL GRADED PER ASTM C33. MAXIMUM SIZE OF COARSE AGGREGATES SHALL NOT EXCEED 1-1/2 INCHES OR ⅓ THE SLAB THICKNESS FOR SLABS ON GRADE.
4. SAND SHALL BE CLEAN, HARD, DURABLE, WASHED, FREE FROM SILT LOAM OR CLAY.
5. MIXING WATER SHALL BE CLEAN AND FREE FROM INJURIOUS AMOUNTS OF ACIDS, ALKALIS, ORGANIC MATERIALS OR OTHER DELETERIOUS SUBSTANCES.
6. FORM WORK SHALL CONFORM TO ACI 318-14 CHAPTER 26.11. FORM WORK FOR STRUCTURAL SLAB TO REMAIN IN PLACE UNTIL THE CONCRETE HAS REACHED 75% OF THE SLABS COMPRESSIVE STRENGTH. AFTER STRIPPING FORM WORK RE-SHORE THE SLAB UNTIL 28 DAYS AFTER INITIAL PLACEMENT.
7. ALL PIPES AND DUCTS THROUGH CONCRETE TO BE SLEEVED PER ACI 318-14 CHAPTER 6. VERIFY ALL OPENING LOCATIONS WITH PLUMBER AND ELECTRICIAN.
8. CONSOLIDATE CONCRETE PER ACI 309.
9. CONSTRUCTION AND COLD JOINTS SHALL BE CLEANED AND LAITANCE REMOVED BEFORE NEW CONCRETE IS PLACED PER ACI 318.

E. MASONRY

1. CONCRETE MASONRY UNITS (CMU) SHALL BE SINGLE-OPEN-END MEDIUM WEIGHT BLOCK CONFORMING TO ASTM C90. BLOCKS SHALL HAVE A MINIMUM AVERAGE COMPRESSIVE STRENGTH OF 2000psi.
2. CMU DESIGN IS BASED ON A SPECIFIED UNIT COMPRESSIVE STRENGTH OF F'm = 2000PSI.
3. MORTAR SHALL CONFORM TO ASTM C270. MORTAR SHALL BE TYPE M OR S.
4. GROUT SHALL CONFORM TO ASTM C476. GROUT SHALL ATTAIN A MINIMUM AVERAGE COMPRESSIVE STRENGTH OF 2000psi. GROUT SHALL BE FLUID IN CONSISTENCY.
5. ALL CELLS SHALL BE SOLID GROUTED EXCEPT WHERE SPECIFICALLY NOTED ON PLANS. GROUT IN 5'-4" HIGH MAXIMUM LIFTS U.N.O.
6. UNITS SHALL BE STORED UNDER COVER AND OTHERWISE PROTECTED FROM MOISTURE.
7. VERTICAL REINFORCEMENT STEEL IN HOLLOW UNITS SHALL BE HELD IN POSITION AT THE TOP AND BOTTOM AND AT INTERVALS NOT EXCEEDING 192 BAR DIAMETERS.

F. REINFORCING STEEL

1. REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A615 WITH THE FOLLOWING GRADES:
   I. #3 AND #4..... GRADE 40 OR 60
   II. #5 AND LARGER..... GRADE 60
3. REINFORCING BARS TO BE WELDED SHALL CONFORM TO ASTM A706 GRADE 60.
4. ALL DOWELS, ANCHOR BOLTS, AND OTHER INSERTS SHALL BE PROPERLY SECURED IN PLACE PRIOR TO PLACING CONCRETE.
5. ALL REINFORCING STEEL SHALL HAVE THE FOLLOWING MINIMUM CONCRETE COVERAGE:
   I. CONCRETE PLACED AGAINST EARTH ..... 3"
   II. CONCRETE WITH FORMED SURFACES IN CONTACT WITH EARTH..... 2"
   III. CONCRETE EXPOSED TO WEATHER..... 3"
   IV. SLABS, WALLS, AND JOISTS NOT EXPOSED TO WEATHER OR IN CONTACT WITH EARTH (#11 OR SMALLER)..... 3/4"
   V. BEAMS, COLUMNS, AND GIRDERS NOT EXPOSED TO WEATHER OR IN CONTACT WITH EARTH..... 1-1/2"

A. GENERAL SPECIFICATIONS

1. ALL DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE 2016 CALIFORNIA BUILDING CODE, 2016 CALIFORNIA PLUMBING CODE, 2016 CALIFORNIA MECHANICAL CODE, AND THE 2016 CALIFORNIA ELECTRICAL CODE.
2. ALL DETAILS, SECTIONS, AND NOTES ON DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS ELSEWHERE UNLESS OTHERWISE NOTED.
3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE SITE. WHERE ACTUAL CONDITIONS CONFLICT WITH THE DRAWINGS, DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER SO THAT THE PROPER REVISIONS CAN BE MADE PRIOR TO PROCEEDING WITH THE WORK.
4. ALL GENERAL CONTRACTORS, SUB-CONTRACTORS, ARCHITECTS, AND ENGINEERS CONDUCTING BUSINESS ARE REQUIRED TO MAINTAIN A CURRENT BUSINESS LICENSE.
5. A RE-INSPECTION FEE WILL BE CHARGED FOR AN INSPECTION WHICH IS CALLED WITHOUT PROVIDING ACCESS, PLANS, OR IF THE JOB IS NOT READY.
6. DIMENSIONS SHALL NOT BE SCALED FROM THE DRAWINGS.
7. ALL ASTM DESIGNATIONS SHALL BE AS AMENDED TO DATE UNLESS OTHERWISE NOTED.
8. ALL OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND/OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH ANY WORK INVOLVED.
9. CONTRACTOR TO PROVIDE ADEQUATE SHORING AND BRACING TO SUPPORT ALL LOADS DURING CONSTRUCTION.
10. A SURVEY SHALL BE PROVIDED BY A LICENSED SURVEYOR ON STRUCTURES WHICH DEFINE PROPERTY LINES, SETBACKS, DESIGNATED PARKLAND OR STREET RIGHT-OF-WAY.

A.1 DESIGN BASIS

1. SOILS DESIGN PARAMETERS
   ALLOWABLE BEARING PRESSURE 2500psf
   DESIGN ACTIVE PRESSURE 2:1 SLOPE..... 65pcf
   DESIGN ACTIVE PRESSURE 1.5:1 SLOPE..... 78pcf
   DESIGN PASSIVE PRESSURE 250pcf
   COEFFICIENT OF FRICTION 0.35

B. GRADING AND SITEWORK

1. THE SURROUNDING AREAS SHOULD BE GRADED SO AS TO ENSURE DRAINAGE AWAY FROM THE BUILDING.
2. ALL BACKFILL SHALL BE COMPACTED PER THE GEOTECHNICAL INVESTIGATION.
3. FOUNDATION DESIGN IS BASED ON THE GEOTECHNICAL INVESTIGATION REQUIREMENTS AND RECOMMENDATIONS:
   A. GEOTECHNICAL INVESTIGATION REPORT:
      I. GEOSOILS, INC. REPORT #5654-A2-SC DATED 2/27/2009 AND REPORT #5654-A-SC DATED 10/24/2012
      II. 5741 PALMER WAY, CARLSBAD, CA 92010
      III. 760- 438-3155
   B. THE GEOTECHNICAL REPORT IS AVAILABLE TO THE GENERAL CONTRACTOR UPON REQUEST TO THE OWNER. THE ENGINEER OF RECORD WILL NOT BE RESPONSIBLE FOR THE ACCURACY OR APPLICATION OF SUCH DATA THEREIN.
   C. GRADING WORK AND SITE PREPARATION SHALL COMPLY WITH THE RECOMMENDATIONS AS STATED IN THE ABOVE REFERENCED REPORT.
4. ALL EXCAVATIONS SHALL BE OBSERVED AND APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO THE PLACEMENT OF REINFORCING STEEL.
5. ALL EXCAVATIONS SHALL BE APPROVED BY THE INSPECTOR PRIOR TO PLACEMENT OF STEEL OR CONCRETE.
6. ALL WATER SHALL BE REMOVED FROM FOUNDATION EXCAVATIONS PRIOR TO PLACING OF CONCRETE.
7. NO PERSON SHALL DESCEND INTO TRENCHES OR EXCAVATIONS 5' OR MORE IN DEPTH, UNLESS NECESSARY PERMITS HAVE BEEN OBTAINED FROM THE STATE OF CALIFORNIA DIVISION OF OCCUPATIONAL SAFETY.
8. SEE CIVIL DRAWINGS, IF PROVIDED, FOR ANY ADDITIONAL SPECIFICATIONS AND INFORMATION.
9. EXCAVATIONS SHALL BE MADE IN COMPLIANCE WITH CAL-OSHA REGULATIONS.

Date Plotted : Dec 01, 2021 - 5:33pm
F:\2016\16-027 ZERVAS - MILLER ROAD\DWG\SITE PLAN 2021\

REGISTERED PROFESSIONAL ENGINEER — GARY R. WYNN — No. C 43202 — CIVIL — STATE OF CALIFORNIA

WYNN ENGINEERING, INC.
27315 VALLEY CENTER ROAD
VALLEY CENTER, CA. 92082
(760) 749-8722 (310) 306-9728
FAX (760) 749-9412

WEI	WEI JOB NO. 16-027	12-01-2021

RECORD PLAN
BY: _____ DATE: _____
R.C.E. _____
EXPIRES: _____

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:
5	NEW SHEET		12.16.21

PERMITS
LANDSCAPE PLAN NO. _____
SITE PLAN REVIEW NO. STP-08-013M3
STREET IMPROVEMENT PLANS: PDS2013-LDPIIP-00005
NOTICE OF INTENT(WDID): 9 37C367589

BENCH MARK
DESCRIPTION: 2-1/2" BRASS CAP STAMPED "S.D. SURV. MON. 19 PT."
LOCATION: IN WELL MONUMENT AT POINT EGCS-3048
RECORD FROM: RECORD OF SURVEY MAP 14236
ELEVATION: 1336.773 DATUM: NGVD 29 MSL

5 PRIVATE CONTRACT 5

SHEET 8A	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	19 SHEETS

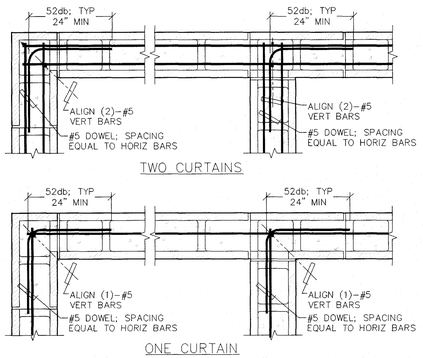
RETAINING WALL DETAILS FOR:
MILLER ROAD PLAZA
POR. PARCEL 2 AND 3, P.M. NO. 8636
CALIFORNIA COORDINATE INDEX: 386-1761

APPROVED FOR: WILLIAM P. MORGAN COUNTY ENGINEER
BY: _____ 12.16.21 DATE

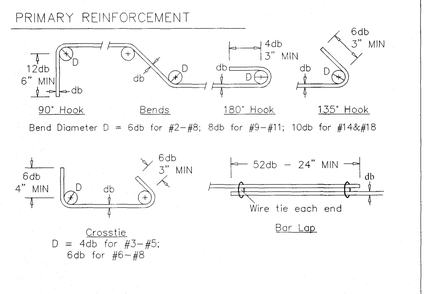
ENGINEER OF WORK: GARY R. WYNN, P.E. C-43202 — DATE

CHECKED BY: _____ GRADING PERMIT NO.
APPROVAL DATE: _____ PDS2012-2700-15688

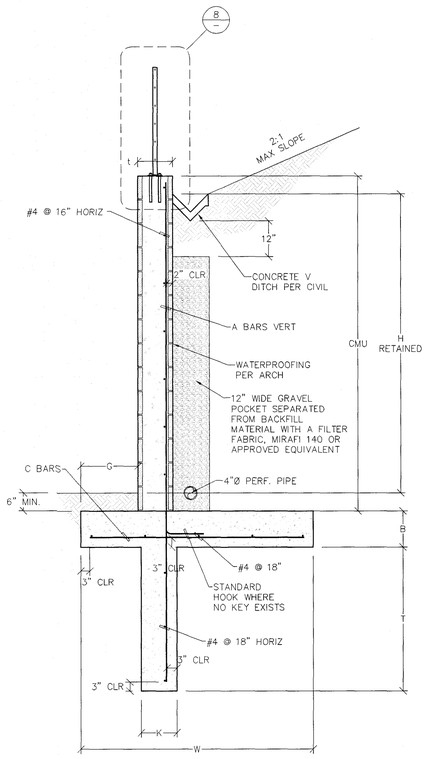
ENGINEER: WYNN ENGINEERING INC.
TELEPHONE: 1-760-749-8722



TYPICAL CMU WALL INTERSECTION 7
NTS



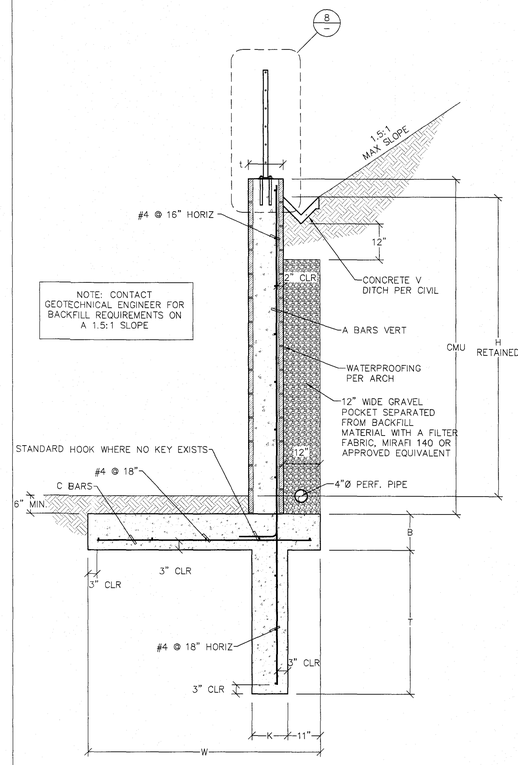
STANDARD REINFORCEMENT BENDS AND LAPS 4
NTS



RETAINING WALL SCHEDULE								
H	t	T	B	K	G	W	A BARS	C BARS
6'-8"	12"	3'-10"	18"	12"	24"	6'-3"	#5 @ 8"	#4 @ 5"
4'-6"	8"	2'-6"	18"	12"	12"	4'-9"	#6 @ 16"	#4 @ 18"
2'-4"	8"	1'-4"	12"	12"	12"	3'-6"	#4 @ 16"	#4 @ 18"
0'-2"	8"	0"	12"	–	0"	1'-8"	#4 @ 16"	#4 @ 18"

WALL "C", "F" AND "E"

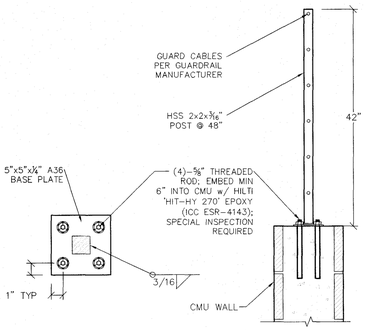
RETAINING WALL SCHEDULE 2:1 BACKFILL SLOPE 0'-8' RETAINED
NTS 3



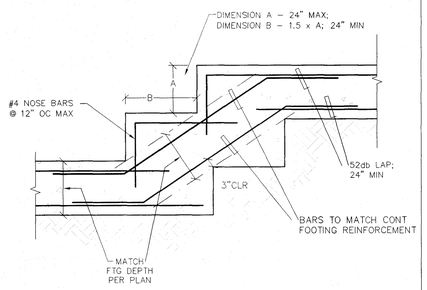
RETAINING WALL SCHEDULE							
H	t	T	B	K	W	A BARS	C BARS
6'-8"	12"	4'-6"	18"	12"	7'-3"	#5 @ 8"	#4 @ 5"
4'-6"	8"	3'-0"	18"	12"	4'-6"	#5 @ 16"	#4 @ 18"
2'-4"	8"	1'-8"	12"	12"	3'-6"	#4 @ 16"	#4 @ 18"
0'-2"	8"	0"	12"	–	1'-8"	#4 @ 16"	#4 @ 18"

WALL "D"

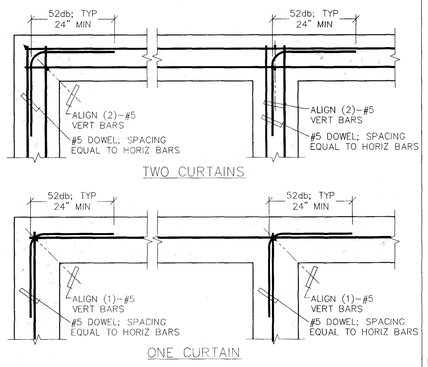
RETAINING WALL SCHEDULE 1.5:1 BACKFILL SLOPE 0'-8' RETAINED
NTS 1



GUARDRAIL AT CMU WALL 8
NTS



TYPICAL STEPPED FOOTING 5
NTS



TYPICAL WALL INTERSECTION 6
NTS

NTS 9

REGISTERED PROFESSIONAL ENGINEER
GARY R. WYNN
No. C 43202
CIVIL
STATE OF CALIFORNIA

WYNN ENGINEERING, INC.
27315 VALLEY CENTER ROAD
VALLEY CENTER, CA. 92082
(760) 749-8722 (310) 306-9728
FAX (760) 749-9412

WEI	WEI JOB NO. 16-027	12-01-2021

RECORD PLAN
BY: _____ DATE: _____
R.C.E. _____
EXPIRES: _____

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:
5	NEW SHEET		12.16.21

PERMITS
LANDSCAPE PLAN NO. _____
SITE PLAN REVIEW NO. STP-08-013M3
STREET IMPROVEMENT PLANS: PDS2013-LDPIIP-00005
NOTICE OF INTENT(WDID): 9 37C367589

BENCH MARK
DESCRIPTION: 2-1/2" BRASS CAP STAMPED "S.D. SURV. MON. 19 PT."
LOCATION: IN WELL MONUMENT AT POINT EGCS-3048
RECORD FROM: RECORD OF SURVEY MAP 14236
ELEVATION: 1336.773 DATUM: NGVD 29 MSL

5 PRIVATE CONTRACT 5

SHEET 8B	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	19 SHEETS

RETAINING WALL DETAILS FOR:
MILLER ROAD PLAZA
POR. PARCEL 2 AND 3, P.M. NO. 8636
CALIFORNIA COORDINATE INDEX: 386-1761

APPROVED FOR:
WILLIAM P. MORGAN
COUNTY ENGINEER
12.16.21
DATE

ENGINEER OF WORK
GARY R. WYNN P.E. C-43202
DATE

CHECKED BY:
APPROVAL DATE:

GRADING PERMIT NO.
PDS2012-2700-15688

ENGINEER: WYNN ENGINEERING INC.
TELEPHONE: 1-760-749-8722

F:\2016\16-027 ZERVAS - MILLER ROAD\DWG\SITE PLAN 2021\ 16-027 ZERVAS MILLER ROAD DPW-LGP-PC.DWG
Date Plotted : Dec 01, 2021 - 5:33pm

MATCH LINE SHEET 10

SHEET 9

MATCH LINE SHEET 24

SHEET 9

A.P.N. 188-231-08

CURB OPENING TO MATCH FLOOR GRADE

FF 1331.0
BUILDING "C" STORE

BUILDING "A"
FF 1339.88

WATERPROOFED MASONRY CURTAIN WALL DEEPENED FOOTING-PER GEOTECH REPORT

DEEPENED FOOTING

2' CURB OPENING

EXISTING STONE TO REMAIN

EXISTING 20' PLANTING STRIP

EXIST. 10' MULTI USE PATHWAY

NOT CONSTRUCTED SEE SHEET 10

VOID SHEET

PAINTED CROSSWALK PER CNTY PLAN #31101

CURB LINE PER CNTY PLAN #31101

TRAIL EASEMENT PER DOC. #2013-0555818 REC. SEPT. 09, 2013

ULTIMATE RIGHT OF WAY LINE

MULTI USE PATHWAY

MOUNTAIN SIDEWALK DRAIN

MILLER ROAD

VALLEY CENTER RD

CL

N89°04'41"E 104.27'

N88°32'45"E

N86°37'11"E 469.78'
(N86°37'11"E 381.60')

0+00.00 (MILLER ROAD)
285+27.00
(VALLEY CENTER ROAD)

STA: 286+91.50

281+63.33

BC 1+32.51

N00°55'19"W 116.73'

N01°25'56"W 208.57'

LOT 'E' 91.00'

EROSION CONTROL PLAN

SCALE: 1"=20'

BMP LEGEND

CONSTRUCTION BMP'S

ITEM		SYMBOL
32	STABILIZED CONSTRUCTION ENTRANCE PER DETAIL "P" ON SHEET 11	
33	GRAVEL BAG BERM PER DETAIL "N" ON SHEET 11	
34	SILT FENCE PER DETAIL "R" ON SHEET 11	
35	CATCH BASIN BERM PER DETAIL "S" ON SHEET 11	
36	BONDED FIBER MATRIX	

SEE EROSION CONTROL NOTES ON SHEET 11

PERMANENT BMP'S

50	UNDERGROUND DETENTION BASIN	
51	BIORETENTION SWALE OR AREA	

SYMBOL LEGEND

DESCRIPTION	SYMBOL
ELEVATION, TOP OF FOOTING	TF
ELEVATION, TOP OF WALL	TW
ELEVATION, TOP OF CURB	TC
ELEVATION, FINISH SURFACE	FS
ELEVATION, FINISH GRADE	FG
ELEVATION, TOP OF GRATE	TG
ELEVATION, BOTTOM OF FOOTING	BF
ELEVATION, FLOW LINE	FL
ELEVATION, INVERT ELEVATION	IE
ELEVATION LABEL, EXISTING	(596.00)
ELEVATION LABEL, PROPOSED	596.00
ELEVATION FINISH FLOOR	FF
DETAIL REFERENCE	C/2 DETAIL LABEL / SHEET NO.

WYNN ENGINEERING, INC.
27313 VALLEY CENTER ROAD
VALLEY CENTER, CA. 92082
(760) 749-8722 (310) 3[illegible]8728

CIVIL ENGINEERING • LAND PLANNING

Engineer: ~~Sierra Engineering Inc.~~
~~1849 Campomar Place~~
~~Oceanside, CA 92054~~
~~Tel: (760) 439-2802~~
~~Fax: (760) 439-8886~~

Scale: 1"=20'

RECORD PLAN	
NAME	
BY:	DATE:
R.C.E.	
EXPIRES:	

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:
1	DELETE CONSTR. ENTRANCE FROM THIS SHEET, ADD MATCH LINE, REVISE SHEET COUNT	KJB	8/11/15
2	CHANGE OF E.O.R.		5/5/14
3	VOID SHEET		12.6.21

PERMITS

LANDSCAPE PLAN NO. PDS2013-LP-13-066
SITE PLAN REVIEW NO. S-08-013
STREET IMPROVEMENT PLANS PDS2013-LDPIIP-00005
NOTICE OF INTENT(WDID): 9 37C367589

BENCH MARK

DESCRIPTION: 2-1/2" BRASS CAP STAMPED "S.D. SURV. MON. 19 PT."
LOCATION: IN WELL MONUMENT AT POINT EGCS-3048
RECORD FROM: RECORD OF SURVEY MAP 14236
ELEVATION: 1336.773 DATUM: NGVD 29 MSL

PRIVATE CONTRACT

SHEET	
9	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS

25 SHEETS

EROSION CONTROL PLAN FOR:
MILLER ROAD PLAZA
PDR. PARCEL 2 & [illegible] P.M. NO. 8636
CALIFORNIA COORDINATE INDEX [illegible]80-1770

APPROVED FOR:
MOHAMAD EMAMIBEIGDELOO
COUNTY ENGINEER
Kenneth J. Brazell
BY: 4-11-14 DATE

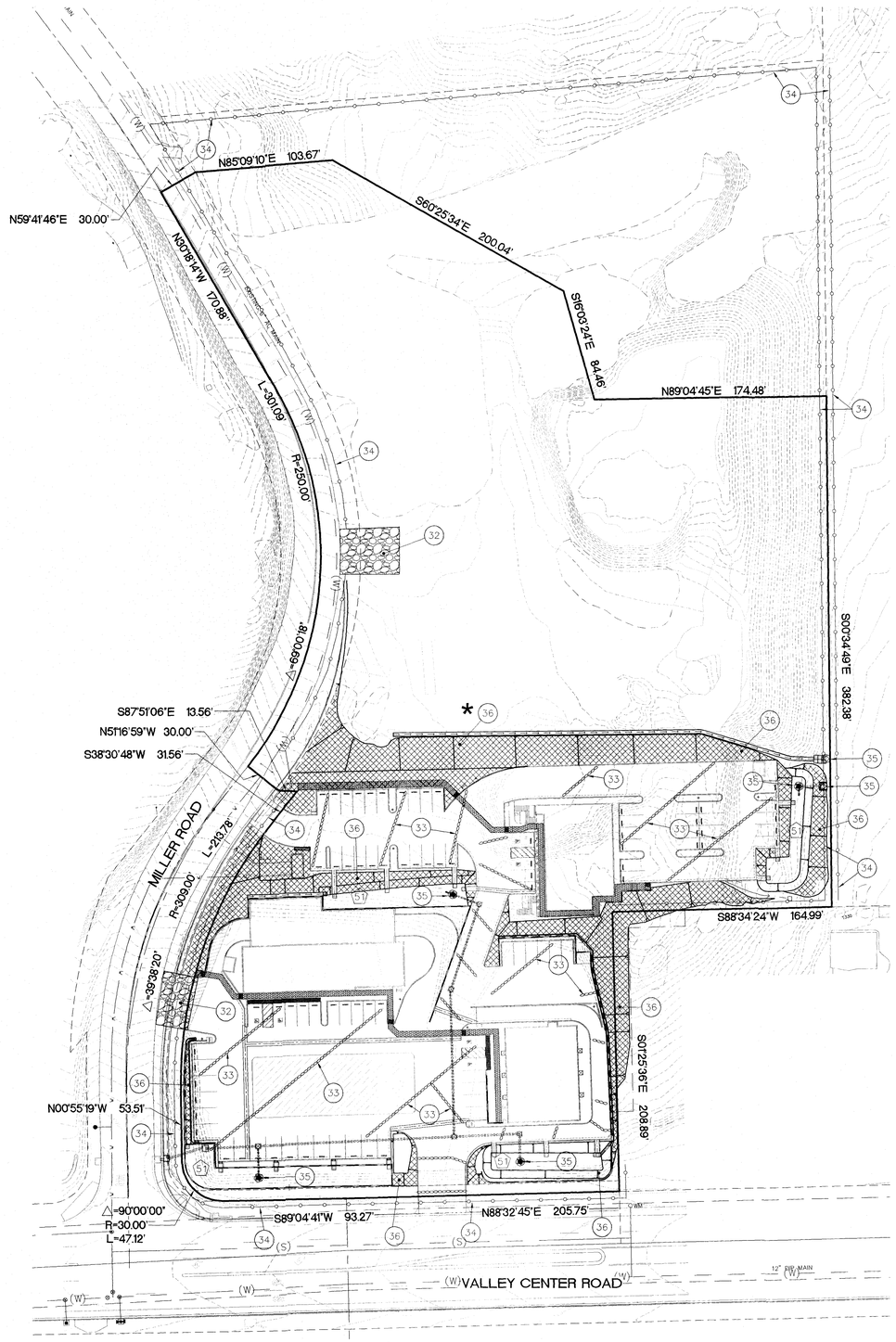
ENGINEER OF WORK: GARY WYNN, R.C.E. 23080 DATE 12-1-13
GARY WYNN R.C.E. 23080 EXPIRES 12/31/15

CHECKED BY: N/A
PERSONAL USE: 4-11-14

GRADING NO. PDS2012-2700-[illegible]

WYNN ENGINEERING, INC.
TELEPHONE: (760) 749-8722
ENGINEER: [illegible]

PLOT DATE:10/7/13



BMP LEGEND

CONSTRUCTION BMP'S

		SYMBOL
(32)	STABILIZED CONSTRUCTION ENTRANCE PER DETAIL "P" ON SHEET 11	
(33)	GRAVEL BAG CHEVRON PER DETAIL "N" ON SHEET 11	
(34)	SILT FENCE PER DETAIL "R" ON SHEET 11	
(35)	CATCH BASIN BERM PER DETAIL "S" ON SHEET 11	
(36)	BONDED FIBER MATRIX	

SEE EROSION CONTROL NOTES ON SHEET 11

PERMANENT BMP'S

(51) BIORETENTION BASIN

SCHEMATIC PLAN NOTE:

THIS STORM WATER MANAGEMENT PLAN IS SCHEMATIC IN NATURE AND SHOULD NOT BE USED TO SCALE OFF QUANTITIES OR TO PRECISELY LOCATE BMPS. EROSION CONTROL IS THE RESPONSIBILITY OF THE RESPECTIVE CONTRACTOR. THIS PLAN CAN BE USED AS A STARTING POINT FOR EROSION CONTROL MEASURES, BUT IT SHALL BE UNDERSTOOD THAT ALL CONSTRUCTION SITES EVOLVE ON A DAILY BASIS, AND AS SUCH, ALL EROSION CONTROL MEASURES MUST BE UPDATED AS NEEDED TO MAINTAIN PROPER EROSION CONTROL AND STORM WATER POLLUTION PREVENTION.

* WASTE MANAGEMENT BMP PLACEMENT NOTE

THE FOLLOWING WASTE MANAGEMENT BMPS WILL BE PLACED ON SITE DURING CONSTRUCTION BY THE RESPONSIBLE CONTRACTOR IN SUCH A MANNER AS TO FACILITATE RAPID DEPLOYMENT.

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

NORTH
SCALE: 1" = 50'

GRAPHIC SCALE

0 50 100 150 200

ABBREVIATIONS

BC	BEGIN CURVE
BVC	BEGIN VERTICAL CURVE
BO	BLOW-OFF
BW	BOTTOM OF WALL ELEVATION
CL	CENTERLINE
CO	CLEAN-OUT
EA	EACH
EC	END CURVE
EP	EDGE OF PAVEMENT ELEVATION
EVC	END VERTICAL CURVE
FB	FREE BOARD
FG	FINISHED GRADE ELEVATION
FH	FIRE HYDRANT
FL	FLOW LINE ELEVATION
FS	FINISHED SURFACE ELEVATION
G	GUTTER ELEVATION
GB	GRADE BREAK
GV	GATE VALVE
H	HEIGHT
HP	HIGH POINT
IE	INVERT ELEVATION
LF	LINEAR FEET
LP	LOW POINT
MAX	MAXIMUM
MIN	MINIMUM
MH	MANHOLE
OAE	OR APPROVED EQUIVALENT
PCC	POINT OF COMPOUND CURVE
PRC	POINT OF REVERSING CURVE
PL	PROPERTY LINE
S	SEWER
SD	STORM DRAIN
SHLDR	SHOULDER ELEVATION
SF	SQUARE FEET
TB	TOP OF BERM
TC	TOP OF CURB ELEVATION
TF	TOP OF FOOTING ELEVATION
TG	TOP OF GRATE ELEVATION
TOB	TOP OF BOX ELEVATION
TW	TOP OF WALL ELEVATION
TYP	TYPICAL
W	WATER
WM	WATER METER

REGISTERED PROFESSIONAL ENGINEER
GARY R. WYNN
No. C 43202
CIVIL
STATE OF CALIFORNIA

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27315 VALLEY CENTER ROAD
VALLEY CENTER, CA. 92082
(760) 749-8722 (310) 306-9728
FAX (760) 749-9412

WEI	WEI JOB NO. 16-027	12-01-2021

RECORD PLAN

BY: _____ DATE: _____

R.C.E. _____

EXPIRES: _____

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:
5	NEW SHEET		12.16.21

5 PRIVATE CONTRACT 5

SHEET	COUNTY OF SAN DIEGO	19
9A	DEPARTMENT OF PUBLIC WORKS	SHEETS

EROSION CONTROL PLAN FOR:

MILLER ROAD PLAZA

POR. PARCEL 2 AND 3, P.M. NO. 8636

CALIFORNIA COORDINATE INDEX: 386-1761

APPROVED FOR:
WILLIAM P. MORGAN
COUNTY ENGINEER
BY: _____ 12.16.21
DATE

ENGINEER OF WORK:
GARY R. WYNN R.C.E. 43202
DATE

CHECKED BY: _____ GRADING PERMIT NO.
APPROVAL DATE: _____ PDS2012-2700-15688

PERMITS

LANDSCAPE PLAN NO. _____
SITE PLAN REVIEW NO. STP-08-013M3
STREET IMPROVEMENT PLANS: PDS2013-LDPIIP-00005
NOTICE OF INTENT(WDID): 9 37C367589

BENCH MARK

DESCRIPTION: 2-1/2" BRASS CAP STAMPED "S.D. SURV. MON. 19 PT."
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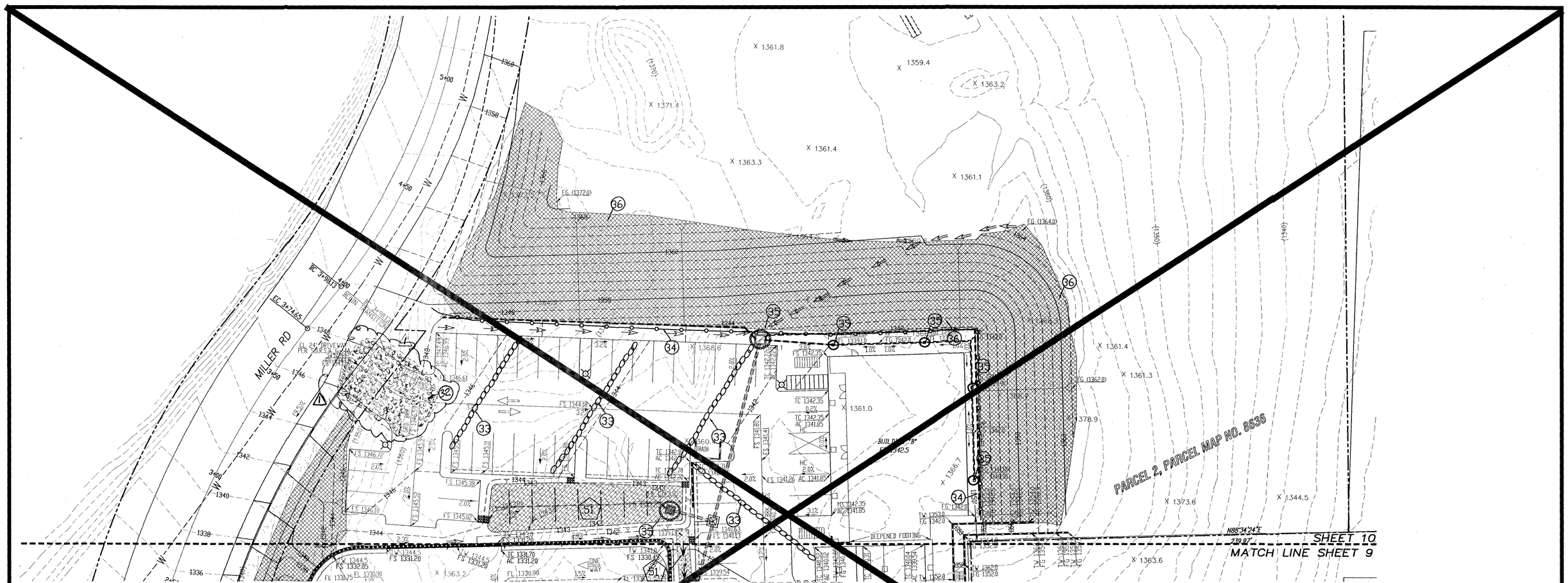
ELEVATION: 1336.773 DATUM: NGVD 29 MSL

Date Plotted : Dec 01, 2021 - 5:34pm

F:\2016\16-027 ZERVAS - MILLER ROAD\DWG\SITE PLAN 2021\ 16-027 ZERVAS MILLER ROAD DPW-LDP-PC.DWG

ENGINEER: WYNN ENGINEERING INC.
TELEPHONE: 1-760-749-8722



EROSION CONTROL PLAN
SCALE: 1"=20'

SEE HAUL ROUTE NOTE ON SHEET 24 ⚠1

BMP LEGEND

CONSTRUCTION BMP'S

ITEM	SYMBOL
32 STABILIZED CONSTRUCTION ENTRANCE PER DETAIL "P" ON SHEET 11	
33 GRAVEL BAG CHEVRON PER DETAIL "N" ON SHEET 11	
34 SILT FENCE PER DETAIL "R" ON SHEET 11	
35 CATCH BASIN BERM PER DETAIL "S" ON SHEET 11	
36 BONDED FIBER MATRIX	

SEE EROSION CONTROL NOTES ON SHEET 11

PERMANENT BMP'S

50 UNDERGROUND DETENTION BASIN	
51 BIORETENTION SWALE	

SYMBOL LEGEND

DESCRIPTION	SYMBOL
ELEVATION, TOP OF FOOTING	TF
ELEVATION, TOP OF WALL	TW
ELEVATION, TOP OF CURB	TC
ELEVATION, FINISH SURFACE	FS
ELEVATION, FINISH GRADE	FG
ELEVATION, TOP OF GRATE	TG
ELEVATION, BOTTOM OF FOOTING	BF
ELEVATION, FLOW LINE	FL
ELEVATION, INVERT ELEVATION	IE
ELEVATION LABEL, EXISTING	(596.00)
ELEVATION LABEL, PROPOSED	596.00
ELEVATION FINISH FLOOR	FF
DETAIL REFERENCE	C/2 DETAIL LABEL, 2/X SHEET NO.

REGISTERED PROFESSIONAL ENGINEER GARY R. UBSKA No. C 43202 CIVIL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER GARY LIPSKA No. 23080 STATE OF CALIFORNIA

2 WYNN ENGINEERING, INC.
27315 VALLEY CENTER ROAD
VALLEY CENTER, CA. 92082
(760) 749-8722 (310) 306-0728

20 0 20 40
Scale: 1" = 20'

CIVIL ENGINEERING • LAND PLANNING
Ultra Engineering Inc.
1843 Campesino Place
Oceanside, CA 92054
Tel: (760) 439-2802
Fax: (760) 439-2866

RECORD PLAN

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

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:
⚠1	ADD STABILIZED ENTRANCE REVISE SHEET COUNT	KJB	8/11/15
⚠2	CHANGE OF E.O.R.		5/5/17
⚠3	VOID SHEET		12.16.21

PERMITS

LANDSCAPE PLAN NO. PDS2013-LP-13-066
SITE PLAN REVIEW NO. S-08-013
STREET IMPROVEMENT PLANS PDS2013-LDPIIP-00005
NOTICE OF INTENT(WDID): 9 37C367589

BENCH MARK

DESCRIPTION: 2-1/2" BRASS CAP STAMPED "S.D. SURV. MON. 19 PT."
LOCATION: IN WELL MONUMENT AT POINT EGCS-3048
RECORD FROM: RECORD OF SURVEY MAP 14236
ELEVATION: 1336.773 DATUM: NGVD 29 MSL

PRIVATE CONTRACT

SHEET 10 | COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS | 25 SHEETS

EROSION CONTROL PLAN FOR:
MILLER ROAD PLAZA ⚠2 GARY WYNN 5-4-17
PORTION OF PARCEL 2 & 3, P.M. NO. 8636 ⚠1 5-4-16
CALIFORNIA COORDINATE INDEX 5[illegible]-1761

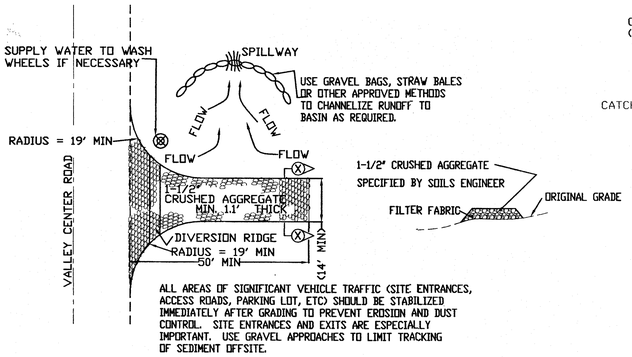
APPROVED FOR: MOHAMAD FAKHRIDDINE COUNTY ENGINEER
By: Kenneth J. Bragg Date: 4-11-14

PREPARED BY: GARY UBSKA RCE 43202 DATE: 12/31/13

CHECKED BY: N/A GRADING PERMIT NO. PDS2012-2700-16[illegible]
CHECKED DATE: 4-11-14

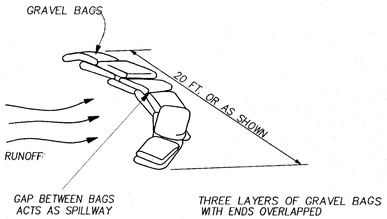
ENGINEER: ULTRA ENGINEERING INC.
TELEPHONE: 760-439-2802

PLOT DATE:10/7/13



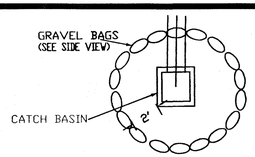
P 11 STABILIZED CONSTRUCTION ENTRANCE DETAIL

NOT TO SCALE

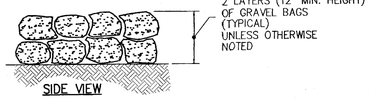


N 11 GRAVEL BAG CHEVRON

NOT TO SCALE



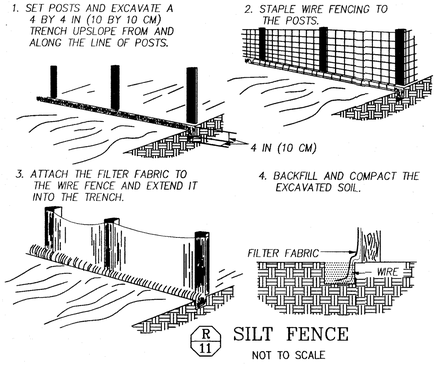
NOT TO SCALE



NOT TO SCALE

SEE CASQA DWG. NO. SE-6

S 11 CATCH BASIN BERM



R 11 SILT FENCE

NOT TO SCALE

BONDED FIBER MATRIX (BFM)

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

1) APPLICATION RATES SHALL BE 3500 POUNDS PER ACRE MINIMUM FOR 2:1 OR SHALLOWER SLOPES AND 4000 POUNDS PER ACRE FOR SLOPES STEEPER THAN 2:1.

2) BFM SHALL BE APPLIED AT LEAST 24 HOURS BEFORE OR AFTER RAINFALL.

3) THE SITE MUST BE PROTECTED WITH BROW DITCHES AND / OR DIVERSION BERMS AT THE TOP OF THE SLOPES TO DIVERT FLOW FROM THE FACE OF SLOPE.

4) BFM SHALL BE APPLIED TO PROVIDE 100% COVERAGE (I.E. APPLICATION FROM MULTIPLE ANGLES).

5) FOR PERMANENT EROSION CONTROL PURPOSES, BFM MUST BE INSTALLED IN CONJUNCTION WITH SEEDED EROSION CONTROL VEGETATION.

6) A LETTER FROM THE HYDROSEED CONTRACTOR CERTIFYING THAT THE BFM HAS BEEN INSTALLED IN ACCORDANCE WITH THE APPROVED APPLICATION RATES AND COVERAGE REQUIREMENTS SHALL BE SUBMITTED TO THE COUNTY INSPECTOR FOR APPROVAL.

EROSION CONTROL NOTES

1) TOPS OF ALL SLOPES ARE TO DIKED OR TRENCHED TO PREVENT WATER FROM FLOWING OVER THE CREST OF SLOPES.

2) MANUFACTURED SLOPES AND PADS SHALL BE ROUNDED VERTICALLY AND HORIZONTALLY AS APPROPRIATELY TO BLEND WITH SURROUNDING TOPOGRAPHY.

3) AS SOON AS CUTS OR EMBANKMENTS ARE COMPLETED, BUT NOT LATER THAN OCTOBER 1, ALL CUT AND FILL SLOPES SHALL BE STABILIZED WITH HYDROMULCH MIXTURE OR AN EQUAL TREATMENT APPROVED BY THE COUNTY DEPARTMENT OF PUBLIC WORKS. BETWEEN OCTOBER 1 AND APRIL 30, APPROVED SLOPE PROTECTION MEASURES SHALL PROCEED IMMEDIATELY BEHIND EXPOSURE OF CUT SLOPES AND / OR THE CREATION OF EMBANKMENT SLOPES.

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

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

SILTATION AND SEDIMENT CONTROL MEASURE NOTES

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

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

3) PROVIDE VELOCITY CHECK DAMS IN ALL UNPAVED GRADED CHANNELS AT THE INTERVALS INDICATED BELOW:

GRADE OF CHANNEL	INTERVALS BETWEEN CHECK DAMS
LESS THAN 2%	100 FEET
3% TO 6%	50 FEET
OVER 6%	25 FEET

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

GRADE OF STREET	INTERVAL	NO. OF BAGS HIGH
LESS THAN 2%	AS REQUIRED (200' MAX.)	1
2% TO 4%	100 FEET	1
4% TO 6%	50 FEET	1
6% TO 10%	50 FEET	2
MORE THAN 10%	25 FEET	2

5) GRAVEL BAGS AND FILL MATERIAL SHALL BE STOCKPILE AT INTERVALS, READY FOR USE WHEN REQUIRED.

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

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

8) ANY PROPOSED ALTERNATIVE CONTROL MEASURES MUST BE APPROVED IN ADVANCE ALL RESPONSIBLE AGENCIES; I.E. COUNTY ENGINEER, DEPARTMENT OF SANITATION AND FLOOD CONTROL, OFFICE OF ENVIRONMENTAL MANAGEMENT, ETC.

STORM WATER PROTECTION NOTES

1) DURING THE RAINY SEASON, THE AMOUNT OF EXPOSED SOIL ALLOWED AT ONE TIME SHALL NOT EXCEED THAT WHICH CAN BE ADEQUATELY PROTECTED BY THE PROPERTY OWNER IN THE EVENT OF A RAINSTORM. 125% OF ALL SUPPLIES NEEDED FOR BMP (BEST MANAGEMENT PRACTICES) MEASURES SHALL BE RETAINED ON THE JOB SITE IN A MANNER THAT ALLOWS FULL DEPLOYMENT AND COMPLETE INSTALLATION IN 48 HOURS OR LESS OF A FORECAST RAIN.

2) NO AREA BEING DISTURBED SHALL EXCEED 50 ACRES AT ANY GIVEN TIME WITHOUT DEMONSTRATING TO THE SAN DIEGO COUNTY DPW DIRECTOR'S SATISFACTION THAT ADEQUATE EROSION AND SEDIMENT CONTROL CAN BE MAINTAINED. ANY DISTURBED AREA THAT IS NOT ACTIVELY GRADED MUST BE FULLY PROTECTED FROM EROSION UNTIL ADEQUATE LONG TERM PROTECTIONS ARE INSTALLED. THE DISTURBED AREA SHALL BE INCLUDED WHEN CALCULATING THE ACTIVE DISTURBANCE AREA. ALL EROSION CONTROL MEASURES SHALL REMAIN INSTALLED AND MAINTAINED DURING ANY INACTIVE PERIOD.

3) THE PROPERTY OWNER IS OBLIGATED TO INSURE COMPLIANCE WITH ALL APPLICABLE STORMWATER REGULATIONS AT ALL TIMES. THE BMP'S THAT HAVE BEEN INCORPORATED INTO THIS PLAN SHALL BE IMPLEMENTED AND MAINTAINED TO EFFECTIVELY PREVENT THE POTENTIALLY NEGATIVE IMPACTS OF THIS PROJECT'S CONSTRUCTION ACTIVITIES ON STORMWATER QUALITY THE MAINTENANCE OF THE BMP'S IS THE PERMITTEE'S RESPONSIBILITY, AND FAILURE TO PROPERLY INSTALL OR MAINTAIN THE BMP'S MAY RESULT IN ENFORCEMENT ACTION BY THE COUNTY OF SAN DIEGO OR OTHERS. IF INSTALLED BMP'S FAIL THEY MUST BE REPAIRED OR REPLACED WITH AN ACCEPTABLE ALTERNATE WITHIN 24 HOURS, OR AS SOON AS SAFE TO DO SO.

4) ON PROJECTS OF GREATER THAN 1 ACRE, A NOTICE ON INTENT (NOI) MUST BE FILED WITH THE STATE WATER RESOURCES CONTROL BOARD (SWRCB) AND A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) MUST BE PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CALIFORNIA GENERAL PERMIT FOR STORMWATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITY (PERMIT NO. CAS000002) FOR ALL OPERATIONS ASSOCIATED WITH THESE PLANS. IF APPLICABLE, THE NOI NUMBER ASSIGNED BY SWRCB FOR THIS PROJECT IS 9 37C367589 AND THE PERMITEE SHALL KEEP A COPY OF THE SWPPP ON SITE AND AVAILABLE FOR REVIEW BY COUNTY.

REGISTERED PROFESSIONAL ENGINEER GARY R. WYNN No. C 43202 CIVIL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER GARY LIPSKA No. 23080 CIVIL STATE OF CALIFORNIA

2 WYNN ENGINEERING, INC.
27315 VALLEY CENTER ROAD
VALLEY CENTER, CA 92082
(760) 749-8722 (310) 306-9728

20 0 20 40

Scale: 1" = 20'

CIVIL ENGINEERING • LAND PLANNING
~~Arcturra Engineering Inc.~~
~~1843 Campesino Place~~
~~Oceanside, CA 92054~~
~~Tele (760) 439-2882~~
~~Fax (760) 439-9866~~

RECORD PLAN

NAME

BY: _____ DATE: _____

R.C.E. _____

EXPIRES: _____

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:
1	REVISE SHEET COUNT	FP	5/5/17
2	CHANGE OF E.O.R.		
5	REVISED TOTAL NUMBER OF SHEETS	JLes	12.16.21

PERMITS

LANDSCAPE PLAN NO. _____

SITE PLAN REVIEW NO. ~~3-08-013~~ STP-08-013M3 5

STREET IMPROVEMENT PLANS 1 PDS2013-LDPIIP-00005

NOTICE OF INTENT(WDID): 9 37C367589

BENCH MARK

DESCRIPTION: 2-1/2" BRASS CAP STAMPED "S.D. SURV. MON. 19 PT."

LOCATION: IN WELL MONUMENT AT POINT EGCS-3048

RECORD FROM: RECORD OF SURVEY MAP 14236

ELEVATION: 1336.773 DATUM: NGVD 29 MSL

PRIVATE CONTRACT

1

SHEET 11 | COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS | ~~25~~ 23 SHEETS 19

EROSION CONTROL PLAN FOR:

MILLER ROAD PLAZA

POR. PARCEL 2 & 3, P.M. NO. 8636

CALIFORNIA COORDINATE INDEX 386-1761

2 GARY WYNN 12-1-16

4

APPROVED FOR: MOHAMAD FAKHRIDDINE COUNTY ENGINEER

Kenneth J. Brazell

BY: 4-11-14 DATE

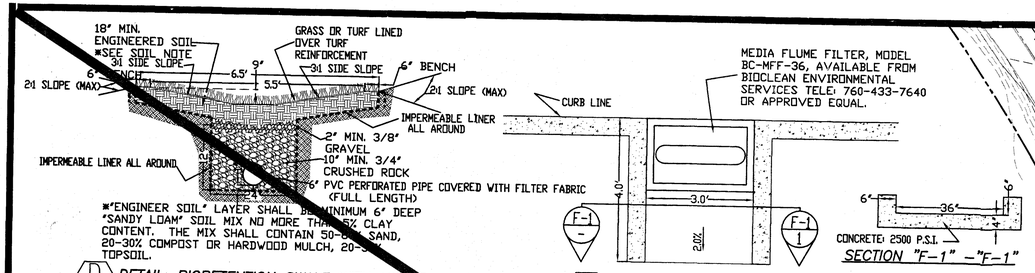
CHECKED BY: GARY LIPSKA R.C.E. 23080 EXPIRES 12/31/15 DATE 12-1-16

CHECKED BY: N/A GRADING PERMIT NO.

APPROVED DATE: 4-11-14 PDS2012-2700-15688

2 WYNN ENGINEERING, INC.
TELEPHONE: (760) 749-8722
ENGINEER ARCHITECTURAL ENGINEERING INC.
TELEPHONE: 760-439-2802

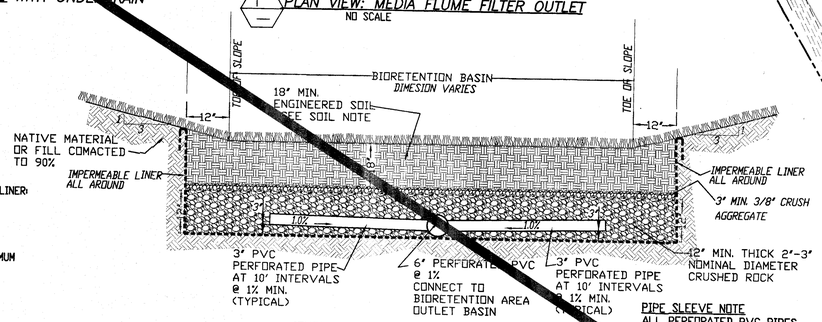
PLOT DATE: 10/7/13



D — DETAIL: BIORETENTION SWALE WITH UNDERDRAIN
NO SCALE

SECTION "F-1" – "F-1"

F — PLAN VIEW: MEDIA FLUME FILTER OUTLET
NO SCALE



*"ENGINEERED SOIL" LAYER SHALL BE MINIMUM 6" DEEP "SANDY LOAM" SOIL MIX NO MORE THAN 5% CLAY CONTENT. THE MIX SHALL CONTAIN 50-60% SAND, 20-30% COMPOST OR HARDWOOD MULCH, 20-30% TOPSOIL.

K — DETAIL: BIORETENTION AREA
NO SCALE

IMPERMEABLE LINER NOTE
IMPERMEABLE LINERS SHALL CONSIST OF 30 MIL PVC LINER
SPECIFIC GRAVITY (ASTM D792) 120 MINIMUM
TENSILE (ASTM D882) 73 LB/IN-WIDTH, MINIMUM
ELONGATION AT BREAK (ASTM D882) 380 % MINIMUM
MODULUS (ASTM D882) 30 LB/IN-WIDTH, MINIMUM
TEAR RESISTANCE (ASTM D1004) 30 LB/IN-WIDTH, MINIMUM

PIPE SLEEVE NOTE
ALL PERFORATED PVC PIPES SHALL BE WRAPPED WITH FILTER FABRIC SLEEVE.

IMP TABLE (TC1)

DMA NAME	DMA AREA (S.F)	SURFACE TYPE	DMA RUNOFF FACTOR	DMA AREA X FACTOR (S.F.)
A1	14347	PAVEMENT	1.0	14347
A2	4625	BUILDING	1.0	4625
A3	35663	LANDSCAPING	0.1	3567
		TOTAL		22539

IMP TYPE: BIO RETENTION — IMP NAME: TC1

	IMP SIZING FACTOR	MINIMUM AREA (S.F.)	ACTUAL AREA (S.F.)	IMP ELEMENT
	0.075	1690	1740	"A"

	IMP SIZING FACTOR	MINIMUM VOLUME(C.F.)	ACTUAL VOLUME(C.F.)	IMP ELEMENT
TOTAL	0.0625	1409	1522	"V1"
TOTAL	0.0450	1014	2610	"V2"

IMP TABLE (TC2)

DMA NAME	DMA AREA (S.F)	SURFACE TYPE	DMA RUNOFF FACTOR	DMA AREA X FACTOR (S.F.)
B1	7770	PAVEMENT	1.0	7770
B2	3817	BUILDING	1.0	3817
B3	7476	LANDSCAPING	0.1	748
		TOTAL		12335

IMP TYPE: BIO RETENTION — IMP NAME: TC2

	IMP SIZING FACTOR	MINIMUM AREA (S.F.)	ACTUAL AREA (S.F.)	IMP ELEMENT
	0.075	925	1050	"A"

	IMP SIZING FACTOR	MINIMUM VOLUME(C.F.)	ACTUAL VOLUME(C.F.)	IMP ELEMENT
TOTAL	0.0625	771	788	"V1"
TOTAL	0.0450	555	1575	"V2"

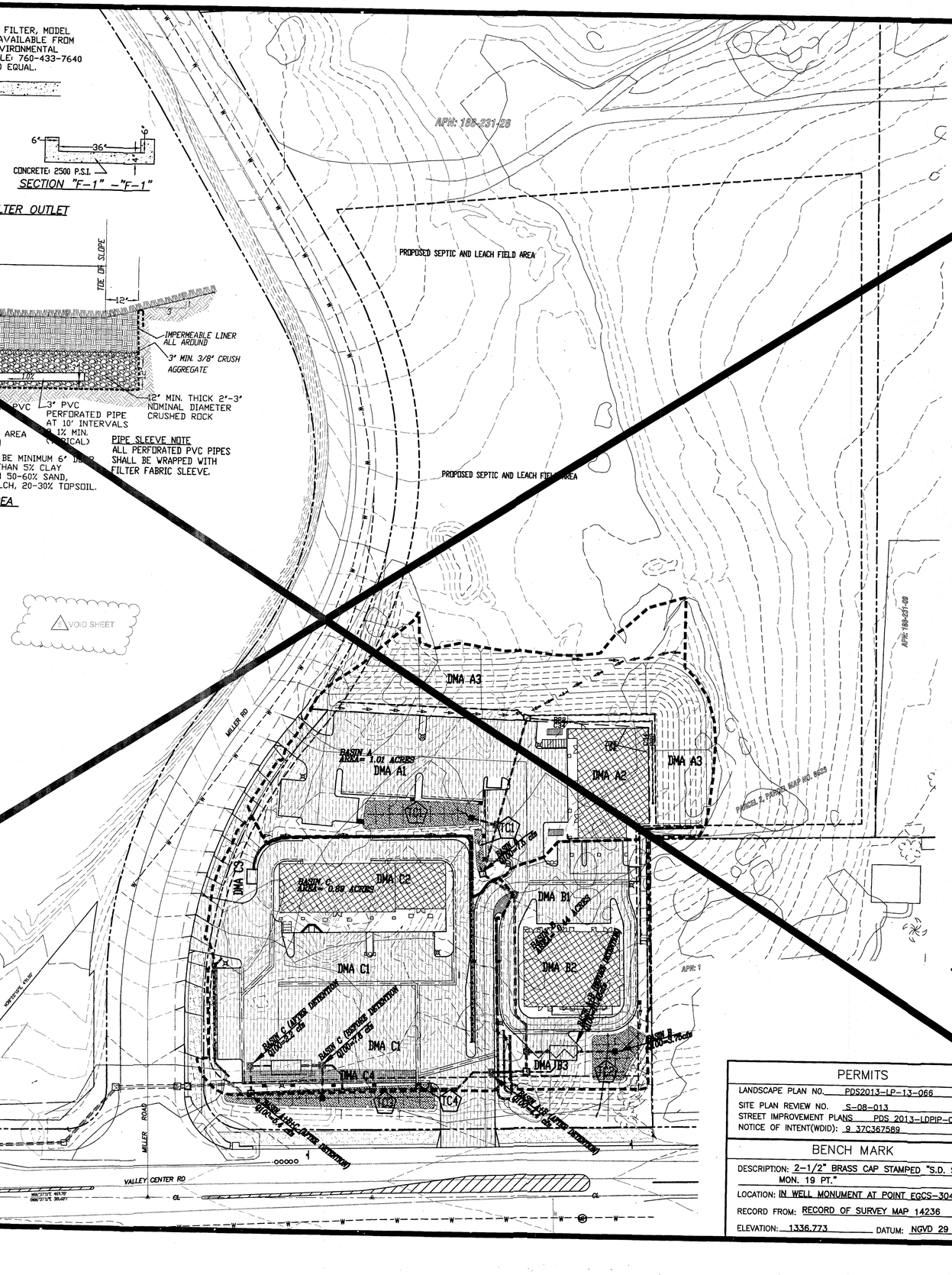
IMP TABLE (TC3)

DMA NAME	DMA AREA (S.F)	SURFACE TYPE	DMA RUNOFF FACTOR	DMA AREA X FACTOR (S.F.)
C1	24938	PAVEMENT	1.0	24838
C2	5361	BUILDING	1.0	5361
C3	7372	LANDSCAPING	0.1	737
C4	1216	TURF BLOCK	0.1	122
		TOTAL		31058

IMP TYPE: BIO RETENTION — IMP NAME: TC3

	IMP SIZING FACTOR	MINIMUM AREA (S.F.)	ACTUAL AREA (S.F.)	IMP ELEMENT
	0.075	2329	2452	"A"

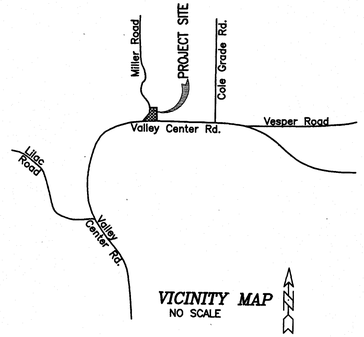
	IMP SIZING FACTOR	MINIMUM VOLUME(C.F.)	ACTUAL VOLUME(C.F.)	IMP ELEMENT
TOTAL	0.0625	1941	2146	"V1"
TOTAL	0.0450	1398	3678	"V2"



SYMBOL LEGEND

DESCRIPTION	SYMBOL
ELEVATION, TOP OF FOOTING	TF
ELEVATION, TOP OF WALL	TW
ELEVATION, TOP OF CURB	TC
ELEVATION, FINISH SURFACE	FS
ELEVATION, FINISH GRADE	FG
ELEVATION, TOP OF GRATE	TG
ELEVATION, BOTTOM OF FOOTING	BF
ELEVATION, FLOW LINE	FL
ELEVATION, INVERT ELEVATION	IE
ELEVATION LABEL, EXISTING	(596.00)
ELEVATION LABEL, PROPOSED	596.00

DETAIL REFERENCE — C/2 — DETAIL LABEL / SHEET NO.



VICINITY MAP
NO SCALE

STORM WATER MANAGEMENT LEGEND
(SWMP NOTES)

TREATMENT CONTROL BMP'S

- TC1 BIORETENTION AREA/SWALE PER DETAIL "D" & "E (AREA=1740 S.F)
- TC2 BIORETENTION AREA PER DETAIL "E" (AREA=1050 S.F)
- TC3 BIORETENTION AREA PER DETAIL "E" (AREA=2452 S.F)
- TC4 MEDIA FLUME FILTER PER DETAIL "F"

SURFACE LEGEND

PAVEMENT – DMA A1, B1, C1
BUILDINGS – DMA A2, B2, C3
LANDSCAPE – DMA A3, B3, C3
BIORETENTION BASIN
BLANK (NO HATCH)

VOID SHEET

WYNN ENGINEERING, INC.
27315 VALLEY CENTER ROAD
VALLEY CENTER, CA. 92082
(760) 749-8722 (310) 306-9728

SCALE: 1"= 40'

TREATMENT CONTROL EXHIBIT

40 0 40 80
Scale: 1" = 40'

AguaTerra Engineering Inc.
CIVIL ENGINEERING * LAND PLANNING
~~1840 Campesino Place~~
~~Oceanside, CA 92084~~
~~Tele: (760) 439-2800~~
~~Fax: (760) 439-2866~~

RECORD PLAN
BY: NAME DATE:
R.C.E. EXPIRES:

COUNTY APPROVED CHANGES

NO.		BY	DATE
1	REVISE SHEET COUNT		
2	CHANGE OF E.O.T.	[illegible]	5/5/17
3	VOID SHEET	[illegible]	12.6.21

PERMITS

LANDSCAPE PLAN NO. PDS2013-LP-13-066
SITE PLAN REVIEW NO. S-08-013
STREET IMPROVEMENT PLANS PDS 2013-LDPIP-00005
NOTICE OF INTENT(WDID): 9 37C367589

BENCH MARK

DESCRIPTION: 2-1/2" BRASS CAP STAMPED "S.D. SURV. MON. 19 PT."
LOCATION: IN WELL MONUMENT AT POINT EGCS-3048
RECORD FROM: RECORD OF SURVEY MAP 14236
ELEVATION: 1336.773 DATUM: NGVD 29 MSL

REGISTERED PROFESSIONAL ENGINEER — GARY LIPSKY — No. 43080 — Civil — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — GARY R. WYNN — No. C 43202 — CIVIL — STATE OF CALIFORNIA

PRIVATE CONTRACT

SHEET 12 — COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS — 25 ~~23~~ SHEETS

DMA AND TREATMENT CONTROL PLAN FOR:
MILLER ROAD PLAZA
POR. PARCEL 2 & 3 P.M. NO. 8636
CALIFORNIA COORDINATE INDEX 590-1770

GARY WYNN 12/18

APPROVED FOR: MOHAMAD FAKHRIDDINE COUNTY ENGINEER
Kenneth E. Brazell
BY: 4-11-14 DATE

ENGINEER OF WORK: GARY WYNN, RCE 43202 EXPIRES 12/31/15 — DATE 12-9-13 ~~12/31/14~~

CHECKED BY: N/A — DRAWING NO.: PDS2012-2700-5689

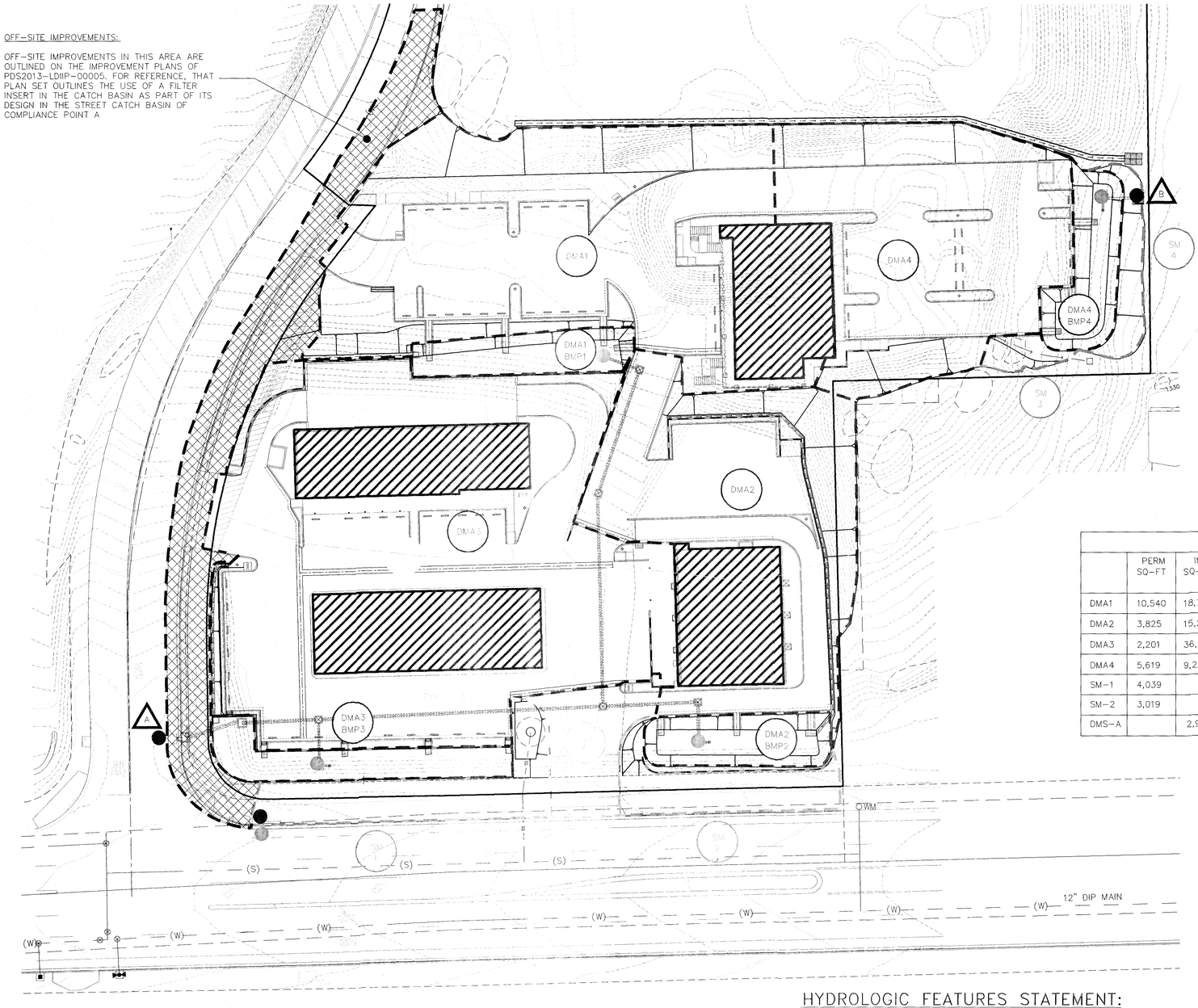
APPROVED DATE: 4-11-14

WYNN ENGINEERING, INC.
TELEPHONE: (760) 749-8722

plot date: 1/13/14

OFF-SITE IMPROVEMENTS:

OFF-SITE IMPROVEMENTS IN THIS AREA ARE OUTLINED ON THE IMPROVEMENT PLANS OF PDS2013-LDIIP-00005. FOR REFERENCE, THAT PLAN SET OUTLINES THE USE OF A FILTER INSERT IN THE CATCH BASIN AS PART OF ITS DESIGN IN THE STREET CATCH BASIN OF COMPLIANCE POINT A



DMA SUMMARY					
	PERM SQ-FT	IMP SQ-FT	TOTAL SQ-FT	DCV CU-FT	HMP AREA (ORIFICE) SQ-FT (INCH)
DMA1	10,540	18,788	29,328	1,246	1,534 (0.84")
DMA2	3,825	15,283	19,108	932	1,100 (0.68")
DMA3	2,201	36,134	38,335	2,084	2,627 (0.96")
DMA4	5,619	9,255	14,874	623	1,061 (0.60")
SM-1	4,039				
SM-2	3,019				
DMS-A		2,937			

DMA LEGEND

- DMA SUB-AREA BOUNDARY
- BMP BOUNDARY
- EXEMPT (SELF-MITIGATING) DMA BOUNDARY
- DEMINIMUS DMA BOUNDARY
- DMA# — DMA ID
- DMA# / BMP# — DMA ID / BMP ID
- SM ## — EXEMPT SELF-MITIGATING DMA ID (EXEMPT PER BMPDM 5.2.1)
- DMS ## — DEMINIMUMS DMA ID (DRAINS DIRECTLY OFF-SITE)
- ROOF TOP AREA
- STORM DRAIN STENCILING (ONLY IF > 12" AREA DRAINS ONLY)
- XX — ULTIMATE POINT OF COMPLIANCE
- TYPE X — LUEG SOIL TYPE (APPROXIMTE LAYER EDGE)

TABLE 2 LEGEND

GROUP 1 ELEMENTS:	
NATURAL AREAS, SOILS, & VEGETATION	NO SYMBOL
GROUP 2 ELEMENTS:	
SIDEWALKS & WALKWAYS	NO SYMBOL
DRIVEWAYS	NO SYMBOL
PATIOS, DECKS & COURTYARDS	NO SYMBOL
GROUP 3 ELEMENTS:	
ROOFTOP AREAS	
LANDSCAPE AREAS	
GROUP 4 ELEMENTS	
N/A – SMALL RESIDENTIAL PROJECT	

HYDROLOGIC BASIN INFORMATION:

BASIN NUMBER:	903.16
HYDROLOGIC UNIT:	SAN LUIS REY HU
HYDROLOGIC AREA:	LOWER SAN LUIS HA
HYDROLOGIC SUB-AREA:	RINCON HSA
RECEIVING WATERS:	UNNAMED INTERMITTENT STREAMS

BASIN BENEFICIAL USES:

NOTE: THESE ARE FOR THE BASIN PLAN RECEIVING WATERS ALONG THE PATH TO THE PACIFIC OCEAN FOR 903.16:

INLAND WATERS:	MUN, AGR, IND, POW, REC1, REC2, WARM, WILD, RARE
COASTAL WATERS:	REC1, REC2, WILD, RARE, MAR, MIGR
RESV & LAKES:	N/A
GROUND WATERS:	N/A

BASIN 303(d) INFORMATION:

RECEIVING WATERS:	UNNAMED INTERMITTENT STREAMS (903.16)
POLLUTANTS/STRESSORS:	NOT LISTED AT THIS TIME

TMDL INFORMATION

RECEIVING WATERS:	UNNAMED INTERMITTENT STREAMS (903.16)
YEAR LISTED:	NOT LISTED AT THIS TIME
POLLUTANTS/STRESSORS:	NOT LISTED AT THIS TIME

POLLUTANTS OF CONCERN:

THE FOLLOWING ARE ANTICIPATED POLLUTANTS OF CONCERN FOR THE PROJECT SITE: SEDIMENT, NUTRIENTS, TRASH & DEBRIS, OXYGEN DEMANDING SUBSTANCES, OIL & GREASE, BACTERIA & VIRUSES, PESTICIDES

THERE ARE NO POTENTIAL POLLUTANTS OF CONCERN AS DESCRIBED IN THE STANDARDS.

GROUNDWATER STATEMENT:

THE PROJECT SITE IS LOCATED IN AN AREA OF KNOWN HIGH GROUNDWATER. GROUNDWATER WILL BE AN ISSUE.

HYDROLOGIC FEATURES STATEMENT:

THE FOLLOWING NATURAL HYDROLOGIC FEATURES ARE PRESENT, EXISTING, OR PROPOSED ON THE PROJECT SITE:

1.	NATURAL WATERCOURSES:	NONE
2.	NATURAL SEEPS:	NONE
3.	NATURAL SPRINGS:	NONE
4.	NATURAL WETLANDS:	NONE
5.	MAN-MADE WETLANDS:	NONE

SEDIMENT STATEMENT:

THERE ARE NO CRITICAL COARSE SEDIMENT YIELD AREAS TO BE PROTECTED ON SITE AND NO IMPACTS AT THIS TIME.

SOIL CLASSIFICATION

THE PROJECT SITE IS CLASSIFIED AS C AND D SOILS PER LUEG MAPPING.

INFILTRATION FEASIBILITY:

THE PROJECT SITE IS CLASSIFIED AS: NO INFILTRATION

NORTH
SCALE: 1" = 30'

GRAPHIC SCALE
0 30 60 90 120

REGISTERED PROFESSIONAL ENGINEER — GARY R. WYNN — No. C 43202 — CIVIL — STATE OF CALIFORNIA

WYNN ENGINEERING, INC.
27315 VALLEY CENTER ROAD
VALLEY CENTER, CA. 92082
(760) 749-8722 (310) 306-9728
FAX (760) 749-9412

WEI	WEI JOB NO. 16-027	12-01-2021

RECORD PLAN
BY: _____ DATE: _____
R.C.E. _____
EXPIRES: _____

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:
5	NEW SHEET		12.16.21

PERMITS

LANDSCAPE PLAN NO.	
SITE PLAN REVIEW NO.	STP-08-013M3
STREET IMPROVEMENT PLANS:	PDS2013-LDPIIP-00005
NOTICE OF INTENT(WDID):	9 37C367589

BENCH MARK

DESCRIPTION:	2-1/2" BRASS CAP STAMPED "S.D. SURV. MON. 19 PT."
LOCATION:	IN WELL MONUMENT AT POINT EGCS-3048
RECORD FROM:	RECORD OF SURVEY MAP 14236
ELEVATION:	1336.773 DATUM: NGVD 29 MSL

5 PRIVATE CONTRACT 5

SHEET 12A	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	19 SHEETS

DMA EXHIBIT FOR:
MILLER ROAD PLAZA
POR. PARCEL 2 AND 3, P.M. NO. 8636
CALIFORNIA COORDINATE INDEX: 386-1761

APPROVED FOR:
WILLIAM P. MORGAN
COUNTY ENGINEER
BY: _____ DATE: 12.16.21

ENGINEER OF WORK: GARY R. WYNN P.E. C-43202 DATE: _____
CHECKED BY: _____ GRADING PERMIT NO.
APPROVAL DATE: _____ PDS2012-2700-15888

ENGINEER: WYNN ENGINEERING INC.
TELEPHONE: 1-760-749-8722

F:\2016\16-027 ZERVAS - MILLER ROAD\DWG\SITE PLAN 2021\16-027 ZERVAS MILLER ROAD DPW-LGP-PC.DWG
Date Plotted : Dec 01, 2021 - 5:34pm

MILLER ROAD PLAZA
ANCHOR RETAINING WALL PLANS

1.0 SCOPE OF WORK
1. THE WORK SHALL CONSIST OF FURNISHING AND CONSTRUCTING ANCHOR WALL BLOCK AND MIRAGRID GEOGRID REINFORCED SOIL RETAINING WALL SYSTEMS IN ACCORDANCE WITH THE TECHNICAL SCOPE OF WORK AND IN REASONABLY CLOSE CONFORMITY WITH THE LINES, GRADES AND DIMENSIONS SHOWN ON THE GRADING PLAN BY AQUATERRA ENGINEERING, INC. DATED 10/31/12.

WORK INCLUDED:
A. FURNISHING ANCHOR WALL SEGMENTAL CONCRETE FACING AND CAP UNITS AS SHOWN ON THE CONSTRUCTION DRAWINGS.
B. FURNISHING MIRAFI STRUCTURAL GEOGRID REINFORCEMENT AS SHOWN ON THE CONSTRUCTION DRAWINGS.
C. STORING, CUTTING AND PLACING STRUCTURAL GEOGRID REINFORCEMENT AS SPECIFIED HEREIN AND AS SHOWN ON THE CONSTRUCTION DRAWINGS.
D. PLACEMENT AND COMPACTION OF UNIT WALL FILL AND BACKFILL WITHIN THE GEOGRID REINFORCED AREA AS SPECIFIED HEREIN AND AS SHOWN ON THE CONSTRUCTION DRAWINGS.
E. ERECTION OF ANCHOR WALL SEGMENTAL CONCRETE UNITS AND PLACEMENT OF STRUCTURAL GEOGRID.

2.0 REFERENCE DOCUMENTATION
1. AQUATERRA ENGINEERING, INC., GRADING PLAN, DATED 10/31/12.
2. GEOSOILS, INC., PRELIMINARY GEOTECHNICAL EVALUATION, W.O. 5654-A2-SC, DATED FEBRUARY 27, 2009.

3.0 SPECIAL PROVISIONS
1. RED ONE ENGINEERING, INC. (RED ONE) ASSUMES NO LIABILITY FOR INTERPRETATION OF SUBSURFACE CONDITIONS, SUITABILITY OF SOIL DESIGN PARAMETERS AND SUBSURFACE GROUNDWATER CONDITIONS MADE BY OTHERS.
2. RED ONE SHALL NOT BE RESPONSIBLE FOR THE COST OF ALL MEANS OF SUBSOIL IMPROVEMENT; COST OF ADDITIONAL SUBSOIL EXPLORATION; AND FOR ALL LABOR TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK. THE OWNER SHALL BE RESPONSIBLE FOR ALL SUCH COST.
3. THE OWNER SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL FEDERAL, STATE AND LOCAL REQUIREMENTS FOR THE EXECUTION OF THE WORK, INCLUDING LOCAL BUILDING INSPECTION AND CURRENT OSHA EXCAVATION REGULATIONS.
4. PRIOR TO UNDERTAKING ANY GRADING OR EXCAVATION OF THE SITE, THE CONTRACTOR SHALL CONFIRM THE LOCATION OF THE PROPOSED RETAINING WALLS AND ALL UNDERGROUND FEATURES, INCLUDING UTILITY LOCATIONS WITHIN THE AREA OF CONSTRUCTION.
5. RED ONE HAS COMPLETED ENGINEERING DESIGN OF THE PROPOSED RETAINING WALL(S), INCLUDING INTERNAL STABILITY AND LOCAL EXTERNAL STABILITY WHERE APPLICABLE, BASED UPON THE INFORMATION PROVIDED TO US AS OUTLINED ABOVE. RED ONE ASSUMES THAT OTHERS HAVE DETERMINED THE SUITABILITY OF PLACING RETAINING WALLS AT THE LOCATIONS PROVIDED TO US, INCLUDING GEOTECHNICAL SUITABILITY AND SITE GLOBAL STABILITY.

4.0 GENERAL NOTES
1. THIS SET OF SEGMENTAL RETAINING WALL PLANS ARE BASED ON THE PLANS AND DOCUMENTS REFERENCED IN SECTION 2.0. CHANGES TO THESE PLANS OR DOCUMENTS, INCLUDING GRADING, DRAINAGE, UTILITIES, SURCHARGE LOADS OR GEOTECHNICAL PARAMETERS MAY AFFEST WALL DESIGN REQUIREMENTS. RED ONE ENGINEERING SHALL BE NOTIFIED OF ANY SUCH CHANGES TO DETERMINE IF WALL DESIGN MODIFICATIONS ARE NEEDED.
2. THIS SET OF SEGMENTAL RETAINING WALL PLANS ARE BASED SPECIFICALLY ON THE WALL BEING CONSTRUCTED WITH ANCHOR VERTICA BLOCK AND MIRAGRID REINFORCEMENT PRODUCTS. ABSOLUTELY NO SUBSTITUTIONS ALLOWED.
3. LOCATION OF THE SEGMENTAL RETAINING WALL IN RELATION TO PROPERTY LINES, UTILITY EASEMENTS, WATERSHED EASEMENTS, OR ANY OTHER TYPE OF EASEMENTS ARE THE RESPONSIBILITY OF THE OWNER OR THE SITE CIVIL ENGINEER. RED ONE ENGINEERING ASSUMES NO LIABILITY FOR THE LOCATION OF THE SEGMENTAL RETAINING WALL, OR IF CONSTRUCTION OF THE PROPOSED SEGMENTAL RETAINING WALL ENCROACHES ANY PROPERTY LINES OR EASEMENTS.
4. WALL GEOMETRY, LOCATIONS, SLOPES AND SURCHARGE LOADS FOR THE SEGMENTAL RETAINING WALLS WERE MEASURED FROM THE GRADING PLAN REFERENCED ABOVE. IF CONDITIONS VARY IN THE FIELD FROM THOSE SHOWN ON THIS PLAN, THE ENGINEER OF RECORD MUST BE NOTIFIED PRIOR TO CONSTRUCTION OF THE SEGMENTAL RETAINING WALLS TO REVIEW THE DESIGN AND/OR PLANS. MODIFICATIONS TO THE DESIGN AND/OR PLANS MAY BE REQUIRED AFTER THE REVIEW, AND MAY TAKE UP TO TEN BUSINESS DAYS TO COMPLETE.
5. IF THERE ARE DISCREPANCIES BETWEEN ANY INFORMATION ON THESE PLANS AND INFORMATION IN THE PROJECT SPECIFICATIONS, THE MORE RESTRICTIVE INFORMATION TAKES PRECEDENCE.

5.0 SEGMENTAL RETAINING WALL CONTRACTOR QUALIFICATIONS:
1. THE WALL CONTRACTOR SHALL DOCUMENT COMPLIANCE WITH THE FOLLOWING EXPERIENCE REQUIREMENTS:
2. A MINIMUM OF FIVE YEARS IN WHICH THE CONTRACTOR HAS BUILT SEGMENTAL RETAINING WALLS WITH A TOTAL FACE AREA NO LESS THAN 250,000 SQUARE FEET.
3. CONSTRUCTION OF A MINIMUM OF 25,000 SQUARE FEET WITH THE SPECIFIED ANCHOR BLOCK UNITS.
4. CONSTRUCTION OF AT LEAST FIVE SEGMENTAL RETAINING WALLS OF A SIMILAR HEIGHT AND SIZE AS THOSE SPECIFIED HEREIN.

6.0 MATERIAL NOTES
1. CONCRETE RETAINING WALL UNITS: ANCHOR VERTICA RETAINING WALL UNITS AS MANUFACTURED BY SIERRA BUILDING PRODUCTS UNDER LICENSE FROM ANCHOR WALL SYSTEMS.
2. GEOSYNTHETIC REINFORCEMENT: MIRAGRID 3XT AND 8XT AS SHOWN ON THE DRAWINGS.
3. LEVELING PAD BASE
A. AGGREGATE BASE: CRUSHED STONE OR GRANULAR FILL MEETING THE FOLLOWING GRADATION AS DETERMINED IN ACCORDANCE WITH ASTM D448:

SIEVE SIZE	PERCENT PASSING
1 INCH	100
3/4 INCH	75 TO 100
NO. 4	0 TO 60
NO. 40	0 TO 50
NO. 200	0 TO 5

B. BASE THICKNESS: 6 INCHES (MINIMUM COMPACTED THICKNESS).
4. DRAINAGE AGGREGATE: CLEAN CRUSHED STONE OR GRANULAR FILL MEETING THE FOLLOWING GRADATION AS DETERMINED IN ACCORDANCE WITH ASTM D448:

SIEVE SIZE	PERCENT PASSING
1 INCH	100
3/4 INCH	75 TO 100
NO. 4	0 TO 60
NO. 40	0 TO 50
NO. 200	0 TO 5

5. REINFORCED FILL: SOIL FREE OF ORGANICS AND DEBRIS AND CONSISTING OF EITHER GP, GW, SP, SW, SM OR SC TYPE, CLASSIFIED IN ACCORDANCE WITH ASTM D2487 AND THE USCS CLASSIFICATION SYSTEM AND MEETING THE FOLLOWING GRADATION AS DETERMINED IN ACCORDANCE WITH ASTM D448:

SIEVE SIZE	PERCENT PASSING
1 INCH	100
NO. 4	20 TO 100
NO. 40	0 TO 60
NO. 200	0 TO 15

A. THE PLASTICITY INDEX (PI) SHALL BE LESS THAN 6.
B. MAXIMUM PARTICLE SIZE FOR BACKFILL IS ONE (1) INCHES.
C. UNSUITABLE SOILS ARE ORGANIC SOILS AND THOSE SOILS CLASSIFIED AS ML, CL, OL, MH, CH, OH OR PT.
D. ALL WALL BACKFILL MATERIALS SHALL ALSO HAVE THE MINIMUM ENGINEERING PROPERTIES SHOWN IN SECTION 17.2 ITEM A.
E. TEST RESULTS OF ALL PROPOSED BACKFILL MATERIALS. WHETHER ON-SITE OR IMPORTED, SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.
6. DRAINAGE PIPE: PERFORATED OR SLOTTED SDR 35 PVC PIPE MANUFACTURED IN ACCORDANCE WITH D3034 AND/OR ASTM F405.
7. CONSTRUCTION ADHESIVE: EXTERIOR GRADE ADHESIVE AS RECOMMENDED BY THE RETAINING WALL MANUFACTURER.

7.0 FOUNDATION SOIL NOTES
1. EXCAVATE FOUNDATION SOIL AS REQUIRED FOR FOOTING OR BASE DIMENSION SHOWN ON THE DRAWINGS, OR AS DIRECTED BY THE PROJECT GEOTECHNICAL ENGINEER.
2. THE OWNER SHALL RETAIN THE SERVICES OF A GEOTECHNICAL ENGINEER TO EXAMINE FOUNDATION SOIL TO ENSURE THAT THE ACTUAL FOUNDATION SOIL STRENGTH MEETS OR EXCEEDS THAT INDICATED ON THE DRAWINGS. UNSUITABLE SOILS ARE DEFINED AS ANY SOIL THAT DOES NOT HAVE SUFFICIENT BEARING CAPACITY OR WILL CAUSE EXCESSIVE WALL SETTLEMENT. REMOVE SOIL NOT MEETING THE REQUIRED STRENGTH.
3. THE OWNER SHALL RETAIN THE SERVICES OF A GEOTECHNICAL ENGINEER TO DETERMINE IF THE FOUNDATION SOILS WILL REQUIRE SPECIAL TREATMENT OR CORRECTION TO CONTROL TOTAL AND DIFFERENTIAL SETTLEMENT.
4. FILL OVER-EXCAVATED AREAS WITH SUITABLE COMPACTED BACKFILL, AS RECOMMENDED BY THE PROJECT GEOTECHNICAL ENGINEER.

8.0 BASE COURSE NOTES
1. PLACE BASE MATERIALS TO THE DEPTHS AND WIDTHS SHOWN ON THE DRAWINGS, UPON UNDISTURBED SOILS, OR FOUNDATION SOILS PREPARED AS DIRECTED BY THE PROJECT GEOTECHNICAL ENGINEER.
A. EXTEND THE LEVELING PAD LATERALLY AT LEAST 6 INCHES IN FRONT AND BEHIND THE LOWERMOST CONCRETE RETAINING WALL UNIT.
B. PROVIDE AGGREGATE BASE COMPACTED TO 6 INCHES THICK (MINIMUM).
2. COMPACT AGGREGATE BASE MATERIAL TO PROVIDE A LEVEL, HARD SURFACE ON WHICH TO PLACE THE FIRST COURSE OF UNITS.
3. PREPARE BASE MATERIALS TO ENSURE COMPLETE CONTACT WITH RETAINING WALL UNITS. GAPS ARE NOT ALLOWED.

9.0 ERECTION NOTES
1. EXCAVATION SUPPORT, IF REQUIRED, IS THE RESPONSIBILITY OF THE CONTRACTOR, INCLUDING THE STABILITY OF THE EXCAVATION AND ITS INFLUENCE ON ADJACENT PROPERTIES AND STRUCTURES.
2. GENERAL: ERECT UNITS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS, AND AS SPECIFIED HEREIN.
3. PLACE FIRST COURSE OF CONCRETE WALL UNITS ON THE PREPARED BASE MATERIAL. CHECK UNITS FOR LEVEL AND ALIGNMENT. MAINTAIN THE SAME ELEVATION AT THE TOP OF EACH UNIT WITHIN EACH SECTION OF THE BASE COURSE.
4. ENSURE THAT FOUNDATION UNITS ARE IN FULL CONTACT WITH NATURAL OR COMPACTED SOIL BASE.
5. PLACE CONCRETE WALL UNITS SIDE-BY-SIDE FOR FULL LENGTH OF WALL ALIGNMENT. ALIGNMENT MAY BE DONE BY USING A STRING LINE MEASURED FROM THE BACK OF THE BLOCK. GAPS ARE NOT ALLOWED BETWEEN THE FOUNDATION CONCRETE WALL UNITS.
6. PLACE 12 INCHES (MINIMUM) OF DRAINAGE AGGREGATE BETWEEN, AND DIRECTLY BEHIND THE CONCRETE WALL UNITS. FILL VOIDS IN RETAINING WALL UNITS WITH DRAINAGE AGGREGATE. PROVIDE A DRAINAGE ZONE BEHIND THE WALL UNITS TO WITHIN 9 INCHES OF THE FINAL GRADE. CAP THE BACKFILL AND DRAINAGE AGGREGATE ZONE WITH 9 INCHES OF IMPERVIOUS MATERIAL.
7. INSTALL DRAINAGE PIPE AT THE LOWEST ELEVATION POSSIBLE, TO MAINTAIN GRAVITY FLOW OF WATER TO OUTSIDE OF THE REINFORCED ZONE. SLOPE THE MAIN COLLECTION DRAINAGE PIPE, LOCATED JUST BEHIND THE CONCRETE RETAINING WALL UNITS, 1 PERCENT (MINIMUM) TO PROVIDE GRAVITY FLOW TO THE DAYLIGHTED AREAS. DAYLIGHT THE MAIN COLLECTION DRAINAGE PIPE TO AN APPROPRIATE LOCATION AWAY FROM THE WALL SYSTEM AT EACH LOW POINT OR AT 150 FOOT (MAXIMUM) INTERVALS ALONG THE WALL.
8. REMOVE EXCESS FILL FROM TOP OF UNITS AND INSTALL NEXT COURSE. ENSURE DRAINAGE AGGREGATE AND BACKFILL ARE COMPACTED BEFORE INSTALLATION OF NEXT COURSE.
9. CHECK EACH COURSE FOR LEVEL AND ALIGNMENT. ADJUST UNITS AS NECESSARY WITH REINFORCEMENT SHIMS TO MAINTAIN LEVEL, ALIGNMENT, AND SETBACK PRIOR TO PROCEEDING WITH EACH ADDITIONAL COURSE.
10. INSTALL EACH SUCCEEDING COURSE. BACKFILL AS EACH COURSE IS COMPLETED. PULL THE UNITS FORWARD UNTIL THE LOCATING SURFACE OF THE UNIT CONTACTS THE LOCATING SURFACE OF THE UNITS IN THE PRECEDING COURSE. INTERLOCK WALL SEGMENTS THAT MEET AT CORNERS BY OVERLAPPING SUCCESSIVE COURSES. ATTACH CONCRETE RETAINING WALL UNITS AT EXTERIOR CORNERS WITH ADHESIVE SPECIFIED.
11. INSTALL GEOSYNTHETIC REINFORCEMENT IN ACCORDANCE WITH GEOSYNTHETIC MANUFACTURER'S RECOMMENDATIONS AND THE SHOP DRAWINGS.
a. ORIENT GEOSYNTHETIC REINFORCEMENT WITH THE HIGHEST STRENGTH AXIS PERPENDICULAR TO THE WALL FACE.
b. PRIOR TO GEOSYNTHETIC REINFORCEMENT PLACEMENT, PLACE THE BACKFILL AND COMPACT TO THE ELEVATION OF THE TOP OF THE WALL UNITS AT THE ELEVATION OF THE GEOSYNTHETIC REINFORCEMENT.
c. PLACE GEOSYNTHETIC REINFORCEMENT AT THE ELEVATIONS AND TO THE LENGTHS SHOWN ON THE DRAWINGS.
d. LAY GEOSYNTHETIC REINFORCEMENT HORIZONTALLY ON TOP OF THE CONCRETE RETAINING WALL UNITS AND THE COMPACTED BACKFILL SOILS. PLACE THE GEOSYNTHETIC REINFORCEMENT WITHIN ONE INCH OF THE FACE OF THE CONCRETE RETAINING WALL UNITS. PLACE THE NEXT COURSE OF CONCRETE RETAINING WALL UNITS ON TOP OF THE GEOSYNTHETIC REINFORCEMENT.
e. THE GEOSYNTHETIC REINFORCEMENT SHALL BE IN TENSION AND FREE FROM WRINKLES PRIOR TO PLACEMENT OF THE BACKFILL SOILS. PULL GEOSYNTHETIC REINFORCEMENT HAND-TAUT AND SECURE IN PLACE WITH STAPLES, STAKES, OR BY HAND-TENSIONING UNTIL THE GEOSYNTHETIC REINFORCEMENT IS COVERED BY 6 INCHES OF LOOSE FILL.
f. THE GEOSYNTHETIC REINFORCEMENTS SHALL BE CONTINUOUS THROUGHOUT THEIR EMBEDMENT LENGTHS. SPLICES IN THE GEOSYNTHETIC REINFORCEMENT STRENGTH DIRECTION ARE NOT ALLOWED.
g. DO NOT OPERATE TRACKED CONSTRUCTION EQUIPMENT DIRECTLY ON THE GEOSYNTHETIC REINFORCEMENT. AT LEAST 6 INCHES OF COMPACTED BACKFILL SOIL IS REQUIRED PRIOR TO OPERATION OF TRACKED VEHICLES OVER THE GEOSYNTHETIC REINFORCEMENT. KEEP TURNING OF TRACKED CONSTRUCTION EQUIPMENT TO A MINIMUM.
h. RUBBER-TIRED EQUIPMENT MAY PASS OVER THE GEOSYNTHETIC REINFORCEMENT AT SPEEDS OF LESS THAN 5 MILES PER HOUR. TURNING OF RUBBER-TIRED EQUIPMENT IS NOT ALLOWED ON GEOSYNTHETIC REINFORCEMENT.

10.0 BACKFILL PLACEMENT NOTES
1. PLACE REINFORCED BACKFILL, SPREAD AND COMPACT IN A MANNER THAT WILL MINIMIZE SLACK IN THE REINFORCEMENT.
2. PLACE FILL WITHIN THE REINFORCED ZONE AND COMPACT IN LIFTS NOT EXCEEDING 6 TO 8 INCHES (LOOSE THICKNESS) WHERE HAND-OPERATED COMPACTION EQUIPMENT IS USED, AND NOT EXCEEDING 12 INCHES (LOOSE THICKNESS) WHERE HEAVY, SELF PROPELLED COMPACTION EQUIPMENT IS USED.
A. ONLY LIGHTWEIGHT HAND-OPERATED COMPACTION EQUIPMENT IS ALLOWED WITHIN 4 FEET OF THE BACK OF THE RETAINING WALL UNITS.
3. MINIMUM COMPACTION REQUIREMENTS FOR FILL PLACED IN THE REINFORCED ZONE:
A. COMPACT TO 90 PERCENT OF THE SOIL'S STANDARD MAXIMUM DRY DENSITY (ASTM D1557) FOR THE ENTIRE WALL HEIGHT.
B. VERIFY COMPACTION REQUIREMENTS WITH THE PROJECT GEOTECHNICAL ENGINEER.
C. UTILITY TRENCH BACKFILL: COMPACT UTILITY TRENCH BACKFILL IN OR BELOW THE REINFORCED SOIL ZONE TO 90 PERCENT OF THE SOIL'S STANDARD MAXIMUM DRY DENSITY (ASTM D1557), OR AS RECOMMENDED BY THE PROJECT GEOTECHNICAL ENGINEER.
D. MOISTURE CONTENT: AT OR 2 PERCENTAGE POINTS ABOVE THE OPTIMUM MOISTURE CONTENT FOR ALL WALL HEIGHTS.
E. THESE NOTES MAY BE CHANGED BASED ON RECOMMENDATIONS BY THE PROJECT GEOTECHNICAL ENGINEER.
4. AT THE END OF EACH DAY'S OPERATION, SLOPE THE LAST LEVEL OF COMPACTED BACKFILL AWAY FROM THE INTERIOR (CONCEALED) FACE OF THE WALL TO DIRECT SURFACE WATER RUNOFF AWAY FROM THE WALL FACE.
A. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THE FINISHED SITE DRAINAGE IS DIRECTED AWAY FROM THE RETAINING WALL SYSTEM.
B. IN ADDITION, THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT SURFACE WATER RUNOFF FROM ADJACENT CONSTRUCTION AREAS IS NOT ALLOWED TO ENTER THE RETAINING WALL AREA OF THE CONSTRUCTION SITE.
5. ANY STRUCTURAL FILL PLACED MUST BE KEPT FROM FREEZING, REQUIRING THE USE OF FROST BLANKETS AND GOOD WINTER CONSTRUCTION PRACTICES. GENERALLY, WINTER CONSTRUCTION REQUIRES THE IMPORT OF NON-FROST SUSCEPTIBLE SOILS, TYPICALLY CLEAN SAND AND/OR GRAVEL. ANY STRUCTURAL FILL FOUND TO BE FROZEN ON SUBSEQUENT DAYS OF CONSTRUCTION MUST BE REMOVED AND REPLACED PRIOR TO PLACING ADDITIONAL FILL.

11.0 CAP UNIT INSTALLATION NOTES
1. APPLY ADHESIVE TO THE TOP SURFACE OF THE UNIT BELOW AND PLACE THE CAP UNIT INTO DESIRED POSITION.
2. CUT CAP UNITS AS NECESSARY TO OBTAIN THE PROPER FIT.
3. BACKFILL AND COMPACT TO TOP OF CAP UNIT.

12.0 WALL CONSTRUCTION TOLERANCE NOTES
1. WALL CONSTRUCTION TOLERANCES:
A. VERTICAL ALIGNMENT: PLUS OR MINUS 1-1/4 INCHES OVER ANY 10-FOOT DISTANCE, WITH A MAXIMUM DIFFERENTIAL OF 3 INCHES OVER THE LENGTH OF THE WALL.
B. HORIZONTAL LOCATION CONTROL FROM GRADING PLAN:
B.1. STRAIGHT LINES: PLUS OR MINUS 1-1/4 INCHES OVER ANY 10-FOOT DISTANCE, WITH A MAXIMUM DIFFERENTIAL OF 3 INCHES OVER THE LENGTH OF THE WALL.
B.2. CORNER AND RADIUS LOCATIONS: PLUS OR MINUS 12 INCHES.
B.3. CURVES AND SERPENTINE RADII: PLUS OR MINUS 2 FEET.
C. IMMEDIATE POST CONSTRUCTION WALL BATTER: WITHIN 2 DEGREES OF THE DESIGN BATTER OF THE CONCRETE RETAINING WALL UNITS.
D. BULGING: PLUS OR MINUS 1-1/4 INCHES OVER ANY 10-FOOT DISTANCE.

13.0 UTILITY NOTES
1. UTILITY INFORMATION MAY NOT HAVE BEEN PROVIDED TO THE WALL DESIGNER FOR THE PREPARATION OF THESE PLANS, AND THEREFORE MAY NOT BE INCLUDED. IF UTILITIES ARE LOCATED WITHIN THE PROPOSED REINFORCED ZONE THE WALL DESIGNER MUST BE NOTIFIED PRIOR TO CONSTRUCTION OF THE SEGMENTAL RETAINING WALLS TO REVIEW THE DESIGN AND/OR PLANS. MODIFICATIONS TO THE DESIGN AND/OR PLANS MAY BE REQUIRED, AND MAY TAKE UP TO TEN BUSINESS DAYS.
2. UTILITIES MUST BE PROPERLY DESIGNED (BY OTHERS) TO WITHSTAND ALL FORCES FROM THE SEGMENTAL RETAINING WALL UNITS, REINFORCED SOIL MASS, AND SURCHARGE LOADS (IF ANY).
3. STORM DRAINS ARE PRONE TO LEAKING. THEREFORE, IF A JOINT IN A STORM DRAIN IS LOCATED WITHIN 100 FEET OF THE RETAINING WALL THE STORM WATER PIPE MUST BE WATER TIGHT. NEOPRENE O-RINGS MUST BE INSTALLED AT ALL STORM PIPE JOINTS AS A MINIMUM.
4. WATER LINES, INCLUDING IRRIGATION SYSTEMS, MUST BE WATER TIGHT WITHIN 100 FEET OF THE RETAINING WALL. LEAKAGE BEHIND A RETAINING WALL WILL INCREASE THE HORIZONTAL PRESSURE AGAINST THE WALL LEADING TO WALL FAILURE. FOR THIS REASON, SUBSURFACE WATERLINES AND IRRIGATION SYSTEMS SHOULD NOT BE INSTALLED ABOVE THE REINFORCED ZONES OF THE RETAINING WALL, OR WITHIN 5 FEET OF THE REINFORCED ZONE.

14.0 FIELD QUALITY CONTROL AND QUALITY ASSURANCE NOTES
1. INSTALLER IS RESPONSIBLE FOR QUALITY CONTROL OF INSTALLATION OF SYSTEM COMPONENTS.
2. THE OWNER SHALL EMPLOY AN INDEPENDENT THIRD PARTY SPECIAL INSPECTOR EXPERIENCED IN SEGMENTAL RETAINING WALL CONSTRUCTION TO PERFORM QUALITY ASSURANCE VERIFICATION OF THE CORRECT INSTALLATION OF SYSTEM COMPONENTS IN ACCORDANCE WITH THESE SPECIFICATIONS AND THE DRAWINGS.
3. CORRECT WORK WHICH DOES NOT MEET THESE SPECIFICATIONS OR THE REQUIREMENTS SHOWN ON THE DRAWINGS AT THE INSTALLER'S EXPENSE.
4. PROJECT GEOTECHNICAL ENGINEER TO PERFORM COMPACTION TESTING OF THE REINFORCED BACKFILL PLACED AND COMPACTED IN THE REINFORCED BACKFILL ZONE.
A. TESTING FREQUENCY (OR AS DIRECTED BY PROJECT GEOTECHNICAL ENGINEER)
B. ONE TEST FOR EVERY 2 FEET (VERTICAL) OF FILL PLACED AND COMPACTED, FOR EVERY 50 LINEAL FEET OF RETAINING WALL.
C. VARY COMPACTION TEST LOCATIONS TO COVER THE ENTIRE AREA OF THE REINFORCED SOIL ZONE, INCLUDING THE AREA COMPACTED BY THE HAND-OPERATED COMPACTION EQUIPMENT.
5. PROJECT GEOTECHNICAL ENGINEER TO TEST ALL SOIL PROPOSED FOR USE IN THE SEGMENTAL RETAINING WALL CONSTRUCTION, INCLUDING SOIL IN THE FOUNDATION, RETAINED AND REINFORCED ZONE OF THE WALLS, TO VERIFY COMPLIANCE WITH THE MATERIAL SPECIFICATIONS AND ENGINEERING PROPERTIES.

15.0 STATEMENT OF SPECIAL INSPECTIONS
1. SPECIAL INSPECTION IS REQUIRED IN ACCORDANCE WITH IBC SECTION 1704.5.
2. THE SPECIAL INSPECTOR'S RESPONSIBILITIES INCLUDE VERIFYING THE FOLLOWING:
A. UNIT DIMENSIONS.
B. ANCHOR WALL UNIT IDENTIFICATION OF COMPLIANCE WITH ASTM C 1372, INCLUDING COMPRESSIVE STRENGTH AND WATER ABSORPTION, AS DESCRIBED IN SECTION 3.1 OF ICC REPORT 1959.
C. FOUNDATION PREPARATION.
D. UNIT PLACEMENT, INCLUDING ALIGNMENT AND INCLINATION.
E. GEOSYNTHETIC REINFORCEMENT TYPE AND PLACEMENT.
F. BACKFILL PLACEMENT AND COMPACTION.
G. DRAINAGE PROVISIONS.
3. TYPE AND EXTENT OF SPECIAL INSPECTION:
A. SPECIAL INSPECTION SHALL BE PERFORMED ON A CONTINUOUS BASIS.
4. TYPE AND EXTENT OF EACH TEST:
A. MODULAR UNIT DIMENSION SHALL BE VERIFIED ONCE PER WALL PRIOR TO THE START OF CONSTRUCTION.
B. CONCRETE UNIT SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3,000 PSI AND A MAXIMUM WATER ABSORPTION OF 7 PERCENT.
C. FOUNDATION PREPARATION SHALL BE INSPECTED FOR COMPLIANCE WITH THE ANCHOR RETAINING WALL DESIGN PARAMETERS AND GEOTECHNICAL ENGINEER OF RECORD RECOMMENDATIONS ONCE PER WALL PRIOR TO PLACEMENT OF CONTROLLED FILL.
D. ANCHOR UNIT ALIGNMENT AND INCLINATION SHALL BE VERIFIED BY SURVEYED WALL HORIZONTAL LOCATION PRIOR TO CONSTRUCTION AND CORRECT BLOCK PLACEMENT AGAINST THE LOWER BLOCK'S ALIGNMENT DEVICE DURING CONSTRUCTION.
E. GEOSYNTHETIC REINFORCEMENT TYPE SHALL BE VERIFIED PRIOR TO CONSTRUCTION WITH AN INSPECTION OF THE GEOSYNTHETIC REINFORCEMENT DELIVERED TO THE SITE FOR WALL CONSTRUCTION. PLACEMENT OF GEOSYNTHETIC REINFORCEMENT SHALL BE CONTINUALLY OBSERVED DURING WALL CONSTRUCTION FOR COMPLIANCE WITH THE ANCHOR RETAINING WALL PLANS.
F. BACKFILL SOIL SHALL BE VERIFIED IN COMPLIANCE WITH THE ANCHOR RETAINING WALL PLANS AND SOIL DESIGN PARAMETERS PRIOR TO AND PERIODICALLY DURING CONSTRUCTION. BACKFILL SOIL COMPACTION SHALL BE CONTINUOUSLY VERIFIED COMPACTED TO AT LEAST 90 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D 1557 FOR EVERY 20-40 YARDS OF BACKFILL PLACED.
G. ALL DRAINAGE PROVISIONS SHALL BE VERIFIED IN COMPLIANCE WITH THE ANCHOR RETAINING WALL PLANS AND THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER OF RECORD AS CONSTRUCTED AND PRIOR TO BACKFILL.
5. SEISMIC OR WIND RESISTANCE:
A. THERE ARE NO ADDITIONAL SPECIAL INSPECTION REQUIREMENTS FOR SEISMIC OR WIND RESISTANCE PER CBC 1705.
6. STRUCTURAL OBSERVATIONS:
A. THERE ARE NO REQUIRED STRUCTURAL OBSERVATIONS PER CBC 1709.
7. SPECIAL INSPECTION NOTES:
A. THE SPECIAL INSPECTIONS IDENTIFIED ON PLANS ARE IN ADDITION TO, AND NOT A SUBSTITUTE FOR, THOSE INSPECTIONS REQUIRED TO BE PERFORMED BY THE CITY'S BUILDING INSPECTOR.
B. WORK RELATED TO SOILS SHALL BE PERFORMED BY THE GEOTECHNICAL ENGINEER OF RECORD, AS PER THE PROJECT GEOTECHNICAL REPORT.

16.0 SUBMITTALS
1. THE GEOTECHNICAL ENGINEER SHALL SUBMIT VERIFICATION TO RED ONE ENGINEERING PRIOR TO THE START OF SEGMENTAL WALL CONSTRUCTION THAT ALL SOILS PROPOSED FOR CONSTRUCTION MEET THE REQUIREMENTS OF THIS SPECIFICATION.

17.0 ANCHOR WALL DESIGN NOTES
1. IT IS THE RESPONSIBILITY OF THE OWNER OR OWNER'S REPRESENTATIVE TO VERIFY THE SOIL STRENGTH DESIGN PARAMETERS ARE REPRESENTATIVE OF THE SOILS AVAILABLE FOR WALL CONSTRUCTION. IF THE SOIL STRENGTH PARAMETERS ARE FOUND TO BE INCONSISTENT WITH THOSE ASSUMED BY THE ENGINEER OF RECORD, THIS DESIGN IS NO LONGER VALID AND IT IS THE RESPONSIBILITY OF THE OWNER OR OWNER'S REPRESENTATIVE TO NOTIFY THE ENGINEER OF RECORD SO THE RETAINING WALL SYSTEM CAN BE REDESIGNED. FAILURE TO NOTIFY THE ENGINEER OF RECORD MAY RESULT IN FAILURE OF THE RETAINING WALL.
2. SOIL DESIGN PARAMETERS:

A.	REINFORCED SOIL:	PHI = 33 DEGREES	C= 0 PSF	GAMMA = 125 PCF.
	RETAINED SOIL:	PHI = [illegible] DEGREES	C= 0 PSF	GAMMA = 125 PCF.
	FOUNDATION SOIL:	PHI = 33 DEGREES	C= 0 PSF	GAMMA = 125 PCF

*IF TESTING OF SITE SOIL PRIOR TO CONSTRUCTION REVEALS SOIL WITH PHI LESS THAN 33 DEGREES THAN SOIL SHALL BE IMPORTED OR THE WALL SHALL BE REDESIGNED FOR THE LOWER PHI ANGLE.
3. HORIZONTAL SEISMIC COEFFICIENT: 0.38G
4. REINFORCED BACKFILL SHALL MEET SOIL CLASSIFICATION, GRADATION AND PLASTICITY INDEX AS STATED IN SECTION 6.5 THIS SHEET
5. GEOTECHNICAL PARAMETERS USED FOR DESIGN SHALL BE CONFIRMED BY GEOTECHNICAL ENGINEER PRIOR TO WALL CONSTRUCTION.
6. LATERAL EARTH PRESSURES ARE DETERMINED USING COULOMB EARTH PRESSURE THEORY
7. INTERNAL STABILITY OF WALLS
A. MINIMUM FACTOR OF SAFETY ON GEOGRID STRENGTH = 1.50
B. MINIMUM FACTOR OF SAFETY ON GEOGRID PULLOUT = 1.50
C. PERCENT COVERAGE OF GEOGRID = 100%
8. EXTERNAL STABILITY
A. MINIMUM FACTOR OF SAFETY AGAINST BASE SLIDING = 1.50
B. MINIMUM FACTOR OF SAFETY AGAINST OVERTURNING = 2.00
C. MINIMUM FACTOR OF SAFETY AGAINST SOIL BEARING OVERSTRESS = 2.00
D. UNIFORM SURCHARGE = AS SHOWN ON STRUCTURAL CALCULATIONS
E. BACKFILL SLOPE = AS SHOWN ON SITE PLAN AND STRUCTURAL CALCULATIONS
9. GLOBAL STABILITY (TO BE CONFIRMED BY GEOTECHNICAL ENGINEER)
A. MINIMUM FACTOR OF SAFETY AGAINST STATIC GLOBAL STABILITY = 1.50
B. MINIMUM FACTOR OF SAFETY AGAINST SEISMIC GLOBAL STABILITY = 1.15

18.0 ANCHOR WALL ICC REPORT
ANCHOR WALL SYSTEM APPROVED FOR USE WITH MIRAFI GEOGRID IN ICC ES LEGACY REPORT ER-1959

19.0 APPLICABLE BUILDING CODE
ALL CONSTRUCTION SHALL CONFORM TO THE 2010 CALIFORNIA BUILDING CODE

20.0 ANCHOR RETAINING WALL PLAN SHEET INDEX

5 VOID SHEET

ANCHOR RETAINING WALL DESIGNED FOR INTERNAL AND EXTERNAL STABLITY ONLY. GEOTECHNICAL ENGINEER OF RECORD TO CONFIRM SITE GLOBAL STABILITY.

MILLER ROAD PLAZA - 521-287 - ANCHOR RETAINING WALL PLANS - 8-21-13

REGISTERED PROFESSIONAL ENGINEER · MATTHEW MEEHAN MERRITT · No. 68429 · Exp. 9/30/15 · CIVIL · STATE OF CALIFORNIA

prepared by
red one engineering inc
1295 distribution way
vista, ca 92081
phone 760.410.1665
facsimile 760.509.0078
matt@red1engineering.com

PREPARED FOR THE EXCLUSIVE USE OF
1295 DISTRIBUTION WAY
VISTA, CA 92081
TEL 760 509 0079
FAX 760 509 0078
GEOGRID RETAINING WALL SYSTEMS, INC

RECORD PLAN

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

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:
1	REVISE SHEET COUNT	(signature)	3/5/17
5	VOID SHEET	(signature)	12.16.21

PERMITS
REZONE PERMIT NO. N/A
SITE PLAN REVIEW NO. S-08-013
STREET IMPROVEMENT PLANS CG XXXX
NOTICE OF INTENT(WDID): 9 37C339975

BENCH MARK
DESCRIPTION: 2-1/2" BRASS CAP STAMPED "S.D. SURV. MON. 19 PT."
LOCATION: IN WELL MONUMENT AT POINT EGCS-3048
RECORD FROM: RECORD OF SURVEY MAP 14236
ELEVATION: 1336.773 DATUM: NGVD 29 MSL

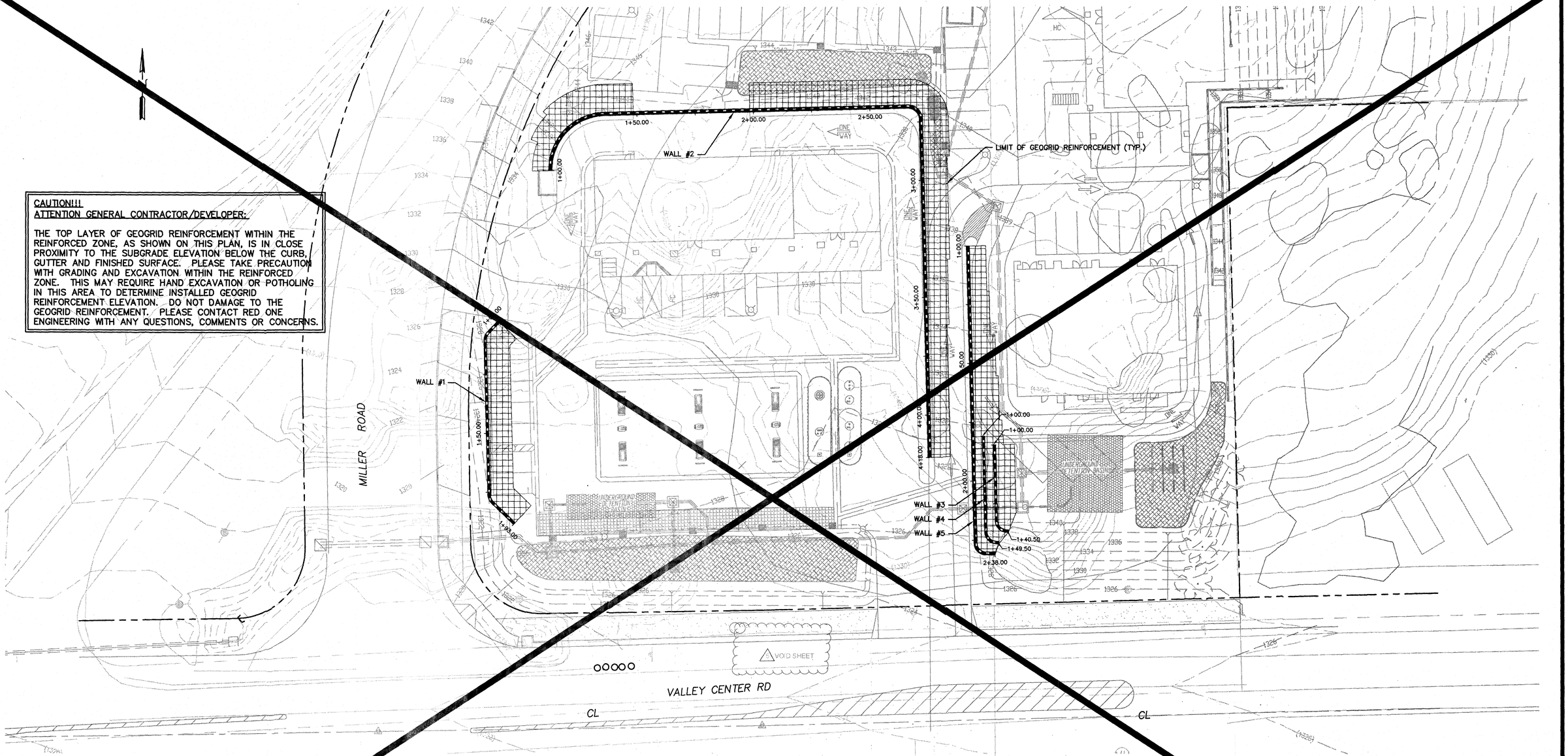
PRIVATE CONTRACT
SHEET 13 | COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS | 25 ~~23~~ SHEETS

ANCHOR RETAINING WALL PLANS FOR:
MILLER ROAD PLAZA
POR. PARCEL 2 & 3 P.M. NO. 8636
CALIFORNIA COORDINATE INDEX 286-1761

APPROVED FOR: MOHAMAD FAKHRRIDDINE, COUNTY ENGINEER
BY: Kenneth J. Brazell 4-11-14 DATE

ENGINEER OF WORK: (signature) 8/28/13, 1-3-14 DATE
MATTHEW M. MERRITT R.C.E. [illegible] EXPIRES 9/30/15
CHECKED BY: N/A
APPROVAL DATE: 4-11-14
GRADING PERMIT NO.: PDS2012-2700-15688

ENGINEER: RED ONE ENGINEERING
TELEPHONE: 760-410-1665



ANCHOR WALL PLAN VIEW

SCALE: 1"= 20'

CONSTRUCTION NOTES

1. GRADING PLAN LINES, GRADES AND ELEVATIONS ARE SHOWN FOR REFERENCE ONLY. PLEASE SEE PROJECT GRADING PLAN FOR SITE INFORMATION.

2. GENERAL CONTRACTOR/DEVELOPER AND RETAINING WALL CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL SUBTERRANEAN CONSTRUCTION WITHIN THE REINFORCED ZONE. RED ONE ENGINEERING, INC. SHALL BE CONSULTED PRIOR TO ANY EXCAVATION WITHIN THE REINFORCED ZONE. ALL EFFORTS SHALL BE MADE TO COORDINATE INSTALLATION OF SUBTERRANEAN FEATURES DURING WALL CONSTRUCTION.

3. DURING CONSTRUCTION AND AFTER WALL COMPLETION THE FINISHED GRADE SHALL BE GRADED TO DRAIN AWAY FROM THE ANCHOR RETAINING WALL UNTIL FINAL DRAINAGE SYSTEM IS COMPLETE. NO STANDING WATER SHALL BE ALLOWED TO POND ABOVE THE ANCHOR RETAINING WALL.

4. ALL STORM DRAIN PIPES, CONNECTIONS AND FITTINGS WITHIN 50 FEET OF THE ANCHOR WALLS SHALL BE LEAKPROOF AND WATER TIGHT.

REGISTERED PROFESSIONAL ENGINEER — MATTHEW J. NEE-HAN-REED — No. 68429 — Exp. 9/30/15 — CIVIL — STATE OF CALIFORNIA

prepared by
red one engineering inc
1295 distribution way
vista, ca 92081
phone 760.410.1665
facsimile 760.509.0078
matt@red1engineering.com

PREPARED FOR THE EXCLUSIVE USE OF
1295 DISTRIBUTION WAY
VISTA, CA 92081
TEL 760 509 0979
FAX 760 509 0978
GEOGRID
RETAINING WALL SYSTEMS, INC

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

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:
1	REVISE SHEET COUNT	[illegible]	8/5/13
2	VOID SHEET	[illegible]	12/6/21

PERMITS
REZONE PERMIT NO. N/A
SITE PLAN REVIEW NO. S-08-013
STREET IMPROVEMENT PLANS CG XXXX
NOTICE OF INTENT(WDID): 9 37C339975

BENCH MARK
DESCRIPTION: 2-1/2" BRASS CAP STAMPED "S.D. SURV. MON. 19 PT."
LOCATION: IN WELL MONUMENT AT POINT EGCS-3048
RECORD FROM: RECORD OF SURVEY MAP 14236
ELEVATION: 1336.773 DATUM: NGVD 29 MSL

PRIVATE CONTRACT

SHEET 14 — COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS — 25 ~~23~~ SHEETS

ANCHOR RETAINING WALL PLANS FOR:
MILLER ROAD PLAZA
POR. PARCEL 2 & 3 P.M. NO. 8636
CALIFORNIA COORDINATE INDEX [illegible]-1761

APPROVED FOR: MOHAMAD FAGHIHDOINE, COUNTY ENGINEER
Kenneth J. Bragell 4-11-14 DATE
BY: [illegible]
CHECKED BY: N/A
APPROVAL DATE: 4-11-14
DESIGNED BY: [illegible] 8/20/13 DATE
JEFFREY K. JONES R.C.E. 68429 EXPIRES 9/30/15
ENGINEERING PROJECT NO. PDS2012-2700-[illegible]

ENGINEER: RED ONE ENGINEERING
TELEPHONE: 760-410-1665

R:\1 Active projects\Miller Road Plaza\Construction Drawings\C521-287SP0.dwg, SHEET 14, 8/21/2013 2:58:27 PM

MATCH LINE SHEET 9
SHEET 24

FOR CONTINUATION
SEE SHEET 10

AERIAL MAP NO. 8636

EXISTING STRUCTURE
NO PROPOSED CHANGES

188-231-08
SEPARATE OWNERSHIP
NO PROPOSED DISTURBANCE

APN: 188-231-09

188-231-09
SAME OWNERSHIP

NOTE:
ALL DISTURBED AREAS SHALL BE COVERED WITH HYDROSEED IN ACCORDANCE WITH CALTRANS FACT SHEET SS-4.

SEE NON-INVASSIVE HYDROSEED MIX ON THIS SHEET

PROTECT EXISTING OAK TREE IN PLACE

PROTECTIVE FENCE

EXISTING STRUCTURE
NO PROPOSED CHANGES

EXISTING OPEN SHED
NO PROPOSED CHANGES

REFERENCE TO PROPERTY LINE (NOT AT SCALED LOCATION

490.08' (NOT TO SCALE)

208.45'

VALLEY CENTER ROAD

(DAT)

SHEET 25
MATCH LINE SEE SHEET 25

EROSION CONTROL PLAN
SCALE: 1"=20'

NON-INVASSIVE HYDROSEED MIX

WOOD FIBRE MULCH	2000LBS/ACRE
EARTHGUARD B.F.M.	5 GALLONS/ ACRE
ZORRO FESCUE	10 LBS. /ACRE
CALIFORNIA BROME	10 LBS./ ACRE
LOTUS SCOPARIUS	10 LBS./ ACRE
CALIFORNIA POPPY	3LBS/ ACRE
TOTAL	33 LBS/ ACRE

HAUL ROUTE NOTE

PRIOR TO BEGINNING OF GRADING, SUBMIT A TRAFFIC CONTROL PLAN AND HAUL ROUTE PLAN TO THE TRAFFIC DIVISION, DEPARTMENT OF PUBLIC WORKS FOR APPROVAL INCLUDING:

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

BMP LEGEND

CONSTRUCTION BMP'S

ITEM		SYMBOL
32	STABILIZED CONSTRUCTION ENTRANCE PER DETAIL "P" ON SHEET 11	
33	GRAVEL BAG CHEVRON PER DETAIL "N" ON SHEET 11	
34	SILT FENCE PER DETAIL "R" ON SHEET 11	
35	CATCH BASIN BERM PER DETAIL "S" ON SHEET 11	
36	BONDED FIBER MATRIX	

SEE EROSION CONTROL NOTES ON SHEET 11

PERMANENT BMP'S

50	UNDERGROUND DETENTION BASIN	
51	BIORETENTION SWALE	

REGISTERED PROFESSIONAL ENGINEER
GARY R. WYNN
No. C 43202
CIVIL
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
GARY LIPSKA
No. 23080
CIVIL
STATE OF CALIFORNIA

SYMBOL LEGEND

DESCRIPTION	SYMBOL
ELEVATION, TOP OF FOOTING	TF
ELEVATION, TOP OF WALL	TW
ELEVATION, TOP OF CURB	TC
ELEVATION, FINISH SURFACE	FS
ELEVATION, FINISH GRADE	FG
ELEVATION, TOP OF GRATE	TG
ELEVATION, BOTTOM OF FOOTING	BF
ELEVATION, FLOW LINE	FL
ELEVATION, INVERT ELEVATION	IE
ELEVATION LABEL, EXISTING	(596.00)
ELEVATION LABEL, PROPOSED	596.00
ELEVATION FINISH FLOOR	FF
DETAIL REFERENCE	C/2 DETAIL LABEL / SHEET NO.

2 WYNN ENGINEERING, INC.
27315 VALLEY CENTER ROAD
VALLEY CENTER, CA. 92082
(760) 749-8722 (310) 306-9728

20 0 20 40
Scale: 1" = 20'

CIVIL ENGINEERING * LAND PLANNING
Agua Terra Engineering Inc.
1643 Campanile Place
Oceanside, CA 92054
Tele: (760) 439-2802
Fax: (760) 439-2886

RECORD PLAN

NAME

BY: _____ DATE: _____

R.C.E. _____

EXPIRES: _____

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:
1	ADDED NEW SHEET	KSB	8/11/15
2	CHANGE OF E.O.R.		9/5/17
5	REVISED TOTAL NUMBER OF SHEETS		12/6/21

PERMITS

LANDSCAPE PLAN NO. _____
SITE PLAN REVIEW NO. ~~S 08 013~~ STP-08-013M3
STREET IMPROVEMENT PLANS PDS2013-LDPMP-00005
NOTICE OF INTENT(WDID): 9 37C367589

BENCH MARK

DESCRIPTION: 2-1/2" BRASS CAP STAMPED "S.D. SURV. MON. 19 PT."
LOCATION: IN WELL MONUMENT AT POINT EGCS-3048
RECORD FROM: RECORD OF SURVEY MAP 14236
ELEVATION: 1336.773 DATUM: NGVD 29 MSL

5 PRIVATE CONTRACT

SHEET 24 | 14A | COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS | 25 SHEETS 19

EROSION CONTROL PLAN FOR:
MILLER ROAD PLAZA
POR. PARCEL 2 & 3, P.M. NO. 8636
CALIFORNIA COORDINATE INDEX 386-1761

2 GARY WYNN 12-1-18

APPROVED FOR:
SARAH S. DEYLAMIAN
COUNTY ENGINEER
Kenneth G. Brazell
BY: 8-11-15 DATE

ENGINEER OF WORK
GARY LIPSKA R.C.E. 23080 EXPIRES 12/31/15

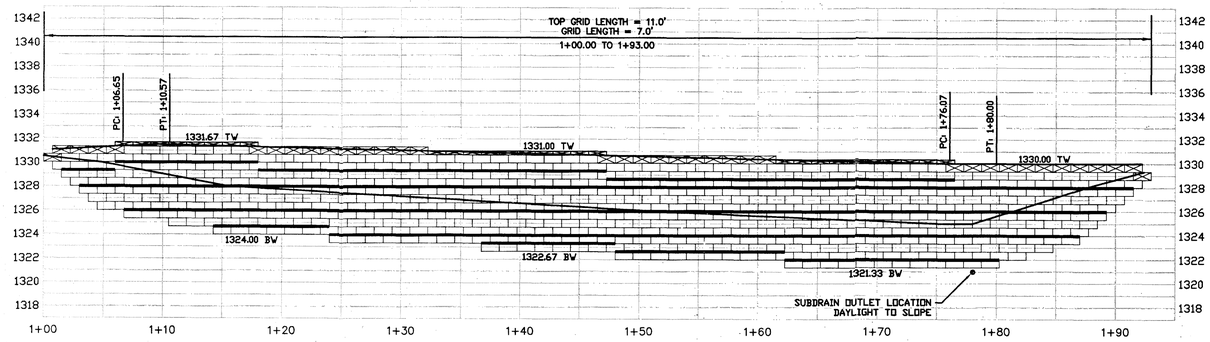
CHECKED BY: N/A
APPROVED, DPW 8-11-15

GRADING PERMIT NO. PDS2012-2700-15688

2 WYNN ENGINEERING, INC.
ENGINEER: AGUA TERRA ENGINEERING INC.
TELEPHONE: 760-439-2802
TELEPHONE: (760)749-8722

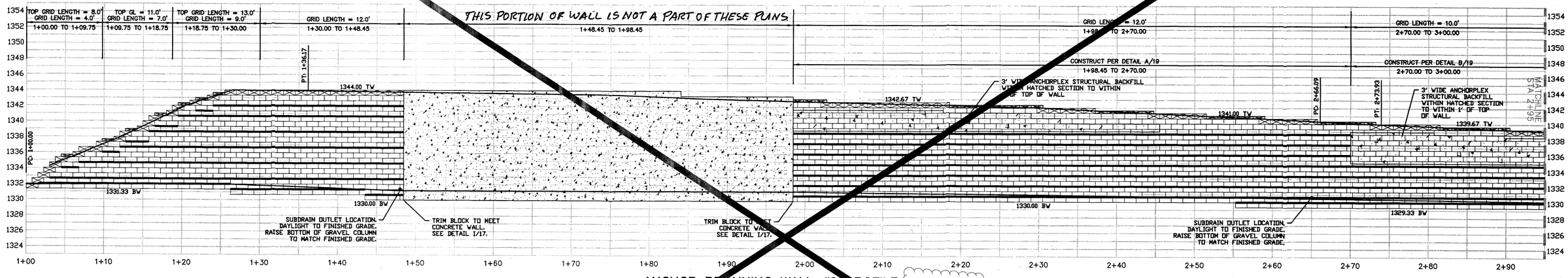
NEW SHEET

PLOT DATE: 06/28/15



ANCHOR RETAINING WALL #1 PROFILE

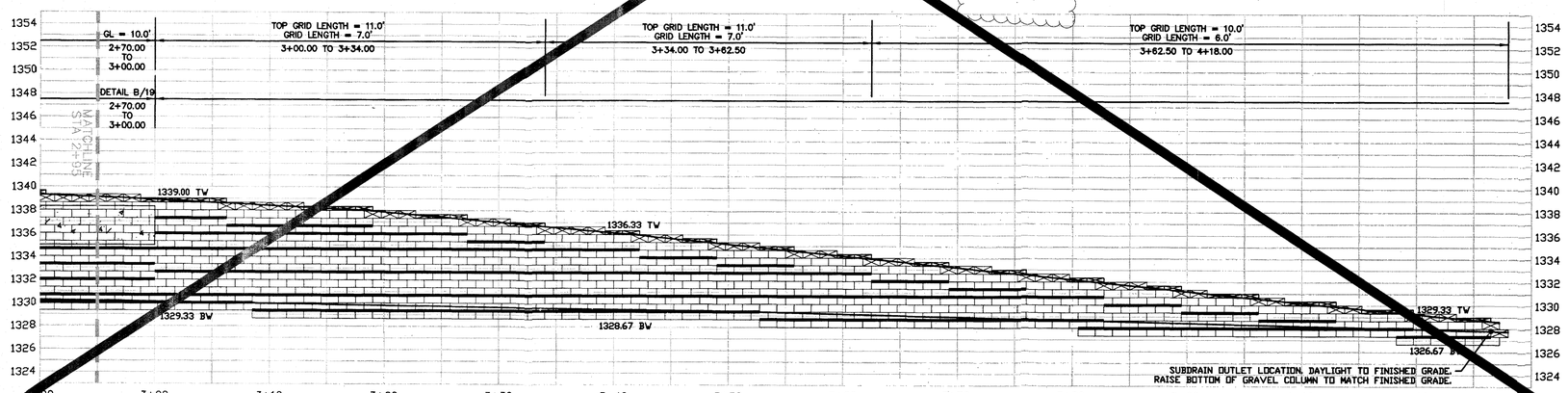
SCALE: 1"= 6' H:V



ANCHOR RETAINING WALL #2 PROFILE

STA 1+00 TO 2+95 SCALE: 1"= 6' H:V

VOID SHEET



ANCHOR RETAINING WALL #2 PROFILE

STA 2+95 TO 4+18 SCALE: 1"= 6' H:V

LEGEND

4" CAP UNIT	
8" CAP UNIT	
VERTICA UNIT	
MIRAFI GRID 3XT	
MIRAFI GRID 8XT	
FINISH GRADE	
TOP OF WALL	TW
BOTTOM OF WALL	BW
GRID LENGTH	GL
POINT OF CURVE	PC
POINT OF TANGENT	PT
GRID CHANGE	

REGISTERED PROFESSIONAL ENGINEER
MATTHEW REEHAN HERRITY
No. 68429
Exp. 9/30/15
CIVIL
STATE OF CALIFORNIA

prepared by
red one engineering inc
1295 distribution way
vista, ca 92081
phone 760.410.1665
facsimile 760.509.0078
matt@red1engineering.com

PREPARED FOR THE EXCLUSIVE USE OF
1295 DISTRIBUTION WAY
VISTA, CA 92081
TEL 760 509 0079
FAX 760 509 0078
GEOGRID
RETAINING WALL SYSTEMS, INC

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

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:
1	REVISE SHEET COUNT		8/5/13
2	VOID SHEET		12.16.21

PERMITS
REZONE PERMIT NO. N/A
SITE PLAN REVIEW NO. S-08-013
STREET IMPROVEMENT PLANS CG XXXX
NOTICE OF INTENT(WDID): 9 37C339975

BENCH MARK
DESCRIPTION: 2-1/2" BRASS CAP STAMPED "S.D. SURV. MON. 19 PT."
LOCATION: IN WELL MONUMENT AT POINT EGCS-3048
RECORD FROM: RECORD OF SURVEY MAP 14236
ELEVATION: 1336.773 DATUM: NGVD 29 MSL

PRIVATE CONTRACT

SHEET 15 — COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS — 25 ~~23~~ SHEETS

ANCHOR RETAINING WALL PLANS FOR:
MILLER ROAD PLAZA
PORTION OF PARCEL 2 & 3 P.M. NO. 8636
CALIFORNIA COORDINATE INDEX 206-1781

APPROVED FOR:
MOHAMAD FAKHREDDINE
COUNTY ENGINEER
Kenneth J. Brazell
DATE 4-11-14

DESIGNED BY: MATTHEW M. HERRITY R.C.E. 68429 EXPIRES 9/30/15 DATE 8/28/13
CHECKED BY: N/A
APPROVAL DATE: 4-11-14
DRAWING NUMBER: PDS2012-2700-287PP0

STA 2+95

ENGINEER: RED ONE ENGINEERING
TELEPHONE: 760-410-1665

R:\1 Active projects\Miller Road Plaza\Construction Drawings\C521-287PP0.dwg, SHEET 15, 8/21/2013 2:58:46 PM

188-231-34
PROJECT SITE

PROPOSED LOCATION OF STORAGE ROCK PIPE

SITE BOUNDARY LINE

FIBER ROOLS

N00°34'49"W 835.08'

MATCH LINE SEE SHEET 24
SHEET ~~25~~

NOTE:
1) THE ROCKS LOCATED IN THE CURRENT OFFSITE LOCATION WILL BE RELOCATED TO THE PROPOSED ONSITE LOCATION PRIOR TO JUNE 15, 2015.
2) ALL DISTURBED AREAS NEAR THE CURRENT LOCATION OF THE STORAGE ROCK PIPE AND RESULTING FROM THE RELOCATION WORK SHALL BE COVER WITH HYDROSEED IN ACCORDANCE WITH CALTRANS FACT SHEET SS-4. SEE NON-INVASIVE HYDROSEED MIX ON SHEET 24.

EXISTING UNPAVED DRIVE WILL BE PRESERVED

CURRENT LOCATION OF STORAGE ROCK PIPE

EXISTING UNPAVED DRIVE WILL BE PRESERVED

188-231-09
SAME OWNERSHIP

BMP LEGEND

ITEM	CONSTRUCTION BMP'S	SYMBOL
32	STABILIZED CONSTRUCTION ENTRANCE PER DETAIL "P" ON SHEET 11	
33	GRAVEL BAG CHEVRON PER DETAIL "N" ON SHEET 11	
34	SILT FENCE PER DETAIL "R" ON SHEET 11	
35	CATCH BASIN BERM PER DETAIL "S" ON SHEET 11	
36	BONDED FIBER MATRIX	

SEE EROSION CONTROL NOTES ON SHEET 11

PERMANENT BMP'S

50	UNDERGROUND DETENTION BASIN	
51	BIORETENTION SWALE	

REGISTERED PROFESSIONAL ENGINEER GARY R. WYNN No. C 43202 CIVIL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER GARY LIPSKA No. 23080 Civil STATE OF CALIFORNIA

SYMBOL LEGEND

DESCRIPTION	SYMBOL
ELEVATION, TOP OF FOOTING	TF
ELEVATION, TOP OF WALL	TW
ELEVATION, TOP OF CURB	TC
ELEVATION, FINISH SURFACE	FS
ELEVATION, FINISH GRADE	FG
ELEVATION, TOP OF GRATE	TG
ELEVATION, BOTTOM OF FOOTING	BF
ELEVATION, FLOW LINE	FL
ELEVATION, INVERT ELEVATION	IE
ELEVATION LABEL, EXISTING	(596.00)
ELEVATION LABEL, PROPOSED	596.00
ELEVATION FINISH FLOOR	FF
DETAIL REFERENCE	C/2 DETAIL LABEL / SHEET NO.

EROSION CONTROL PLAN

SCALE: 1"=20'

20 0 20 40
Scale: 1" = 20'

CIVIL ENGINEERING LAND PLANNING
~~Altaterra Engineering Inc.~~
~~1843 Campanile Place~~
~~Oceanside, CA 92054~~
~~Tele: (760) 439-2802~~
~~Fax: (760) 439-2885~~

2 WYNN ENGINEERING, INC.
27315 VALLEY CENTER ROAD
VALLEY CENTER, CA. 92082
(760) 749-8722 (310) 306-9728

RECORD PLAN

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

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:
1	ADDED NEW SHEET	KSB	8/11/15
2	CHANGE OF E.O.R.		5/5/17
3	REVISED TOTAL NUMBER OF SHEETS		12.6.21

PERMITS

LANDSCAPE PLAN NO. _____
SITE PLAN REVIEW NO. ~~3-08-013~~ STP-08-013M3
STREET IMPROVEMENT PLANS PDS2013-LDPIIP-00005
NOTICE OF INTENT(WDID) ~~9~~ 37C367589

BENCH MARK

DESCRIPTION: 2-1/2" BRASS CAP STAMPED "S.D. SURV. MON. 19 PT."
LOCATION: IN WELL MONUMENT AT POINT EGCS-3048
RECORD FROM: RECORD OF SURVEY MAP 14236
ELEVATION: 1336.773 DATUM: NGVD 29 MSL

PRIVATE CONTRACT

SHEET ~~25~~ 15A | COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS | ~~25~~ 19 SHEETS

EROSION CONTROL PLAN FOR:
MILLER ROAD PLAZA
POR. PARCEL 2 & 3, P.M. NO. 8636
CALIFORNIA COORDINATE INDEX 386-1761

2 GARY WYNN 12-1-15

APPROVED FOR: SURVEYOR
~~SERGIO DEYLAMIAN~~
COUNTY ENGINEER
~~Kenneth J. Brazell~~
DATE: 8-11-15

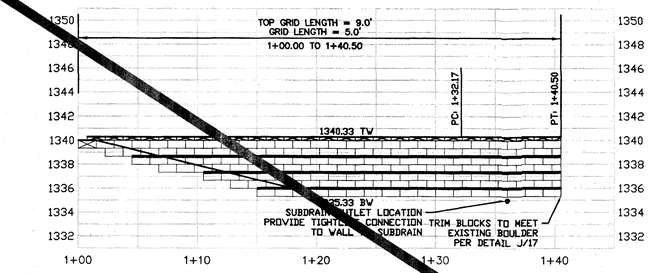
ENGINEER OF WORK: 12-1-15
GARY LIPSKA R.C.E. 23080 EXPIRES 12/31/15

CHECKED BY: N/A
GRADING PERMIT NO.
APPROVAL DATE: 8-11-15
PDS2012-2700-15688

PLOT DATE: 06/28/15

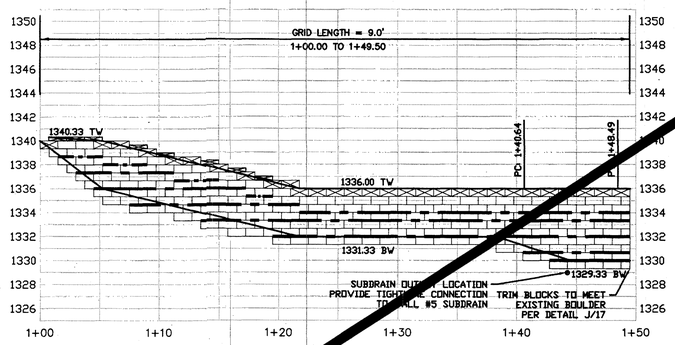
NEW SHEET

2 WYNN ENGINEERING, INC.
ENGINEER: ALTATERRA ENGINEERING INC.
TELEPHONE: (760) 749-8722



ANCHOR RETAINING WALL #3 PROFILE

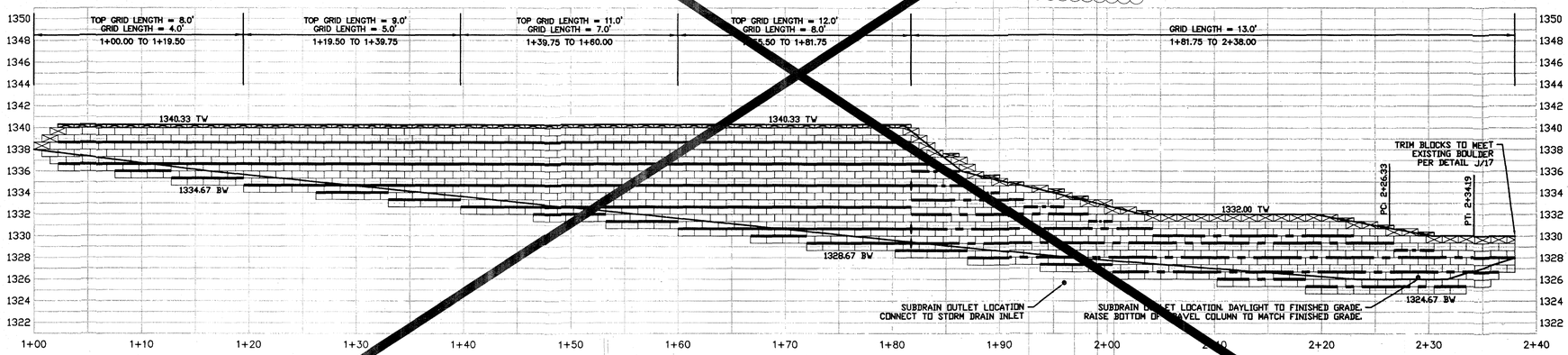
SCALE: 1" = 6' H: V



ANCHOR RETAINING WALL #4 PROFILE

SCALE: 1" = 6' H: V

VOID SHEET



ANCHOR RETAINING WALL #5 PROFILE

SCALE: 1" = 6' H: V

LEGEND

4" CAP UNIT	
8" CAP UNIT	
VERTICA UNIT	
MIRAFI GRID 3XT	
MIRAFI GRID 5XT	
FINISH GRADE	
TOP OF WALL	TW
BOTTOM OF WALL	BW
GRID LENGTH	GL
POINT OF CURVE	PC
POINT OF TANGENT	PT
GRID CHANGE	

REGISTERED PROFESSIONAL ENGINEER
MATTHEW "KEE" HAN REPPUN
No. 68429
Exp. 9/30/14
CIVIL
STATE OF CALIFORNIA

prepared by
red one engineering inc
1295 distribution way
vista, ca 92081
phone 760.410.1665
facsimile 760.509.0078
matt@red1engineering.com

PREPARED FOR THE EXCLUSIVE USE OF
1295 DISTRIBUTION WAY
VISTA, CA 92081
TEL 760 509 0079
FAX 760 509 0078
GEOGRID
RETAINING WALL SYSTEMS, INC

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

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:
1	REVISE SHEET COUNT	~~T.P.~~	~~5/5/13~~
6	VOID SHEET	[illegible]	12.16.21

PERMITS
REZONE PERMIT NO. N/A
SITE PLAN REVIEW NO. S-08-013
STREET IMPROVEMENT PLANS CG XXXX
NOTICE OF INTENT(WDID): 9 37C339975

BENCH MARK
DESCRIPTION: 2-1/2" BRASS CAP STAMPED "S.D. SURV. MON. 19 PT."
LOCATION: IN WELL MONUMENT AT POINT EGCS-3048
RECORD FROM: RECORD OF SURVEY MAP 14236
ELEVATION: 1336.773 DATUM: NGVD 29 MSL

PRIVATE CONTRACT

SHEET 16 | COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS | 25 ~~23~~ SHEETS

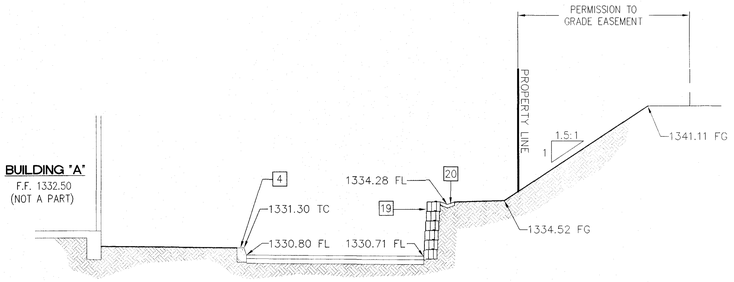
ANCHOR RETAINING WALL PLANS FOR:
MILLER ROAD PLAZA
PORTION OF PARCEL 2 & 3 P.M. NO. 8636
CALIFORNIA COORDINATE INDEX [illegible]-1761

APPROVED FOR:
MOHAMAD FAHRROONE
COUNTY ENGINEER
By: _____ 4-11-14 DATE

ENGINEER OF WORK: _____ 3/26/13 DATE
CHECKED BY: N/A
APPROVAL DATE: 4-11-14
DRAWING PDS2012-2700-[illegible]-14

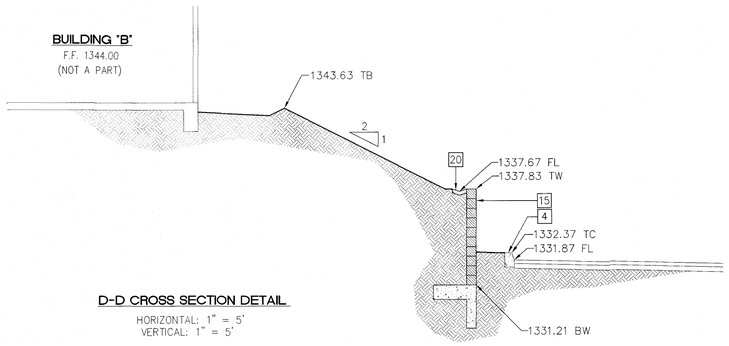
ENGINEER: RED ONE ENGINEERING
TELEPHONE: 760-410-1665

R:\1 Active projects\Miller Road Plaza\Construction Drawings\C521-287PP0.dwg, SHEET 16, 8/21/2013 2:59:08 PM



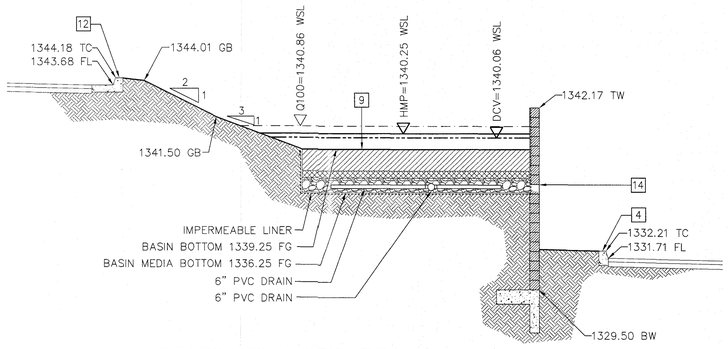
C-C CROSS SECTION DETAIL

HORIZONTAL: 1" = 5'
VERTICAL: 1" = 5'



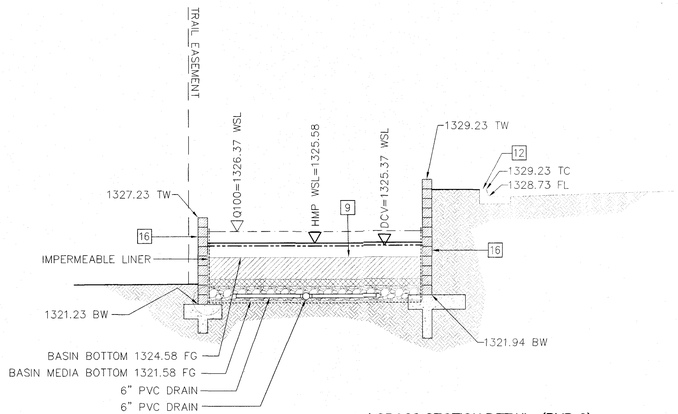
D-D CROSS SECTION DETAIL

HORIZONTAL: 1" = 5'
VERTICAL: 1" = 5'



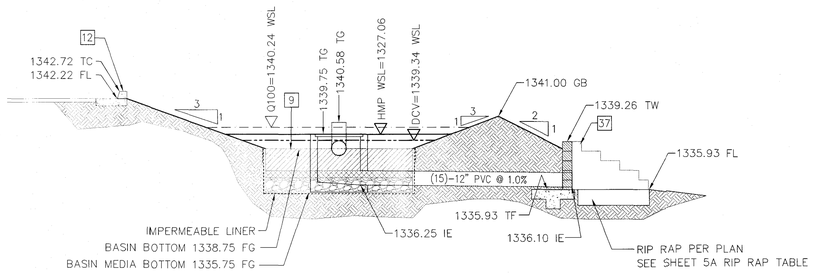
E-E CROSS SECTION DETAIL (BMP-1)

HORIZONTAL: 1" = 5'
VERTICAL: 1" = 5'



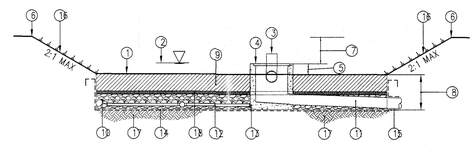
J-J CROSS SECTION DETAIL (BMP-3)

HORIZONTAL: 1" = 5'
VERTICAL: 1" = 5'



L-L CROSS SECTION DETAIL (BMP-4)

HORIZONTAL: 1" = 5'
VERTICAL: 1" = 5'



BIOFILTRATION BASIN (BMP-1, BMP-2, BMP-3, BMP-4) DETAIL

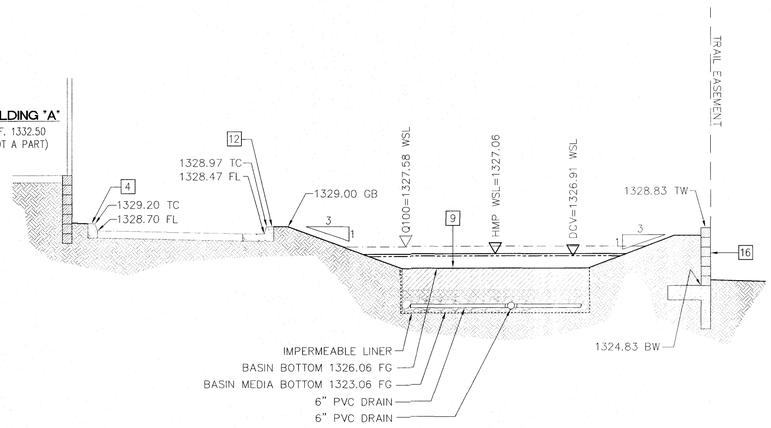
NOT TO SCALE

KEYNOTES

1. BASIN FINISH GRADE & BOTTOM OF BASIN SURFACE AREA
2. BASIN PONDING SURFACE ELEVATION & AREA
3. TOP OF EMERGENCY OVERFLOW WEIR ELEVATION
4. TOP OF GRATE ELEVATION
5. PONDING DEPTH (6" MIN TO 18" MAX)
6. TOP OF BASIN FINISH GRADE & SWALE FLOWLINE ELEVATION
7. 12" MIN. FREEBOARD
8. BASIN MAX DEPTH PER HYDROLOGY REPORT
9. 18" MEDIA WITH MIN. 5 IN/HR FILTRATION RATE, NUTRIENT SENSITIVE SOIL MIX PER COUNTY OF SAN DIEGO BMP DESIGN MANUAL APPENDIX F.2 (20% POROSITY)
10. 12" GRAVEL LAYER (40% POROSITY)
11. OUTLET PIPE, SIZE PER PLAN
12. 6" (MIN.) PVC PERFORATED PIPE CONFORMING TO ASTM D3034
13. PLACE THREADED END CAP & DRILL ORIFICE SIZE (IF SMALLER THAN 6")
14. 30 MIL NON-WOVEN IMPERMEABLE LINER
15. CLAMP LINER TO OUTLET PIPE FOR WATERTIGHT SEAL
16. PLANTING PER LANDSCAPE PLANS
17. EXISITING UNCOMPACTED SUBGRADE
18. 6" CHOKER LAYER (40% POROSITY)

BMP#	① BASIN FINISH GRADE/PROVIDED TREATMENT AREA BOTTOM OF BASIN (FT^2)	② BASIN PONDING SURFACE ELEVATION/AREA (FT^2)	③ TOP OF EMERGENCY OVERFLOW ELEVATION/ DIAMETER (IN)	④ TOP OF GRATE ELEV.	⑤ PONDING DEPTH (IN)	⑥ TOP OF BASIN FG	⑦ FREE BOARD (IN)	⑧ BASIN MAX DEPTH (FT)	⑨ ESM MEDIA DEPTH (IN)	⑩ (D) GRAVEL DEPTH (IN)	⑪ OUTLET PIPE DIA. (IN)	⑫ PERF. PIPE DIA. (IN)	⑬ BOTTOM ORIFICE DIAMETER (IN)	⑱ CHOKER GRAVEL DEPTH (IN)
BMP-1	1339.25/1,534	1340.25/1,914	1341.08/10	1340.25	12	1342.17	12	3	18	12	12	6	0.84	6
BMP-2	1326.06/1,084	1327.06/1,688	1327.89/10	1327.06	12	1328.31	12	3	18	12	12	6	0.68	6
BMP-3	1324.58/2,627	1325.58/2,627	1326.41/10	1325.58	12	1327.33	12	3	18	12	12	6	0.96	6
BMP-4	1338.75/1,061	1339.75/1,704	1340.58/10	1339.75	12	1340.75	12	3	18	12	12	6	0.60	6

(D) GRAVEL DEPTH INCLUDES 3" DEAD STORAGE BELOW SUBDRAIN INVERT ELEVATION



K-K CROSS SECTION DETAIL (BMP-2)

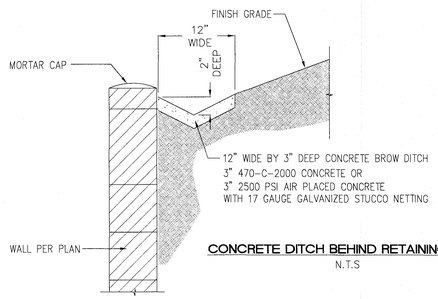
HORIZONTAL: 1" = 5'
VERTICAL: 1" = 5'

CONSTRUCTION LEGEND FOR SURFACE IMPROVEMENTS

- 4 6" CONCRETE CURB PER S.D.R.S.D. G-1
- 9 BIORETENTION DEVICE SEE SHEETS 16A
- 12 CONCRETE CURB AND GUTTER PER S.D.R.S.D. G-2
- 14 MASONRY RETAINING WALL "B" PER DETAIL "S" ON SHEET 8 AND WALL PROFILE ON SHEET 7A
- 15 MASONRY RETAINING WALL "D" & "F" PER DETAILS "1 AND 3" ON SHEET 8B AND WALL PROFILE ON SHEET 7B
- 16 MASONRY RETAINING WALL "C" & "E" PER DETAIL "3" ON SHEET 8B AND WALL PROFILE ON SHEET 7C
- 19 LANDSCAPE WALL BY OTHERS SEE DETAILS SHEET 7B
- 20 12" WIDE x 2" DEEP CONCRETE DITCH SEE DETAIL ON SHEET 16A
- 37 RETAINING WALL PER SDRSD C-4

ABBREVIATIONS

BC	BEGIN CURVE
BVC	BEGIN VERTICAL CURVE
BO	BLOW-OFF
BW	BOTTOM OF WALL ELEVATION
CL	CENTERLINE
CO	CLEAN-OUT
EA	EACH
EC	END CURVE
EP	EDGE OF PAVEMENT ELEVATION
EVC	END VERTICAL CURVE
FB	FREE BOARD
FG	FINISHED GRADE ELEVATION
FH	FIRE HYDRANT
FL	FLOW LINE ELEVATION
FS	FINISHED SURFACE ELEVATION
G	GUTTER ELEVATION
GB	GRADE BREAK
GV	GATE VALVE
H	HEIGHT
HP	HIGH POINT
IE	INVERT ELEVATION
LF	LINEAR FEET
LP	LOW POINT
MAX	MAXIMUM
MIN	MINIMUM
MH	MANHOLE
OAE	OR APPROVED EQUIVALENT
PCC	POINT OF COMPOUND CURVE
PRC	POINT OF REVERSING CURVE
PL	PROPERTY LINE
S	SEWER
SD	STORM DRAIN
SHLDR	SHOULDER ELEVATION
SF	SQUARE FEET
TB	TOP OF BERM
TC	TOP OF CURB ELEVATION
TF	TOP OF FOOTING ELEVATION
TG	TOP OF GRATE ELEVATION
TOB	TOP OF BOX ELEVATION
TW	TOP OF WALL ELEVATION
TYP	TYPICAL
W	WATER
WM	WATER METER



CONCRETE DITCH BEHIND RETAINING WALL

N.T.S

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:
5	NEW SHEET		12.16.21

5 PRIVATE CONTRACT 5

SHEET	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	SHEETS
16A		625

SECTIONS FOR:
MILLER ROAD PLAZA
POR. PARCEL 2 AND 3, P.M. NO. 8636
CALIFORNIA COORDINATE INDEX: 386-1761

APPROVED FOR:
WILLIAM P. MORGAN
COUNTY ENGINEER
BY: _____ DATE: 12.16.2021

ENGINEER OF WORK:
GARY R. WYNN P.E. C-43202
DATE

CHECKED BY:
APPROVAL DATE:
GRADING PERMIT NO.
PDS2012-2700-15688

REGISTERED PROFESSIONAL ENGINEER
GARY R. WYNN
No. C 43202
CIVIL
STATE OF CALIFORNIA

WYNN ENGINEERING, INC.
27315 VALLEY CENTER ROAD
VALLEY CENTER, CA. 92082
(760) 749-8722 (310) 306-9728
FAX (760) 749-9412

WEI	WEI JOB NO. 16-027	12-01-2021

RECORD PLAN

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

PERMITS

LANDSCAPE PLAN NO. _____
SITE PLAN REVIEW NO. STP-08-013M3
STREET IMPROVEMENT PLANS: PDS2013-LDPIIP-00005
NOTICE OF INTENT(WDID): 9 37C367589

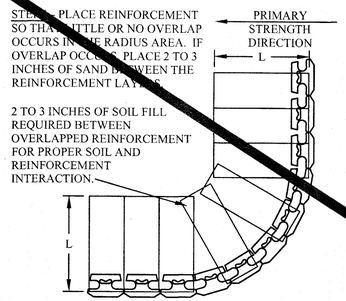
BENCH MARK

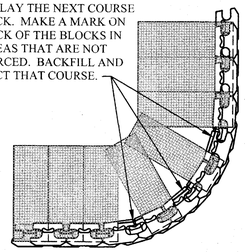
DESCRIPTION: 2-1/2" BRASS CAP STAMPED "S.D. SURV. MON. 19 PT."
LOCATION: IN WELL MONUMENT AT POINT EGCS-3048
RECORD FROM: RECORD OF SURVEY MAP 14235
ELEVATION: 1336.773 DATUM: NGVD 29 MSL

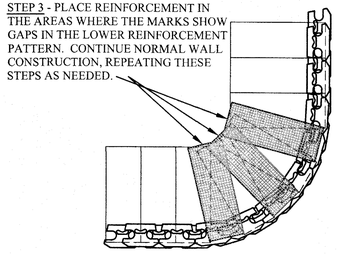
Date Plotted : Dec 01, 2021 - 4:11pm

F:\2016\16-027 ZERVAS - MILLER ROAD\DWG\SITE PLAN 2021\ 16-027 ZERVAS MILLER ROAD DPW-LGP-PC.DWG

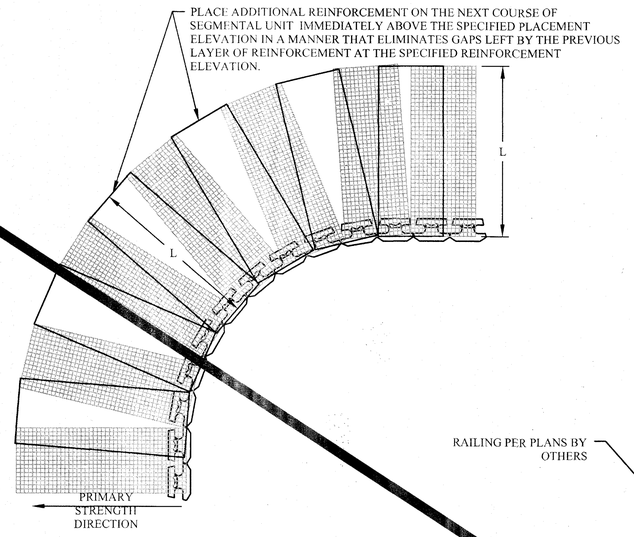
ENGINEER: WYNN ENGINEERING INC.
TELEPHONE: 1-760-749-8722



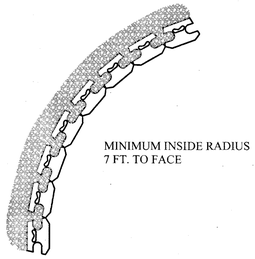


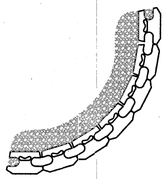


A 17 Anchor™ Vertica® Retaining Wall
OUTSIDE CURVE DETAILS
NOT TO SCALE

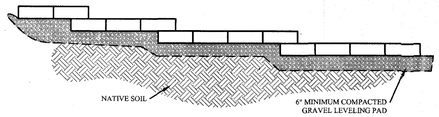


B 17 Anchor™ Vertica® Retaining Wall
INSIDE CURVE DETAILS
NOT TO SCALE

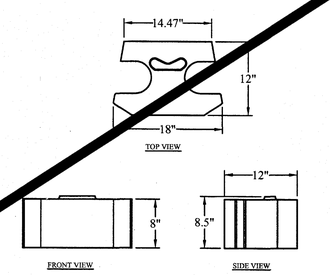




C 17 Anchor™ Vertica® Retaining Wall
MINIMUM INSIDE/OUTISDE RADIUS DETAIL
NTS

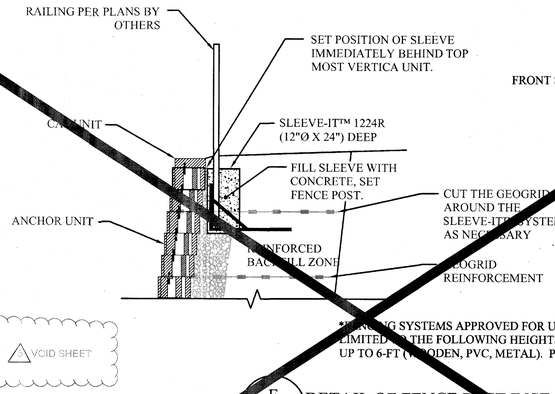


D 17 Anchor™ Vertica® Retaining Wall
LEVELING PAD STEP DETAIL
NOT TO SCALE



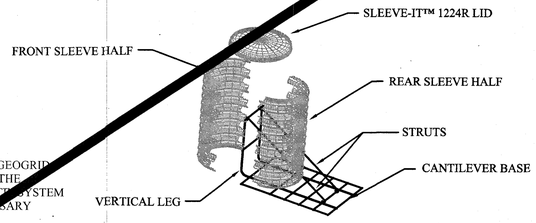
BEVELED UNITS

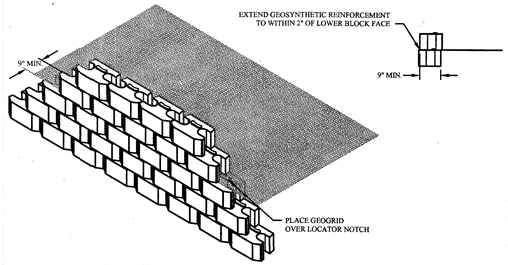
E 17 Anchor™ Vertica® Retaining Wall
3-WAY BLOCK VIEWS
NOT TO SCALE



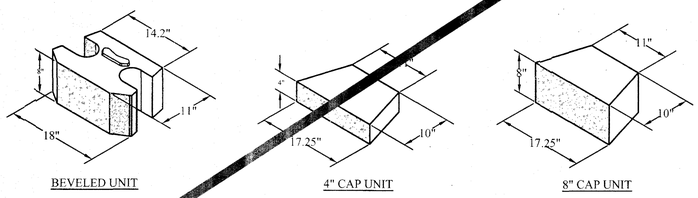
F 17 DETAIL OF FENCE POST INSTALLATION USING SLEEVE-IT™ 1224R
NOT TO SCALE

* RAILING SYSTEMS APPROVED FOR USE WITH THE SLEEVE-IT™ 1224R ARE LIMITED TO THE FOLLOWING HEIGHTS: CHAIN LINK - UP TO 8-FT, PRIVACY - UP TO 6-FT (WOODEN, PVC, METAL). POST SIZE 4"X4" MAX.

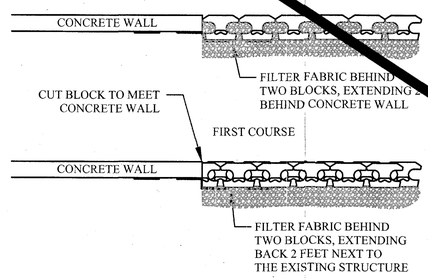




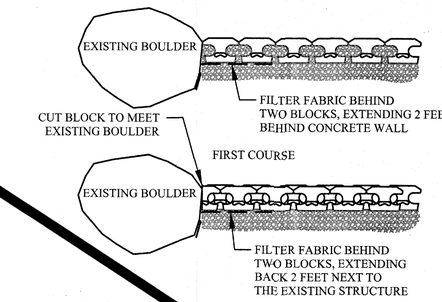
G 17 Anchor™ Vertica® Retaining Wall
REINFORCEMENT CONNECTION DETAIL
NOT TO SCALE



H 17 Anchor™ Vertica® Retaining Wall
ISOMETRIC BLOCK VIEWS
NOT TO SCALE



I 17 Anchor™ Vertica® Retaining Wall
ANCHOR WALL ABUTTING CONCRETE WALL
NOT TO SCALE



J 17 Anchor™ Vertica® Retaining Wall
ANCHOR WALL ABUTTING EXISTING BOULDER
NOT TO SCALE

REGISTERED PROFESSIONAL ENGINEER — MATTHEW REEHAN REED — No. 68429 Exp. 9/30/15 — CIVIL — STATE OF CALIFORNIA

prepared by
red one engineering inc
1295 distribution way
vista, ca 92081
phone 760.410.1665
facsimile 760.509.0078
matt@red1engineering.com

PREPARED FOR THE EXCLUSIVE USE OF
1295 DISTRIBUTION WAY
VISTA, CA 92081
TEL 760 509 0079
FAX 760 509 0078
GEOGRID
RETAINING WALL SYSTEMS, INC

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

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:
1	REVISE SHEET COUNT	jlw	5/5/17
2	VOID SHEET		12.6.21

PERMITS
REZONE PERMIT NO. N/A
SITE PLAN REVIEW NO. S-08-013
STREET IMPROVEMENT PLANS CG XXXX
NOTICE OF INTENT(WDID): 9 37C339975

BENCH MARK
DESCRIPTION: 2-1/2" BRASS CAP STAMPED "S.D. SURV. MON. 19 PT."
LOCATION: IN WELL MONUMENT AT POINT EGCS-3048
RECORD FROM: RECORD OF SURVEY MAP 14236
ELEVATION: 1336.773 DATUM: NGVD 29 MSL

PRIVATE CONTRACT

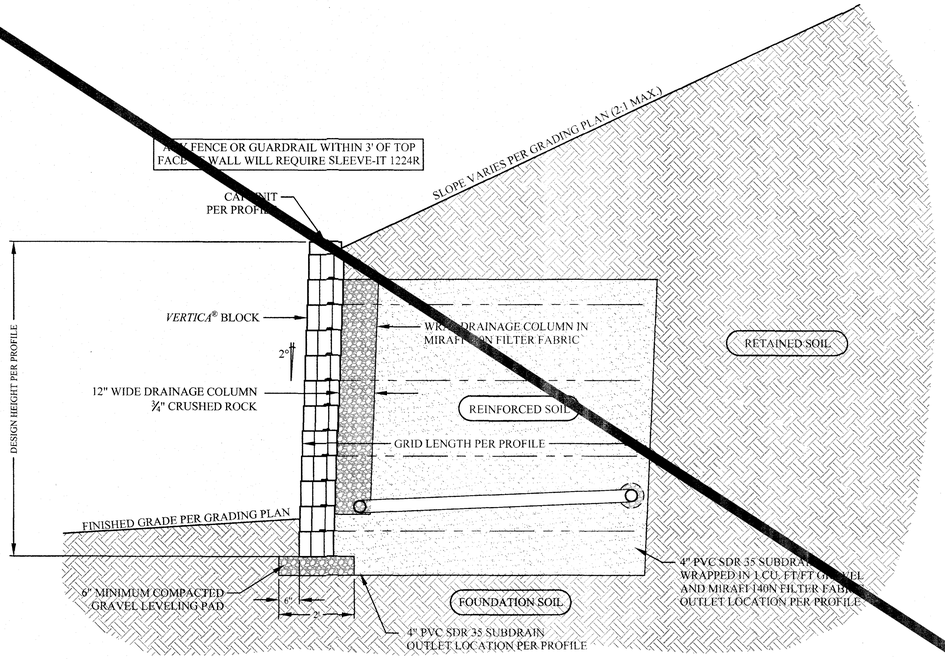
SHEET 17 — COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS — 25 ~~23~~ SHEETS

ANCHOR RETAINING WALL PLANS FOR:
MILLER ROAD PLAZA
POR. PARCEL 2 & 3 P.M. NO. 8636
CALIFORNIA COORDINATE INDEX 1761

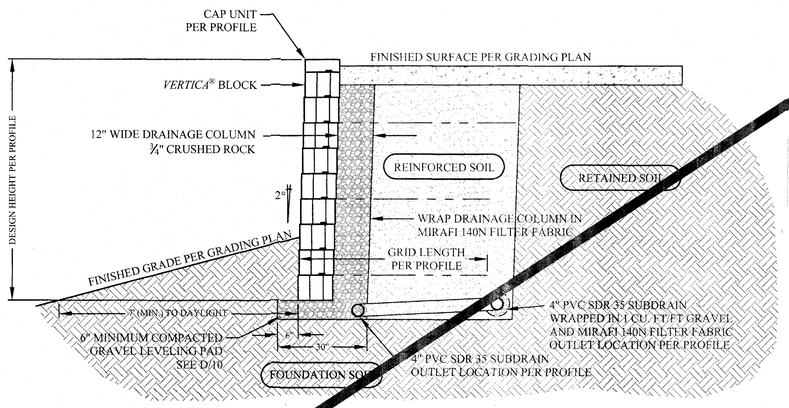
APPROVED FOR: MOHAMAD FAGHIHIDOOST, COUNTY ENGINEER
BY: Kenneth J. Brazell DATE: 4-11-14
ENGINEER OF WORK: MATTHEW M. REEHAN, CIVIL, 68429, REGISTERED PROFESSIONAL ENGINEER — DATE: 9/20/13
CHECKED BY: N/A
APPROVAL DATE: 4-11-14
GRADING PERMIT NO. PDS2012-2700-5[illegible]

ENGINEER: RED ONE ENGINEERING
TELEPHONE: 760-410-1665

R:\1 Active projects\Miller Road Plaza\Construction Drawings\C521-287DS0.dwg, SHEET 17, 8/21/2013 2:59:27 PM

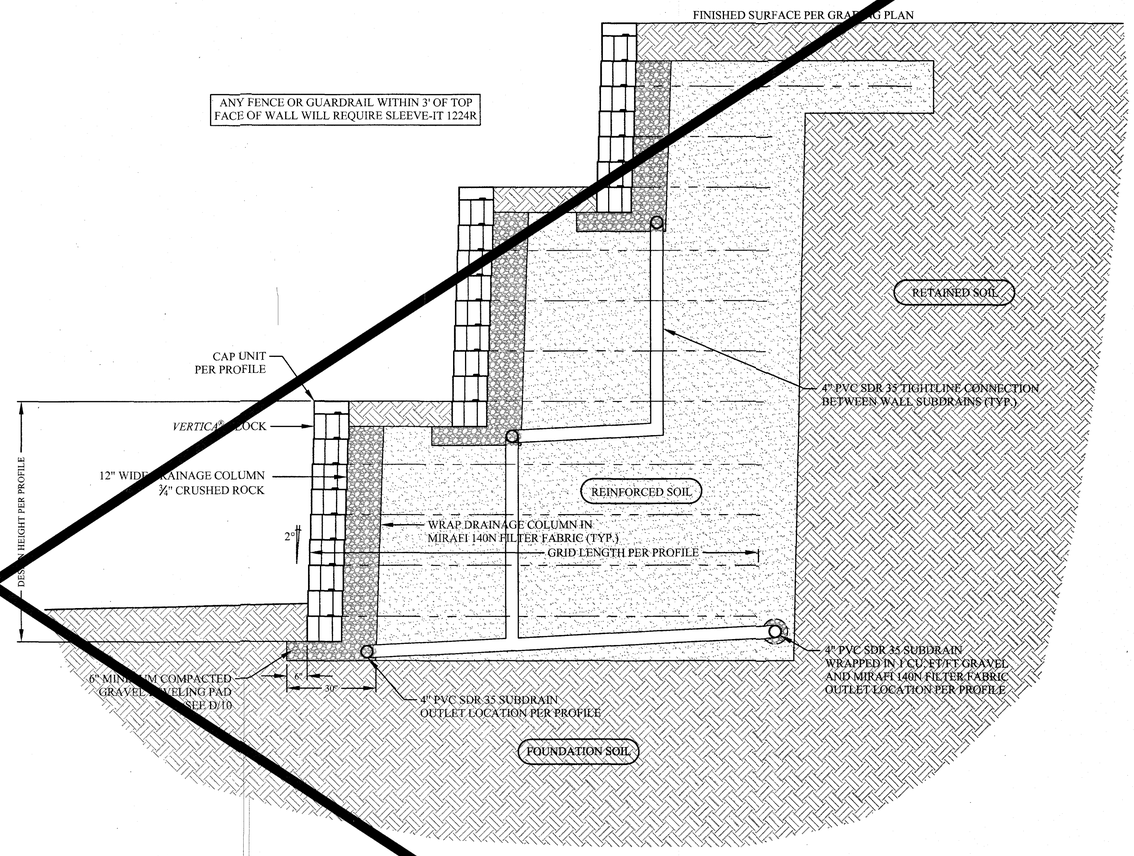


A/18 Anchor™ Vertica® Retaining Wall
TYPICAL REINFORCED WALL SECTION
NOT TO SCALE - WALL #2



B/18 Anchor™ Vertica® Retaining Wall
TYPICAL REINFORCED WALL SECTION
NOT TO SCALE - WALL #1

5 VOID SHEET



C/18 Anchor™ Vertica® Retaining Wall
TYPICAL REINFORCED TERRACE WALL SECTION
NOT TO SCALE - WALL #3, #4 AND #5

REGISTERED PROFESSIONAL ENGINEER MATTHEW MEEHAN MERRITT No. 68429 Exp. 9/30/15 CIVIL STATE OF CALIFORNIA

prepared by
red one engineering inc
1295 distribution way
vista, ca 92081
phone 760.410.1665
facsimile 760.509.0078
matt@red1engineering.com

PREPARED FOR THE EXCLUSIVE USE OF
1295 DISTRIBUTION WAY
VISTA, CA 92081
TEL 760 509 0079
FAX 760 509 0078
GEOGRID
RETAINING WALL SYSTEMS, INC

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

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:
5	REVISE SHEET COUNT		5/5/17
5	VOID SHEET		12.16.21

PERMITS
REZONE PERMIT NO. N/A
SITE PLAN REVIEW NO. S-08-013
STREET IMPROVEMENT PLANS CG XXXX
NOTICE OF INTENT(WDID): 9 37C339975

BENCH MARK
DESCRIPTION: 2-1/2" BRASS CAP STAMPED "S.D. SURV. MON. 19 PT."
LOCATION: IN WELL MONUMENT AT POINT EGCS-3048
RECORD FROM: RECORD OF SURVEY MAP 14236
ELEVATION: 1336.773 DATUM: NGVD 29 MSL

PRIVATE CONTRACT

SHEET 18 | COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS | 25 ~~23~~ SHEETS

ANCHOR RETAINING WALL PLANS FOR:
MILLER ROAD PLAZA
PORTION OF PARCEL 2 & LOT 3 P.M. NO. 8636
CALIFORNIA COORDINATE INDEX ~~6~~ 6-1761

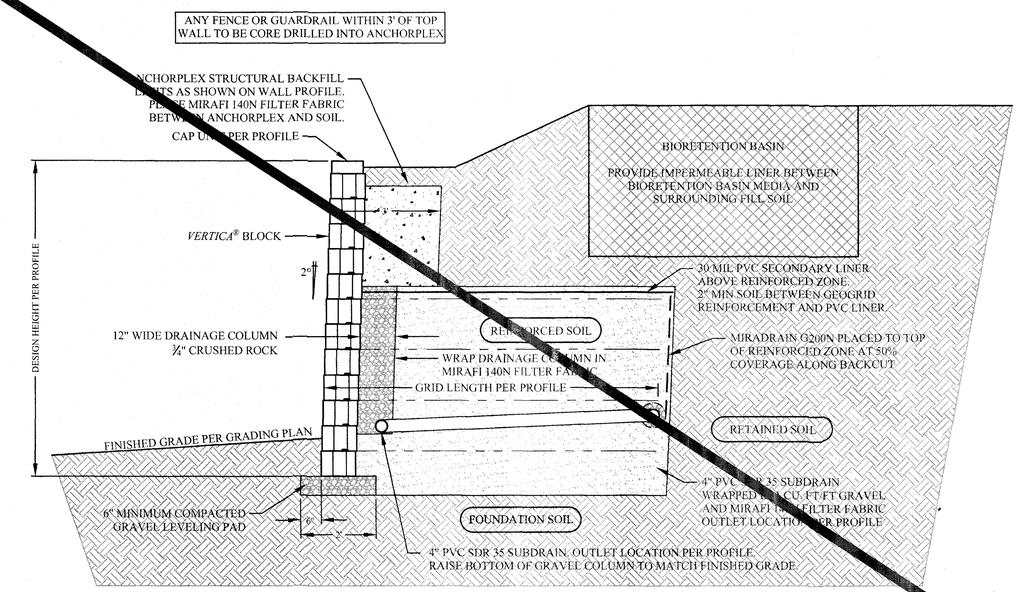
APPROVED FOR: MOHAMAD FAGHIHZADEH COUNTY ENGINEER
Kenneth J. Brazell
BY: 4-11-14 DATE

ENGINEER OF WORK: MATTHEW M. MERRITT R.C.E. 68429 EXPIRES 9/30/15
BY: [signature] DATE 12/20/13

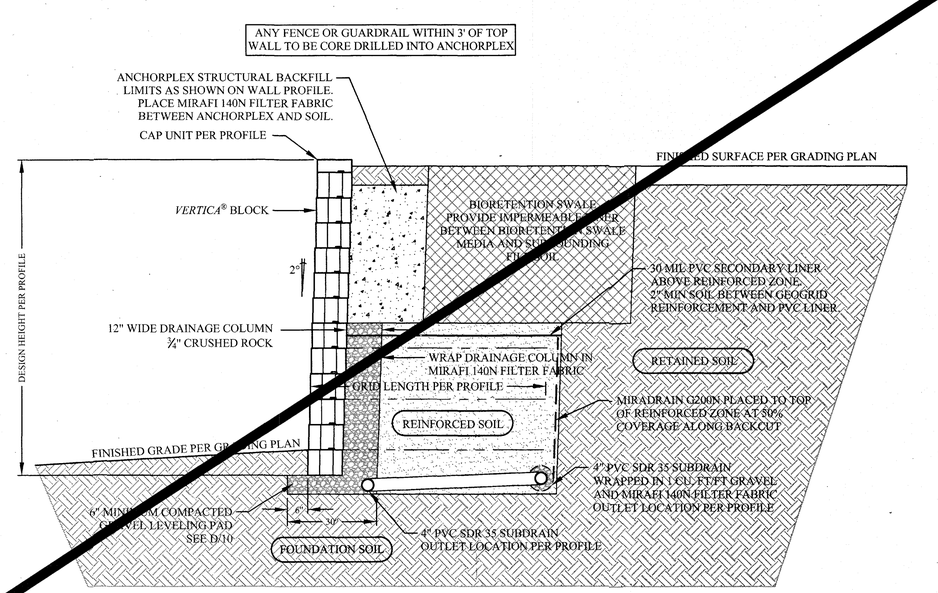
CHECKED BY: N/A
APPROVAL DATE: 4-11-14
DRAWING NO. PDS2012-2700-[illegible]

ENGINEER: RED ONE ENGINEERING
TELEPHONE: 760-410-1665

R:\1 Active projects\Miller Road Plaza\Construction Drawings\C521-287DS0.dwg, SHEET 18, 8/21/2013 2:59:33 PM

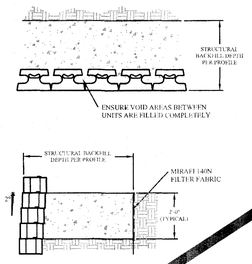


A / 19 Anchor™ Vertica® Retaining Wall
TYPICAL REINFORCED WALL SECTION
NOT TO SCALE - WALL #2 STA 1+98 TO 2+70



B / 19 Anchor™ Vertica® Retaining Wall
TYPICAL REINFORCED WALL SECTION
NOT TO SCALE - WALL #1

NOTES:
1. STRUCTURAL BACKFILL IS TO BE PLACED IN 8- TO 24-INCH (TYPICAL) LIFTS
2. STRUCTURAL BACKFILL MUST BE MANIPULATED INTO ALL VOIDS BETWEEN BLOCKS TO ENSURE ADEQUATE BOND BETWEEN BLOCK AND CONCRETE MASS.



C / 19 Anchor™ Vertica® Retaining Wall
TYPICAL ANCHORPLEX POUR SECTION
NOT TO SCALE

5 VOID SHEET

REGISTERED PROFESSIONAL ENGINEER — MATTHEW MEEHAN HERRITT — No. 68429 — Exp. 9/30/15 — CIVIL — STATE OF CALIFORNIA

prepared by
red one engineering inc
1295 distribution way
vista, ca 92081
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GEOGRID
RETAINING WALL SYSTEMS, INC

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

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:
5	REVISE SHEET COUNT	~~M.~~	5/5/13
5	VOID SHEET	glas	12.16.2/

PERMITS
REZONE PERMIT NO. N/A
SITE PLAN REVIEW NO. S-08-013
STREET IMPROVEMENT PLANS CG XXXX
NOTICE OF INTENT(WDID): 9 37C339975

BENCH MARK
DESCRIPTION: 2-1/2" BRASS CAP STAMPED "S.D. SURV. MON. 19 PT."
LOCATION: IN WELL MONUMENT AT POINT EGCS-3048
RECORD FROM: RECORD OF SURVEY MAP 14236
ELEVATION: 1336.773 DATUM: NGVD 29 MSL

PRIVATE CONTRACT
5
SHEET 19 — COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS — 25 ~~23~~ SHEETS
ANCHOR RETAINING WALL PLANS FOR:
MILLER ROAD PLAZA
POR. PARCEL 2 & 3 P.M. NO. 8636
CALIFORNIA COORDINATE INDEX ~~766-1761~~ 1-14
APPROVED FOR: MOHAMAD FAKHERRDINE, COUNTY ENGINEER
Kenneth J. Bragg 4-11-14 DATE
ENGINEER OF WORK: MATTHEW M. HERRITT, R.C.E. 68429 DATE 8/20/13 EXPIRES 3/30/15
CHECKED BY: N/A DRAWING NO. 14
APPROVAL DATE: 4-11-14 PDS2012-2700-~~5588~~

ENGINEER: RED ONE ENGINEERING
TELEPHONE: 760-410-1665

MILLER ROAD PLAZA
GEOSTORAGE PLANS

CONSTRUCTION REQUIREMENTS FOR THE INSTALLATION OF A GEOSTORAGE® STORM WATER DETENTION SYSTEM

THE GEOSTORAGE® UNDERGROUND STORMWATER DETENTION SYSTEM DETAILED IN THESE DOCUMENTS IS A PATENTED TECHNOLOGY LICENSED BY GEOSTORAGE CORP. ONLY GEOSTORAGE CORP., OR ONE OF ITS REGIONAL INSTALLERS/ENGINEERS IS AUTHORIZED TO PROVIDE ENGINEERING OR CONSTRUCTION SERVICES RELATED TO THIS SYSTEM.

1.0 MATERIAL

1.1 BACKFILL SOILS

1.1.1 REINFORCED AND RETAINED BACKFILL SHALL BE ¾-INCH TO 1 ½ INCH UNIFORMLY GRADED, ANGULAR COARSE AGGREGATE WITH A WASH LOSS OF NO MORE THAN 0.5% AND SHALL HAVE 40% VOIDS AS MEASURED BY ASTM-C29. THE MATERIAL SHALL MEET ASTM D2488 ANGULAR OR SUBANGULAR CLASSIFICATION. THE MATERIAL HARDNESS SHALL BE MEASURED PER AASHTO T96 (LA ABRASION TEST) AND EXHIBIT A MAXIMUM LOSS OF 40%. FREEZE-THAW RESISTANCE SHALL BE MEASURED PER AASHTO T104 WITH A MAXIMUM LOSS OF 12% AFTER 5 CYCLES IN MAGNESIUM SULFATE SOLUTION. BACKFILL SHALL BE APPROVED BY OWNER OR OWNER'S REPRESENTATIVE.

1.1.2 BASE LAYER MATERIALS (AS NEEDED-SEE SECTION 2.3) BELOW THE LINER SHALL MEET THE REQUIREMENTS OF AASHTO M 145 FOR A-1, A-2, OR A-3." (< 35% PASSING #200 SIEVES).

1.2 LINER MATERIALS

1.2.1 GEOTEXTILE

1.2.1.A GEOTEXTILE SHALL BE 8 OZ/SY (MARV) MATERIAL PER ASTM 5261 MANUFACTURED FROM POLYPROPYLENE OR POLYESTER FIBERS. THE PUNCTURE STRENGTH SHALL BE 240 LBS (MARV) PER ASTM D483.

1.2.1.B IMPERMEABLE LINER SHALL BE 30-MIL PVC LINER, SPECIFIC GRAVITY (ASTM D792): 120 (MIN.), TENSILE (ASTM D882): 73 LB/IN. WIDTH (MIN.), ELONGATION AT BREAK (ASTM D882) 380% (MIN.), MODULUS (ASTM D882): 30 LB/IN. WIDTH (MIN.), TEAR RESISTANCE (ASTM D1004) 30 LB/IN. (MIN.)

1.3 GEOSYNTHETIC REINFORCEMENT SHALL BE A GEOGRID WITH A LONG TERM ALLOWABLE DESIGN STRENGTH (LTADS) EQUAL TO 1,900 LBS/FT WITH THE SPECIFIED BACKFILL IN THE LOAD BEARING DIRECTION (PERPENDICULAR TO THE WALL FACE) PER GRI-GG4. THE APPERTURE DIMENSION SHALL BE 3/8 INCH X 3/8 INCH (MIN) AND 1.0 INCH X 1.0 INCH (MAX).

1.4 CONCRETE AND REINFORCING STEEL SHALL MEET THE REQUIREMENTS NOTED ON THE APPLICABLE PLAN SHEETS.

2.0 TECHNICAL REQUIREMENTS

2.1 THE OWNER OR OWNER'S REPRESENTATIVE SHALL VERIFY THAT THE BACKFILL MEETS THE GRADATION AND OTHER REQUIREMENTS OF SECTION 1.1 PRIOR TO PROCEEDING WITH CONSTRUCTION.

2.2 PRIOR TO CONSTRUCTION OF THE GEOSTORAGE® SYSTEM, THE CONTRACTOR SHALL CLEAR AND GRUB THE FLOOR OF THE GEOSTORAGE® SYSTEM REMOVING TOPSOIL, BRUSH, SOD OR OTHER ORGANIC OR DELETERIOUS MATERIAL. ANY UNSUITABLE SOILS SHALL BE OVER-EXCAVATED, REPLACED AND COMPACTED WITH THE BASE LAYER BACKFILL.

2.3 FOUNDATION SHALL BE PROOF ROLL INSPECTED USING A LOADED TRUCK WITH 18 KIP AXLE LOADS. THE OWNER OR THE OWNER'S REPRESENTATIVE SHALL CONFIRM THAT THE FOUNDATION HAS BEEN PROPERLY PREPARED BEFORE PLACEMENT OF THE LINER SYSTEM..

2.4 STONE BACKFILL FOR THE PERIMETER WALLS AND PIERS (WHERE APPLICABLE) SHALL BE PLACED IN LAYERS NOT EXCEEDING 9 INCHES. COMPACTION WILL BE DETERMINED ON THE BASIS OF NONMOVEMENT OF THE MATERIAL. THREE PASSES OF A VIBRATORY PLATE WITH A CETRIGUGAL FORCE OF 2500 LBS. SHALL BE REQUIRED ON EVERY LIFT.

2.5 TESTING METHODS AND FREQUENCY AND VERIFICATION OF MATERIAL PROPERIES SHALL BE THE RESPONSIBILITY OF THE OWNER OR OWNER'S REPRESENTATIVE.

2.6 A COMPLETE SET OF APPROVED CONSTRUCTION DRAWINGS AND CONTRACT SPECIFICATIONS SHALL BE ON SITE AT ALL TIMES DURING THE CONSTRUCTION OF THE GEOSTORAGE® SYSTEM.

3.0 INSTALLATION

3.1 GEOTEXTILE SHALL BE PLACED TO THE LINES AND GRADES SHOWN ON THE PLANS. GEOTEXTILE SEAMS SHALL BE OVERLAPPED 3 FEET OR SEWN IN A "PRAYER" SEAM WITH A 6 INCH OVERLAP OR HEAT LYSTERED WITH A 6 INCH OVERLAP. AT PIPE PENETRATIONS THE GEOTEXTILE SHALL BE CUT AND CLAMPED AS SHOWN ON THE PLANS TO INSURE NO SOILS MIGRATE THROUGH THE OPENING.

3.2 WELDED WIRE FORMS SHALL BE PLACED TO THE LINES AND GRADES SHOWN ON THE PLANS. WHERE NECESSARY THE FORMS SHALL BE NESTED AS SHOWN ON THE PLANS TO MATCH THE REQUIRED WALL HEIGHT.

3.3 GEOSYNTHETIC REINFORCEMENT SHALL BE PLACED TO THE LINES AND GRADES SHOWN ON THE PLANS.

3.3.1 GEOSYNTHETIC REINFORCEMNT SHALL BE CONTINUOUS THROUGHOUT THEIR EMBEDMENT LENGTHS. GEOSYNTHETIC REINFORCEMENT SEAMS SHALL BE OVERLAPPED A MINIMUM OF 6 INCHES AT THE FACE OF ALL WALLS AND PIERS.

3.3.2 GEOSYNTHETIC REINFORCEMENT SHALL BE PLACED FLAT AND FREE OF WRINKLES. GEOSYNTHETIC MATERIAL USED TO WRAP THE FACE OF WALLS AND PIERS SHOULD BE PULLED TAUGHT BEFORE BEING BACKFILLED... IF SLACK IS OBSERVED IN THE WRAP FACE OF WALLS OR PIERS, MATERIALS SHALL BE REMOVED AS NEEDED TO REMEDY THE SITUATION.

3.3.3 GEOSYNTHETIC REINFORCEMENT LOCATED AT MID HEIGHT OF THE WELDED WIRE FORM SHALL BE CUT PERPENDICULAR TO THE WALL LENGTH TO ACCOMMODATE THE SUPPORT STRUTS. THE FRONT OF THE GEOSYSNTHETIC REINFORCEMENT SHALL BUTT AGAINST THE WALL FACE. .

3.3.4 AT WALL AND PIER CORNERS GEOGRID SHALL BE INSTALLED TO PREVENT RAVELING OF STONE AT A CORNER SEAM. THE GEOGRID SHALL EXTEND A MINIMUM OF 18 INCHES ON EITHER SIDE OF THE SEAM. THE TOP AND BOTTOM OF THE GEOGRID SPLICE SHALL BE CUT TO ALLOW FOR THE 90 DEGREE BEND. PLASTIC TIES SHALL BE USED TO SECURE THE GEOGRID SPLICE TO THE MAIN REINFORCEMENT ON BOTH SIDES OF THE SPLICE. WHERE THE WALL IS STEPPED A SPLICE PATCH SHALL BE PLACED OVER THE EXPOSED STONE AT THE CORNER NOTCH AND SECURED WITH PLASTIC TIES.

3.3.5 TRACKED CONSTRUCTION EQUIPMENT SHALL NOT BE OPERATED DIRECTLY ON ANY GEOSYNTHETIC MATERIAL. RUBBER-TIRED VEHICLES MAY OPERATE ON TOP OF GEOSYNTHETIC MATERIALS AT SPEEDS LESS THAN 10 MPH. SUDDEN BRAKING AND SHARP TURNS SHALL NOT BE PERMITTED.

3.3.6 IN THE EVENT THAT THE GEOSYNTHETIC REINFORCEMENT IS TORN AT THE FACE OF A WALL OR PIER THE OWNER OR OWNER'S REPRESENTATIVE ON SITE SHALL BE NOTIFIED IMMEDIATELY. AT THE OWNER'S DISCRETION THE TEAR MAY BE REPAIRED WITH HDPE BRAID SPLICED OVER THE TEAR AND EXTENDING A MINIMUM OF 6 INCHES BEYOND THE TEAR. THE BRAID CONNECTION TO THE GEOSYNTHETIC REINFORCEMENT SHALL HAVE A MINIMUM ULTIMATE STRENGTH OF 1900 LBS/FT.

4.0 DRAINAGE

4.1 A TEMPORARY SOIL BERM SHALL BE CONSTRUCTED AROUND THE GEOSTORAGE® SYSTEM EXCAVATION TO DIVERT ALL WATER RUNOFF AWAY FROM THE WORK AREA.

4.2 IT SHALL BE THE OWNER OR OWNER'S REPRESENTATIVE RESPONSIBILTY TO INSURE THAT THE SEASONAL HIGH WATER TABLE IS A MINIMUM OF 3 FEET BELOW THE LINER SYSTEM.

5.0 CHANGES TO THE DESIGN

5.1 NO CHANGES TO THE DESIGN SPECIFICATIONS OR DIMENSIONS SHALL BE MADE WITHOUT THE EXPRESS, WRITTEN CONSENT OF RED ONE ENGINEERING.

6.0 DESIGN PARAMETERS

6.1 METHODOLGY
MECHANICALLY STABILIZED EARTH (MSE) STRUCTURES: FHWA-SA-96-071

6.2 LOADING: HS-20

6.3 CRUSHED STONE : PHI = 38 DEGREES C= 0 PSF GAMMA = 100 PCF.
FOUNDATION SOIL: PHI = 30 DEGREES C= 0 PSF GAMMA = 125 PCF

*CONTACT RED ONE ENGINEERING IF PRE-CONSTRUCTION TESTING REVEALS SITE SOILS DO NOT MEET THE DESIGN VALUES

6.4 SEISMIC ACCELERATION COEFFECIENT: 0.38g

NOTE: SETTLEMENTS ASSOCIATED WITH THE CONSOLIDATION OF A COMPRESSIBLE SOIL BELOW THE BASE LAYER HAVE NOT BEEN INVESTIGATED AND ARE BEYOND THE SCOPE OF THESE GUIDELINES. IT IS THE OWNER'S RESPONSIBILITY TO NOTIFY THE ENGINEER OF RECORD OF ANY POTENTIAL SETTLEMENTS.

7.0 DESIGN CAPACITY: UPPER BASIN = 4480 CUBIC FEET, LOWER BASIN = 3584 CUBIC FEET

8.0 REFERENCE DOCUMENTS

AQUATERRA ENGINEERING, INC., GRADING PLAN FOR MILLER ROAD PLAZA, DATED DECEMBER 4, 2012.

GEOSOILS, INC., PRELIMINARY GEOTECHNICAL EVALUATION, W.O. 5654-A2-SC, DATED FEBRUARY 27, 2009.

5 VOID SHEET

MILLER ROAD PLAZA - 521-287 - GEOSTORAGE PLANS - 8-19-13

ENGINEER: RED ONE ENGINEERING
TELEPHONE: 760-410-1665

REGISTERED PROFESSIONAL ENGINEER
MATTHEW REE HAN REED
No. 68429
Exp. 9/30/15
CIVIL
STATE OF CALIFORNIA

prepared by
red one engineering inc
1295 distribution way
vista, ca 92081
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GEOGRID
RETAINING WALL SYSTEMS, INC

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

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:
4	REVISE SHEET COUNT	[illegible]	5/5/13
5	VOID SHEET	[illegible]	12.16.21

PERMITS
REZONE PERMIT NO. N/A
SITE PLAN REVIEW NO. S-08-013
STREET IMPROVEMENT PLANS CG XXXX
NOTICE OF INTENT(WDID): 9 37C339975

BENCH MARK
DESCRIPTION: 2-1/2" BRASS CAP STAMPED "S.D. SURV. MON. 19 PT."
LOCATION: IN WELL MONUMENT AT POINT EGCS-3048
RECORD FROM: RECORD OF SURVEY MAP 14236
ELEVATION: 1336.773 DATUM: NGVD 29 MSL

PRIVATE CONTRACT

SHEET 20 | COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS | 25 ~~23~~ SHEETS

GEOSTORAGE PLANS FOR:
MILLER ROAD PLAZA
POR. PARCEL 2 & 3 P.M. NO. 8636
CALIFORNIA COORDINATE INDEX 266-1761

APPROVED FOR: MOHAMAD FAGHIHZOOME COUNTY ENGINEER
Kenneth J. Brazell
BY: 4-11-14 DATE

ENGINEER OF WORK: JAMES M. MOUNT, R.C.E. 61 DATE: 12/26/13
CHECKED BY: N/A
APPROVING DATE: 4-11-14
DRAWING NO. PDS2012-2700-5658

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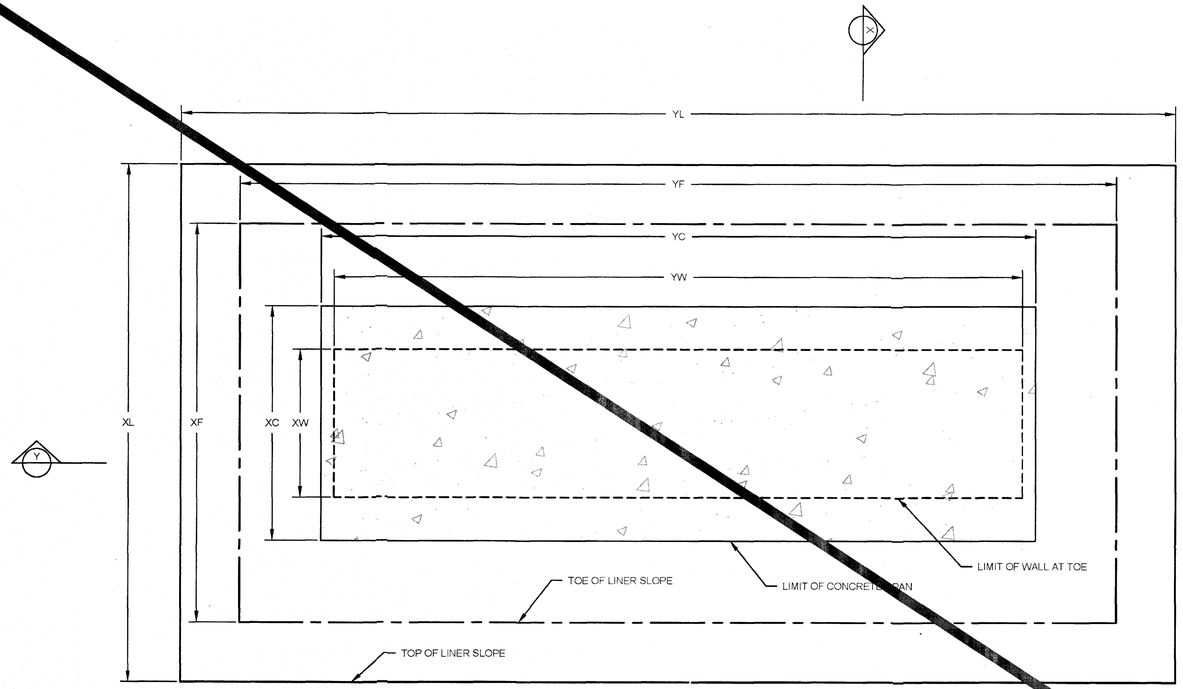
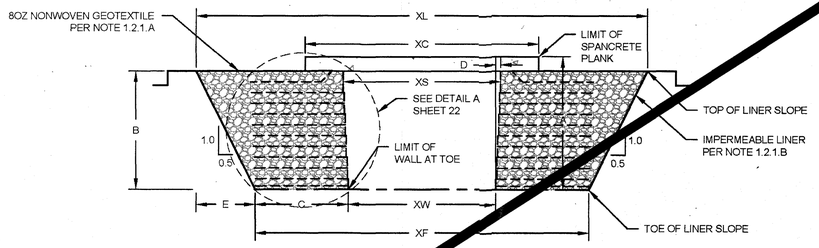


GeoStorage® Single Chamber

PLAN VIEW



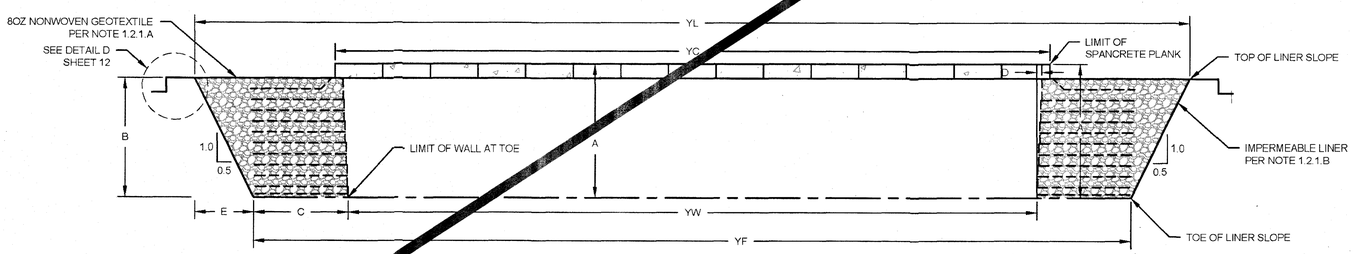
GeoStorage® Single Chamber

SECTION X

GeoStorage® Dimensions

EAST BASIN

A	BOTTOM OF BASIN TO TOP OF CONCRETE	8.00'
B	WALL HEIGHT	7.00'
C	WALL WIDTH	6.00'
D	WALL BATTER WIDTH	0.31'
E	WIDTH OF BACK CUT	3.50'
XW	WIDTH OF CHAMBER AT TOE OF WALL	10.50'
XC	WIDTH OF SPANCRETE PLANK	16.33'
XF	WIDTH OF FLOOR	32.50'
XL	WIDTH OF LINER	39.50'
XS	WIDTH OF CHAMBER AT TOP OF WALL	11.00'
YW	LENGTH OF WALL AT TOE	20.00'
YC	LENGTH OF SPANCRETE PLANK	23.33'
YF	LENGTH OF FLOOR	32.00'
YL	LENGTH OF LINER	39.00'



GeoStorage® Single Chamber

SECTION Y

VOID SHEET

REGISTERED PROFESSIONAL ENGINEER — MATTHEW REEHAN MERRITT — No. 68429 — Exp. 9/30/15 — CIVIL — STATE OF CALIFORNIA

prepared by
red one engineering inc
1295 distribution way
vista, ca 92081
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facsimile 760.509.0078
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GEOGRID
RETAINING WALL SYSTEMS, INC

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

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:
1	REVISE SHEET COUNT		5/5/17
2	VOID SHEET . .		12/16/21

PERMITS
REZONE PERMIT NO. N/A
SITE PLAN REVIEW NO. S-08-013
STREET IMPROVEMENT PLANS CG XXXX
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ELEVATION: 1336.773 DATUM: NGVD 29 MSL

PRIVATE CONTRACT

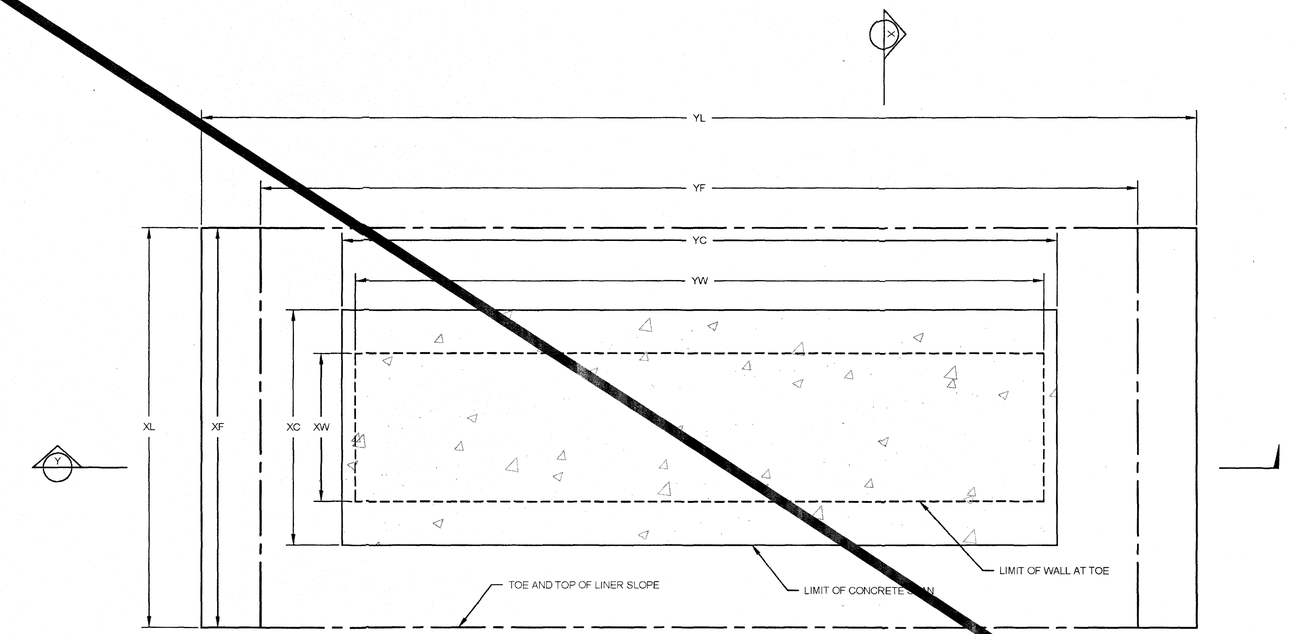
SHEET 21 — COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS — 25 ~~23~~ SHEETS

GEOSTORAGE PLANS FOR:
MILLER ROAD PLAZA
PDR. PARCEL 2 & 3 P.M. NO. 8636
CALIFORNIA COORDINATE INDEX 246-1761

APPROVED FOR: MOHAMAD FAKHREDDINE, COUNTY ENGINEER
By: 4-11-14 Date

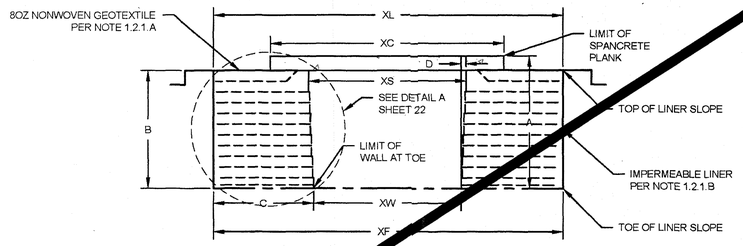
ENGINEER OF WORK: MATTHEW M. MERRITT, R.C.E. 68429, EXPIRES 9/30/15
Date 4/16/15
CHECKED BY: N/A
APPROVED BY: 4-11-14
ENGINEERING PROJECT NO. PDS2012-2700

ENGINEER: RED ONE ENGINEERING
TELEPHONE: 760-410-1665



GeoStorage® Single Chamber

PLAN VIEW



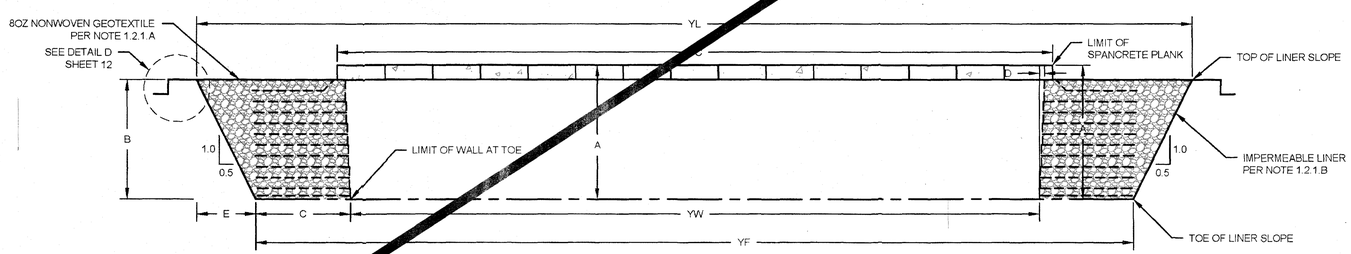
GeoStorage® Single Chamber

SECTION X

GeoStorage® Dimensions

WEST BASIN

A	BOTTOM OF BASIN TO TOP OF CONCRETE	8.00'
B	WALL HEIGHT	7.00'
C	WALL WIDTH	6.00'
D	WALL BATTER WIDTH	0.31'
E	WIDTH OF BACK CUT	3.5'
XW	WIDTH OF CHAMBER AT TOE OF WALL	10.50'
XC	WIDTH OF SPANCRETE PLANK	16.33'
XF	WIDTH OF FLOOR	22.50'
XL	WIDTH OF LINER	22.50'
XS	WIDTH OF CHAMBER AT TOP OF WALL	11.00'
YW	LENGTH OF WALL AT TOE	21.83'
YC	LENGTH OF SPANCRETE PLANK	23.33'
YF	LENGTH OF FLOOR	37.83'
YL	LENGTH OF LINER	44.83'



GeoStorage® Single Chamber

SECTION Y

5 VOID SHEET

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facsimile 760.509.0078
matt@red1engineering.com

REGISTERED PROFESSIONAL ENGINEER MATTHEW "MEE HAN" REPRINT No. 68429 Exp. 8/30/1 CIVIL STATE OF CALIFORNIA

PREPARED FOR THE EXCLUSIVE USE OF

1295 DISTRIBUTION WAY
VISTA, CA 92081
TEL 760 509 0079
FAX 760 509 0078

GEOGRID
RETAINING WALL SYSTEMS, INC

RECORD PLAN

NAME

BY: _____ DATE: _____

R.C.E. _____

EXPIRES: _____

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:
5	REVISE SHEET COUNT		5/5/17
6	VOID SHEET		12/16/21

PERMITS

REZONE PERMIT NO. N/A

SITE PLAN REVIEW NO. S-08-013

STREET IMPROVEMENT PLANS CG XXXX

NOTICE OF INTENT(WDID): 9 37C339975

BENCH MARK

DESCRIPTION: 2-1/2" BRASS CAP STAMPED "S.D. SURV. MON. 19 PT."

LOCATION: IN WELL MONUMENT AT POINT EGCS-3048

RECORD FROM: RECORD OF SURVEY MAP 14236

ELEVATION: 1336.773 DATUM: NGVD 29 MSL

PRIVATE CONTRACT

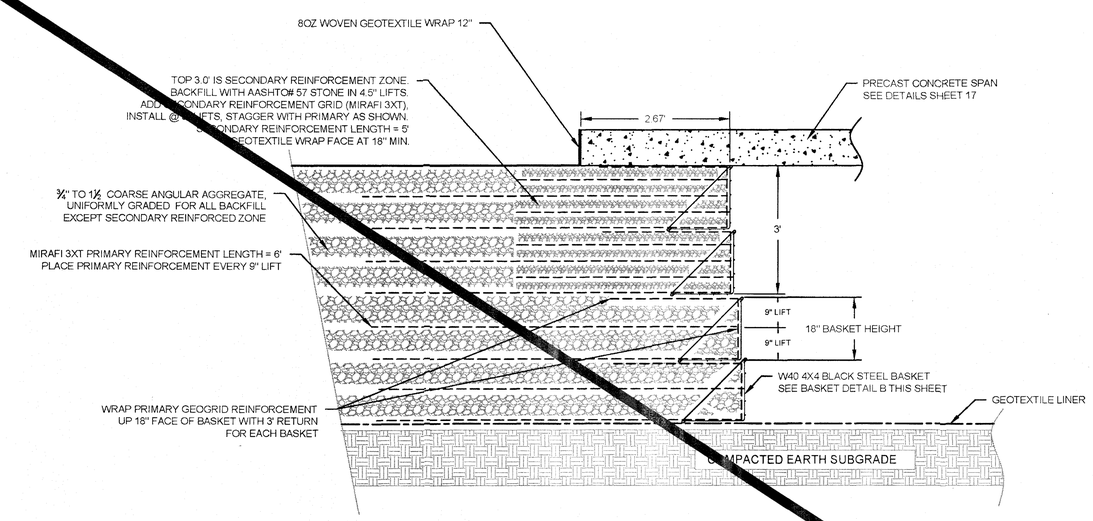
SHEET 22 | COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS | 25 ~~23~~ SHEETS

GEOSTORAGE PLANS FOR:
MILLER ROAD PLAZA
POR. PARCEL 2 & 3 P.M. NO. 8636
CALIFORNIA COORDINATE INDEX 286-1761

APPROVED FOR: MOHAMAD FAKHRIDDINE COUNTY ENGINEER
BY: Kenneth J. Braggell DATE: 4-11-14

DESIGNED BY: [illegible] DATE: 8/08/13
DRAWN BY: [illegible] DATE: 8/07/13
CHECKED BY: N/A
APPROVAL DATE: 4-11-14
PDS2012-2700-[illegible]

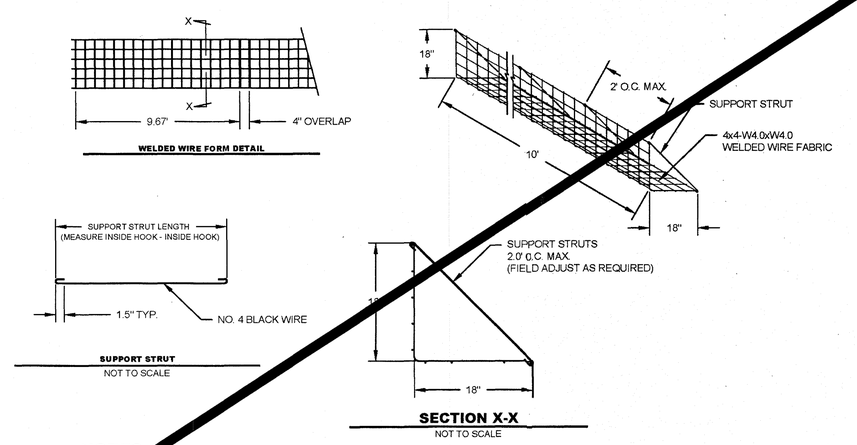
ENGINEER: RED ONE ENGINEERING
TELEPHONE: 760-410-1665



DETAIL A

Typical Load Bearing Wall Construction

NOT TO SCALE



NOTES:

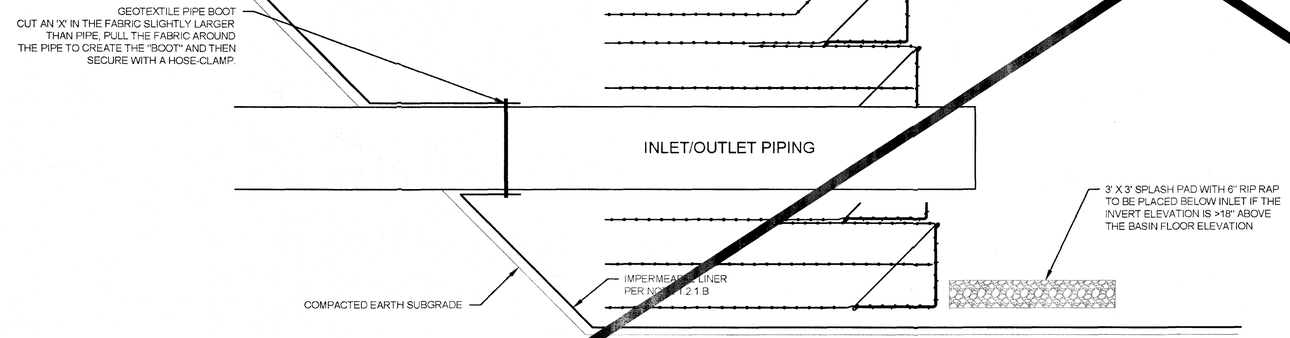
1. FRAMING TO CONSIST OF PREFABRICATED WWF 4X4.0XW4.0 FRAME
2. ALL FORMS AND STRUTS WILL BE FABRICATED WITH BLACK WIRE.
3. OVERALL LENGTH OF WIRE FORMS IS 10'-0". EFFECTIVE CONSTRUCTED WIDTH IS 9'-8" WITH 4" OVERLAPPING AT ENDS.
4. STRUT LENGTH AND CROSS-SECTIONAL FORM DIMENSIONS TO BE PROVIDED IN FABRICATORS SHOP DRAWINGS.

DETAIL B

WELDED WIRE BASKET DETAILS

NOT TO SCALE

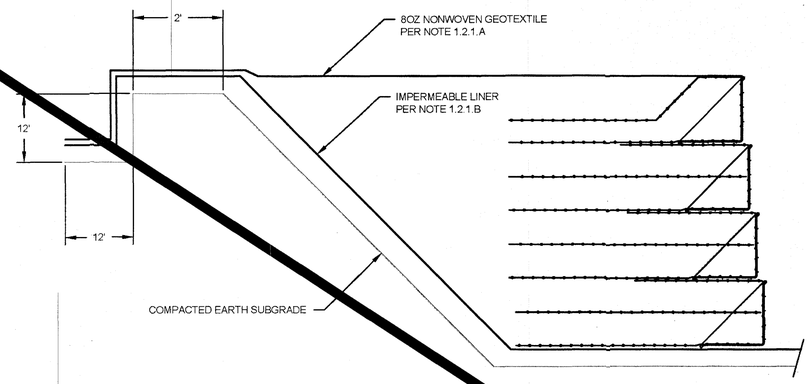
VOID SHEET



DETAIL C

TYPICAL SECTION THRU INLET/OUTLET PIPING

NOT TO SCALE



DETAIL D

TYPICAL PERIMETER DETAIL

NOT TO SCALE

REGISTERED PROFESSIONAL ENGINEER — MATTHEW MEEHAN PERRY — No. 68429 — Exp. 9/30/15 — CIVIL — STATE OF CALIFORNIA

prepared by
red one engineering inc
1295 distribution way
vista, ca 92081
phone 760.410.1665
facsimile 760.509.0078
matt@red1engineering.com

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GEOGRID
RETAINING WALL SYSTEMS, INC

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

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:
1	REVISE SHEET COUNT		5/5/17
2	VOID SHEET		12/16/21

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REZONE PERMIT NO. N/A
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PRIVATE CONTRACT

SHEET 23 — COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS — 25 ~~23~~ SHEETS

GEOSTORAGE PLANS FOR:
MILLER ROAD PLAZA
POR. PARCEL 2 & 3, P.M. NO. 8636
CALIFORNIA COORDINATE INDEX ~~5~~ 1781

APPROVED FOR: MOHAMAD FAKHRIDDINE, COUNTY ENGINEER
Kenneth J. Bagell
BY: 4-11-14 DATE

ENGINEER OF WORK'S SIGNATURE — MATTHEW M. PERRY — DATE 4-11-14 — PREPARED UNDER MY DIRECTION AND SUPERVISION
CHECKED BY: N/A — DRAWING NUMBER: PDS2012-2700-~~5~~ 14
APPROVAL DATE: 4-11-14

ENGINEER: RED ONE ENGINEERING
TELEPHONE: 760-410-1665

R:\1 Active projects\Miller Road Plaza\GeoStorage\Construction Drawings\C521-287GSO.dwg, SHEET 23, 8/19/2013 10:00:03 AM

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.

4.0 Cover Sheet

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

civil engineering
structural engineering
land surveying

COUNTY OF SAN DIEGO
PRIORITY DEVELOPMENT PROJECT
STORM WATER QUALITY MANAGEMENT PLAN
(PDP-SWQMP)

MILLER ROAD PLAZA
MAIN: PDS2012-2700-15688, PDS2020-LDPCHG-00902

SUPPLEMENTAL: PDS2013-LDPIP-00005, PDS2013-LP-13-066, PDS2014-LDPCHG-00109, PDS2016-LDPCHG-00390, PDS2017-LDPCHG-00534
WDID# 9 37C367589

PREPARED FOR:
VCVP LLC
3936 HORTENSIA STREET
SAN DIEGO, CALIFORNIA 92110
(619) 523-0133

PREPARED BY:
WYNN ENGINEERING, INC.
27315 VALLEY CENTER ROAD
VALLEY CENTER, CALIFORNIA 92082
(760) 749-8722

Rev2: *November 30, 2021* ***Rev1:*** *September 23, 2021* ***Original Date:*** *May 14, 2021*

I hereby declare that I am the 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 standards.

_____ _____

Gary R. Wynn *Date*
R.C.E. No. 43202

TABLE OF CONTENTS

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		Development type ☒ New development ☐ Redevelopment
Project Name	Miller Road Plaza	
Project Address	Valley Center Road At Valley Center Road, Valley Center, California 92082	
Assessor's Parcel # (APN)	188-231-34	
Permit # / Record ID	PDS2012-2700-15688 (Main)	
Project category (select one)	☒ Commercial	☐ Minor subdivision*
	☐ Industrial	☐ Major subdivision*
	☐ Single family residential lot	☐ Multi-family residential*
	*If residential, is a Homeowners Association (HOA) proposed? ☐ Yes ☐ No	

Project Applicant / Project Proponent		
Name	VCVP LLC	
Address	3936 Hortensia Street, San Diego, California 92110	
Phone	(619) 523-0133	**Email:**

SWQMP Preparer		
Name	Gary R. Wynn	
Company (if applicable)	Wynn Engineering, Inc.	
Address	27315 Valley Center Road, Valley Center, California 92082	
Phone	(760) 749-8722	**Email:** gary@wynnengineering.com
PE Number (if applicable)	43202	

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** November 30, 2021

COUNTY ACCEPTED

SWQMP Approved By: *Approval Date*:

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

Scope of SWQMP Submittal (Required)

Select the option 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***	Identify below the elements addressed in this submittal and in future submittals.

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

The construction of the single-family residence on the previously graded lot to include the house, pool house (future), sports court (future), pool, patios, various impervious paving, amended soils, and landscaping.

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

The pool house and sports court are future elements but they are included now for inclusion in BMPs now to avoid future changes to the SWQMP at their time of construction.

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		Initial Submittal
2		
3		
Final Design		
1	5/14/2021	Initial Submittal
2	9/23/2021	Revisions per Plan Check Comments
3	11/30/2021	Revisions per Plan Check Comments
Plan Changes		
1		Initial Submittal
2		
3		

PDP SWQMP Submittal Checklist

SWQMP Tables: All of the 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: Reserved for Future Use

☒ 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: BMP 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, Submittal Templates.

Table 1 – Baseline BMPs for Existing and Proposed Site Features

A. BMPs for Existing Natural Site Features (See Fact Sheet BL-1)

1. Check the boxes below for each existing feature on the site.

2. Select the BMPs to be implemented for each identified feature. Explain why any BMP not selected is infeasible in Table 3.

	Conserve natural features (SD-G)	Provide buffers around waterbodies (SD-H)
☐ Natural waterbodies	☐	☐
☐ Natural storage reservoirs & drainage corridors	☐	---
☒ Natural areas, soils, & vegetation (incl. trees)	☒	---

B. BMPs for Common Impervious Outdoor Site Features (See Fact Sheet BL-2)

1. Check the boxes below for each proposed feature.

*2. Select the BMPs to be implemented for each proposed feature. If neither BMP **SD-B** nor **SD-I** is selected for a feature, explain why both BMPs are infeasible in Table 3.*

	Direct runoff to pervious areas (SD-B)	b. Construct surfaces from permeable materials (SD-I)	c. Minimize the size of impervious areas
☐ Streets and roads	☐	☐	☒ *Check this box to confirm that all impervious areas on the site will be minimized where feasible.*
☒ Sidewalks & walkways	☒	☐	
☒ Parking areas & lots	☒	☐	
☒ Driveways	☒	☐	*If this box is not checked, identify the surfaces that cannot be minimized in Table 3, and explain why it is infeasible to do so.*
☒ Patios, decks, & courtyards	☒	☐	
☐ Hardcourt recreation areas	☐	☐	
☐ Other:	☐	☐	

C. ☒ **BMPs for Rooftop Areas:** *Check this box if rooftop areas are proposed and select at least one BMP below.* **(See Fact Sheet BL-3)**

If no BMPs are selected, explain why they are infeasible in Table 3.

1. Direct runoff to pervious areas (SD-B)	2. Install green roofs (SD-C)	3. Install rain barrels (SD-E)
☒	☐	☐

D. ☒ **BMPs for Landscaped Areas:** *Check this box if landscaping is proposed and select at least one BMP below.* **(See Fact Sheet BL-4)**

If no BMPs are selected, explain why they are infeasible in Table 3.

1. Sustainable Landscaping (SD-K)
☒

Note: All features and BMPs must be shown on applicable construction plans. See applicable Fact Sheets for additional information.

Note: Use Table 3 to explain BMP infeasibility or inapplicability, or to describe features or BMPs not listed in this table. Additional explanation may be required by the County.

Table 2 – Baseline BMPs for Pollutant-generating Sources

☐ If this is a **Small Residential Project**, check this box and skip the rest of this table.

A. Management of Stormwater Discharges

1. Identify all proposed outdoor work areas below (☐ *Check here if none are proposed*)	**2. Which BMPs will be used to prevent materials from contacting rainfall or runoff?** (See Fact Sheet BL-5) *(Select all feasible BMPs for each work area[2])*			**3. Where will runoff from the work area be routed?** (See Fact Sheet BL-6) *(Select one or more option for each work area)*			
	Overhead covering (rooftops, etc.) (SC-A)	**Separation of flows from adjacent areas (berms, etc.) (SC-B)**	**Wind protection (screens, etc.) (SC-C)**	**Sanitary sewer[3] (SC-D)**	**Containment system (SC-E)**	**Stormwater S-BMP or SSD-BMP[4]**	**Other[5]**
☒ Trash & Refuse Storage	☒	☐	☐	☒	☐	☐	☐
☐ Materials & Equipment Storage	☐	☐	☐	☐	☐	☐	☐
☒ Loading & Unloading	☐	☒	---	☐	☐	☒	☐
☒ Fueling	☒	☐	---	☐	☒	☒	☐
☐ Maintenance & Repair	☐	☐	---	☐	☐	☐	☐
☐ Vehicle & Equipment Cleaning	☐	☐	---	☐	☐	☐	☐
☐ Other:	☐	☐	---	☐	☐	☐	☐

B. Prevention of Non-stormwater Discharges (See Fact Sheet BL-7)

Select one option for each feature below:

• **Storm drain inlets and catch basins …**	☐ are not proposed	☒ will be labeled with stenciling or signage to discourage dumping **(SC-F)**
• **Educational BMP Signage …**	☒ are not proposed	☐ will be labeled with educational signage for BMP **(SC-G)**
• **Interior work surfaces, floor drains, & sumps …**	☐ are not proposed	☒ will not discharge directly or indirectly to the MS4 or receiving waters
• **Drain lines (e.g., air conditioning, boiler, etc.) …**	☐ are not proposed	☒ will not discharge directly or indirectly to the MS4 or receiving waters
• **Fire sprinkler test water …**	☐ are not proposed	☒ will not discharge directly or indirectly to the MS4 or receiving waters

Note: All outdoor features and BMPs in this table must be shown on applicable construction plans. See applicable Fact Sheets for additional information.
Note: Use Table 3 to explain BMP infeasibility or inapplicability, or to describe features or BMPs not listed in this table. Additional explanation may be required by the County.

[2] Each BMP is required where feasible. If none are selected for any feature, explain why they are infeasible in Table 3.
[3] Separate wastewater agency approvals may be required.
[4] Structural Treatment Control BMPs (S-BMPs) and Significant Site Design BMPs (SSD-BMPs) may not receive discharges from work areas that concentrate pollutants in a manner that will impair their functioning. Discharges from the proposed work area must also be included in DCV calculations for the applicable BMP.
[5] Describe other proposed options for managing stormwater discharges in Table 3.

Table 3 – Explanations and Justifications for Table 1 and 2 Baseline BMPs

☒ **Check here if no explanations or justifications for Table 1 or 2 BMPs are required.**

- **Required Justifications**: Provide explanations of BMP inapplicability and/or infeasibility as indicated per Tables 1 and 2.
- **If Requested**: Justify why specific BMPs will not be implemented or will only be partially implemented.
- **Additional Explanation**: Describe any proposed features and/or BMPs not listed in Tables 1 or 2.

BMP-Feature Combination		**Explanation**
Feature		
BMP		
Feature		
BMP		
Feature		
BMP		
Feature		
BMP		
Feature		
BMP		
Feature		
BMP		
Feature		
BMP		

Table 4: 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]

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

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

Part B – Compliance Strategies and Required Attachments

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

Att. 1	Att. 2	Att. 3	Att. 4	Att. 5
Storm Water Intake Form ☒	DMA Exhibits and Construction Plan Sheets ☒	N/A ☐	Previous SWQMP Submittals (see inside cover) ☒	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 BMP 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 Control BMPs (BMPDM Chapter 6)			☒	☒	☒	☒	
☐Alternative Compliance Project (BMPDM Section 1.8)				☐	☐	☐	☐

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

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

Table 5: 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**[6]

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**

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

Table 6 –Minimum Construction Stormwater BMPs

Minimum Required BMPs by Activity Type Select all applicable activities and at least one BMP for each.	References Caltrans[7]	 County of San Diego	
☒ **Erosion Control for Disturbed Slopes** (choose at least 1 per season)			
☐ Vegetation Stabilization Planting[8] (Summer)	SS-2, SS-4		
☒ Hydraulic Stabilization Hydroseeding (Summer)	SS-4		
☒ Bonded Fiber Matrix or Stabilized Fiber Matrix[9] (Winter)	SS-3		
☐ Physical Stabilization Erosion Control Blanket (Winter)	SS-7		
☒ **Erosion control for disturbed flat areas (slope < 5%)**			
☐ County Standard Lot Perimeter Protection Detail	SC-2	PDS 659[10]	
☒ 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[11]	
☐ 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[12]	
☒ **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[13]**			
☒ Waste Management Concrete Waste Management	WM-8		
☒ Solid Waste Management	WM-5		
☒ Sanitary Waste Management	WM-9		
☒ Hazardous Waste Management	WM-6		

[7] See Caltrans 2017 Construction Site Best Management Practices (BMP) Manual available at: https://dot.ca.gov/programs/construction/storm-water-and-water-pollution-control/manuals-and-handbooks

[8] 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.

[9] All slopes over three feet must have established vegetative cover prior to final permit approval.

[10] County PDS 659. Standard Lot Perimeter Protection Design System (Bldg. Division)

[11] County PDS 660. County Standard Desilting Basin for Disturbed Areas of 1 Acre or Less Bldg. Division

[12] Regional Standard Drawing D-40 – Rip Rap Energy Dissipater (also acceptable for velocity reduction)

[13] Applicants are responsible to apply appropriate BMPs for specific wastes (e.g., BMP WM-8 for concrete).

Table 7 – Explanations and Justifications for Construction Phase BMPs

☒ **Check here if no explanations or justifications for Table 6 BMPs are required.**		
Justifications for Table 6 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 6.		
Activity Type / BMP		**Explanation**
Activity Type		
BMP		
Activity Type		
BMP		
Activity Type		
BMP		
Activity Type		
BMP		
Activity Type		
BMP		
Activity Type		
BMP		
Activity Type		
BMP		

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

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

Part 1. Project Information	
Project Name:	Miller Road Plaza
Record ID (Permit) No(s):	PDS2012-2700-15688 (Main)
Assessor's Parcel No(s):	188-231-34
Street Address (or Intersection):	Valley Center Road at Miller Road
City, State, Zip:	Valley Center, California 92082

Part 2. Applicant / Project Proponent Information	
Name:	Napoleon Zervas
Company:	VCVP LLC
Street Address:	3936 Hortensia Street
City, State, Zip:	San Diego, California 92110
Phone Number	(619) 523-0133
Email:	napoleon@vcvp.us

Part 3. Required Information for All Development Projects

Ⓐ	**1. Existing (pre-development) impervious surfaces (ft²)**	**2. Created or replaced impervious surfaces (ft²)**	**3. Total disturbed area (acres or ft²)**
	0 sq-ft	83,270 sq-ft	125,897 sq-ft)

Ⓑ		
	☒ Check here and provide a WDID# if this project is subject to the California Construction General Permit (Order No. 2009-0009-DWQ)[1]	**WDID # (if issued)**
		9 37C367589

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:

- ***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

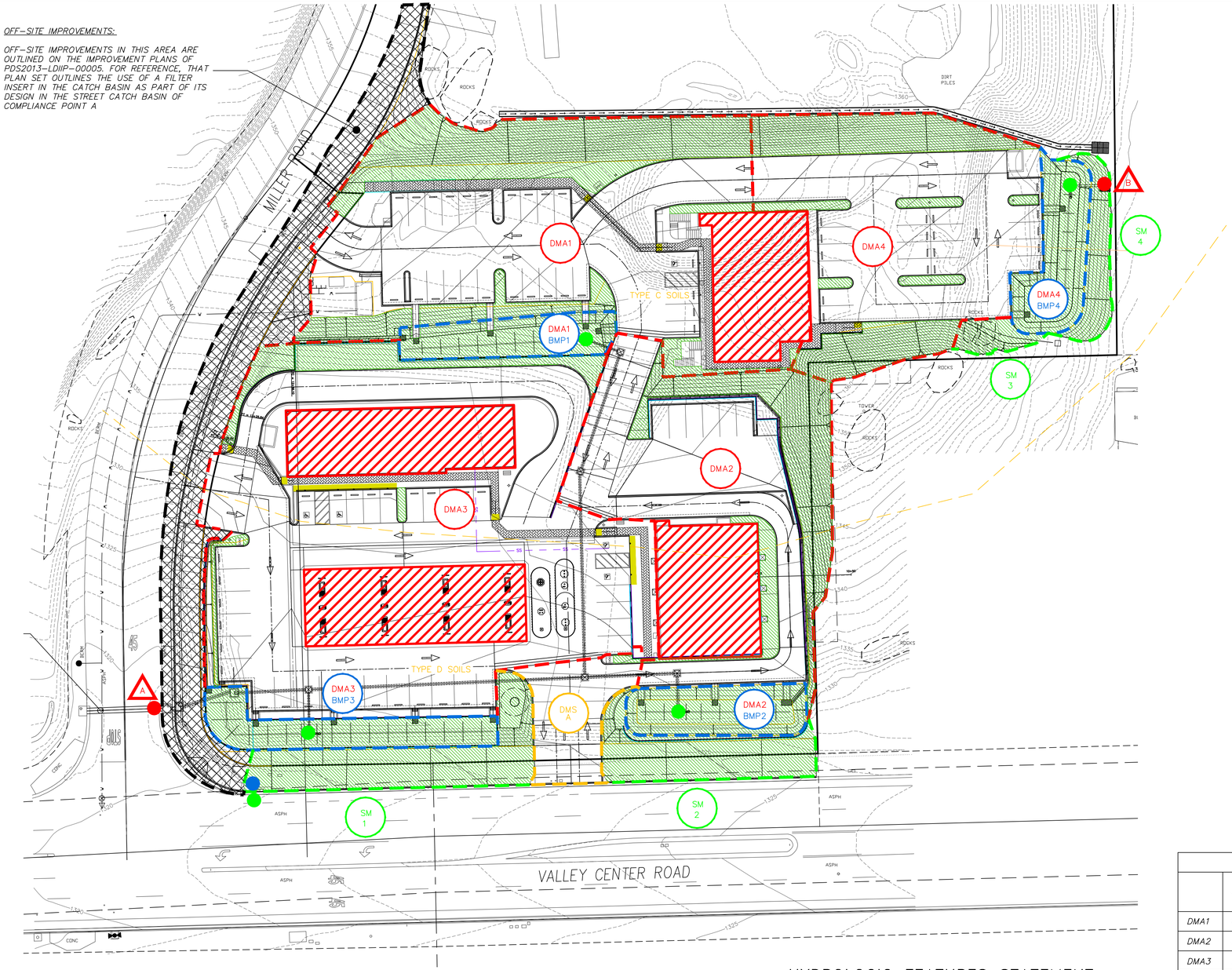
- DMA Exhibits must show all DMAs on the project site. Exhibits must include all applicable features identified in applicable SWQMP attachments.
- Exhibits may be prepared individually for the BMPs associated with each applicable SWQMP Attachment (6, 7, 8, and/or 9) or combined into one or more consolidated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

DMA Exhibit ID #:	**Miller Road PDP-SWQMP DMA Exhibit**	
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.

OFF-SITE IMPROVEMENTS:

OFF-SITE IMPROVEMENTS IN THIS AREA ARE OUTLINED ON THE IMPROVEMENT PLANS OF PDS2013-LDIIP-00005. FOR REFERENCE, THAT PLAN SET OUTLINES THE USE OF A FILTER INSERT IN THE CATCH BASIN AS PART OF ITS DESIGN IN THE STREET CATCH BASIN OF COMPLIANCE POINT A



DMA LEGEND

- DMA SUB-AREA BOUNDARY
- BMP BOUNDARY
- EXEMPT (SELF-MITIGATING) DMA BOUNDARY
- DEMINIMUS DMA BOUNDARY
- DMA# — DMA ID
- DMA# / BMP# — DMA ID, BMP ID
- SM ## — EXEMPT SELF-MITIGATING DMA ID (EXEMPT PER BMPDM 5.2.1)
- DMS A — DEMINIMUMS DMA ID (DRAINS DIRECTLY OFF-SITE)
- ROOF TOP AREA
- STORM DRAIN STENCILING (ONLY IF > 12" AREA DRAINS ONLY)
- XX — ULTIMATE POINT OF COMPLIANCE
- INLET FILTER BASKET
- TYPE X — LUEG SOIL TYPE (APPROXIMTE LAYER EDGE)

TABLE 2 LEGEND

GROUP 1 ELEMENTS:	
NATURAL AREAS, SOILS, & VEGETATION	NO SYMBOL
GROUP 2 ELEMENTS:	
SIDEWALKS & WALKWAYS	NO SYMBOL
DRIVEWAYS	NO SYMBOL
PATIOS, DECKS & COURTYARDS	NO SYMBOL
GROUP 3 ELEMENTS:	
ROOFTOP AREAS	
LANDSCAPE AREAS	
GROUP 4 ELEMENTS	
N/A – SMALL RESIDENTIAL PROJECT	

DMA SUMMARY

	PERM SQ-FT	IMP SQ-FT	TOTAL SQ-FT	DCV CU-FT	HMP AREA (ORIFICE) SQ-FT (INCH)
DMA1	10,540	18,788	29,328	1,246	1,534 (0.84")
DMA2	3,825	15,283	19,108	932	1,100 (0.68")
DMA3	2,201	36,134	38,335	2,084	2,627 (0.96")
DMA4	5,619	9,255	14,874	623	1,061 (0.60")
SM-1	4,039				
SM-2	3,019				
DMS-A		2,937			

HYDROLOGIC BASIN INFORMATION:

BASIN NUMBER:	903.16
HYDROLOGIC UNIT:	SAN LUIS REY HU
HYDROLOGIC AREA:	LOWER SAN LUIS HA
HYDROLOGIC SUB-AREA:	RINCON HSA
RECEIVING WATERS:	UNNAMED INTERMITTENT STREAMS

BASIN BENEFICIAL USES:

NOTE: THESE ARE FOR THE BASIN PLAN RECEIVING WATERS ALONG THE PATH TO THE PACIFIC OCEAN FOR 903.16:

INLAND WATERS:	MUN, AGR, IND, POW, REC1, REC2, WARM, WILD, RARE
COASTAL WATERS:	REC1, REC2, WILD, RARE, MAR, MIGR
RESV & LAKES:	N/A
GROUND WATERS:	N/A

BASIN 303(d) INFORMATION:

RECEIVING WATERS:	UNNAMED INTERMITTENT STREAMS (903.16)
POLLUTANTS/STRESSORS:	NOT LISTED AT THIS TIME

TMDL INFORMATION

RECEIVING WATERS:	UNNAMED INTERMITTENT STREAMS (903.16)
YEAR LISTED:	NOT LISTED AT THIS TIME
POLLUTANTS/STRESSORS:	NOT LISTED AT THIS TIME

POLLUTANTS OF CONCERN:

THE FOLLOWING ARE ANTICIPATED POLLUTANTS OF CONCERN FOR THE PROJECT SITE: SEDIMENT, NUTRIENTS, TRASH & DEBRIS, OXYGEN DEMANDING SUBSTANCES, OIL & GREASE, BACTERIA & VIRUSES, PESTICIDES

THERE ARE NO POTENTIAL POLLUTANTS OF CONCERN AS DESCRIBED IN THE STANDARDS.

GROUNDWATER STATEMENT:

THE PROJECT SITE IS LOCATED IN AN AREA OF KNOWN HIGH GROUNDWATER. GROUNDWATER WILL BE AN ISSUE.

HYDROLOGIC FEATURES STATEMENT:

THE FOLLOWING NATURAL HYDROLOGIC FEATURES ARE PRESENT, EXISTING, OR PROPOSED ON THE PROJECT SITE:

1.	NATURAL WATERCOURSES:	NONE
2.	NATURAL SEEPS:	NONE
3.	NATURAL SPRINGS:	NONE
4.	NATURAL WETLANDS:	NONE
5.	MAN-MADE WETLANDS:	NONE

SEDIMENT STATEMENT:

THERE ARE NO CRITICAL COARSE SEDIMENT YIELD AREAS TO BE PROTECTED ON SITE AND NO IMPACTS AT THIS TIME.

SOIL CLASSIFICATION

THE PROJECT SITE IS CLASSIFIED AS C AND D SOILS PER LUEG MAPPING.

INFILTRATION FEASIBILITY:

THE PROJECT SITE IS CLASSIFIED AS: NO INFILTRATION

NORTH
SCALE: 1" = 30'

GRAPHIC SCALE
30 0 30 60 90

WYNN ENGINEERING, INC.
27315 VALLEY CENTER ROAD
VALLEY CENTER, CA. 92082
(760) 749-8722 (310) 306-9728
FAX (760) 749-9412

MILLER ROAD PLAZA
PDS2012-2700-15688 (MAIN)
APN 188-231-34
PDP-SWQMP
ATTACHMENT 1C - DMA EXHIBIT

2.2 Individual Structural BMP DMA Mapbook

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

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

2.3 Construction Plan Sets

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

Plan Type	**Grading Plan**
Required Information[4]	
☒ Structural BMP(s) and Significant Site Design BMPs (if applicable) with ID numbers.	
☒ The grading and drainage design shown on the plans must be consistent with the delineation of DMAs shown on the DMA exhibit.	
☒ Details and specifications for construction of Structural BMP(s) and Significant Site Design BMPs (if applicable).	
☒ Signage indicating the location and boundary of structural BMP(s) as required by County staff.	
☒ How to access the structural BMP(s) to inspect and perform maintenance.	
☒ Features that are provided to facilitate inspection (e.g., observation ports, cleanouts, silt posts, or other features that allow the inspector to view necessary components of the structural BMP and compare to maintenance thresholds).	
☐ Maintenance thresholds specific to the structural BMP(s), with a location-specific frame of reference (e.g., level of accumulated materials that triggers removal of the materials, to be identified based on viewing marks on silt posts or measured with a survey rod with respect to a fixed benchmark within the BMP).	
☐ Recommended equipment to perform maintenance.	
☐ When applicable, necessary special training or certification requirements for inspection and maintenance personnel such as confined space entry or hazardous waste management.	
☒ Include landscaping plan sheets (if available) showing vegetation requirements for vegetated structural BMP(s).	
☒ All BMPs must be fully dimensioned on the plans.	
☐ When proprietary BMPs are used, site-specific cross-section with outflow, inflow, and manufacturer model number must be provided. Photocopies of general brochures are not acceptable.	
☒ Include all source control and site design measures described in the SWQMP.	
☒ Include all construction BMPs described in the SWQMP.	

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

NOTE TO REPORT PREPARER

REPLACE THIS WITH 8.5x11 COPIES OF

THE COMPLETE GRADING PLAN SET

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.

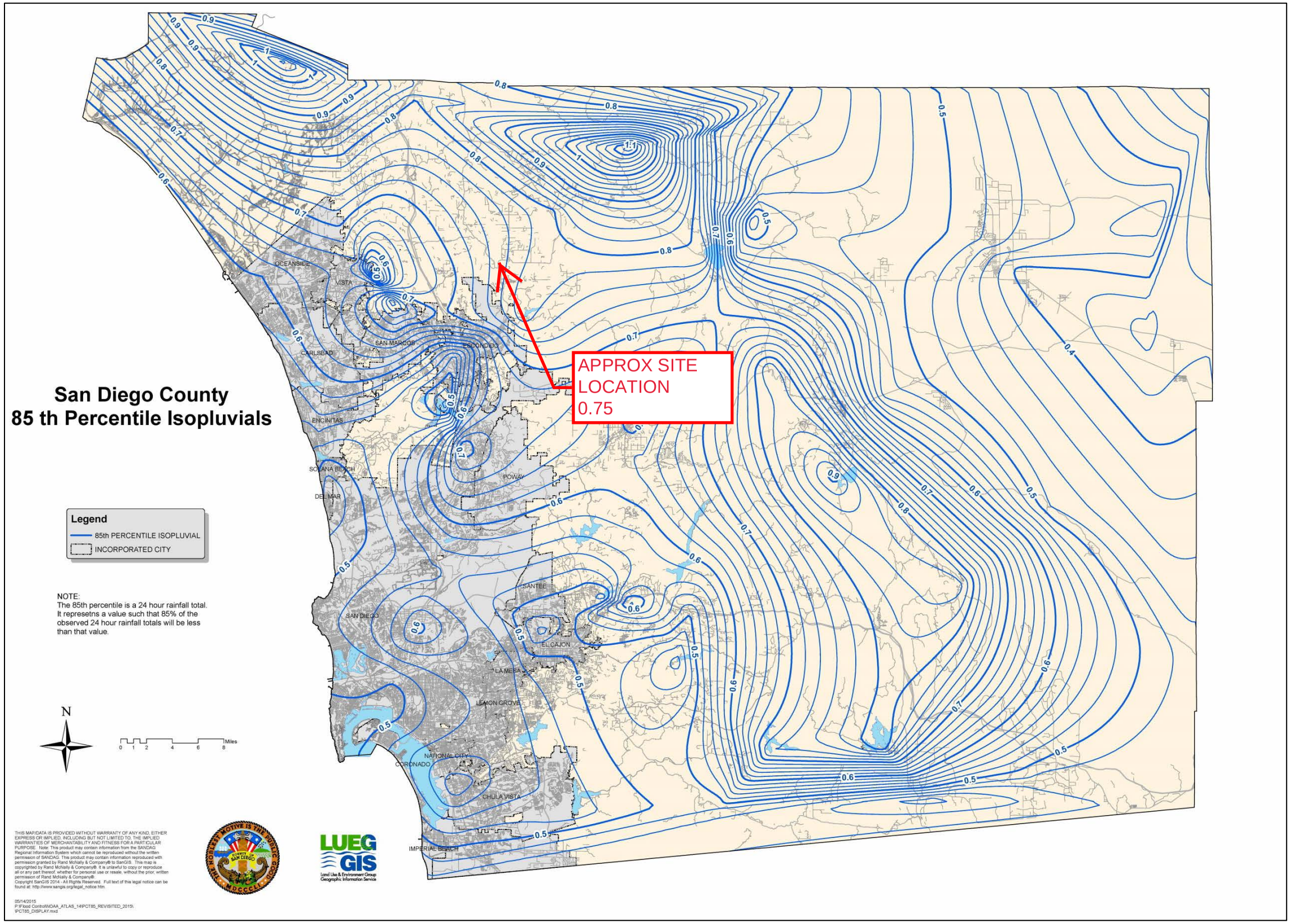


Figure B.1-1: 85th Percentile 24-hour Isopluvial Map

4.0 Cover Sheet

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

Major Stormwater Management Plan
Major SWMP
For
Miller Road Plaza

Preparation Date: January 10, 2014
Revision Date:

PDS2012-2700-15688

Stormwater Management Plan (SWMP)
This SWMP meets County requirements and the required Treatment Control BMP have been included on the project plans.
Accepted on: 1/29/14
Accepted by: R-MI 110A
Signature:

Prepared for:
VCVP LP
3936 Hortensia Street
San Diego, CA 92110
Tele: 619-523-0133

Prepared by:
Gary Lipska
Aquaterra Engineering Inc.
1843 Campesino Place
Oceanside, CA 92054
Tele: 760-439-2802

The selection, sizing, and preliminary design of stormwater treatment and other control measures in this plan have been prepared under the direction of the following Registered Civil Engineer and meet the requirements of Regional Water Quality Control Board Order R9-2007-0001 and subsequent amendments.

Gary Lipska RCE 23080, Expires 12/31/15

1/10/14
Date

REGISTERED PROFESSIONAL ENGINEER
GARY LIPSKA
No. 23080
CIVIL
STATE OF CALIFORNIA

The Major Stormwater Management Plan (Major SWMP) must be completed in its entirety and accompany applications to the County for a permit or approval associated with certain types of development projects. To determine whether your project is required to submit a Major or Minor SWMP, please reference the County's Stormwater Intake Form for Development Projects.

Project Name:	Miller Road Plaza
Project Location:	Valley Center, California
Permit Number (Land Development Projects):	S-08-013 PDS2012-2700-15688
Work Authorization Number (**CIP only**):	
Applicant:	Valley Center View Properties
Applicant's Address:	3936 Hortensia Street San Diego, CA 92110
Plan Prepared By (*Leave blank if same as applicant*):	Aquaterra Engineering Inc.
Preparer's Address:	1843 Campesino Place Oceanside, CA 92054
Date:	October 7, 2013

The County of San Diego Watershed Protection, Storm Water Management, and Discharge Control Ordinance (WPO) (Ordinance No. 9926) requires all applications for a permit or approval associated with a Land Disturbance Activity to be accompanied by a Storm Water Management Plan (SWMP) (section 67.806.b). The purpose of the SWMP is to describe how the project will minimize the short and long-term impacts on receiving water quality. Projects that meet the criteria for a priority development project are required to prepare a Major SWMP.

Since the SWMP is a living document, revisions may be necessary during various stages of approval by the County. Please provide the approval information requested below.

Project Stages	Does the SWMP need revisions?		If YES, Provide Revision Date	County Reviewer
	YES	NO		
Final Engineering				

Instructions for a Major SWMP can be downloaded at
http://www.sdcounty.ca.gov/dpw/watersheds/susmp/susmp.html

Completion of the following checklists and attachments will fulfill the requirements of a Major SWMP for the project listed above.

STEP 1

PRIORITY DEVELOPMENT PROJECT DETERMINATION

TABLE 1: IS THE PROJECT IN ANY OF THESE CATEGORIES?

Yes ☐	No X	A	Housing subdivisions of 10 or more dwelling units. Examples: single-family homes, multi-family homes, condominiums, and apartments.
Yes X	No ☐	B	Commercial—greater than one acre. Any development other than heavy industry or residential. Examples: hospitals; laboratories and other medical facilities; educational institutions; recreational facilities; municipal facilities; commercial nurseries; multi-apartment buildings; car wash facilities; mini-malls and other business complexes; shopping malls; hotels; office buildings; public warehouses; automotive dealerships; airfields; and other light industrial facilities.
Yes ☐	No X	C	Heavy industry—greater than one acre. Examples: manufacturing plants, food processing plants, metal working facilities, printing plants, and fleet storage areas (bus, truck, etc.).
Yes ☐	No X	D	Automotive repair shops. A facility categorized in any one of Standard Industrial Classification (SIC) codes 5013, 5014, 5541, 7532-7534, or 7536-7539.
Yes X	No ☐	E	Restaurants. Any facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC code 5812), where the land area for development is greater than 5,000 square feet. Restaurants where land development is less than 5,000 square feet shall meet all SUSMP requirements except for structural treatment BMP and numeric sizing criteria requirements and hydromodification requirements.
Yes ☐	No X	F	Hillside development greater than 5,000 square feet. Any development that creates 5,000 square feet of impervious surface and is located in an area with known erosive soil conditions, where the development will grade on any natural slope that is twenty-five percent or greater.
Yes ☐	No X	G	Environmentally Sensitive Areas (ESAs). All development located within or directly adjacent to or discharging directly to an ESA (where discharges from the development or redevelopment will enter receiving waters within the ESA), which either creates 2,500 square feet of impervious surface on a proposed project site or increases the area of imperviousness of a proposed project site to 10% or more of its naturally occurring condition. "Directly adjacent" means situated within 200 feet of the ESA. "Discharging directly to" means outflow from a drainage conveyance system that is composed entirely of flows from the subject development or redevelopment site, and not commingled with flows from adjacent lands.
Yes X	No ☐	H	Parking lots 5,000 square feet or more or with 15 or more parking spaces and potentially exposed to urban runoff.
Yes ☐	No N	I	Street, roads, highways, and freeways. Any paved surface that is 5,000 square feet or greater used for the transportation of automobiles, trucks, motorcycles, and other vehicles.
Yes X	No ☐	J	Retail Gasoline Outlets (RGOs) that are: (a) 5,000 square feet or more or (b) a projected Average Daily Traffic (ADT) of 100 or more vehicles per day.

To use the table, review each definition A through K. If any of the definitions match, the project is a Priority Development Project. Note some thresholds are defined by square footage of impervious area created; others by the total area of the development. Please see special requirements for previously developed sites and project exemptions on page 6 of the County SUSMP.

STEP 2
PROJECT STORMWATER QUALITY DETERMINATION

Total Project Site Area __2.51 Acres

Estimated amount of disturbed area: __2.51 Acres
(If >1 acre, you must also provide a WDID number from the SWRCB) WDID: _____

Complete A through C and the calculations below to determine the amount of impervious surface on your project before and after construction.

A. Total size of project site: ___2.51 Acres

B. Total impervious area (including roof tops) before construction _zero Acres

C. Total impervious area (including roof tops) after construction ___1.57 Acres

Calculate percent impervious before construction: B/A = zero %
Calculate percent impervious after construction: C/A = 62.5%

Please provide detailed descriptions regarding the following questions:

TABLE 2: PROJECT SPECIFIC STORMWATER ANALYSIS

1.	Please provide a brief description of the project.
A commercial development with a gas station and three building structures. The building space is proposed to be used for: 3615 S.F. (office), 9090 S.F. (retail) and 2900 S.F. (restaurant)	
2.	Describe the current and proposed zoning and land use designation.
The Current Zoning is C34 (no change proposed); Land Use Designation is: 3 (Valley Center)	
3.	Describe the pre-project and post-project topography of the project. (Show on Plan)
The pre-project topography slopes in a southerly direction with steep slopes. The post-project topography maintains the same drainage pattern and slopes in the southerly direction.	
4.	Describe the soil classification, permeability, erodibility, and depth to groundwater for LID and Treatment BMP consideration. (Show on Plan) If infiltration BMPs are proposed, a Geotechnical Engineer must certify infiltration BMPs in Attachment E.
The project soil type is classified in the "D" Hydrologic Soils Group per the San Diego County Soils Interpretation study	
5.	Describe if contaminated or hazardous soils are within the project area. (Show on Plan)
No contaminated soil is known to be on this site.	
6.	Describe the existing site drainage and natural hydrologic features. (Show on Plan).
The existing and proposed site drainage runoff flows to the south west corner of the site near the intersection of Miller Road and Valley Center Road.	
7.	Describe site features and conditions that constrain, or provide opportunities for stormwater control, such as LID features.
The site design provides space for bio-retention swales and drainage detention basins	
8.	Is this project within the environmentally sensitive areas as defined on the maps in Appendix A of the *County of San Diego Standard Urban Storm Water Mitigation Plan for Land Development and Public Improvement Projects?*
	No
9.	Is this an emergency project? If yes, please provide a description below.
	No

CHANNELS & DRAINAGES

Complete the following checklist to determine if the project includes work in channels.

TABLE 3: CHANNEL& DRAINAGE ANALYSIS

No.	CRITERIA	YES	NO	N/A	COMMENTS
1.	Will the project include work in channels?		X		If YES go to 2 If NO go to 13.
2.	Will the project increase velocity or volume of downstream flow?				If YES go to 6.
3.	Will the project discharge to unlined channels?				If YES go to. 6.
4.	Will the project increase potential sediment load of downstream flow?				If YES go to 6.
5.	Will the project encroach, cross, realign, or cause other hydraulic changes to a stream that may affect downstream channel stability?				If YES go to 8.
6.	Review channel lining materials and design for stream bank erosion.				Continue to 7.
7.	Consider channel erosion control measures within the project limits as well as downstream. Consider scour velocity.				Continue to 8.
8.	Include, where appropriate, energy dissipation devices at culverts.				Continue to 9.
9.	Ensure all transitions between culvert outlets/headwalls/wingwalls and channels are smooth to reduce turbulence and scour.				Continue to 10.
10.	Include, if appropriate, detention facilities to reduce peak discharges.				Continue to 11.
11.	"Hardening" natural downstream areas to prevent erosion is not an acceptable technique for protecting channel slopes, unless pre-development conditions are determined to be so erosive that hardening would be required even in the absence of the proposed development.				Continue to 12.
12.	Provide other design principles that are comparable and equally effective.				Continue to 13.
13.	End	X			

TEMPORARY CONSTRUCTION BMPS

Please check the construction BMPs that may be implemented during construction of the project. The applicant will be responsible for the placement and maintenance of the BMPs incorporated into the final project design.

X Silt Fence

☐ Fiber Rolls

X Street Sweeping and Vacuuming

☐ Storm Drain Inlet Protection

☐ Stockpile Management

☐ Solid Waste Management

X Stabilized Construction Entrance/Exit

☐ Dewatering Operations

☐ Vehicle and Equipment Maintenance

☐ Desilting Basin

X Gravel Bag Berm

☐ Sandbag Barrier

☐ Material Delivery and Storage

☐ Spill Prevention and Control

☐ Concrete Waste Management

☐ Water Conservation Practices

☐ Paving and Grinding Operations

X Any minor slopes created incidental to construction and not subject to a major or minor grading permit shall be protected by covering with plastic or tarp prior to a rain event, and shall have vegetative cover reestablished within 180 days of completion of the slope and prior to final building approval.

EXCEPTIONAL THREAT TO WATER QUALITY DETERMINATION

Complete the checklist below to determine if a proposed project will pose an "exceptional threat to water quality," and therefore require Advanced Treatment Best Management Practices during the construction phase.

TABLE 4: EXCEPTIONAL THREAT TO WATER QUALITY DETERMINATION

No.	CRITERIA	YES	NO	INFORMATION
.	Is all or part of the proposed project site within 200 feet of waters named on the Clean Water Act (CWA) Section 303(d) list of Water Quality Limited Segments as impaired for sedimentation and/or turbidity? Current 303d list may be obtained from the following site: http://www.swrcb.ca.gov/tmdl/docs/303dlists2006/approved/r9_06_303d_reqt mdls.pdf		X	If YES, continue to 2. If NO, go to 5.
.	Will the project disturb more than 5 acres, including all phases of the development?			If YES, continue to 3. If NO, go to 5.
.	Will the project disturb slopes that are steeper than 4:1 (horizontal: vertical) with at least 10 feet of relief, and that drain toward the 303(d) listed receiving water for sedimentation and/or turbidity?			If YES, continue to 4. If NO, go to 5.
.	Will the project disturb soils with a predominance of USDA-NRCS Erosion factors k_f greater than or equal to 0.4?			If YES, continue to 6. If NO, go to 5.
.	Project is not required to use Advanced Treatment BMPs.		X	Document for Project Files by referencing this checklist.
6.	Project poses an "exceptional threat to water quality" and is required to use Advanced Treatment BMPs.		X	Advanced Treatment BMPs must be consistent with WPO section 67.811(b)(20)(D) performance criteria

Exemption potentially available for projects that require advanced treatment: Project proponent may perform a Revised Universal Soil Loss Equation, Version 2 (RUSLE 2), Modified Universal Soil Loss Equation (MUSLE), or similar analysis that demonstrates (to the County official's satisfaction) that advanced treatment is not required.

STEP 3

HYDROMODIFICATION DETERMINATION

The following questions provide a guide to collecting information relevant to hydromodification management plan (HMP) issues. If the project is exempt from the HMP criteria, please provide the supporting documentation in Attachment H. Please reference the full descriptions of the HMP exemptions located in Figure 1-1 of the County SUSMP.

TABLE 5: HYDROMODIFICATION DETERMINATION

	QUESTIONS	YES	NO	Information
1.	Will the project reduce the pre-project impervious area and are the unmitigated post-project outflows (outflows without detention routing) to each outlet location less as compared to the pre-project condition?		X	If NO, continue to 2. If YES, go to 7.
2.	Would the project site discharge runoff directly to an exempt receiving water, such as the Pacific Ocean, San Diego Bay, an exempt reservoir, or a tidally-influenced area?		X	If NO, continue to 3. If YES, go to 7.
3.	Would the project site discharge to a stabilized conveyance system, which has the capacity for the ultimate Q_{10}, and extends to the Pacific Ocean, San Diego Bay, a tidally-influenced area, an exempt river reach or reservoir?		X	If NO, continue to 4. If YES, go to 7.
4.	Does the contributing watershed area to which the project discharges have an impervious area percentage greater than 70 percent?		X	If NO, continue to 5. If YES, go to 7.
5.	Is this an urban infill project which discharges to an existing hardened or rehabilitated conveyance system that extends beyond the "domain of analysis," where the potential for cumulative impacts in the watershed are low, and the ultimate receiving channel has a "Low" susceptibility to erosion as defined in the SCCWRP channel assessment tool?		X	If NO, continue to 6. If YES, go to 7.
6.	Project is required to manage hydromodification impacts.	X		Reference Appendix G "Hydromodification Management Plan" of the County SUSMP.
7.	Project is not required to manage hydromodification impacts.			Hydromodification Exempt. Keep on file.

STEP 4

POLLUTANTS OF CONCERN DETERMINATION

WATERSHED

Please check the watershed(s) for the project.

☐ San Juan 901	☐ Santa Margarita 902	X San Luis Rey 903	☐ Carlsbad 904
☐ San Dieguito 905	☐ Penasquitos 906	☐ San Diego 907	☐ Sweetwater 909
☐ Otay 910	☐ Tijuana 911	☐ Whitewater 719*	☐ Clark 720*
☐ West Salton 721*	☐ Anza Borrego 722*	☐ Imperial 723*	

http://www.waterboards.ca.gov/sandiego/water_issues/programs/basin_plan/index.shtml

*Projects located fully within these watersheds require only a Minor SWMP.

HYDROLOGIC SUB-AREA NAME AND BASIN NUMBER(S)

Basin Number	Sub-Area Name
903.16	Rincon

http://www.waterboards.ca.gov/sandiego/water_issues/programs/basin_plan/index.shtml

SURFACE WATERS that each project discharge point proposes to discharge to.

SURFACE WATERS (river, creek, stream, etc.)	Hydrologic Unit Basin Number	Impairment(s) listed [303(d) listed waters or waters with established TMDLs]. List the impairments identified in **Table 7**.	Distance to Project
Rincon	903.16	Not listed	

http://www.waterboards.ca.gov/water_issues/programs/tmdl/docs/303dlists2006/epa/r9_06_303d_reqtmdls.pdf

GROUND WATERS

Ground Waters	Hydrologic Unit Basin Number	MUN	AGR	IND	PROC	GWR	FRESH	POW	REC1	REC2	BIOL	WARM	COLD	WILD	RARE	SPWN
Unnamed intermittent streams	903.16	+	●	●					●	●		●		●		

http://www.waterboards.ca.gov/sandiego/water_issues/programs/basin_plan/index.shtml

+ Excepted from Municipal ● Existing Beneficial Use ○ Potential Beneficial Use

PROJECT ANTICIPATED AND POTENTIAL POLLUTANTS

Using Table 6, identify pollutants that are anticipated to be generated from the proposed priority project categories. Pollutants associated with any hazardous material sites that have been remediated or are not threatened by the proposed project are not considered a pollutant of concern.

TABLE 6: ANTICIPATED AND POTENTIAL POLLUTANTS GENERATED BY LAND USE TYPE

THE ABOVE SHADED ROWS INDICATE THIS PROJECT'S GENERAL POLLUTANT CATEGORES.

	General Pollutant Categories								
PDP Categories	Sediments	Nutrients	Heavy Metals	Organic Compounds	Trash & Debris	Oxygen Demanding Substances	Oil & Grease	Bacteria & Viruses	Pesticides
Detached Residential Development	X	X			X	X	X	X	X
Attached Residential Development	X	X			X	P(1)	P(2)	P	X
Commercial Development 1 acre or greater	P(1)	P(1)		P(2)	X	P(5)	X	P(3)	P(5)
Heavy industry /industrial development	X		X	X	X	X	X		
Automotive Repair Shops			X	X(4)(5)	X		X		
Restaurants					X	X	X	X	
Hillside Development >5,000 ft²	X	X			X	X	X		X
Parking Lots	P(1)	P(1)	X		X	P(1)	X		P(1)
Retail Gasoline Outlets			X	X	X	X	X		
Streets, Highways & Freeways	X	P(1)	X	X(4)	X	P(5)	X		

X = anticipated
P = potential
(1) A potential pollutant if landscaping exists on-site.
(2) A potential pollutant if the project includes uncovered parking areas.
(3) A potential pollutant if land use involves food or animal waste products.
(4) Including petroleum hydrocarbons.
(5) Including solvents.

PROJECT POLLUTANTS OF CONCERN SUMMARY TABLE

Please summarize the identified project pollutants-of-concern by checking the appropriate boxes in the table below and list any surface water impairments identified. Pollutants anticipated to be generated by the project, which are also causing impairment of receiving waters, shall be considered the primary pollutants of concern. For projects where no primary pollutants of concern exist, those pollutants identified as anticipated shall be considered secondary pollutants of concern.

TABLE 7: PROJECT POLLUTANTS OF CONCERN

Pollutant Category	Anticipated (X)	Potential (P)	Surface Water Impairments
Sediments		P	
Nutrients		P	
Heavy Metals	X		
Organic Compounds	X		
Trash & Debris	X		
Oxygen Demanding Substances	X		
Oil & Grease	X		
Bacteria & Viruses	X		
Pesticides		P	

STEP 5

LID AND SITE DESIGN STRATEGIES

Each numbered item below is a Low Impact Development (LID) requirement of the WPO. Please check the box(s) under each number that best describes the LID BMP(s) and Site Design Strategies selected for this project. LID BMPs selected on this table will be typically represented as a self-retaining area, self-treating area, pervious pavement and greenroof, which, should be delineated in the Drainage Management Area map in Attachment C.

TABLE 8: LID AND SITE DESIGN

1. Conserve natural Areas, Soils, and Vegetation
☐ Preserve well draining soils (Type A or B)
☐ Preserve Significant Trees
☐ Preserve critical (or problematic) areas such as floodplains, steep slopes, wetlands, and areas with erosive or unstable soil conditions
✓ Other. Description: Not Feasible, site soil is Type "D". No significant on site trees.
2. Minimize Disturbance to Natural Drainages
✓ Set-back development envelope from drainages
✓ Restrict heavy construction equipment access to planned green/open space areas
☐ Other. Description:
3. Minimize and Disconnect Impervious Surfaces (see 5)
✓ Clustered Lot Design
✓ Items checked in 5
☐ Other. Description:
4. Minimize Soil Compaction
☐ space areas
✓ Re-till soils compacted by construction vehicles/equipment
✓ Collect & re-use upper soil layers of development site containing organic materials
☐ Other. Description:
5. Drain Runoff from Impervious Surfaces to Pervious Areas
<u>LID Street & Road Design</u>
✓ Curb-cuts to landscaping
✓ Rural Swales
☐ Concave Median
☐ Cul-de-sac Landscaping Design
☐ Other. Description:
<u>LID Parking Lot Design</u>
✓ Permeable Pavements
✓ Curb-cuts to landscaping

☐ Other. Description:
LID Driveway, Sidewalk, Bike-path Design
✓ Permeable Pavements
☐ Pitch pavements toward landscaping
☐ Other. Description:
LID Building Design
☐ Cisterns & Rain Barrels
✓ Downspout to swale or landscaping
☐ Vegetated Roofs
☐ Other. Description:
LID Landscaping Design
☐ Soil Amendments
☐ Reuse of Native Soils
✓ Smart Irrigation Systems
☐ Street Trees
☐ Other. Description:
6. Minimize erosion from slopes
✓ Disturb existing slopes only when necessary
☐ Minimize cut and fill areas to reduce slope lengths
✓ Incorporate retaining walls to reduce steepness of slopes or to shorten slopes
☐ Provide benches or terraces on high cut and fill slopes to reduce concentration of flows
☐ Rounding and shaping slopes to reduce concentrated flow
✓ Collect concentrated flows in stabilized drains and channels
☐ Other. Description:

STEP 6

SOURCE CONTROL

Please complete the checklist on the following pages to determine Source Control BMPs. Below is instruction on how to use the checklist. (Also see instructions on page 60 of the *SUSMP)*

1. Review Column 1 and identify which of these potential sources of stormwater pollutants apply to your site. Check each box that applies and list in Table 9.

2. Review Column 2 and incorporate all of the corresponding applicable BMPs in your Source Control Exhibit in Attachment B.

3. Review Columns 3 and 4 and incorporate all of the corresponding applicable permanent controls and operational BMPs into Table 9.

4. Use the format in Table 9 below to summarize the project Source Control BMPs. Incorporate all identified Source Control BMPs in your Source Control Exhibit in Attachment B.

TABLE 9: PROJECT SOURCE CONTROL BMPS

Potential source of runoff pollutants	*Permanent source control BMPs*	*Operational source control BMPs*
A. On-site storm drain inlets	**Mark all inlets with the words "No Dumping! Flows to Bay" or similar where feasible.**	**Maintain and periodically repaint or replace inlet markings. Include the following in lease agreements: "Tenant shall not allow anyone to discharge anything to storm drains or to store or deposit materials so as to create a potential discharge to storm drains."**
D2. Landscape/ Outdoor Pesticide Use	**Design landscaping to minimize irrigation and runoff, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution.**	**Maintain landscaping using minimum or no pesticides.**
F. Food service	**Describe the location and features of the designated cleaning area.**	**The waste water (sewer) connection from all food service uses shall be connected to grease interceptor before discharging to the sanitary sewer.**
L. Fuel Dispensing Areas	**Fueling areas[1]shall have impermeable floors graded at the minimum slope necessary to prevent ponding. Fueling areas shall be covered by a canopy that extends a minimum of ten feet in each direction from each pump.**	**The property owner shall dry sweep the fueling area routinely.**
G. Refuse areas	**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.**	**State how site refuse will be handled and provide supporting detail to what is shown on plans.**

[1] The fueling area shall 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.

Describe your specific Source Control BMPs in an accompanying narrative, and explain any special conditions or situations that required omitting Source Control BMPs or substituting alternatives.

Mark all inlets with the words "No Dumping! Flows to the Bay" or similar where feasible.

Design landscaping to minimize irrigation and runoff, to promote surface infiltration where appropriate and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution.

The waste water (sewer) connection from all food service uses shall be connected to grease interceptor before discharging to the sanitary sewer.

Fueling areas shall have impermeable floors graded at a minimum slope necessary to prevent ponding. Fueling area shall be covered by a canopy that extends a minimum of ten feet in each direction from each pump

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.

There are no known conditions which would require alternate devices described above.

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs		
1 **Potential Sources of Runoff Pollutants – List in Table 9**	2 **Permanent Controls—Show on Source Control Exhibit, Attachment B**	3 **Permanent Controls—List in Table 9 and Narrative**	4 **Operational BMPs—Include ir Table 9 and Narrative**
X **A.** On-site storm drain inlets	X Locations of inlets.	X Mark all inlets with the words "No Dumping! Flows to Bay" or similar where feasible.	X Maintain and periodically repain replace inlet markings. ❑ Provide stormwater pollution prevention information to new sit owners, lessees, or operators. ❑ See applicable operational BMPs Fact Sheet SC-44, "Drainage Syst Maintenance," in the CASQA Stormwater Quality Handbooks a www.cabmphandbooks.com X Include the following in lease agreements: "Tenant shall not all anyone to discharge anything to storm drains or to store or deposi materials so as to create a potenti discharge to storm drains."
❑ **B.** Interior floor drains and elevator shaft sump pumps		❑ 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		❑ State that parking garage floor drains will be plumbed to the sanitary sewer.	❑ Inspect and maintain drains to prevent blockages and overflow.

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs		
1 **Potential Sources of Runoff Pollutants – List in Table 9**	**2** **Permanent Controls—Show on Source Control Exhibit, Attachment B**	**3** **Permanent Controls—List in Table 9 and Narrative**	**4** **Operational BMPs—Include ir Table 9 and Narrative**
☐ **D1.** Need for future indoor & structural pest control		☐ Note building design features that discourage entry of pests.	☐ Provide Integrated Pest Manager information to owners, lessees, ai operators.
X **D2.** Landscape/ Outdoor Pesticide Use Note: Should be consistent with project landscape plan (if applicable).	☐ Show locations of native trees or areas of shrubs and ground cover to be undisturbed and retained. ☐ Show self-retaining landscape areas, if any. X Show stormwater treatment facilities.	State that final landscape plans will accomplish all of the following: ☐ Preserve existing native trees, shrubs, and ground cover to the maximum extent possible. X Design landscaping to minimize irrigation and runoff, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution. ☐ Where landscaped areas are used to retain or detain stormwater, specify plants that are tolerant of saturated soil conditions. ☐ Consider using pest-resistant plants, especially adjacent to hardscape. ☐ To insure successful establishment, select plants appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions.	X Maintain landscaping using minimum or no pesticides. ☐ See applicable operational BMPs Fact Sheet SC-41, "Building and Grounds Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com ☐ Provide IPM information to new owners, lessees and operators.

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs		
1 **Potential Sources of Runoff Pollutants – List in Table 9**	2 **Permanent Controls—Show on Source Control Exhibit, Attachment B**	3 **Permanent Controls—List in Table 9 and Narrative**	4 **Operational BMPs—Include ir Table 9 and Narrative**
☐ **E.** Pools, spas, ponds, decorative fountains, and other water features.	☐ 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 Fact Sheet SC-72, "Fountain and Pool Maintenance," in the CASQ Stormwater Quality Handbooks a www.cabmphandbooks.com
X **F.** Food service	☐ 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. X On the drawing, show a note that this drain will be connected to a grease interceptor before discharging to the sanitary sewer.	X 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 insure that the largest items can be accommodated.	☐

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs		
1 **Potential Sources of Runoff Pollutants – List in Table 9**	2 **Permanent Controls—Show on Source Control Exhibit, Attachment B**	3 **Permanent Controls—List in Table 9 and Narrative**	4 **Operational BMPs—Include ir Table 9 and Narrative**
X **G.** Refuse areas	X 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. ❑ Any drains from dumpsters, compactors, and tallow bin areas shall be connected to a grease removal device before discharge to sanitary sewer.	X 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.	X 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 dumpi of liquid or hazardous wastes. Po "no hazardous materials" signs. Inspect and pick up litter daily ar clean up spills immediately. Kee spill control materials available o site. See Fact Sheet SC-34, "Wast Handling and Disposal" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com
❑ **H.** Industrial processes.	❑ Show process area.	❑ If industrial processes are to be located on site, 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-Stormwater Discharges" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs		
1 **Potential Sources of Runoff Pollutants – List in Table 9**	**2** **Permanent Controls—Show on Source Control Exhibit, Attachment B**	**3** **Permanent Controls—List in Table 9 and Narrative**	**4** **Operational BMPs—Include ir Table 9 and Narrative**
❑ I. Outdoor storage of equipment or materials. (See rows J and K for source control measures for vehicle cleaning, repair, and maintenance.)	❑ Show any outdoor storage areas, including how materials will be covered. Show how areas will be graded and bermed to prevent run-on or run-off from area. ❑ Storage of non-hazardous liquids shall 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 (CalARP) ▪ Aboveground Storage Tank ▪ Uniform Fire Code Article 80 Section 103(b) & (c) 1991 ▪ Underground Storage Tank	❑ See the Fact Sheets SC-31, "Outd Liquid Container Storage" and S 33, "Outdoor Storage of Raw Materials " in the CASQA Stormwater Quality Handbooks a www.cabmphandbooks.com

❑ **J. Vehicle and Equipment Cleaning**	❑ **Show on drawings as appropriate:** **(1) Commercial/industrial facilities having vehicle /equipment cleaning needs shall 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 shall have a paved, bermed, and covered car wash area (unless car washing is prohibited on-site and hoses are provided with an automatic shut-off to discourage such use).** **(3) Washing areas for cars, vehicles, and equipment shall 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 shall be designed such that no runoff from the facility is discharged to the storm drain system. Wastewater from the facility shall discharge to the sanitary sewer, or a wastewater reclamation system shall be installed.**	❑ **If a car wash area is not provided, describe measures taken to discourage on-site car washing and explain how these will be enforced.**	**Describe operational measures tc implement the following (if applicable):** ❑ **Washwater from vehicle and equipment washing operations sl not be discharged to the storm dı system.** ❑ **Car dealerships and similar may rinse cars with water only.** ❑ **See Fact Sheet SC-21, "Vehicle aı Equipment Cleaning," in the CA Stormwater Quality Handbooks ı** www.cabmphandbooks.com

❑ **K.** Vehicle/Equipment Repair and Maintenance	❑ Accommodate all vehicle equipment repair and maintenance indoors. Or designate an outdoor work area and design the area to prevent run-on and runoff of stormwater. ❑ 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 shall 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 SUSMP report, note that a the following restrictions apply tc the site: ❑ No person shall dispose of, nor permit the disposal, directly or indirectly of vehicle fluids, hazarc materials, or rinsewater from par cleaning into storm drains. ❑ No vehicle fluid removal shall be performed outside a building, no asphalt or ground surfaces, whetl inside or outside a building, exce in such a manner as to ensure tha any spilled fluid will be in an area secondary containment. Leaking vehicle fluids shall be contained drained from the vehicle immediately. ❑ No person shall leave unattended drip parts or other open containe containing vehicle fluid, unless s containers are in use or in an area secondary containment.

X **L.** Fuel Dispensing Areas	X Fueling areas[2] shall have impermeable floors (i.e., portland cement concrete or equivalent smooth impervious surface) that are: a) graded at the minimum slope necessary to prevent ponding; and b) separated from the rest of the site by a grade break that prevents run-on of stormwater to the maximum extent practicable. X Fueling areas shall 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 area[1].] The canopy [or cover] shall not drain onto the fueling area.		X The property owner shall dry swe the fueling area routinely. ❑ See the Business Guide Sheet, "Automotive Service—Service Stations" in the CASQA Stormwa Quality Handbooks at www.cabmphandbooks.com

[2] The fueling area shall 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.

❑ **M.** Loading Docks	❑ Show a preliminary design for the loading dock area, including roofing and drainage. Loading docks shall be covered and/or graded to minimize run-on to and runoff from the loading area. Roof downspouts shall be positioned to direct stormwater 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 shall be equipped with a spill control valve or equivalent device, which shall 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 Stormwater Quality Handbooks at www.cabmphandbooks.com
❑ **N.** Fire Sprinkler Test Water		❑ 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 Stormwater Quality Handbooks a www.cabmphandbooks.com

O. Miscellaneous Drain or Wash Water ❑ Boiler drain lines ❑ Condensate drain lines ❑ Rooftop equipment ❑ Drainage sumps ❑ Roofing, gutters, and trim.		❑ Boiler drain lines shall be directly or indirectly connected to the sanitary sewer system and may not discharge to the storm drain system. ❑ Condensate drain lines may discharge to landscaped areas if the flow is small enough that runoff will not occur. Condensate drain lines may not discharge to the storm drain system. ❑ Rooftop mounted equipment with potential to produce pollutants shall be roofed and/or have secondary containment. ❑ Any drainage sumps on-site shall feature a sediment sump to reduce the quantity of sediment in pumped water. ❑ Avoid roofing, gutters, and trim made of copper or other unprotected metals that may leach into runoff.	
❑ **P.** Plazas, sidewalks, and parking lots.			❑ Plazas, sidewalks, and parking lo shall be swept regularly to preven the accumulation of litter and del Debris from pressure washing sh be collected to prevent entry into storm drain system. Washwater containing any cleaning agent or degreaser shall be collected and discharged to the sanitary sewer : not discharged to a storm drain.

STEP 7

LID AND TREATMENT CONTROL SELECTION

A treatment control BMP and/or LID IMP must be selected to treat the project pollutants of concern identified in Table 7 "Project Pollutants of Concern". A treatment control facility with a high or medium pollutant removal efficiency for the project's most significant pollutant of concern shall be selected. It is recommended to use the design procedure in Chapter 4 of the SUSMP to meet NPDES permit LID requirements, treatment requirements, and flow control requirements. If your project does not utilize this approach, the project will need to demonstrate compliance with LID, treatment and hydromodification flow control requirements. Review Chapter 2 "Selection of Stormwater Treatment Facilities" in the SUSMP to assist in determining the appropriate treatment facility for your project.

Will this project be utilizing the unified LID design procedure as described in Chapter 4 of the Local SUSMP? *(If yes, please document in Attachment D following the steps in Chapter 4 of the County SUSMP)*	
Yes	No
If this project is not utilizing the unified LID design procedure, please describe how the alternative treatment facilities will comply with applicable LID criteria, stormwater treatment criteria, and hydromodification management criteria.	

➢ Indicate the project pollutants of concern (POCs) from Table 7 in Column 2 below.

TABLE 10: GROUPING OF POTENTIAL POLLUTANTS of Concern (POCs) by fate during stormwater treatment

Pollutant	Check Project Specific POCs	Coarse Sediment and Trash	Pollutants that tend to associate with fine particles during treatment	Pollutants that tend to be dissolved following treatment
Sediment		X	X	
Nutrients			X	X
Heavy Metals	X		X	
Organic Compounds	X		X	
Trash & Debris	X	X		
Oxygen Demanding	X		X	
Bacteria	X		X	
Oil & Grease	X		X	
Pesticides			X	

➢ Indicate the treatment facility(s) chosen for this project in the following table.

TABLE 11: GROUPS OF POLLUTANTS and relative effectiveness of treatment facilities

Pollutants of Concern	Bioretention Facilities (LID)	Settling Basins (Dry Ponds)	Wet Ponds and Constructed Wetlands	Infiltration Devices (LID)	Media Filters	Higher-rate biofilters	Higher-rate media filters	Trash Racks & Hydro-dynamic Devices	Vegetated Swales
Coarse Sediment and Trash	High	High	High	High	High	High	High	High	High
Pollutants that tend to associate with fine particles during treatment	High	High	High	High	High	Medium	Medium	Low	Medium
Pollutants that tend to be dissolved following treatment	Medium	Low	Medium	High	Low	Low	Low	Low	Low

➢ Please check the box(s) that best describes the Treatment Control BMP(s) and/or LID IMP selected for this project. Please check if the treatment facility is designed for water quality or hydromodification flow control.

TABLE 12: PROJECT LID AND TC-BMPS

LID and TC-BMP Type	Water Quality Treatment Only	Hydromodification Flow Control
Bioretention Facilities (LID)		
X Bioretention area		X
☐ Flow-through Planter		
☐ Cistern with Bioretention		
Settling Basins (Dry Ponds)		
☐ Extended/dry detention basin with grass/vegetated lining		
☐ Extended/dry detention basin with impervious lining		
Infiltration Devices (LID)		
☐ Infiltration basin		
☐ Infiltration trench		
☐ Other_____		
Wet Ponds and Constructed Wetlands		
☐ Wet pond/basin (permanent pool)		

☐ Constructed wetland		
Vegetated Swales (LID[1])		
☐ Vegetated Swale		
Media Filters		
☐ Austin Sand Filter		
☐ Delaware Sand Filter		
☐ Multi-Chambered Treatment Train (MCTT)		
Higher-rate Biofilters		
☐ Tree-pit-style unit		
☐ Other_____		
Higher-rate Media Filters		
☐ Vault-based filtration unit with replaceable cartridges		
X Other_Media Flume Filter_____	X	
Hydrodynamic Separator Systems		
☐ Swirl Concentrator		
☐ Cyclone Separator		
Trash Racks		
☐ Catch Basin Insert		
☐ Catch Basin Insert w/ Hydrocarbon boom		
☐ Other_____		

[1] Must be designed per SUSMP "Vegetated Swales" design criteria for water quality treatment credit (p. 65).

For design guidelines and calculations refer to Chapter 4 "Low Impact Development Design Guide" in the SUSMP. Please show all calculations and design sheets for all treatment control BMPs proposed in Attachment D.

- Please describe why the chosen treatment control BMP(s) was selected for this project. For projects utilizing a low performing BMP, please provide a **feasibility analysis** that demonstrates utilization of a treatment control BMP with a high or medium removal efficiency ranking is infeasible.

The proposed development improvements will occupy the major portion of the available space. The bio retention swale and repressions are located at the southerly discharge point of each sub-basin. Down drain transitions at 30 feet interval along the adjacent paved section will allow the storm water to flow from the pavement to the swale. The flow in the swale will filter through the engineered soil membrane (6" thick) beneath the swale surface. Since the native soil material (type D) has low permeability, a rock filled trench with a perforated pipe, under the engineered soil membrane, shall convey the storm flows downstream.

In order to capture the added hydrocarbons for the gas filling station area, we have included a Media Flume Filter. This proprietary device is available from Bioclean Environmental Service. The device was sized capture the potential pollutants at a rate which exceeds the water quality requirements.

Please provide the sizing design calculations for each Drainage Management Area in Attachment D. Guidelines for design calculations are located in Chapter 4 of the County SUSMP. To assist in these calculations a BMP sizing calculator is available for use at the following location: http://www.projectcleanwater.org/html/wg_susmp.html

STEP 8

OPERATION AND MAINTENANCE

➢ Please check the box that best describes the maintenance mechanism(s) for this project.

TABLE 13: PROJECT BMP CATEGORY

CATEGORY	SELECTED		BMP Description
	YES	NO	
First[1]		X	Bioretention Swale & Areas and Media Flume Filter
Second[2]	X		
Third[3]		X	
Fourth[4]		X	

Note:

1. A maintenance notification will be required.
2. A recorded maintenance agreement and access easement will be required.
3. The project will be required to establish or be included in a watershed specific Community Facility District (CFD) for long-term maintenance.
4. The developer would be required to dedicate the BMP (and the property on which it is located and any necessary access) to the County.

➢ Please list all individual LID and Treatment Control BMPs (TC-BMPs) incorporated into the project. Please ensure the "BMP Identifier" is consistent with the legend in Attachment C "Drainage Management Area Exhibit". Please attach the record plan sheets upon completion of project and amend the Major SWMP where appropriate. For each type of LID or TC-BMP provide an inspection sheet in Attachment F "Maintenance Plan".

TABLE 14: PROJECT SPECIFIC LID AND TC-BMPS

BMP Identifier*: (Identifier to match TC-BMPs on TC-BMP Table.)	Type	Record Plan Page for TC-BMP	BMP Pollutant of Concern Efficiency (H,M,L)
TC1	Bioretention Area A		High
TC2	Bioretention Area B		High
TC3	Bioretention Area C		High
TC4	Media Fume Filter		High

* For location of BMP's, see approved Record Plan dated XX/XX/XX, plan (TYPE) sheet (#)

➢ Create a Construction Plan SWMP Checklist for your project.

Instructions on how to fill out table

1. Number and list each measure or BMP you have specified in your SWMP in Columns 1 and Maintenance Category in Column 3 of the table. Leave Column 2 blank.

2. When you submit construction plans, duplicate the table (by photocopy or electronically). Now fill in Column 2, identifying the plan sheets where the BMPs are shown. List all plan sheets on which the BMP appears. **This table must be shown on the front sheet of the grading and improvement plans.**

Storm Water Treatment Control BMPs, LID and Hydromodification BMP Table			
Description / Type	Sheet	Maintenance Category	Revisions
Bioretention Swale and Area	3, 4, 5, 6	Second	
Media Flume filter	3, 5	Second	

BMP's approved as part of Stormwater Management Plan (SWMP) dated 10/07/13 on file with DPW. Any changes to the above BMP's will require SWMP revision and Plan Change approvals.

➢ Responsible Party for Long-term Maintenance:

Identify the parties responsible for long-term maintenance of the BMPs identified above and Source Controls specified in Attachment B. Include the appropriate written agreement with the entities responsible for O&M in Attachment F. Please see Chapter 5 "Stormwater Facility Maintenance" of the County SUSMP for appropriate maintenance mechanisms.

Representative Name:
Company Name: Valley Center View Properties
Phone Number: 619-523-0133
Street Address: 3936 Hortensia Street
City/State/Zip: San Diego, CA 92110
Email Address:

➢ Funding Source:

Provide the funding source or sources for long-term operation and maintenance of each BMP identified above. Please see Chapter 5 "Stormwater Facility Maintenance" of the County SUSMP for the appropriate funding source options. By certifying the Major SWMP the applicant is certifying that the funding responsibilities have been addressed and will be transferred to future owners.

Private Funds

ATTACHMENTS

Please include the following attachments.

	ATTACHMENT	COMPLETED	N/A
A	Project Location Map	X	
B	Source Control Exhibit	X	
C	Drainage Management Area (DMA)Exhibit	X	
D	BMP Sizing Design Calculations (Water Quality and Hydromodification) and TC-BMP/IMP Design Details	X	
E	Geotechnical Certification Sheet		X
F	Maintenance Plan	X	
G	Treatment Control BMP Certification	X	
H	HMP Exemption Documentation		X
I	Addendum		X

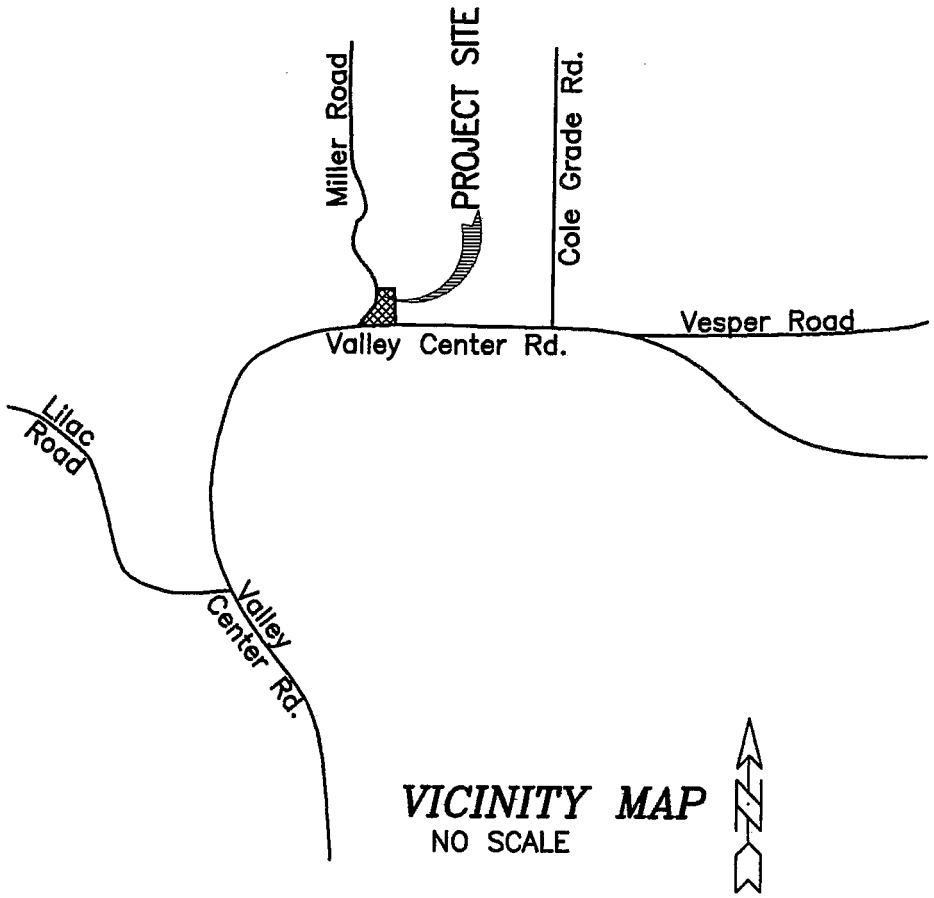
Note: Attachments B and C may be combined.

ATTACHMENT A

Project Location Map

ATTACHMENT A & B

LOCATION MAP & PROJECT SITE MAP



ATTACHMENT B

Source Control Exhibit

ATTACHMENT D

Sizing Design Calculations and TC-BMP/LID Design Details

(Provide BMP Sizing Calculator results and/or continuous simulation modeling results, if applicable)

IMP TABLE (TC1)

DMA NAME	DMA AREA (S.,F)	SURFACE TYPE	DMA RUNOFF FACTOR	DMA AREA X FACTOR (S.F.)
A1	14347	PAVEMENT	1.0	14347
A2	4625	BUILDING	1.0	4625
A3	35663	LANDSCAPING	0.1	3567
			TOTAL	22539

IMP TYPE	IMP NAME
BIO RETENTION	TC1

IMP SIZING FACTOR	MINIMUM AREA (S.F.)	ACTUAL AREA (S.F.)	IMP ELEMENT
0.075	1690	1740	"A"

		IMP SIZING FACTOR	MINIMUM VOLUME(C.F.)	ACTUAL VOLUME(C.F.)	IMP ELEMENT
TOTAL	22539	0.0625	1409	1522	"V1"
TOTAL	22539	0.0450	1014	2610	"V2"

IMP TABLE (TC2)

DMA NAME	DMA AREA (S.,F)	SURFACE TYPE	DMA RUNOFF FACTOR	DMA AREA X FACTOR (S.F.)
B1	7770	PAVEMENT	1.0	7770
B2	3817	BUILDING	1.0	3817
B3	7476	LANDSCAPING	0.1	748
			TOTAL	12335

IMP TYPE	IMP NAME
BIO RETENTION	TC2

IMP SIZING FACTOR	MINIMUM AREA (S.F.)	ACTUAL AREA (S.F.)	IMP ELEMENT
0.075	925	1050	"A"

		IMP SIZING FACTOR	MINIMUM VOLUME(C.F.)	ACTUAL VOLUME(C.F.)	IMP ELEMENT
TOTAL	12335	0.0625	771	788	"V1"
TOTAL	12335	0.0450	555	1575	"V2"

IMP TABLE (TC3)

DMA NAME	DMA AREA (S.,F)	SURFACE TYPE	DMA RUNOFF FACTOR	DMA AREA X FACTOR (S.F.)
C1	24838	PAVEMENT	1.0	24838
C2	5361	BUILDING	1.0	5361
C3	7372	LANDSCAPING	0.1	737
C4	1216	TURF BLOCK	0.1	122
			TOTAL	31058

IMP TYPE	IMP NAME
BIO RETENTION	TC3

IMP SIZING FACTOR	MINIMUM AREA (S.F.)	ACTUAL AREA (S.F.)	IMP ELEMENT
0.075	2329	2452	"A"

		IMP SIZING FACTOR	MINIMUM VOLUME(C.F.)	ACTUAL VOLUME(C.F.)	IMP ELEMENT
TOTAL	31058	0.0625	1941	2146	"V1"
TOTAL	31058	0.0450	1398	3678	"V2"

ATTACHMENT E

Geotechnical Certification Sheet

(if applicable)

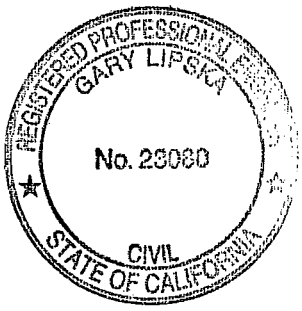
The design of stormwater treatment and other control measures proposed in this plan requiring specific soil infiltration characteristics and/or geological conditions has been reviewed and approved by a registered Civil Engineer, Geotechnical Engineer, or Geologist in the State of California.

RCE 23080

Name and registration # Exp 12/31/15

10/30/12

Date



ATTACHMENT F

Maintenance Plan

(Use Chapter 5 of the SUSMP as guidance in developing your Maintenance Plan)

Maintenance Costs:

The maintenance of post-construction BMPs will be responsibility of the Owner of the project. The average annual cost for maintaining the Bioretention Swale will be $600/year. Based on the average cost of $200 /year for 900 s.f. of surface area.

Certification of Responsibility

Inspection and maintenance of BMPs is the responsibility of Owner of this project. A contract for trash management and litter control and landscape maintenance, will be made with outside contractors, as necessary.

The future tenants will be instructed about environmental procedure regarding contamination and clean-up procedures.

All documents, including this Storm Water Management Plan, relating to site maintenance will be kept on-site and will be made available to county Inspector, upon request.

The following person is in responsible charge of education of residents & employees, and implementation and maintenance of the required BMP's.

Name: Valley Center View Properties

Telephone: 619-523-0133

MAINTENANCE PLAN

INTRODUCTION The owner / developer of the Project will be responsible for developing a plan to educate new employees regarding limiting exposure of pollutants to storm water. This plan will include education regarding proper use and disposal of pollutants and a plan for Spill Cleanup procedures and may include all Attachments included in this SWMP.

RESPONSIBILITY FOR MAITENANCE: All BMPs and erosion control devices shall be maintained, repaired and replaced as needed by the Owner. The operation and maintenance requirements for post-construction BMPs are shown in Table 15

TABLE 15

Post-construction BMPs Preventative Maintenance and Routine Inspection

Type of BMP:	**BIORETENTION SWALE**
	TC-1, TC2, TC3, TC4
Routine Action	Visual Inspection
Maintenance Indicator	Accumulation of silt and debris. Signs of erosion. Excessive plant growth.
Field Measurement	Accumulation of debris in basket
Measurement Frequency	Inspect system monthly
Maintenance Activity	Remove debris and maintain landscaping (water, fertilize and mow)

SEE ATTACHED FACT SHEETS

EXHIBIT 1
1 of 4

PRIVATE TREATMENT CONTROL BMP
OPERATION AND MAINTENANCE VERIFICATION FORM
DETENTION BASINS AND WET PONDS

1. Transcribe the following information from your notification letter and make corrections as necessary:

Permit No.: _____

BMP Location: _____

Responsible Party: _____

Phone Number: ( ) _____ ☐ *Check here for Phone Number Change*

Responsible Party Address: _____

Number Street Name & Suffix City/Zip

☐ *Check here for Address Change*

2. Using the Table below, please describe the inspections and maintenance activities that have been conducted during the last year, and date(s) maintenance was performed. Under "Results of Inspection," indicate whether maintenance was required based on each inspection, and if so, what type of maintenance. If maintenance was required, provide the date maintenance was conducted and description of the maintenance. Refer to the back of this sheet for information describing typical maintenance indicators and maintenance activities. If no maintenance was required based on the inspection results, state "no maintenance required."

Date of Inspection	Results of Inspection	Date Maintenance Completed and Description of Maintenance Conducted

3. Attach copies of available supporting documents (photographs, copies of maintenance contracts, and/or maintenance records).

4. Sign the bottom of the form and return to:

County of San Diego Watershed Protection Program
Treatment Control BMP Tracking
5201 Ruffin Road, Suite P, MS 0326
San Diego, CA 92123

Signature of Responsible Party **Print Name** **Date**

EXHIBIT A
1 of 4

PRIVATE TREATMENT CONTROL BMP
OPERATION AND MAINTENANCE VERIFICATION FORM
DETENTION – SIDE 2

These larger-scale facilities remove pollutants by detaining runoff in a quiescent pool long enough for some of the particulates to settle to the bottom. The following list of typical maintenance indicators and maintenance activities for detention basins and wet ponds is provided for your reference.

Detention BMPs Inspection and Maintenance Checklist	
Typical Maintenance Indicators	**Typical Maintenance Actions**
Poor vegetation establishment	Re-seed, re-establish vegetation.
Overgrown vegetation and invasive plants	Mow or trim as appropriate and remove invasive plants.
Erosion due to concentrated irrigation flow	Repair/re-seed eroded areas and adjust the irrigation system.
Erosion due to concentrated stormwater runoff flow	Repair/re-seed eroded areas and make appropriate corrective measures such as adding erosion control blankets, adding stone at flow entry points, or re-grading where necessary.
Gopher holes	Repair/re-seed holes and make appropriate corrective measures to prevent rodent activity.
Accumulation of sediment, litter, or debris	Remove and properly dispose of accumulated materials, without damage to the vegetation. Dredge accumulated sediment. This may be required every five to 15 years, and more frequently if there are excess sources of sediment (as may occur on newly constructed sites where soils are not yet stabilized). Dredging is usually a major project requiring mechanized equipment. The work will include an initial survey of depths and elevations; sediment sampling and testing; removal, transport, and disposal of accumulated sediment, and reestablishment of original design grades and sections.
Standing water (BMP not draining)	Abate any potential vectors by filling holes in the ground in and around the pond and by insuring that there are no areas where water stands longer than 48 hours following a storm. If mosquito larvae are present and persistent, contact the San Diego County Vector Control Program at (858) 694-2888. Mosquito larvicides should be applied only when absolutely necessary and then only by a licensed individual or contractor.
Obstructed inlet or outlet structure	Clear obstructions.
Damage to structural components such as weirs, inlet, or outlet structures	Remove any debris or sediment that could plug the outlets. Identify and correct any sources of sediment and debris. Check rocks or other armoring and replace as necessary.

EXHIBIT A
EB4

PRIVATE TREATMENT CONTROL BMP OPERATION AND MAINTENANCE VERIFICATION FORM

BIOFILTER

Biofilters Include:

☐ **Vegetated Filter Strip** ☐ **Vegetated Swale** ☒ **Bioretention Facility**

Routine maintenance is needed to ensure that flow is unobstructed, that erosion is prevented, and that soils are held together by plant roots and are biologically active. Typical maintenance consists of the following:

Bioretention BMPs Inspection and Maintenance Checklist	
Typical Maintenance Indicators	**Typical Maintenance Actions**
Accumulation of sediment, litter, or debris	Remove and properly dispose of accumulated materials, without damage to the vegetation.
Poor vegetation establishment	Examine the vegetation to ensure that it is healthy and dense enough to provide filtering and to protect soils from erosion. Replenish mulch as necessary, remove fallen leaves and debris, prune large shrubs or trees, and mow turf areas.
Overgrown vegetation	Mow or trim as appropriate, but not less than the design height of the vegetation (typically 4-6 inches for grass). Confirm that irrigation is adequate and not excessive and that sprays do not directly enter overflow grates. Replace dead plants and remove noxious and invasive vegetation.
Erosion due to concentrated irrigation flow	Repair/re-seed eroded areas and adjust the irrigation system.
Erosion due to concentrated stormwater runoff flow	Repair/re-seed eroded areas and make appropriate corrective measures such as adding erosion control blankets, adding stone at flow entry points, or re-grading where necessary.
Standing water (BMP not draining)	Abate any potential vectors by filling holes in the ground in and around the biofilter facility and by insuring that there are no areas where water stands longer than 48 hours following a storm. If mosquito larvae are present and persistent, contact the San Diego County Vector Control Program at (858) 694-2888. Mosquito larvicides should be applied only when absolutely necessary and then only by a licensed individual or contractor.
Obstructed inlet or outlet structure	Clear obstructions.
Damage to structural components such as weirs, inlet, or outlet structures	Repair or replace as applicable.

EXHIBIT A
4 of 6

PRIVATE TREATMENT CONTROL BMP
OPERATION AND MAINTENANCE VERIFICATION FORM
BIOFILTER

1. Transcribe the following information from your notification letter and make corrections as necessary:

Permit No.: _____

BMP Location: _____

Responsible Party: _____

Phone Number: ( ) _____ ☐ *Check here for Phone Number Change*

Responsible Party Address: _____
Number Street Name & Suffix City/Zip

☐ *Check here for Address Change*

2. Using the Table below, please describe the inspections and maintenance activities that have been conducted during the last year, and date(s) maintenance was performed. Under "Results of Inspection," indicate whether maintenance was required based on each inspection, and if so, what type of maintenance. If maintenance was required, provide the date maintenance was conducted and description of the maintenance. Refer to the back of this sheet for information describing typical maintenance indicators and maintenance activities. If no maintenance was required based on the inspection results, state "no maintenance required."

Date of Inspection	Results of Inspection	Date Maintenance Completed and Description of Maintenance Conducted

3. Attach copies of available supporting documents (photographs, copies of maintenance contracts, and/or maintenance records).

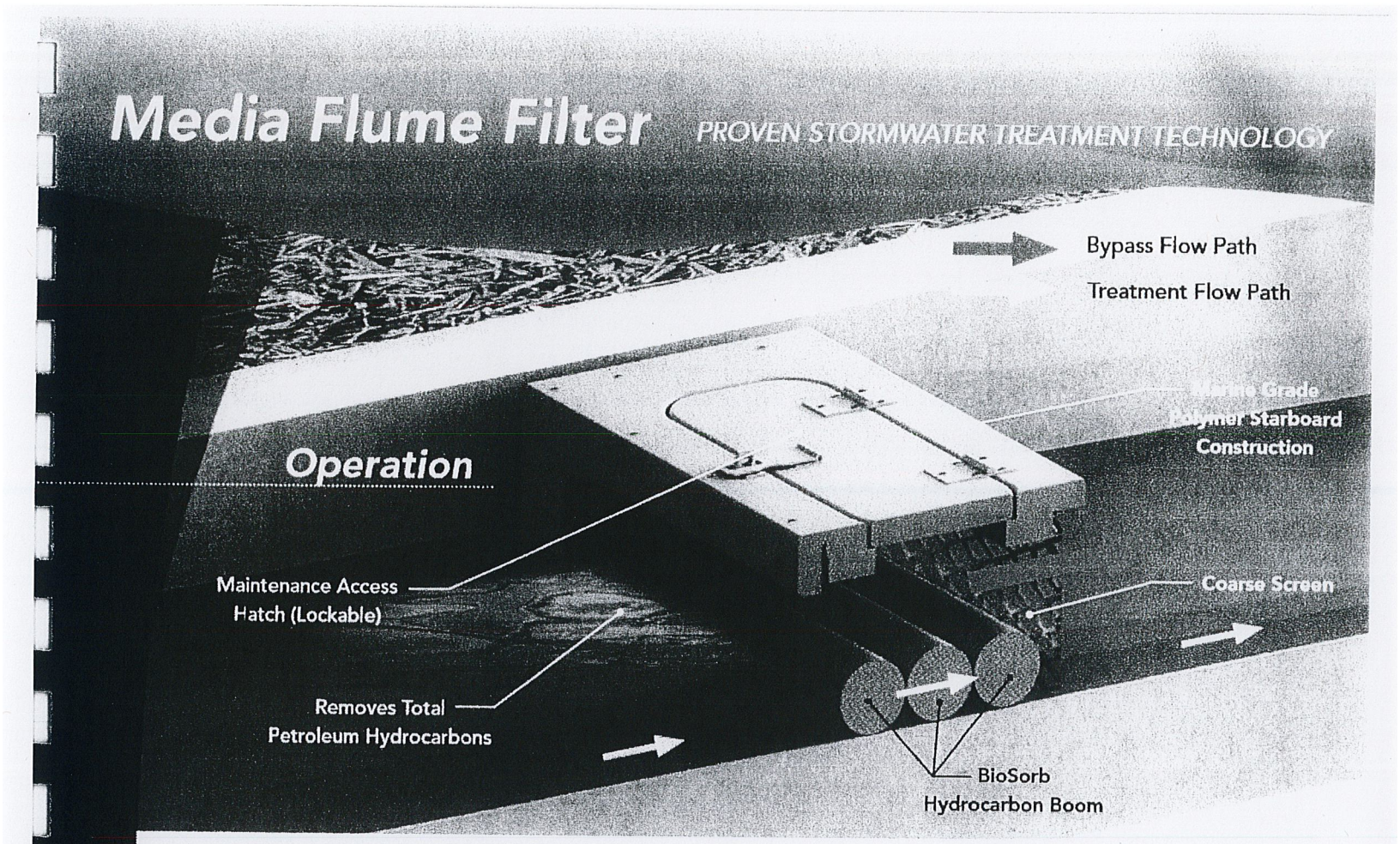
4. Sign the bottom of the form and return to:

County of San Diego Watershed Protection Program
Treatment Control BMP Tracking
5201 Ruffin Road, Suite P, MS 0326
San Diego, CA 92123

Signature of Responsible Party **Print Name** **Date**

Media Flume Filter

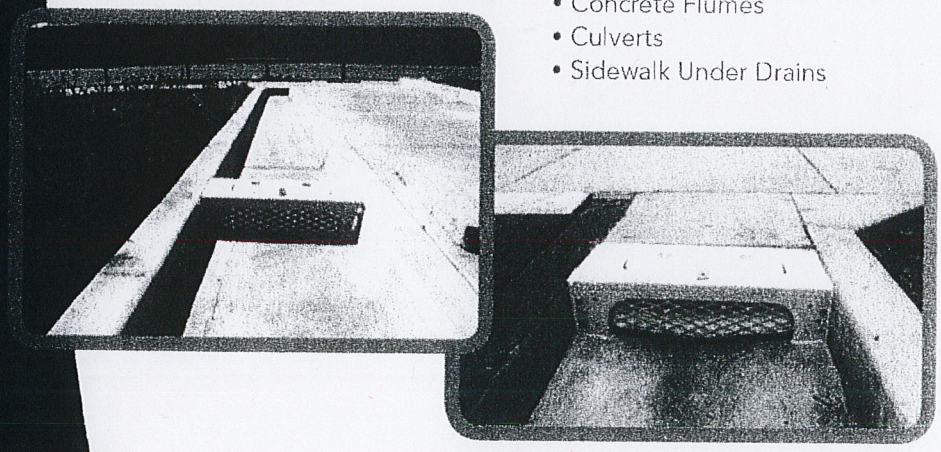
PROVEN STORMWATER TREATMENT TECHNOLOGY



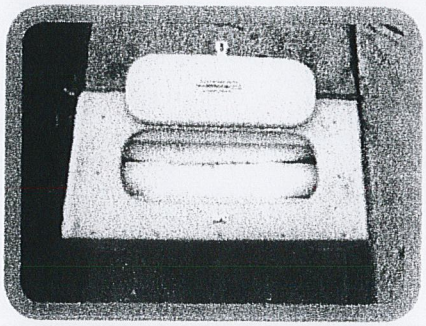
Operation

Application

- Concrete Flumes
- Culverts
- Sidewalk Under Drains



Adaptable to Rectangular or Curved Bottom Drainage Channels



Access Hatch for Easy Media Replacement

Installation & Maintenance

See our website for installation & maintenance manuals at www.BioCleanEnvironmental.com

2972 San Luis Rey Rd
Oceanside, CA 92058
p 760.433.7640 f 760.433.3176
www.BioCleanEnvironmental.com

BIO CLEAN

TREATMENT FOR SURFACE FLOWS

Media Flume Filter

PROVEN STORMWATER TREATMENT TECHNOLOGY

BIO CLEAN ENVIRONMENTAL SERVICES, INC.

Overview

The Bio Clean Media Flume Filter is a stormwater pollution control device designed to capture high levels of trash, organics and hydrocarbons. Available with various sorbtive media, these filters provide full coverage and easily fits in any drainage flume, channel or culvert.

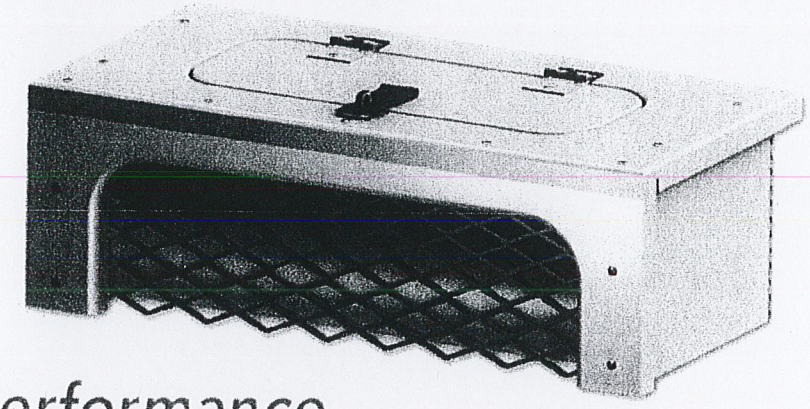
Its horizontal flow design allows it to treat sheet flows and other surface flows with no vertical drop from entry to discharge. A perfect solution for flat projects.

The Media Flume Filter is designed specifically for removing hydrocarbons and other contaminants from sheet flows. It contains a series of media booms that absorb oils & grease, and other various contaminants from the passing runoff. The booms are easily replaced through a top hatch.

Available in various sizes and custom made to fit any size or shape flume, channel or culvert. All components are extremely durable and backed by a 5 year warranty.

Advantages

- Easy Maintenance
- Quick Installation
- 5 Year Warranty
- Customized Configurations and Sizes



Performance

- 83% Removal of Oils & Grease
- 87% Removal of Total Petroleum Hydrocarbons (TPH) (Tested with BioSorb Hydrocarbon Absorbent)

Available with Other Media (perlite, activated charcoal, alumina) for Removal of Various Pollutants

Specifications

Model #	Filter Width (inches)	Treatment Flow Rate (CFS)
BC-MFF-12	12	0.26
BC-MFF-18	18	0.39
BC-MFF-24	24	0.52
BC-MFF-36	36	0.78
BC-MFF-48	48	1.04
BC-MFF-60	60	1.3

Bio Clean Flume Filter - Removal Efficiencies

Numeric Reductions (mg/L)

	Total Suspended Solids mg/L			Total Phosphorus mg/L			Nitrate-N mg/L		
Location	Inlet	Outlet	Removal Efficiency	Inlet	Outlet	Removal Efficiency	Inlet	Outlet	Removal Efficiency
Waves Environmental	73	51.6	29%	5.12	5.42	-6%	5.43	5.02	8%

	Zinc mg/L			Lead mg/L			Copper mg/L		
Location	Inlet	Outlet	Removal Efficiency	Inlet	Outlet	Removal Efficiency	Inlet	Outlet	Removal Efficiency
Waves Environmental	1.33	1.28	4%	0.201	0.17	15%	0.951	0.93	2%

	Silver mg/L			Mercury mg/L			Cadmium mg/L		
Location	Inlet	Outlet	Removal Efficiency	Inlet	Outlet	Removal Efficiency	Inlet	Outlet	Removal Efficiency
Waves Environmental	0.04	0.03	25%	0.009	0.007	22%	0.584	0.55	6%

	Oil & Grease mg/L			TPH (mg/L)		
Location	Inlet	Outlet	Removal Efficiency	Inlet	Outlet	Removal Efficiency
Waves Environmental	360	62.2	83%	223	29.57	87%

Waves Environmental - Bio Clean Flume Filter Pollutant Removal Testing - 2007

SPECIFICATIONS

Flume Filter/Boom Box

I. Specifications

Coverage: The Flume Filter provides full coverage of flume such that all influent, at rated flows, is conveyed to the filter. The filter will retain all windblown and swept debris entering the flume or channel.

Non-Corrosive Materials: All components of the filter system, including mounting hardware, fasteners, support brackets, filtration material, and support frame are constructed of non-corrosive materials: 316 stainless steel, aluminum and starboard. Fasteners are stainless steel. Primary filter screen is ¾" flattened expanded aluminum metal and 316 stainless steel welded 10 x 10 mesh screen.

Durability: The Flume Filter is constructed of an all starboard frame and stainless steel screens backed by ¾" flattened expanded aluminum metal. Filter (excluding oil absorbent media) and support structures are of proven durability, with an expected service life of 10 to 15 years. The filter and mounting structures are of sufficient strength to support water, sediment, and debris loads when full without breaking, or tearing. All filters are warranted for a minimum of five (5) years.

Oil Absorbent Media: The Flume Filter is fitted with an absorbent media for removal of petroleum hydrocarbons from influent, and so placed in the filter assembly to treat influent at rated flow. Absorbent media is easily replaceable in the filter, without the necessity of removing fixed mounting brackets or mounting hardware. Hydrocarbon media is placed in the bottom of the filter unit. The hydrocarbon media encompasses the total bottom area of the unit and lie horizontal for maximum absorption. No polypropylene, monofilament netting or fabrics shall be used in the product.

Overflow Protection: The Flume Filter is designed so that it does not inhibit storm flows entering the flume/channel or obstruct flow through the flume/channel during peak storm flows.

Filter Bypass: Water will not bypass the filter at low flows, nor bypass through contact surfaces(hydrocarbon boom) at low flows.

Pollutant Removal Efficiency: The Flume Filter is designed to capture high levels of trash and litter, grass and foliage, sediments, hydrocarbons, grease and oil. The filter has a multistage filtration system, which incorporates durable screen and steel mesh filtering.

II. Installation

Installation: The Flume Filter will be securely installed within the flume/channel, with contact surfaces sufficiently joined together so that no filter bypass can occur at low flow. All anchoring devices and fasteners are installed within the interior of the flume/channel.

Installation Notes:

1. Bio Clean Environmental Services, Inc. Flume Filter shall be installed pursuant to the manufacturer's recommendations and the details on this sheet.
2. Flume Filter shall provide coverage of entire flume/channel opening to direct all flow through the filter.
3. Attachments to flume/channel walls shall be made of non-corrosive hardware.
4. Place filter in flume/channel, attach the scribe strips to the filter with pop rivets, and then attach the same scribe strips with concrete drive pins to the side of the flume/channel.
5. Place hydrocarbon booms in bottom of unit in a horizontal manner.
6. Close lid and latch when applicable.

III. Maintenance

Maintenance: The Flume filter is readily serviceable without removing. Debris accumulated in front of the filter should be swept up and disposed of appropriately. The filter's front screen should be inspected and cleaned if necessary to maintain proper flow through the filter. This screen can easily be cleaned by brushing of its surface with a broom. To service the media booms, open the top hatch, clean and inspect and/or replace hydrocarbon booms.

Maintenance Notes:

1. Bio Clean Environmental Services, Inc. recommends cleaning and debris removal maintenance a minimum of four times per year, and replacement of hydrocarbon booms a minimum of twice per year.
2. Following maintenance and/or inspection, the maintenance operator shall prepare a maintenance/inspection record. The record shall include any maintenance activities performed, amount and description of debris collected, and condition of filter.
3. The owner shall retain the maintenance/inspection record for a minimum of five years from the date of maintenance. These records shall be made available to the governing municipality for inspection upon request at any time.
4. Remove all trash, debris, organics, and sediments collected in front of the filter, then open the lid and remove trash and debris within the filter.
5. Evaluation of the hydrocarbon boom shall be performed at each cleaning. If the boom is filled with hydrocarbons and oils it should be replaced. Remove hydrocarbon booms and replace.
6. Transport all debris, trash, organics and sediments to approved facility for disposal in accordance with local and state requirements.
7. The hydrocarbon boom is classified as hazardous material and will have to be picked up and disposed of as hazardous waste. Hazardous material can only be handled by a certified hazardous waste trained person (minimum 24-hour hazwoper).

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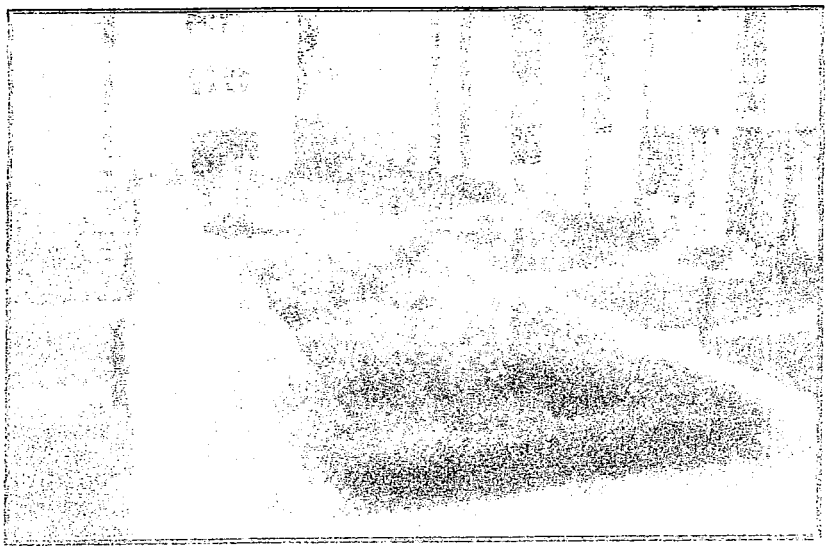
EXHIBIT B

Bioretention

TC-32



Design Considerations

- ▫ Soil for Infiltration
- ▪ Tributary Area
- ▪ Slope
- ▪ Aesthetics
- ▪ Environmental Side-effects

Description

The bioretention best management practice (BMP) functions as a soil and plant-based filtration device that removes pollutants through a variety of physical, biological, and chemical treatment processes. These facilities normally consist of a grass buffer strip, sand bed, ponding area, organic layer or mulch layer, planting soil, and plants. The runoff's velocity is reduced by passing over or through buffer strip and subsequently distributed evenly along a ponding area. Exfiltration of the stored water in the bioretention area planting soil into the underlying soils occurs over a period of days.

Targeted Constituents

✓	Sediment	▫
✓	Nutrients	△
✓	Trash	▫
✓	Metals	▫
✓	Bacteria	▫
✓	Oil and Grease	▪
✓	Organics	▪

Legend *(Removal Effectiveness)*

○ Low ▫ High

△ Medium

California Experience

None documented. Bioretention has been used as a stormwater BMP since 1992. In addition to Prince George's County, MD and Alexandria, VA, bioretention has been used successfully at urban and suburban areas in Montgomery County, MD; Baltimore County, MD; Chesterfield County, VA; Prince William County, VA; Smith Mountain Lake State Park, VA; and Cary, NC.

Advantages

- ▪ Bioretention provides stormwater treatment that enhances the quality of downstream water bodies by temporarily storing runoff in the BMP and releasing it over a period of four days to the receiving water (EPA, 1999).
- ▪ The vegetation provides shade and wind breaks, absorbs noise, and improves an area's landscape.

Limitations

- ▪ The bioretention BMP is not recommended for areas with slopes greater than 20% or where mature tree removal would

CASQA California Stormwater Quality Association

be required since clogging may result, particularly if the BMP receives runoff with high sediment loads (EPA, 1999).

- Bioretention is not a suitable BMP at locations where the water table is within 6 feet of the ground surface and where the surrounding soil stratum is unstable.
- By design, bioretention BMPs have the potential to create very attractive habitats for mosquitoes and other vectors because of highly organic, often heavily vegetated areas mixed with shallow water.
- In cold climates the soil may freeze, preventing runoff from infiltrating into the planting soil.

Design and Sizing Guidelines

- The bioretention area should be sized to capture the design storm runoff.
- In areas where the native soil permeability is less than 0.5 in/hr an underdrain should be provided.
- Recommended minimum dimensions are 15 feet by 40 feet, although the preferred width is 25 feet. Excavated depth should be 4 feet.
- Area should drain completely within 72 hours.
- Approximately 1 tree or shrub per 50 ft^2 of bioretention area should be included.
- Cover area with about 3 inches of mulch.

Construction/Inspection Considerations

Bioretention area should not be established until contributing watershed is stabilized.

Performance

Bioretention removes stormwater pollutants through physical and biological processes, including adsorption, filtration, plant uptake, microbial activity, decomposition, sedimentation and volatilization (EPA, 1999). Adsorption is the process whereby particulate pollutants attach to soil (e.g., clay) or vegetation surfaces. Adequate contact time between the surface and pollutant must be provided for in the design of the system for this removal process to occur. Thus, the infiltration rate of the soils must not exceed those specified in the design criteria or pollutant removal may decrease. Pollutants removed by adsorption include metals, phosphorus, and hydrocarbons. Filtration occurs as runoff passes through the bioretention area media, such as the sand bed, ground cover, and planting soil.

Common particulates removed from stormwater include particulate organic matter, phosphorus, and suspended solids. Biological processes that occur in wetlands result in pollutant uptake by plants and microorganisms in the soil. Plant growth is sustained by the uptake of nutrients from the soils, with woody plants locking up these nutrients through the seasons. Microbial activity within the soil also contributes to the removal of nitrogen and organic matter. Nitrogen is removed by nitrifying and denitrifying bacteria, while aerobic bacteria are responsible for the decomposition of the organic matter. Microbial processes require oxygen and can result in depleted oxygen levels if the bioretention area is not adequately

aerated. Sedimentation occurs in the swale or ponding area as the velocity slows and solids fall out of suspension.

The removal effectiveness of bioretention has been studied during field and laboratory studies conducted by the University of Maryland (Davis et al, 1998). During these experiments, synthetic stormwater runoff was pumped through several laboratory and field bioretention areas to simulate typical storm events in Prince George's County, MD. Removal rates for heavy metals and nutrients are shown in Table 1.

Table 1 Laboratory and Estimated Bioretention Davis et al. (1998); PGDER (1993)

Pollutant	Removal Rate
Total Phosphorus	70-83%
Metals (Cu, Zn, Pb)	93-98%
TKN	68-80%
Total Suspended Solids	90%
Organics	90%
Bacteria	90%

Results for both the laboratory and field experiments were similar for each of the pollutants analyzed. Doubling or halving the influent pollutant levels had little effect on the effluent pollutants concentrations (Davis et al, 1998).

The microbial activity and plant uptake occurring in the bioretention area will likely result in higher removal rates than those determined for infiltration BMPs.

Siting Criteria

Bioretention BMPs are generally used to treat stormwater from impervious surfaces at commercial, residential, and industrial areas (EPA, 1999). Implementation of bioretention for stormwater management is ideal for median strips, parking lot islands, and swales. Moreover, the runoff in these areas can be designed to either divert directly into the bioretention area or convey into the bioretention area by a curb and gutter collection system.

The best location for bioretention areas is upland from inlets that receive sheet flow from graded areas and at areas that will be excavated (EPA, 1999). In order to maximize treatment effectiveness, the site must be graded in such a way that minimizes erosive conditions as sheet flow is conveyed to the treatment area. Locations where a bioretention area can be readily incorporated into the site plan without further environmental damage are preferred. Furthermore, to effectively minimize sediment loading in the treatment area, bioretention only should be used in stabilized drainage areas.

Additional Design Guidelines

The layout of the bioretention area is determined after site constraints such as location of utilities, underlying soils, existing vegetation, and drainage are considered (EPA, 1999). Sites with loamy sand soils are especially appropriate for bioretention because the excavated soil can be backfilled and used as the planting soil, thus eliminating the cost of importing planting soil.

The use of bioretention may not be feasible given an unstable surrounding soil stratum, soils with clay content greater than 25 percent, a site with slopes greater than 20 percent, and/or a site with mature trees that would be removed during construction of the BMP.

Bioretention can be designed to be off-line or on-line of the existing drainage system (EPA, 1999). The drainage area for a bioretention area should be between 0.1 and 0.4 hectares (0.25 and 1.0 acres). Larger drainage areas may require multiple bioretention areas. Furthermore, the maximum drainage area for a bioretention area is determined by the expected rainfall intensity and runoff rate. Stabilized areas may erode when velocities are greater than 5 feet per second (1.5 meter per second). The designer should determine the potential for erosive conditions at the site.

The size of the bioretention area, which is a function of the drainage area and the runoff generated from the area is sized to capture the water quality volume.

The recommended minimum dimensions of the bioretention area are 15 feet (4.6 meters) wide by 40 feet (12.2 meters) long, where the minimum width allows enough space for a dense, randomly-distributed area of trees and shrubs to become established. Thus replicating a natural forest and creating a microclimate, thereby enabling the bioretention area to tolerate the effects of heat stress, acid rain, runoff pollutants, and insect and disease infestations which landscaped areas in urban settings typically are unable to tolerate. The preferred width is 25 feet (7.6 meters), with a length of twice the width. Essentially, any facilities wider than 20 feet (6.1 meters) should be twice as long as they are wide, which promotes the distribution of flow and decreases the chances of concentrated flow.

In order to provide adequate storage and prevent water from standing for excessive periods of time the ponding depth of the bioretention area should not exceed 6 inches (15 centimeters). Water should not be left to stand for more than 72 hours. A restriction on the type of plants that can be used may be necessary due to some plants' water intolerance. Furthermore, if water is left standing for longer than 72 hours mosquitoes and other insects may start to breed.

The appropriate planting soil should be backfilled into the excavated bioretention area. Planting soils should be sandy loam, loamy sand, or loam texture with a clay content ranging from 10 to 25 percent.

Generally the soil should have infiltration rates greater than 0.5 inches (1.25 centimeters) per hour, which is typical of sandy loams, loamy sands, or loams. The pH of the soil should range between 5.5 and 6.5, where pollutants such as organic nitrogen and phosphorus can be adsorbed by the soil and microbial activity can flourish. Additional requirements for the planting soil include a 1.5 to 3 percent organic content and a maximum 500 ppm concentration of soluble salts.

Soil tests should be performed for every 500 cubic yards (382 cubic meters) of planting soil, with the exception of pH and organic content tests, which are required only once per bioretention area (EPA, 1999). Planting soil should be 4 inches (10.1 centimeters) deeper than the bottom of the largest root ball and 4 feet (1.2 meters) altogether. This depth will provide adequate soil for the plants' root systems to become established, prevent plant damage due to severe wind, and provide adequate moisture capacity. Most sites will require excavation in order to obtain the recommended depth.

Planting soil depths of greater than 4 feet (1.2 meters) may require additional construction practices such as shoring measures (EPA, 1999). Planting soil should be placed in 18 inches or greater lifts and lightly compacted until the desired depth is reached. Since high canopy trees may be destroyed during maintenance the bioretention area should be vegetated to resemble a terrestrial forest community ecosystem that is dominated by understory trees. Three species each of both trees and shrubs are recommended to be planted at a rate of 2500 trees and shrubs per hectare (1000 per acre). For instance, a 15 foot (4.6 meter) by 40 foot (12.2 meter) bioretention area (600 square feet or 55.75 square meters) would require 14 trees and shrubs. The shrub-to-tree ratio should be 2:1 to 3:1.

Trees and shrubs should be planted when conditions are favorable. Vegetation should be watered at the end of each day for fourteen days following its planting. Plant species tolerant of pollutant loads and varying wet and dry conditions should be used in the bioretention area.

The designer should assess aesthetics, site layout, and maintenance requirements when selecting plant species. Adjacent non-native invasive species should be identified and the designer should take measures, such as providing a soil breach to eliminate the threat of these species invading the bioretention area. Regional landscaping manuals should be consulted to ensure that the planting of the bioretention area meets the landscaping requirements established by the local authorities. The designers should evaluate the best placement of vegetation within the bioretention area. Plants should be placed at irregular intervals to replicate a natural forest. Trees should be placed on the perimeter of the area to provide shade and shelter from the wind. Trees and shrubs can be sheltered from damaging flows if they are placed away from the path of the incoming runoff. In cold climates, species that are more tolerant to cold winds, such as evergreens, should be placed in windier areas of the site.

Following placement of the trees and shrubs, the ground cover and/or mulch should be established. Ground cover such as grasses or legumes can be planted at the beginning of the growing season. Mulch should be placed immediately after trees and shrubs are planted. Two to 3 inches (5 to 7.6 cm) of commercially-available fine shredded hardwood mulch or shredded hardwood chips should be applied to the bioretention area to protect from erosion.

Maintenance

The primary maintenance requirement for bioretention areas is that of inspection and repair or replacement of the treatment area's components. Generally, this involves nothing more than the routine periodic maintenance that is required of any landscaped area. Plants that are appropriate for the site, climatic, and watering conditions should be selected for use in the bioretention cell. Appropriately selected plants will aide in reducing fertilizer, pesticide, water, and overall maintenance requirements. Bioretention system components should blend over time through plant and root growth, organic decomposition, and the development of a natural

soil horizon. These biologic and physical processes over time will lengthen the facility's life span and reduce the need for extensive maintenance.

Routine maintenance should include a biannual health evaluation of the trees and shrubs and subsequent removal of any dead or diseased vegetation (EPA, 1999). Diseased vegetation should be treated as needed using preventative and low-toxic measures to the extent possible. BMPs have the potential to create very attractive habitats for mosquitoes and other vectors because of highly organic, often heavily vegetated areas mixed with shallow water. Routine inspections for areas of standing water within the BMP and corrective measures to restore proper infiltration rates are necessary to prevent creating mosquito and other vector habitat. In addition, bioretention BMPs are susceptible to invasion by aggressive plant species such as cattails, which increase the chances of water standing and subsequent vector production if not routinely maintained.

In order to maintain the treatment area's appearance it may be necessary to prune and weed. Furthermore, mulch replacement is suggested when erosion is evident or when the site begins to look unattractive. Specifically, the entire area may require mulch replacement every two to three years, although spot mulching may be sufficient when there are random void areas. Mulch replacement should be done prior to the start of the wet season.

New Jersey's Department of Environmental Protection states in their bioretention systems standards that accumulated sediment and debris removal (especially at the inflow point) will normally be the primary maintenance function. Other potential tasks include replacement of dead vegetation, soil pH regulation, erosion repair at inflow points, mulch replenishment, unclogging the underdrain, and repairing overflow structures. There is also the possibility that the cation exchange capacity of the soils in the cell will be significantly reduced over time. Depending on pollutant loads, soils may need to be replaced within 5-10 years of construction (LID, 2000).

Cost

Construction Cost

Construction cost estimates for a bioretention area are slightly greater than those for the required landscaping for a new development (EPA, 1999). A general rule of thumb (Coffman, 1999) is that residential bioretention areas average about $3 to $4 per square foot, depending on soil conditions and the density and types of plants used. Commercial, industrial and institutional site costs can range between $10 to $40 per square foot, based on the need for control structures, curbing, storm drains and underdrains.

Retrofitting a site typically costs more, averaging $6,500 per bioretention area. The higher costs are attributed to the demolition of existing concrete, asphalt, and existing structures and the replacement of fill material with planting soil. The costs of retrofitting a commercial site in Maryland, Kettering Development, with 15 bioretention areas were estimated at $111,600.

In any bioretention area design, the cost of plants varies substantially and can account for a significant portion of the expenditures. While these cost estimates are slightly greater than those of typical landscaping treatment (due to the increased number of plantings, additional soil excavation, backfill material, use of underdrains etc.), those landscaping expenses that would be required regardless of the bioretention installation should be subtracted when determining the net cost.

Perhaps of most importance, however, the cost savings compared to the use of traditional structural stormwater conveyance systems makes bioretention areas quite attractive financially. For example, the use of bioretention can decrease the cost required for constructing stormwater conveyance systems at a site. A medical office building in Maryland was able to reduce the amount of storm drain pipe that was needed from 800 to 230 feet - a cost savings of $24,000 (PGDER, 1993). And a new residential development spent a total of approximately $100,000 using bioretention cells on each lot instead of nearly $400,000 for the traditional stormwater ponds that were originally planned (Rappahanock,). Also, in residential areas, stormwater management controls become a part of each property owner's landscape, reducing the public burden to maintain large centralized facilities.

Maintenance Cost

The operation and maintenance costs for a bioretention facility will be comparable to those of typical landscaping required for a site. Costs beyond the normal landscaping fees will include the cost for testing the soils and may include costs for a sand bed and planting soil.

References and Sources of Additional Information

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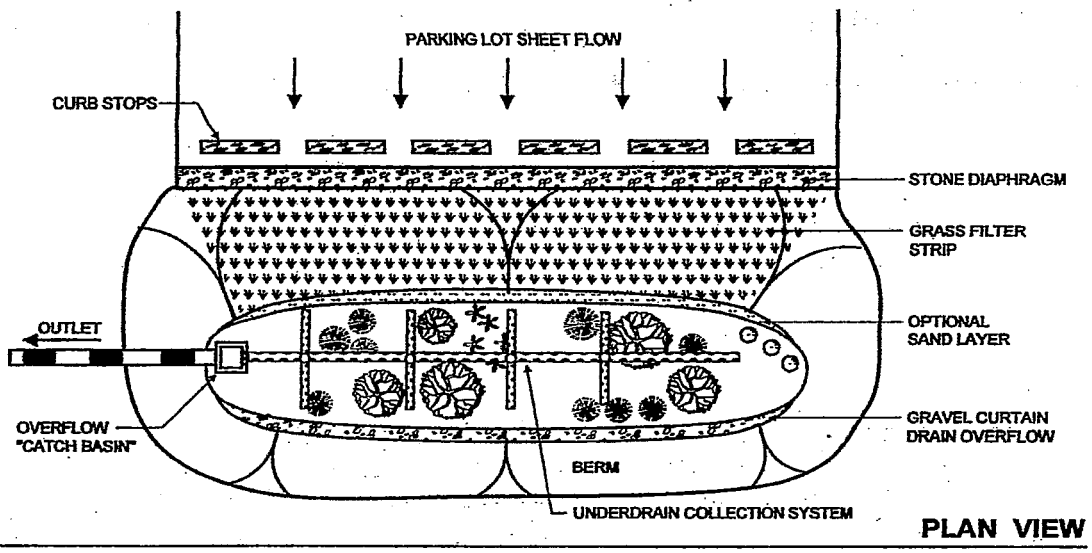
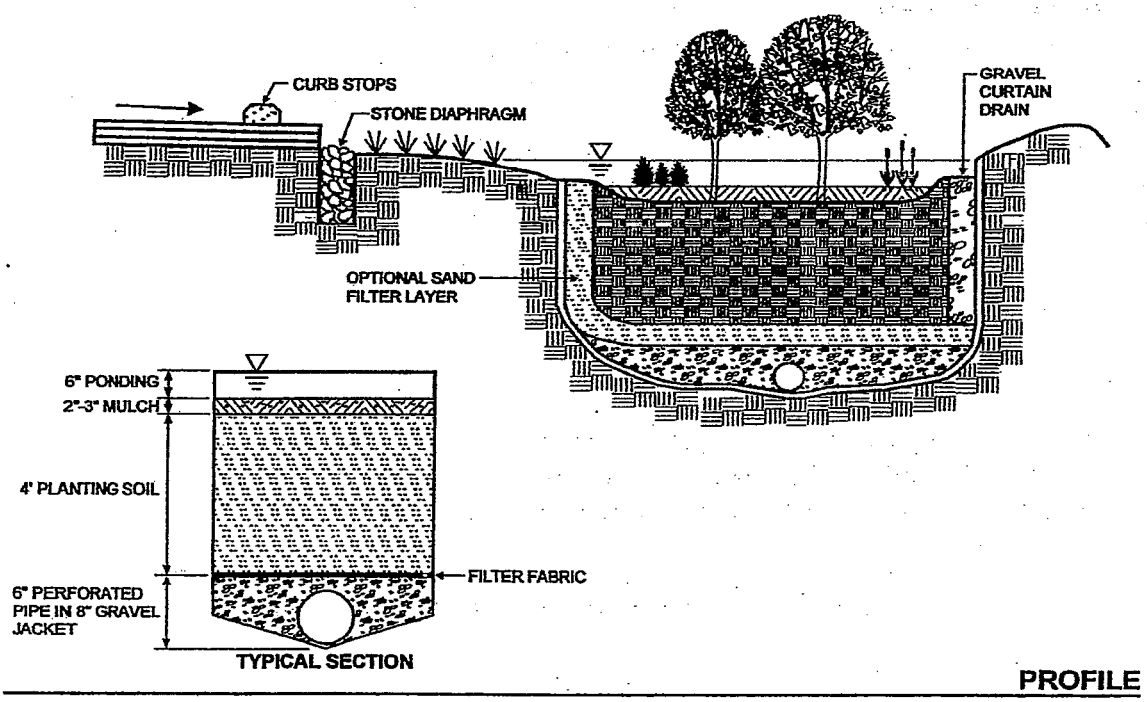




Schematic of a Bioretention Facility (MDE, 2000)

UNDERGROUND DETENTION BASINS

StormTank General Maintenance Guidelines

Brentwood industries StormTank Stormwater Storage System is a component in an overall stormwater collection, treatment, detention or infiltration system. Stormwater systems come in varying shapes sizes and configurations. Some systems offer pre-treatment to remove sediment and/or contaminants prior to entering the StormTank storage area and some do not. Systems without pre-treatment require greater attention to system functionality. In order to maximize the storage capacity of the StormTank for years to come, pre-treated or not, we offer the following general maintenance guidelines:

Determining if Maintenance is Required

1. Visual Inspection
   A visual inspection of the system should be performed semi-annually looking for any visual deficientcy in the system in the form of sedimentation and debris.

   Inspect the following:
   a. Man-holes before and/or after the StormTank
   b. Inlet and Outlet Pipe
   c. Discharge Area

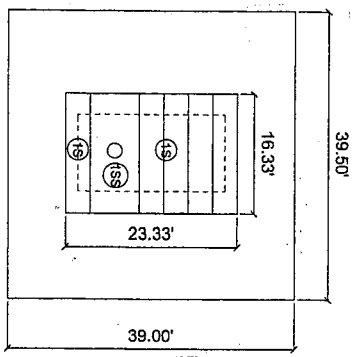
2. System Operation
   a. Inspect the system while in operation making sure inlets remain open and the system doesn't back-up.
   b. If the system has a flow metering device confirm flow rates are not reduced or have changed drastically.

Maintenance Frequency

1. During Construction
   Care should be taken to avoid siltation of the system during the construction process.

2. Project Completion
   At completion of installation and all project related excavation the system should be flushed to rid the StormTank of any construction related debris and/or sedimentation.

3. Regular Maintenance
   Maintenance to the system shall be performed based on the findings of the semi-annual inspection or decrease in system performance as observed in the system operation.



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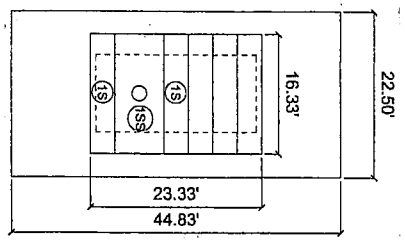

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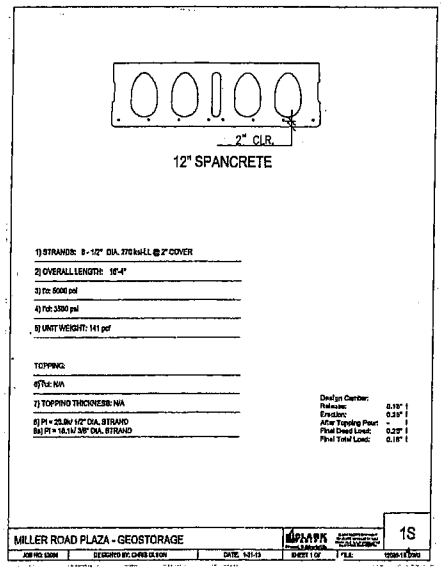
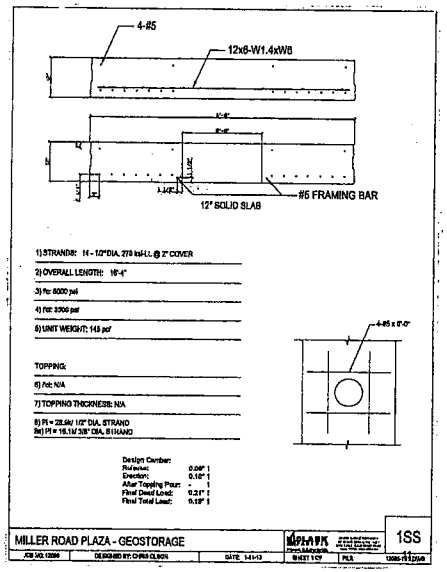




SPANCRETE PLANK NOTES:

1. Strand Data:
   5/16" Ø = 250K Pi = 10.16K
   3/8" Ø = 270K Pi = 16.10K
   1/2" Ø = 270K Pi = 28.90K
2. Alternate Strand Design of Equivalent Force May Used.
   All Plank are 3'-4" Wide U.N.O.

GENERAL NOTES

1. Dimensions - Clark Pacific Precast is not responsible for dimensions other than shown on approved Clark Pacific drawings. General Contractor, Engineer and Architect to verify all plans, details and sections.

2. Verification - Verification of dimensions, details and etc., are requested where indicated. Unless each verification is noted otherwise it will be assumed to be correct as shown. General Contractor is responsible for furnishing all "closeout" dimensions as noted on the submittal.

3. Core Drilling - Unless agreed upon in the contract, the General Contractor will be responsible for core drilling of all holes. All core drilling will be done in the field. Clark Pacific's Engineering Department must approve all locations and sizes prior to coring. Clark Pacific will not be responsible for holes made by other trades or sub-contractors that have not been approved by Clark Pacific's Engineering Department. Approved location and sizing of core holes should be submitted for review.

4. Openings - Openings for duct work, plumbing chases, manholes, etc. that require special notching of the Spancrete plank or headers to support the plank must be specifically located and sized on these drawings.

5. Shoring - Shoring required to provide bearing support for Clark Pacific products must be supplied and installed by the General Contractor and must remain in place until proper bearing is provided.

6. Reinforcing - All reinforcing not embedded in Clark Pacific's product shall be supplied and installed by the General Contractor. The reinforcing shown on these drawings is for structural integrity. Refer to the structural drawings for the total reinforcing required.

7. Temperature Reinforcement - Temperature reinforcement shall be provided in the topping slab, by the General Contractor, in accordance with the governing code. Minimum area of reinforcement required shall be based on the gross area of the topping slab.

8. Cast-In-Place - All areas noted "CIP" (cast-in-place) are to be formed, reinforced and cast by the General Contractor. See Structural Drawings for reinforcing required.

9. Tolerances - All bearing, lap and other dimensions are ± in accordance with Journal manufacturing and erection tolerances.

10. Product Storage and Handling / P.C.I. Joint - CAUTION: Serious structural damage to the precast member can occur during storage and handling if proper precautions are not followed. The manufacturer should be consulted if proper handling and storage procedures are not understood.

11. Grouting - Clear keyways of debris and wet down prior to grouting. Grout shall be a mixture of 3 parts sand to 1 part cement (UNO). Grout should be wet enough to flow easily into keyways.

12. Topping - Plank surface shall be free of foreign material and soaked 24 hours prior to the topping pour. The deck shall be sprinkled lightly with water immediately prior to the pour. Topping thickness over double tee flanges shall not exceed 3 1/2" thick at any point unless approved by Clark Pacific's Engineering Department.

13. Non-Structural Welding - (NSW) - Welds designated with NSW are non-structural. These welds are not designed to resist loads and forces required by current code provisions. INSPECTION IS NOT REQUIRED.

14. Construction Equipment - The precast was designed for the final loads as shown on the general drawings. Any construction equipment to be used on the precast deck must be approved by Clark Pacific's Engineering Department.

15. Additional Forming - Due to manufacturing processes and industry tolerances, the widths of Spancrete planks may vary. This could result in an accumulative gap at the end of building between the edge of the last plank and the inside face of the wall. The General Contractor should allow additional funds in budget to cover costs incurred by additional forming and topping. All joints between precast components are subject to an accumulation of manufacturing, erection and field tolerances that could result in larger gaps and additional forming requirements (not by C.P.).

16. Clark Pacific Decals Tee Hanger - No welding, tacking or cutting of or to the CP Hanger Assemblies shall be permitted without Clark Pacific's Engineering Department approval.

SPECIFICATIONS

Clark Pacific Precast certifies that its products are produced with materials conforming to and/or under the auspices of the following:

MATERIALS:

STEEL:

REINFORCING STEEL:	A.S.T.M.	A706-09
REINFORCING STEEL:	A.S.T.M.	A615-09 Gr60
STRUCTURAL STEEL SHAPES:	A.S.T.M.	A36-08
PRESTRESSING STRAND:	A.S.T.M.	A416-06
WELDED WIRE FABRIC:	A.S.T.M.	A185-09e1
DEFORMED WAIR:	A.S.T.M.	A497-09e1
ANCHOR BOLTS:	A.S.T.M.	F1554-04e1 GR 36

CONCRETE:

CEMENT:	A.S.T.M.	C150-07 TYPE I
NATURAL AGGREGATE:	A.S.T.M.	C33-03
LIGHTWEIGHT AGGREGATE:	A.S.T.M.	C330-04

WELDING:

PLANT FILLET WELD:	A.W.S.	A5.20-05
CAZALY PLANE BEVEL	A.W.S.	A5.20-05
CAZALY FILLET WELD	A.W.S.	A5.20-05

APPROVALS:

IAS	PA-103 & PA-111
ICC-ES	ESR-2960
LOS ANGELES CITY	R.R. 25257 & PCP/SC-615
PCI CERTIFIED PLANT	

REGISTERED PROFESSIONAL ENGINEER — GARY D. PEARSON — 55740 — STRUCTURAL — STATE OF CALIFORNIA

2-4-13

COUNTY APPROVED CHANGES			
NO.	DESCRIPTION:	APPROVED BY:	DATE:

PERMITS	
REZONE PERMIT NO.	N/A
SITE PLAN REVIEW NO.	5-08-013
STREET IMPROVEMENT PLANS	CO XXXX
NOTICE OF INTENT(WQD):	R 370133925

BENCH MARK	
DESCRIPTION:	2-1/2" BRASS CAP STAMPED "S.D. SURV. MON. 19 PT."
LOCATION:	BY WELL MONUMENT AT POINT EGCS-3048
RECORD FROM:	RECORD OF SURVEY MAP 14236
ELEVATION:	1136.773 DATUM: NGVD 29 MSL

PRIVATE CONTRACT	
TITLE 19	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS — 19 SHEETS
GEOSTORAGE PLANS FOR: MILLER ROAD PLAZA	
PORTION OF PARCEL 2 & 3, P.M. NO. 8636	
CALIFORNIA COORDINATE INDEX 386-1761	
APPROVED FOR ZONING REQUIREMENTS COUNTY ENGINEER	ENGINEER OF WORK: DATE: RICHARD K. WHITE R.C.E. 55740 (EXPIRES 12/31/2013)
BY: DATE:	PROJECT IP: DRAWING NO. L-15688

RECORD PLAN
NAME
BY: DATE:
R.C.E.
EXPIRES:

ENGINEER: RED ONE ENGINEERING
TELEPHONE: 760-410-1665

FILE: 1223

MILLER ROAD PLAZA
GEOSTORAGE PLANS

CONSTRUCTION REQUIREMENTS FOR THE INSTALLATION OF A GEOSTORAGE® STORM WATER DETENTION SYSTEM

THE GEOSTORAGE® UNDERGROUND STORMWATER DETENTION SYSTEM DETAILED IN THESE DOCUMENTS IS A PATENTED TECHNOLOGY LICENSED BY GEOSTORAGE CORP. ONLY GEOSTORAGE CORP., OR ONE OF ITS REGIONAL INSTALLERS/ENGINEERS IS AUTHORIZED TO PROVIDE ENGINEERING OR CONSTRUCTION SERVICES RELATED TO THIS SYSTEM.

1.0 MATERIAL

1.1 BACKFILL SOILS

1.1.1 REINFORCED AND RETAINED BACKFILL SHALL BE ¾-INCH TO 1 1/2-INCH UNIFORMLY GRADED, ANGULAR COARSE AGGREGATE WITH A WASH LOSS OF NO MORE THAN 0.5% AND SHALL HAVE 40% VOIDS AS MEASURED BY ASTM-C29. THE MATERIAL SHALL MEET ASTM D2488 ANGULAR OR SUBANGULAR CLASSIFICATION. THE MATERIAL HARDNESS SHALL BE MEASURED PER AASHTO T96 (LA ABRASION TEST) AND EXHIBIT A MAXIMUM LOSS OF 40%. FREEZE-THAW RESISTANCE SHALL BE MEASURED PER AASHTO T 104 WITH A MAXIMUM LOSS OF 12% AFTER 5 CYCLES IN MAGNESIUM SULFATE SOLUTION. BACKFILL SHALL BE APPROVED BY OWNER OR OWNER'S REPRESENTATIVE.

1.1.2 BASE LAYER MATERIALS (AS NEEDED-SEE SECTION 2.3) BELOW THE LINER SHALL MEET THE REQUIREMENTS OF AASHTO M 145 FOR A-1, A-2, OR A-3.* (< 35% PASSING #200 SIEVES).

1.2 LINER MATERIALS

1.2.1 GEOTEXTILE

1.2.1.A GEOTEXTILE SHALL BE 6 OZ/SY (MARV) MATERIAL PER ASTM 5261 MANUFACTURED FROM POLYPROPYLENE OR POLYESTER FIBERS. THE PUNCTURE STRENGTH SHALL BE 240 LBS (MARV) PER ASTM D483.

1.3 GEOSYNTHETIC REINFORCEMENT SHALL BE A GEOGRID WITH A LONG TERM ALLOWABLE DESIGN STRENGTH (LTADS) EQUAL TO 1,900 LBS/FT WITH THE SPECIFIED BACKFILL IN THE LOAD BEARING DIRECTION (PERPENDICULAR TO THE WALL FACE) PER GRI-GG4. THE APPERTURE DIMENSION SHALL BE 3/8 INCH X 3/8 INCH (MIN) AND 1.0 INCH X 1.0 INCH (MAX).

1.4 CONCRETE AND REINFORCING STEEL SHALL MEET THE REQUIREMENTS NOTED ON THE APPLICABLE PLAN SHEETS.

2.0 TECHNICAL REQUIREMENTS

2.1 THE OWNER OR OWNER'S REPRESENTATIVE SHALL VERIFY THAT THE BACKFILL MEETS THE GRADATION AND OTHER REQUIREMENTS OF SECTION 1.1 PRIOR TO PROCEEDING WITH CONSTRUCTION.

2.2 PRIOR TO CONSTRUCTION OF THE GEOSTORAGE® SYSTEM, THE CONTRACTOR SHALL CLEAR AND GRUB THE FLOOR OF THE GEOSTORAGE® SYSTEM REMOVING TOPSOIL, BRUSH, SOD OR OTHER ORGANIC OR DELETERIOUS MATERIAL. ANY UNSUITABLE SOILS SHALL BE OVER-EXCAVATED, REPLACED AND COMPACTED WITH THE BASE LAYER BACKFILL.

2.3 FOUNDATION SHALL BE PROOF ROLL INSPECTED USING A LOADED TRUCK WITH 18 KIP AXLE LOADS. THE OWNER OR THE OWNER'S REPRESENTATIVE SHALL CONFIRM THAT THE FOUNDATION HAS BEEN PROPERLY PREPARED BEFORE PLACEMENT OF THE LINER SYSTEM..

2.4 STONE BACKFILL FOR THE PERIMETER WALLS AND PIERS (WHERE APPLICABLE) SHALL BE PLACED IN LAYERS NOT EXCEEDING 9 INCHES. COMPACTION WILL BE DETERMINED ON THE BASIS OF NONMOVEMENT OF THE MATERIAL. THREE PASSES OF A VIBRATORY PLATE WITH A CETRIGUGAL FORCE OF 2500 LBS. SHALL BE REQUIRED ON EVERY LIFT.

2.5 TESTING METHODS AND FREQUENCY AND VERIFICATION OF MATERIAL PROPERIES SHALL BE THE RESPONSIBILITY OF THE OWNER OR OWNER'S REPRESENTATIVE.

2.6 A COMPLETE SET OF APPROVED CONSTRUCTION DRAWINGS AND CONTRACT SPECIFICATIONS SHALL BE ON SITE AT ALL TIMES DURING THE CONSTRUCTION OF THE GEOSTORAGE® SYSTEM.

3.0 INSTALLATION

3.1 GEOTEXTILE SHALL BE PLACED TO THE LINES AND GRADES SHOWN ON THE PLANS. GEOTEXTILE SEAMS SHALL BE OVERLAPPED 3 FEET OR SEWN IN A "PRAYER" SEAM WITH A 6 INCH OVERLAP OR HEAT LYSTENED WITH A 6 INCH OVERLAP. AT PIPE PENETRATIONS THE GEOTEXTILE SHALL BE CUT AND CLAMPED AS SHOWN ON THE PLANS TO INSURE NO SOILS MIGRATE THROUGH THE OPENING.

3.2 WELDED WIRE FORMS SHALL BE PLACED TO THE LINES AND GRADES SHOWN ON THE PLANS. WHERE NECESSARY THE FORMS SHALL BE NESTED AS SHOWN ON THE PLANS TO MATCH THE REQUIRED WALL HEIGHT.

3.3 GEOSYNTHETIC REINFORCEMENT SHALL BE PLACED TO THE LINES AND GRADES SHOWN ON THE PLANS.

3.3.1 GEOSYNTHETIC REINFORCEMENT SHALL BE CONTINUOUS THROUGHOUT THEIR EMBEDMENT LENGTH(S). GEOSYNTHETIC REINFORCEMENT SEAMS SHALL BE OVERLAPPED A MINIMUM OF 6 INCHES AT THE FACE OF ALL WALLS AND PIERS.

3.3.2 GEOSYNTHETIC REINFORCEMENT SHALL BE PLACED FLAT AND FREE OF WRINKLES. GEOSYNTHETIC MATERIAL USED TO WRAP THE FACE OF WALLS AND PIERS SHOULD BE PULLED TAUGHT BEFORE BEING BACKFILLED... IF SLACK IS OBSERVED IN THE WRAP FACE OF WALLS OR PIERS, MATERIALS SHALL BE REMOVED AS NEEDED TO REMEDY THE SITUATION.

3.3.3 GEOSYNTHETIC REINFORCEMENT LOCATED AT MID HEIGHT OF THE WELDED WIRE FORM SHALL BE CUT PERPENDICULAR TO THE WALL LENGTH TO ACCOMMODATE THE SUPPORT STRUTS. THE FRONT OF THE GEOSYNTHETIC REINFORCEMENT SHALL BUTT AGAINST THE WALL FACE. .

3.3.4 AT WALL AND PIER CORNERS GEOGRID SHALL BE INSTALLED TO PREVENT RAVELING OF STONE AT A CORNER SEAM. THE GEOGRID SHALL EXTEND A MINIMUM OF 18 INCHES ON EITHER SIDE OF THE SEAM. THE TOP AND BOTTOM OF THE GEOGRID SPLICE SHALL BE CUT TO ALLOW FOR THE 90 DEGREE BEND. PLASTIC TIES SHALL BE USED TO SECURE THE GEOGRID SPLICE TO THE MAIN REINFORCEMENT ON BOTH SIDES OF THE SPLICE. WHERE THE WALL IS STEPPED A SPLICE PATCH SHALL BE PLACED OVER THE EXPOSED STONE AT THE CORNER NOTCH AND SECURED WITH PLASTIC TIES.

3.3.5 TRACKED CONSTRUCTION EQUIPMENT SHALL NOT BE OPERATED DIRECTLY ON ANY GEOSYNTHETIC MATERIAL. RUBBER-TIRED VEHICLES MAY OPERATE ON TOP OF GEOSYNTHETIC MATERIALS AT SPEEDS LESS THAN 10 MPH. SUDDEN BRAKING AND SHARP TURNS SHALL NOT BE PERMITTED.

3.3.6 IN THE EVENT THAT THE GEOSYNTHETIC REINFORCEMENT IS TORN AT THE FACE OF A WALL OR PIER THE OWNER OR OWNER'S REPRESENTATIVE ON SITE SHALL BE NOTIFIED IMMEDIATELY. AT THE OWNER'S DISCRETION THE TEAR MAY BE REPAIRED WITH HOPE BRAID SPLICED OVER THE TEAR AND EXTENDING A MINIMUM OF 6 INCHES BEYOND THE TEAR. THE BRAID CONNECTION TO THE GEOSYNTHETIC REINFORCEMENT SHALL HAVE A MINIMUM ULTIMATE STRENGTH OF 1900 LBS/FT.

4.0 DRAINAGE

4.1 A TEMPORARY SOIL BERM SHALL BE CONSTRUCTED AROUND THE GEOSTORAGE® SYSTEM EXCAVATION TO DIVERT ALL WATER RUNOFF AWAY FROM THE WORK AREA.

4.2 IT SHALL BE THE OWNER OR OWNER'S REPRESENTATIVE RESPONSIBILITY TO INSURE THAT THE SEASONAL HIGH WATER TABLE IS A MINIMUM OF 3 FEET BELOW THE LINER SYSTEM.

5.0 CHANGES TO THE DESIGN

5.1 NO CHANGES TO THE DESIGN SPECIFICATIONS OR DIMENSIONS SHALL BE MADE WITHOUT THE EXPRESS, WRITTEN CONSENT OF RED ONE ENGINEERING.

6.0 DESIGN PARAMETERS

6.1 METHODOLOGY
MECHANICALLY STABILIZED EARTH (MSE) STRUCTURES: FHWA-SA-96-071

6.2 LOADING: HS-20

6.3 CRUSHED STONE: PHI = 36 DEGREES C= 0 PSF GAMMA = 100 PCF.
FOUNDATION SOIL: PHI = 33 DEGREES C= 0 PSF GAMMA = 125 PCF

6.4 SEISMIC ACCELERATION COEFFECIENT: 0.36g

NOTE: SETTLEMENTS ASSOCIATED WITH THE CONSOLIDATION OF A COMPRESSIBLE SOIL BELOW THE BASE LAYER HAVE NOT BEEN INVESTIGATED AND ARE BEYOND THE SCOPE OF THESE GUIDELINES. IT IS THE OWNER'S RESPONSIBILITY TO NOTIFY THE ENGINEER OF RECORD OF ANY POTENTIAL SETTLEMENTS.

7.0 DESIGN CAPACITY: UPPER BASIN = 4480 CUBIC FEET, LOWER BASIN = 3584 CUBIC FEET

8.0 REFERENCE DOCUMENTS

AQUATERRA ENGINEERING, INC., GRADING PLAN FOR MILLER ROAD PLAZA, DATED DECEMBER 4, 2012.

GEOSOILS, INC., PRELIMINARY GEOTECHNICAL EVALUATION, W.O. 5854-A2-SC, DATED FEBRUARY 27, 2009.

REGISTERED PROFESSIONAL ENGINEER — No. 66429 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

prepared by
red one engineering inc
1295 distribution way
vista, ca 92081
phone 760.410.1965
facsimile 760.502.0078
mail@redlengineering.com

PREPARED FOR THE EXCLUSIVE USE OF
1295 DISTRIBUTION WAY
VISTA, CA. 92081
TEL 760 806 0078
FAX 760 806 0078
GEOGRID
RETAINING WALL SYSTEMS, INC

RECORD PLAN
RAGE
BY: _____ DATE: _____
R.C.E. _____
EXPIRES: _____

COUNTY APPROVED CHANGES

NO.	DESCRIPTION	APPROVED BY:	DATE:

PERMITS
REZONE PERMIT NO. N/A
SITE PLAN REVIEW NO. S-08-013
STREET IMPROVEMENT PLANS CO XXXX
NOTICE OF INTENT(WDID): 9 37C336975

BENCH MARK
DESCRIPTION: 2-1/2" BRASS CAP STAMPED "S.D. SURV. MON. 19 PT."
LOCATION: IN WELL MONUMENT AT POINT EGCS-3048
RECORD FROM: RECORD OF SURVEY MAP 14236
ELEVATION: 1336.773 DATUM: NGVD 29 MSL

PRIVATE CONTRACT

SHEET 14	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	15 SHEETS

GEOSTORAGE PLANS FOR:
MILLER ROAD PLAZA
POR. PARCEL 2 & 3, P.M. NO. 8636
CALIFORNIA COORDINATE INDEX 305-1761

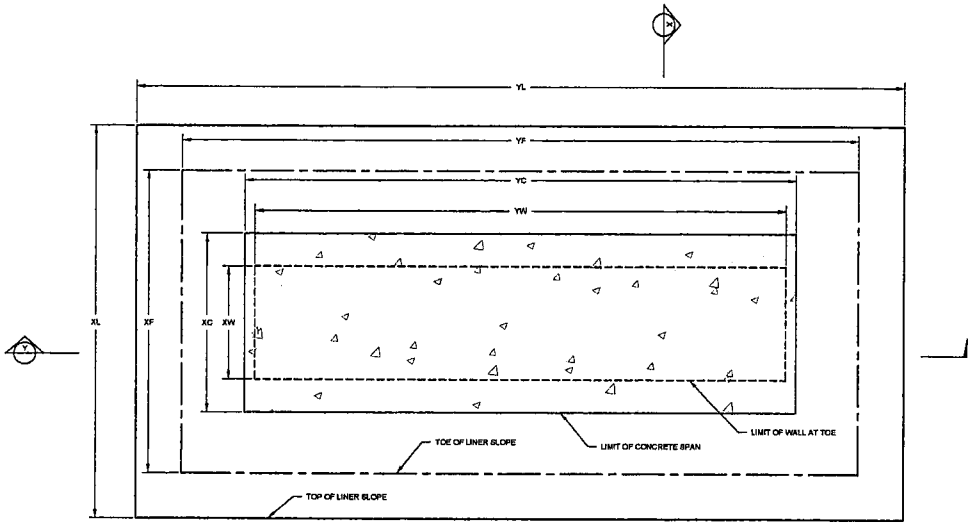
APPROVED FOR RECORDS PURPOSES COUNTY ENGINEER — DATE — BY — DEPUTY

L-15688

MILLER ROAD PLAZA - 521-387 - GEOSTORAGE PLANS 2-4-13

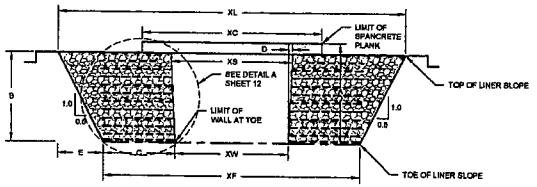
ENGINEER RCE DATE ENGINEERING
TELEPHONE 760-438-1665

R:\1 Active projects\Miller Road Plaza\GeoStorage\Construction Drawings\C521-267G3O.dwg, SHEET 14, 2/7/2013 7:47:40 AM



GeoStorage® Single Chamber

PLAN VIEW



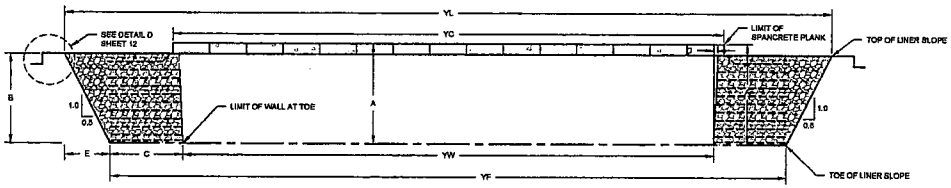
GeoStorage® Single Chamber

SECTION X

GeoStorage® Dimensions

UPPER BASIN

A	BOTTOM OF BASIN TO TOP OF CONCRETE	6.00'
B	WALL HEIGHT	7.00'
C	WALL WIDTH	6.00'
D	WALL BATTER WIDTH	0.31'
E	WIDTH OF BACK CUT	3.50'
XW	WIDTH OF CHAMBER AT TOE OF WALL	10.50'
XC	WIDTH OF SPANCRETE PLANK	16.33'
XF	WIDTH OF FLOOR	32.50'
XL	WIDTH OF LINER	39.50'
XS	WIDTH OF CHAMBER AT TOP OF WALL	11.00'
YW	LENGTH OF WALL AT TOE	20.00'
YC	LENGTH OF SPANCRETE PLANK	23.33'
YF	LENGTH OF FLOOR	32.00'
YL	LENGTH OF LINER	39.00'



GeoStorage® Single Chamber

SECTION Y

REGISTERED PROFESSIONAL ENGINEER — No. 58429 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

prepared by
red one engineering inc
1295 distribution way
vista, ca 92081
phone 760.410.1865
facsimile 760.600.0078
matt@redoneengineering.com

PREPARED FOR THE EXCLUSIVE USE OF
1295 DISTRIBUTION WAY
VISTA, CA 92081
TEL 760 597 0070
FAX 760 599 0078
GEOGRID
RETAINING WALL SYSTEMS, INC

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

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:

PERMITS
REZONE PERMIT NO. N/A
SITE PLAN REVIEW NO. 3-08-013
STREET IMPROVEMENT PLANS CG XXXX
NOTICE OF INTENT(WDID): 9 37C339875

BENCH MARK
DESCRIPTION: 2-1/2" BRASS CAP STAMPED "S.D. SURV, MON. 19 PT."
LOCATION: IN WELL MONUMENT AT POINT FCGS-3048
RECORD FROM: RECORD OF SURVEY MAP 14236
ELEVATION: 1338.773 DATUM: NGVD 29 MSL

PRIVATE CONTRACT
SHEET 15 | COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS | 18 SHEETS
GEOSTORAGE PLANS FOR:
MILLER ROAD PLAZA
POR. PARCEL 2 & 3, P.M. NO. 8636
CALIFORNIA COORDINATE INDEX 365-1781
L-15688

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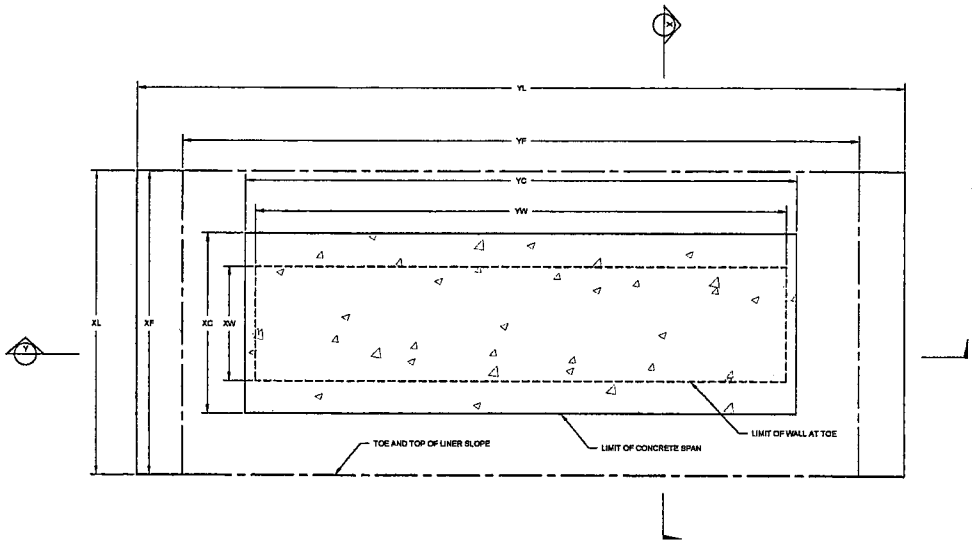
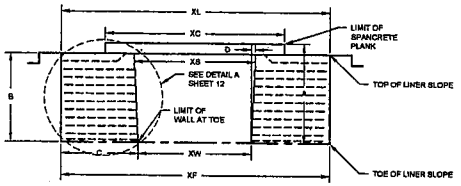
ENGINEER RCE DRC ENGINEERING
TELEPHONE 760-436-3455



GeoStorage® Single Chamber

PLAN VIEW



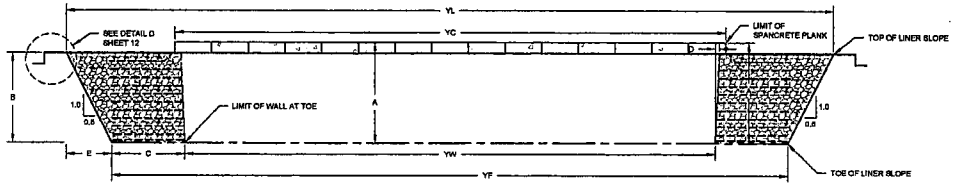
GeoStorage® Single Chamber

SECTION X

GeoStorage® Dimensions

LOWER BASIN

A	BOTTOM OF BASIN TO TOP OF CONCRETE	8.00'
B	WALL HEIGHT	7.00'
C	WALL WIDTH	6.00'
D	WALL BATTER WIDTH	0.31'
E	WIDTH OF BACK CUT	3.5'
XW	WIDTH OF CHAMBER AT TOE OF WALL	10.50'
XC	WIDTH OF SPANCRETE PLANK	16.33'
XF	WIDTH OF FLOOR	22.50'
XL	WIDTH OF LINER	22.50'
XS	WIDTH OF CHAMBER AT TOP OF WALL	11.00'
YW	LENGTH OF WALL AT TOE	21.83'
YC	LENGTH OF SPANCRETE PLANK	23.33'
YF	LENGTH OF FLOOR	37.83'
YL	LENGTH OF LINER	44.83'



GeoStorage® Single Chamber

SECTION Y

REGISTERED PROFESSIONAL ENGINEER — MATTHEW R. REETZ — No. 58429 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

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facsimile 760.509.0078
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VISTA, CA 92081
TEL 760 806 0078
FAX 760 806 0078
GEOGRID
RETAINING WALL SYSTEMS, INC

RECORD PLAN

BY: _____ DATE: _____

R.C.E. _____

EXPIRES: _____

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:

PERMITS

REZONE PERMIT NO. N/A

SITE PLAN REVIEW NO. 3-08-013

STREET IMPROVEMENT PLANS CG XXXX

NOTICE OF INTENT(WDID): 9 37C338878

BENCH MARK

DESCRIPTION: 2-1/2" BRASS CAP STAMPED "S.D. SURV. MON. 19 PT."

LOCATION: IN WELL MONUMENT AT POINT EGCS-3048

RECORD FROM: RECORD OF SURVEY MAP 14236

ELEVATION: 1338.773 DATUM: NGVD 29 MSL

PRIVATE CONTRACT

SHEET 18 | COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS | 18 SHEETS

GEOSTORAGE PLANS FOR:
MILLER ROAD PLAZA
POR. PARCEL 2 & 3, P.M. NO. 8636
CALIFORNIA COORDINATE INDEX 306-1761

APPROVED FOR COUNTY OF SAN DIEGO
EDWARD SCHEMERHORN
COUNTY ENGINEER

DATE OF SIGN: 4/5

DRAWING NO. L-15668

ENGINEER RED ONE ENGINEERING
TELEPHONE: 760-410-1085

R:\1 Active projects\Miller Road Plaza\GeoStorage\Construction Drawings\C521-287GSO.dwg, SHEET 18, 2/7/2013 7:47:52 AM

ATTACHMENT G

Treatment Control BMP Certification for DPW Permitted Land Development Projects

County of San Diego

DEPARTMENT OF PUBLIC WORKS

Treatment Control BMP Certification for DPW Permitted Land Development Projects

Permit Number___L-15688_____ SWMP #_____

Project Name: Miller Road Plaza

Location / Address : Lizard Rocks Road, Valley Center_____

Responsible Party for Construction Phase

Developer's Name: _Valley Center View Properties____

Address: _3936 Hortensia Street_____

City _San Diego, State _CA___Zip_92110___

Email Address: _____

Phone Number: _____

Engineer of Work: _Aquaterra Engineering Inc., Gary Lipska_____

Engineer's Phone Number: _760-439-2802_____

Responsible Party for Perpetual Maintenance

Owner's Name(s)*__ Valley Center View Properties __

Address: __3936 Hortensia Strret _____

City _San Diego___ State _CA___Zip_92110___

Email Address: _____

Phone Number: _____

* Note: If a corporation or LLC, provide information for principal partner or Agent for Service of Process. If an HOA, provide information of president at time of project closeout.

Maintenance Agreement No.: _____

Percent Impervious Before Construction: 0.0 %_____
Percent Impervious After Construction: 62.5 %_____

Proposed Disturbed Area: _2.51 Acres

Hydromodification Management:
Yes X or No ☐

Primary or Secondary Pollutants of Concerns *(check all that apply)*

X Sediment
X Nutrients
X Organic Compounds
X Trash and Debris
X Oxygen Demanding Substances
X Oil and Grease
X Bacteria and Viruses
X Pesticides

Site Layout Strategies *(check all that apply)*

X Conserve Natural Areas
X Minimize Disturbance to Natural Areas
X Minimize and Disconnect Imp.Surfaces
X Minimize Soil Compaction
X Minimize erosion from slopes

Disperse Runoff from Impervious Surfaces to Pervious *(check all that apply)*

X Use of pervious surfaces
☐ Street and Road Design
☐ Parking Lot Design
☐ Driveway, Sidewalk, Bikepath Design
☐ Building Design
☐ Landscape Design

Source BMPs *(check all that apply)*

X Storm Drain Inlets
☐ Interior Floor Drains
☐ Interior Parking Garages
☐ Indoor & Structural Pest Control
☐ Landscape/Outdoor Pesticide Use
☐ Pools, spas, etc.
☐ Food Service
☐ Refuse Areas
☐ Industrial Processes
☐ Outdoor Storage of Equipment and Materials
☐ Vehicle and Equipment Cleaning
☐ Vehicle/ Equipment Repair and Maintenance
☐ Fuel Dispensing Areas
☐ Loading Docks
☐ Fire Sprinkler Test Water
☐ Misc. drain or wash water
☐ Plazas, sidewalks, and parking lots

Treatment Control BMPs

BMP Identifier: (Identifier to match TCBMPs on TCBMP Table.)	Type	Record Plan Page for TCBMP	BMP Pollutant of Concern Efficiency (H,M,L)
TC1	Bioretention Swale		High
TC2	Bioretention Area		High
TC3	Bioretention Area		High
TC4	Media Flume Filter		High

(Add sheet for all additional BMPs)
The Maintenance Agreement has been recorded. Yes ☐ or No X

I certify that the above items for this project are in substantial conformance with the approved plans. Yes X or No ☐

Please sign your name and seal. [SEAL]

Engineer's Print Name: Aquaterra Engineering Inc. Gary Lipska ___

Engineer's Signed Name: _____
RCE 23080 Expires 12/31/15

Date: _____

Submittals Required with Certification:

- Copy of the final approved SWMP.
- Copy of the approved record plan showing Stormwater TCBMP Table and the location of each verified as-built TCBMP.
- Copy of the specification sheets for the verified proprietary TCBMPs
- Recorded Maintenance Agreement (Category 1 or 2 only)
- Photograph(s) of TCBMP(s)

COUNTY - OFFICIAL USE ONLY:

For PDCI:
PDCI Inspector:_____

Date Project has/expects to close:_____

Date Certification received from EOW:_____

DPW Inspector concurs that every noted BMP on the plan and the SWMP or SWMP Addendum is installed onsite through field verification and completed as certified: Yes ☐
or No ☐

PDCI Inspector's Signed Name: _____ Date: _____

FOR WPP:
Date Received from PDCI:_____

WPP Submittal Reviewer:_____

WPP Reviewer concurs that the provided TC-BMP information is acceptable to enter into the TC-BMP Maintenance verification inventory. Yes ☐ or No ☐

WPP Reviewer's Signed Name: _____ Date:_____

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:	Miller Road Plaza
Prepared By:	Wynn Engineering, Inc.
Date:	September 23, 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.

The following is a summary from the project's site-specific hydrology report:

METHODOLOGY

The project site currently sheet flow to the existing curb and gutter of the adjacent roads and drains into an existing storm drain catch basin in the public right of way.

Existing Conditions: The existing conditions are split into two separate compliance points. Compliance point A is the original project study calculated the preconstruction flow in the existing contribution at 6.2 cfs. The report is titled 'Hydrology and Hydraulic Analysis for Miller Road Plaza' by Aquaterra Engineering Inc., dated July 19, 2013 and is provided for reference in Attachment 14. Compliance point B is a new area draining to the east and is not part of the area draining to Miller Road. This portion of the project site was not analyzed in the 'Original' study. Existing calculations for this area are provided in Attachment 2 with an exhibit provided in Attachment 13.

Proposed Conditions: This report calculates the new proposed 100-Year Design Storm Event Peak Discharge rates based on the San Diego County Hydrology Manual (June 2003 Edition) rational methodology found in Section 3 and contains routing per Chapter 6 methodologies to route flows through the proposed BMPs.

Standards: The San Diego County Hydrology Manual and Drainage Design Manual shall be referred to as the 'Standards' throughout this report. Excerpts from the standards have been included in Attachment 1: Standards Excerpts for reference.

Design Software: The calculations have been evaluated using the approved CIVILCADD/CIVILDESIGN Engineering Software.

The existing conditions are discussed in Section 4 and are provided in Attachment 2. The proposed conditions are discussed in Section 5 and are provided in Attachments 3 through 12. Hydrology exhibits for the new calculations are provided in Attachment 13. The original study creating the existing preconstruction values for Compliance Point A is provided for reference in Attachment 14. FEMA and LUEG flood zone mapping has also been performed for the project site and discussed in Section 7.0 and exhibits are provided in Attachment 1 for reference.

EXISTING CONDITIONS CALCULATIONS

EXISTING CONDITIONS SUMMARY		
100-YEAR DATA	***COMPLIANCE POINT A***	***COMPLIANCE POINT B***
TIME OF CONCENTRATION (MIN)	8.30	6.56
INTENSITY (IN/HR)	7.59	8.847
AREA (ACRES)	2.33	0.28
TOTAL DISCHARGE (CFS)	6.2	0.7
UNIT HYDROGRAPH VOLUME (ACRE-FT)	NOT CALCULATED	0.0277
STORAGE CAPACITY (ACRE-FEET)	NOT CALCULATED	0

PROPOSED CONDITIONS CALCULATIONS

PROPOSED CONDITIONS SUMMARY		
100-YEAR DATA	*COMPLIANCE POINT A*	*COMPLIANCE POINT B*
TIME OF CONCENTRATION (MIN)	19.40	11.24
INTENSITY (IN/HR)	4.416	6.250
AREA (ACRES)	2.187	0.546
TOTAL DISCHARGE (CFS)	5.8	1.8
UNIT HYDROGRAPH VOLUME (ACRE-FT)	0.4115	0.1069
STORAGE CAPACITY (ACRE-FEET)	0.4174	0.0682

Based on the above, the project site contributes 5.8 cfs to the curb inlet system on Valley Center Road in its proposed mitigated conditions and 1.8 cfs to the property to the east.

PEAK FLOW MITIGATION

During the 100-Year Design Storm Event the proposed conditions decreases the Peak Storm Runoff at Compliance Point A by 0.4 cfs and increases it at Compliance Point B by 1.3 cfs. Each confluence has more storage proposed than existing in the original conditions and that storage has been routed as a retarding basin in the 100-Year Design Storm Event. To mitigate the increase into to the adjacent property to the east an acceptance of discharge increase letter has been obtained from the offsite property owner at Compliance Pont B and that increase in flow is being safely conveyed to the adjacent property per the agreement.

COMPARISON

During the 100-Year Design Storm Event the proposed conditions can be compared at each confluence point as follows:

100-YEAR DESIGN STORM EVENT COMPLIANCE POINT A SUMMARY COMPARISON			
DATA	*EXISTING*	*PROPOSED*	*COMPARISON*
TIME OF CONCENTRATION (MIN)	8.30	19.40	+11.10
INTENSITY (IN/HR)	7.59	4.416	- 3.174
AREA (ACRES)	2.33	2.187	- 0.143
TOTAL DISCHARGE (CFS)	6.2	5.8	- 0.4
UNIT HYDROGRAPH VOLUME (ACRE-FT)	UNKNOWN	0.4115	+ 0.4115
STORAGE CAPACITY (ACRE-FEET)	UNKNOWN	0.4174	+ 0.4174

100-YEAR DESIGN STORM EVENT COMPLIANCE POINT B SUMMARY COMPARISON			
DATA	***EXISTING***	***PROPOSED***	***COMPARISON***
TIME OF CONCENTRATION (MIN)	6.56	11.24	+ 4.68
INTENSITY (IN/HR)	8.847	6.250	- 2.597
AREA (ACRES)	0.280	0.546	+ 0.277
TOTAL DISCHARGE (CFS)	0.7	2.0	+ 1.3
UNIT HYDROGRAPH VOLUME (ACRE-FT)	0.0277	0.1069	+ 0.0792
STORAGE CAPACITY (ACRE-FEET)	0	0.0682	+ 0.0682

For further clarification, an acceptance of discharge increase letter has been obtained from the offsite property owner at Compliance Pont B and that increase in flow is being safely conveyed to the adjacent property per the agreement.

CONCLUSION AND ENGINEER'S STATEMENTS

It is the professional opinion of the engineer of work that the runoff from all proposed buildings and development will be intercepted by the proposed landscape elements, proposed storm drain system, and proposed BMPs as flows are conveyed to the proposed downstream compliance points in a safe and controlled manner.

In addition, the following statements apply to the project site:

Drainage Pattern Alteration Statement: The proposed project does not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site. This project site will continue to discharge at the same general compliance points in the proposed conditions as the existing conditions.

Flooding Statement: The proposed project does not substantially alter the existing drainage pattern of the site or area including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site. In regards to the increase in flow at Compliance Point B, the increase in flow is being safely conveyed to the adjacent property per the agreement.

Housing in a 100-Year Flood Hazard Statement: The project does not proposes any residential units. The project site is mapped by FEMA as Zone X for flood hazards. This should pose no threat of flood to the proposed development as presented on the associated grading plan. A copy of the project site mapped on the appropriate FEMA map is provided for reference in Attachment 1 for reference.

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 or Printouts	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**	• DCV calculations from SSD-BMP tool • Dispersion Areas calculations from SSD-BMP tool	• Fact Sheet SD-B (Appendix E.8) • Appendix I
☐ **Tree Wells**	• DCV calculations from SSD-BMP tool • Tree Well calculations from SSD-BMP tool	• Fact Sheet SD-A (Appendix E.7) • Appendix I

- Submit this cover page and all "Required Sub-attachments or Printouts" 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)*	
SM-1	4039	0	0	Grading Plan
SM-2	3019	0	0	Grading Plan

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

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

<u>Natural and Landscaped Areas</u>

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

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

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

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

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

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

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

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

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

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

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

DMA #	***DMA Area (ft^2)***	***Permit # and Sheet #***
DMS-A	2937	Grading Plan

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

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

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

6.3 Self-retaining DMAs using Significant Site Design BMPs

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

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

DMA #	**DMA Area (ft^2)**	**BMP Type** (choose one per DMA)		***Permit # and Sheet #***
		Dispersion Area (Att. 6.3.1)	**Tree Wells (Att. 6.3.2)**	
		☐	☐	
		☐	☐	
		☐	☐	No Self-Retaining Areas Proposed
		☐	☐	
		☐	☐	
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		☐	☐	

- "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, BMPDM Appendix I, and any other guidance or instruction identified by the County.

6.3.1 Self-retaining DMAs with Impervious Dispersion Areas

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

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

Summary Sheet for Self-retaining DMAs with Impervious Area Dispersion

Attach Printouts from SSD-BMP tool below

- DCV calculations from SSD-BMP tool
- Dispersion Areas calculations from SSD-BMP tool

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)**
	None Proposed

- 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 I.1. An automated version of Worksheet I.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

Attach Printouts from SSD-BMP tool below

- DCV calculations from SSD-BMP tool
- Tree Wells calculations from SSD-BMP tool

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 Miller Road Plaza
Permit Application Number PDS2012-2700-15688 (Main), PDS2020-LDPCHG-00902

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).

R.C.E. No.: 43202 Expires: 3/31/2022

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

Gary R. Wynn

Print Name

Wynn Engineering, Inc.

Company

November 30, 2021 Engineer's Seal:

Date

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 entire disturbed area of the project site was allocated to DMAs as outlined in the DMA Exhibit. The project site's DMAs drain to individual BMPs.

Per BMPDM Section 5.1, the following Steps were followed:

Step 1: Determine DCV – The DCV was determined using the COSD Automated Spreadsheets. Please see the attached worksheets.

Step 2: Determine Retention Requirements – The Retention requirements were determined using the COSD Automated Spreadsheets. In addition, infiltration rates have not been determined at this point in time because the previous SWQMP stated no infiltration was feasible and it assumed the same site characteristics still exist on the project site. No Infiltration is being reflected in the design from the start. Please see the attached worksheets.

Step 3: Determine BMP Performance per Appendix B.3 – Performance standards and design was performed using the COSD Automatic Spreadsheets. Please see the attached worksheets.

Then, Section 5.2 was used to determine areas that are excluded from DCV Calculations and no areas are excluded at this time.

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

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

BMP ID #	**DMA #**	**DMA Area (ft^2)**	**Structural BMP Type**							**Permit # and Sheet #**
			Harvest and Use	Infiltration	Unlined Biofiltration	Lined Biofiltration	Flow-thru treatment	Hydromodification Management [1]	Other	
BMP1	PERM	10540	☐	☐	☐	☒	☐	☐	☐	PDS2020-LDPCHG-00902,
	IMP	18788	☐	☐	☐	☒	☐	☐	☐	Sheet 12A
			☐	☐	☐	☐	☐	☐	☐	
			☐	☐	☐	☐	☐	☐	☐	
BMP2	PERM	3825	☐	☐	☐	☒	☐	☐	☐	PDS2020-LDPCHG-00902,
	IMP	15283	☐	☐	☐	☒	☐	☐	☐	Sheet 12A
			☐	☐	☐	☐	☐	☐	☐	
			☐	☐	☐	☐	☐	☐	☐	
BMP3	PERM	2201	☐	☐	☐	☒	☐	☐	☐	PDS2020-LDPCHG-00902,
	IMP	36134	☐	☐	☐	☒	☐	☐	☐	Sheet 12A
			☐	☐	☐	☒	☐	☐	☐	
			☐	☐	☐	☐	☐	☐	☐	
BMP4	PERM	5619	☐	☐	☐	☒	☐	☐	☐	PDS2020-LDPCHG-00902,
	IMP	9255	☐	☐	☐	☒	☐	☐	☐	Sheet 12A
			☐	☐	☐	☐	☐	☐	☐	
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[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 # DMA1-BMP1	**Permit # and Sheet #** PDS2020-LDPCHG-00902
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	Gary R. Wynn Wynn Engineering, Inc. 27315 Valley Center Road Valley Center, California 92082

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)

[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.

Structural BMP ID # DMA2-BMP2	**Permit # and Sheet #** PDS2020-LDPCHG-00902

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	Gary R. Wynn Wynn Engineering, Inc. 27315 Valley Center Road Valley Center, California 92082

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)

[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.

Structural BMP ID # DMA3-BMP3	**Permit # and Sheet #** PDS2020-LDPCHG-00902

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	Gary R. Wynn Wynn Engineering, Inc. 27315 Valley Center Road Valley Center, California 92082

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)

[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.

Structural BMP ID # DMA4-BMP4	**Permit # and Sheet #** PDS2020-LDPCHG-00902

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	Gary R. Wynn Wynn Engineering, Inc. 27315 Valley Center Road Valley Center, California 92082

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)

[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	DMA1	DMA2	DMA3	DMA4							unitless
	2	85th Percentile 24-hr Storm Depth	0.75	0.75	0.75	0.75							inches
	3	Impervious Surfaces Not Directed to Dispersion Area (C=0.90)	18,788	15,283	36,134	9,255							sq-ft
	4	Semi-Pervious Surfaces Not Serving as Dispersion Area (C=0.30)	0	0	0	0							sq-ft
	5	Engineered Pervious Surfaces Not Serving as Dispersion Area (C=0.10)	0	0	0	0							sq-ft
	6	Natural Type A Soil Not Serving as Dispersion Area (C=0.10)	0	0	0	0							sq-ft
	7	Natural Type B Soil Not Serving as Dispersion Area (C=0.14)	0	0	0	0							sq-ft
	8	Natural Type C Soil Not Serving as Dispersion Area (C=0.23)	0	0	0	0							sq-ft
	9	Natural Type D Soil Not Serving as Dispersion Area (C=0.30)	10,540	3,825	2,201	5,619							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							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	29,328	19,108	38,335	14,874	0	0	0	0	0	0	sq-ft
	23	Initial Runoff Factor for Standard Drainage Areas	0.68	0.78	0.87	0.67	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	0.68	0.78	0.87	0.67	0.00	0.00	0.00	0.00	0.00	0.00	unitless
	26	Initial Design Capture Volume	1,246	932	2,084	623	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	0.68	0.78	0.87	0.67	n/a	n/a	n/a	n/a	n/a	n/a	unitless
	32	Design Capture Volume After Dispersion Techniques	1,246	932	2,084	623	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	0.68	0.78	0.87	0.67	0.00	0.00	0.00	0.00	0.00	0.00	unitless
	36	Final Effective Tributary Area	19,943	14,904	33,351	9,966	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	1,246	932	2,084	623	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	DMA1	DMA2	DMA3	DMA4	-	-	-	-	-	-	unitless
	2	85th Percentile Rainfall Depth	0.75	0.75	0.75	0.75	-	-	-	-	-	-	inches
	3	Predominant NRCS Soil Type Within BMP Location	D	D	D	D							unitless
	4	Is proposed BMP location Restricted or Unrestricted for Infiltration Activities?	Restricted	Restricted	Restricted	Restricted							unitless
	5	Nature of Restriction	Groundwater	Groundwater	Groundwater	Groundwater							unitless
	6	Do Minimum Retention Requirements Apply to this Project?	Yes	Yes	Yes	Yes							yes/no
	7	Are Habitable Structures Greater than 9 Stories Proposed?	No	No	No	No							yes/no
Advanced Analysis	8	Has Geotechnical Engineer Performed an Infiltration Analysis?	No	No	No	No							yes/no
	9	Design Infiltration Rate Recommended by Geotechnical Engineer											in/hr
Result	10	Design Infiltration Rate Used To Determine Retention Requirements	0.000	0.000	0.000	0.000	-	-	-	-	-	-	in/hr
	11	Percent of Average Annual Runoff that Must be Retained within DMA	1.5%	1.5%	1.5%	1.5%	-	-	-	-	-	-	percentage
	12	Fraction of DCV Requiring Retention	0.01	0.01	0.01	0.01	-	-	-	-	-	-	ratio
	13	Required Retention Volume	12	9	21	6	-	-	-	-	-	-	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	DMA1	DMA2	DMA3	DMA4	-	-	-	-	-	-	sq-ft
	2	Design Infiltration Rate Recommended	0.000	0.000	0.000	0.000	-	-	-	-	-	-	in/hr
	3	Design Capture Volume Tributary to BMP	1,246	932	2,084	623	-	-	-	-	-	-	cubic-feet
	4	Is BMP Vegetated or Unvegetated?	Vegetated	Vegetated	Vegetated	Vegetated							unitless
	5	Is BMP Impermeably Lined or Unlined?	Lined	Lined	Lined	Lined							unitless
	6	Does BMP Have an Underdrain?	Underdrain	Underdrain	Underdrain	Underdrain							unitless
	7	Does BMP Utilize Standard or Specialized Media?	Standard	Standard	Standard	Standard							unitless
	8	Provided Surface Area	1,534	1,100	2,627	1,061							sq-ft
	9	Provided Surface Ponding Depth	12	12	12	12							inches
	10	Provided Soil Media Thickness	21	21	21	21							inches
	11	Provided Gravel Thickness (Total Thickness)	18	18	18	18							inches
	12	Underdrain Offset	3	3	3	3							inches
	13	Diameter of Underdrain or Hydromod Orifice (Select Smallest)	0.84	0.68	0.96	0.60							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	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	unitless
	20	Soil Media Pore Space Available for Retention	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	unitless
	21	Gravel Pore Space Available for Retention (Above Underdrain)	0.00	0.00	0.00	0.00	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	2.25	2.25	2.25	2.25	0.00	0.00	0.00	0.00	0.00	0.00	inches
	24	Fraction of DCV Retained (Independent of Drawdown Time)	0.23	0.22	0.24	0.32	0.00	0.00	0.00	0.00	0.00	0.00	ratio
	25	Calculated Retention Storage Drawdown Time	120	120	120	120	0	0	0	0	0	0	hours
	26	Efficacy of Retention Processes	0.25	0.24	0.26	0.32	0.00	0.00	0.00	0.00	0.00	0.00	ratio
	27	Volume Retained by BMP (Considering Drawdown Time)	307	222	532	202	0	0	0	0	0	0	cubic-feet
	28	Design Capture Volume Remaining for Biofiltration	939	710	1,552	421	0	0	0	0	0	0	cubic-feet
Biofiltration Calculations	29	Max Hydromod Flow Rate through Underdrain	0.0369	0.0242	0.0482	0.0188	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	cfs
	30	Max Soil Filtration Rate Allowed by Underdrain Orifice	1.04	0.95	0.79	0.77	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	1.04	0.95	0.79	0.77	0.00	0.00	0.00	0.00	0.00	0.00	in/hr
	33	Depth Biofiltered Over 6 Hour Storm	6.23	5.70	4.75	4.60	0.00	0.00	0.00	0.00	0.00	0.00	inches
	34	Ponding Pore Space Available for Biofiltration	1.00	1.00	1.00	1.00	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	22.20	22.20	22.20	22.20	0.00	0.00	0.00	0.00	0.00	0.00	inches
	38	Drawdown Time for Surface Ponding	12	13	15	16	0	0	0	0	0	0	hours
	39	Drawdown Time for Effective Biofiltration Depth	21	23	28	29	0	0	0	0	0	0	hours
	40	Total Depth Biofiltered	28.43	27.90	26.95	26.80	0.00	0.00	0.00	0.00	0.00	0.00	inches
	41	Option 1 - Biofilter 1.50 DCV: Target Volume	1,408	1,065	2,328	632	0	0	0	0	0	0	cubic-feet
	42	Option 1 - Provided Biofiltration Volume	1,408	1,065	2,328	632	0	0	0	0	0	0	cubic-feet
	43	Option 2 - Store 0.75 DCV: Target Volume	704	533	1,164	316	0	0	0	0	0	0	cubic-feet
	44	Option 2 - Provided Storage Volume	704	533	1,164	316	0	0	0	0	0	0	cubic-feet
	45	Portion of Biofiltration Performance Standard Satisfied	1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	ratio
Result	46	Do Site Design Elements and BMPs Satisfy Annual Retention Requirements?	Yes	Yes	Yes	Yes	-	-	-	-	-	-	yes/no
	47	Overall Portion of Performance Standard Satisfied (BMP Efficacy Factor)	1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	ratio
	48	**Deficit of Effectively Treated Stormwater**	**0**	**0**	**0**	**0**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	cubic-feet

No Warning Messages

7.5 Identification and Narrative of Receiving Water and Pollutants of Concern

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

A. General Description

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

Flow-Through Treatment Control is not proposed at this time.

B. Water Body Impairments and Priorities

List any 303(d) impaired water bodies[6] within the path of storm water from the project site to the Pacific Ocean (or bay, lagoon, lake or reservoir, as applicable), identify the pollutant(s)/stressor(s) causing impairment, and identify any TMDLs and/or Highest Priority Pollutants from the WQIP for the impaired water bodies:

303(d) Impaired Water Body	Pollutant(s)/Stressor(s)	TMDLs / WQIP Highest Priority Pollutant

C. Identification of Project Site Pollutants

Identify pollutants expected from the project site based on all proposed use(s) of the site (see BMP Design Manual Appendix B.6.

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

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

8.0 General Requirements

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

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

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

8.1 Flow Control Facility Design

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

Please refer to the attached BMP Sizing Spreadsheets for each BMP.

8.3 Geomorphic Assessment of Receiving Water Channels

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

A geomorphic assessment has not been performed at this time.

BMP Sizing Spreadsheet V3.0

Project Name:	Miller Road Plaza DMA1
Project Applicant:	VCVP LLC
Jurisdiction:	County of San Diego
Parcel (APN):	188-231-34
Hydrologic Unit:	903.16
Rain Gauge:	Oceanside
Total Project Area (sf):	29,328
Channel Susceptibility:	High

BMP Sizing Spreadsheet V3.0			
Project Name:	Miller Road Plaza DMA1	Hydrologic Unit:	903.16
Project Applicant:	VCVP LLC	Rain Gauge:	Oceanside
Jurisdiction:	County of San Diego	Total Project Area:	29,328
Parcel (APN):	188-231-34	Low Flow Threshold:	0.1Q2
BMP Name:	BMP1	BMP Type:	Biofiltration
BMP Native Soil Type:	N/A - Impervious Liner	BMP Infiltration Rate (in/hr):	N/A

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)
IMP PAVING	18,788	D	Moderate	Concrete	1.0	0.07	1315
PERMEABLE	10,540	D	Moderate	Landscape	0.1	0.07	74
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
BMP Tributary Area	29,328					Minimum BMP Size	1389
						Proposed BMP Size*	1534

* 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:	Miller Road Plaza DMA1	Hydrologic Unit:	903.16
Project Applicant:	VCVP LLC	Rain Gauge:	Oceanside
Jurisdiction:	County of San Diego	Total Project Area:	29,328
Parcel (APN):	188-231-34	Low Flow Threshold:	0.1Q2
BMP Name	BMP1	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				
IMP PAVING	Oceanside	D	Moderate	0.575	0.431	0.025	**0.35**
PERMEABLE	Oceanside	D	Moderate	0.575	0.242	0.014	**0.20**

3.75	**0.039**	**0.55**	**0.84**
Max Orifice Head (feet)	**Max Tot. Allowable Orifice Flow (cfs)**	**Max Tot. Allowable Orifice Area (in^2)**	**Max Orifice Diameter (in)**

0.036	**0.039**	**0.55**	**0.840**
Average outflow during surface drawdown (cfs)	Max Orifice Outflow (cfs)	Actual Orifice Area (in^2)	Selected Orifice Diameter (in)

Drawdown (Hrs)	11.8

BMP Sizing Spreadsheet V3.0

Project Name:	Miller Road Plaza DMA2
Project Applicant:	VCVP LLC
Jurisdiction:	County of San Diego
Parcel (APN):	188-231-34
Hydrologic Unit:	903.16
Rain Gauge:	Oceanside
Total Project Area (sf):	19,108
Channel Susceptibility:	High

BMP Sizing Spreadsheet V3.0			
Project Name:	Miller Road Plaza DMA2	Hydrologic Unit:	903.16
Project Applicant:	VCVP LLC	Rain Gauge:	Oceanside
Jurisdiction:	County of San Diego	Total Project Area:	19,108
Parcel (APN):	188-231-34	Low Flow Threshold:	0.1Q2
BMP Name:	BMP2	BMP Type:	Biofiltration
BMP Native Soil Type:	N/A - Impervious Liner	BMP Infiltration Rate (in/hr):	N/A

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)
IMP PAVING	15,283	D	Moderate	Concrete	1.0	0.07	1070
PERMEABLE	3,825	D	Moderate	Landscape	0.1	0.07	27
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
BMP Tributary Area	19,108					Minimum BMP Size	1097
						Proposed BMP Size*	1100

* 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:	Miller Road Plaza DMA2	Hydrologic Unit:	903.16
Project Applicant:	VCVP LLC	Rain Gauge:	Oceanside
Jurisdiction:	County of San Diego	Total Project Area:	19,108
Parcel (APN):	188-231-34	Low Flow Threshold:	0.1Q2
BMP Name	BMP2	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				
IMP PAVING	Oceanside	D	Moderate	0.575	0.351	0.020	**0.29**
PERMEABLE	Oceanside	D	Moderate	0.575	0.088	0.005	**0.07**

3.75	**0.025**	**0.36**	**0.68**
Max Orifice Head (feet)	**Max Tot. Allowable Orifice Flow (cfs)**	**Max Tot. Allowable Orifice Area (in^2)**	**Max Orifice Diameter (in)**

0.024	**0.025**	**0.36**	**0.680**
Average outflow during surface drawdown (cfs)	Max Orifice Outflow (cfs)	Actual Orifice Area (in^2)	Selected Orifice Diameter (in)

Drawdown (Hrs)	12.9

BMP Sizing Spreadsheet V3.0

Project Name:	Miller Road Plaza BMP3
Project Applicant:	VCVP LLC
Jurisdiction:	County of San Diego
Parcel (APN):	188-231-34
Hydrologic Unit:	903.16
Rain Gauge:	Oceanside
Total Project Area (sf):	38,335
Channel Susceptibility:	High

BMP Sizing Spreadsheet V3.0			
Project Name:	Miller Road Plaza BMP3	Hydrologic Unit:	903.16
Project Applicant:	VCVP LLC	Rain Gauge:	Oceanside
Jurisdiction:	County of San Diego	Total Project Area:	38,335
Parcel (APN):	188-231-34	Low Flow Threshold:	0.1Q2
BMP Name:	BMP3	BMP Type:	Biofiltration
BMP Native Soil Type:	N/A - Impervious Liner	BMP Infiltration Rate (in/hr):	N/A

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)
IMP PAVING	36,134	D	Moderate	Concrete	1.0	0.07	2529
PERMEABLE	2,201	D	Moderate	Landscape	0.1	0.07	15
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
BMP Tributary Area	38,335					Minimum BMP Size	2545
						Proposed BMP Size*	2627

* 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:	Miller Road Plaza BMP3	Hydrologic Unit:	903.16
Project Applicant:	VCVP LLC	Rain Gauge:	Oceanside
Jurisdiction:	County of San Diego	Total Project Area:	38,335
Parcel (APN):	188-231-34	Low Flow Threshold:	0.1Q2
BMP Name	BMP3	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				
IMP PAVING	Oceanside	D	Moderate	0.575	0.830	0.048	**0.68**
PERMEABLE	Oceanside	D	Moderate	0.575	0.051	0.003	**0.04**

3.75	**0.051**	**0.72**	**0.96**
Max Orifice Head (feet)	**Max Tot. Allowable Orifice Flow (cfs)**	**Max Tot. Allowable Orifice Area (in^2)**	**Max Orifice Diameter (in)**

0.047	**0.051**	**0.72**	**0.960**
Average outflow during surface drawdown (cfs)	Max Orifice Outflow (cfs)	Actual Orifice Area (in^2)	Selected Orifice Diameter (in)

Drawdown (Hrs)	15.4

BMP Sizing Spreadsheet V3.0

Project Name:	Miller Road Plaza DMA4
Project Applicant:	VCVP LLC
Jurisdiction:	County of San Diego
Parcel (APN):	188-231-34
Hydrologic Unit:	903.16
Rain Gauge:	Oceanside
Total Project Area (sf):	14,874
Channel Susceptibility:	High

BMP Sizing Spreadsheet V3.0			
Project Name:	Miller Road Plaza DMA4	Hydrologic Unit:	903.16
Project Applicant:	VCVP LLC	Rain Gauge:	Oceanside
Jurisdiction:	County of San Diego	Total Project Area:	14,874
Parcel (APN):	188-231-34	Low Flow Threshold:	0.1Q2
BMP Name:	BMP4	BMP Type:	Biofiltration
BMP Native Soil Type:	N/A - Impervious Liner	BMP Infiltration Rate (in/hr):	N/A

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)
IMP PAVING	9,255	D	Moderate	Concrete	1.0	0.07	648
PERMEABLE	5,619	D	Moderate	Landscape	0.1	0.07	39
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
BMP Tributary Area	14,874					Minimum BMP Size	687
						Proposed BMP Size*	1061

* 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:	Miller Road Plaza DMA4	Hydrologic Unit:	903.16
Project Applicant:	VCVP LLC	Rain Gauge:	Oceanside
Jurisdiction:	County of San Diego	Total Project Area:	14,874
Parcel (APN):	188-231-34	Low Flow Threshold:	0.1Q2
BMP Name	BMP4	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				
IMP PAVING	Oceanside	D	Moderate	0.575	0.212	0.012	**0.17**
PERMEABLE	Oceanside	D	Moderate	0.575	0.129	0.007	**0.11**

3.75	**0.020**	**0.28**	**0.60**
Max Orifice Head (feet)	**Max Tot. Allowable Orifice Flow (cfs)**	**Max Tot. Allowable Orifice Area (in^2)**	**Max Orifice Diameter (in)**

0.018	**0.020**	**0.28**	**0.600**
Average outflow during surface drawdown (cfs)	Max Orifice Outflow (cfs)	Actual Orifice Area (in^2)	Selected Orifice Diameter (in)

Drawdown (Hrs)	16.0

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
A	Discharge Point	Existing Storm Drain in Miller Road
B	Discharge Point	Overland Flow Discharge Point to Adjacent Property

8.3 Geomorphic Assessment of Receiving Water Channels

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

A geomorphic assessment has not been performed at this time.

8.4 Vector Control Plan

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

The BMPs drains within 96 hours and a Vector Control Plan in not needed for the proposed BMPs based on the calculations in the original PDP-SWQMP.

The BMP drain in less than 24 hours and will not need additional design.

BMP1 = 11.8 hours

BMP2 = 12.9 hours

BMP3 = 15.4 hours

BMP4 = 16.0 hours

9.0 General Requirements

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

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

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

9.1 Documentation of Hydromodification Management Exemption (BMPDM Section 1.6)

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

Exemption Type per BMPDM Figure 1-2 (select one)

☐ a. The proposed project will discharge runoff directly to existing underground storm drains discharging directly to water storage reservoirs, lakes, enclosed embayments, or the Pacific Ocean.

☐ b. The proposed project will discharge runoff directly to conveyance channels whose bed and bank are concrete lined all the way from the point of discharge to water storage reservoirs, lakes, enclosed embayments, or the Pacific Ocean.

☐ c. The proposed project will discharge runoff directly to an area identified by the County as appropriate for an exemption by the WMAA for the watershed in which the project resides[2].

Explanation (add or attach pages as necessary)

Site is not exempt from HMP**.**

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

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

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

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

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

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

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

It should be noted that the project site has an existing approved PDP-SWQMP that applies to it and construction started multiple years ago. As such, the area being developed is considered 'disturbed' areas and should be exempt from CCYSA requirements due to the overall subdivision handling this element.

(1) The project site is not outlined on the Google Earth mapping of the County's provided CCYSA data.

(2) The project site is outlined on the provided map.

(3) No on-site impacts are present.

(4) No impacts to note.

(5) No impacts to note.

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

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

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

Please see section A.

MILLER ROAD PLAZA
PDS2012-2700-15688 (MAIN)

APPROX SITE LOCATION

Blue Sage Ln
Jake Rd
Jenny Jay Ct
Miller Rd
Canyon Rd
Balerina Ln
Indian Creek Rd/valley Center Rd
Chaparral Terrace
S6
Indian Creek Rd
Juba Rd
Gole Grade Rd
Lizard Rocks Rd
School Bus Ln

Google Earth
© 2018 Google

N

1000 ft

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.
Please see attached CCYSA Exhibit that shows no CCYSA impacts are present on the previously disturbed project site.

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

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

Please see section A.

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

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

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

Please see attached CCYSA Exhibit that shows no CCYSA impacts are present on the previously disturbed project site.

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

PART 1 General Project and Applicant Information

Table 1: Project and Applicant Information

A. Project Summary Information	**ID No. IVF-20___-____ To be assigned by DPW-WPP**
Project Name	Miller Road Plaza
Record ID (e.g. grading/improvement plan number, building permit)	PDS2012-2700-15688 (Main) PDS2020-LDPCHG-00902
Project Address	Valley Center Road and Miller Road, Valley Center, CA 92082
Assessor's Parcel Number(s) APN(s)	188-231-34
Project Watershed (complete Hydrologic Unit, Area, and Subarea Name with Numeric Identifier)	9033.16 – San Luis Rey HU, Lower San Luis HA, Rincon HSA
B. Owner Information	
Name	VCVP LLC
Address	3936 Hortensia Street, San Diego, CA 92110
Email Address	
Phone Number	(619) 523-0133

****THIS PAGE IS FOR PARTIAL RECORD PLAN VERIFICATIONS ONLY ****

If this is a partial Installation Verification Form submittal, list ALL DMAs and BMPs for the Priority Development Project in **Table 2**. Provide acceptance information where applicable.

Table 2: Information for Partial IVF Submittals

A: DMA and BMP Information			
DMA #	**Structural and Significant Site Design BMPs**	**WPP Acceptance Date**	**IVF ID No. (e.g. 2018-001)**
	None At This Time		

B: DMA and BMP Map

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

Map to be inserted once BMPs are accepted for use during plan check process

PART 2 DMA and BMP Inventory Information

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

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

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

DMA #	BMP Information			Maintenance Category	Maintenance Agreement or Maintenance Notification Recorded Doc. #	Construction Plan Sheet #	Landscape Plan # & Sheet # (For Vegetated BMPs Only)	FOR DPW-WPP USE ONLY *Reviewer concurs that the BMP(s) may be accepted into inventory (date and initial)*
	Quantity	Description/Type of Structural BMP	BMP ID #(s)					
Part A Structural BMPs (S-BMPs)								
1-4	4	Biofiltration with No Infiltration	1-4	1				
Part B Significant Site Design BMPs (SSD-BMPs)								
				---	---			
				---	---			
				---	---			

PART 3 Required Attachments for All BMPs Listed in Table 3

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

☐ Photographs: Labeled photographs illustrating proper construction of each S-BMP or SSD-BMP.

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

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

For Grading and Improvement projects only, ALSO submit:

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

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

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

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

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

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

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

Required only for Verifications for Partial Record Plans

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

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

PART 4 Preparer's Certification

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

Note: Structural BMPs (Table 3, Part A) must be certified by a licensed professional engineer.

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

Preparer's Printed Name:

_____

Email: _____

Phone Number: _____

Preparer's Signed Name:

_____

Date: _ _____

COUNTY - OFFICIAL USE ONLY:

For County Inspectors

County Department: _____

Date verification received from EOW: _____

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

Inspector Name: _____

Inspector's Signature: _____ Date: _____

For Building Division Only

Inspection Supervisor Name: _____

Inspector Supervisor's Signature: _____ Date: _____

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

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

For Watershed Protection Program Only

Date Received: _____

WPP Reviewer: _____

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

WPP Reviewer's Signature: _____ Date: _____

11.0 Cover Sheet and General Requirements

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

a. Applicability of Maintenance Agreements

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

☒ Maintenance Notification (Category 1 BMPs)

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

☐ Stormwater Maintenance Agreement (Category 2 BMPs)

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

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

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

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

b. Maintenance Plan Requirements

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

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

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

☐ Features to **facilitate inspection** (e.g., observation ports, cleanouts, silt posts, or other features that allow the inspector to view necessary components of the structural BMP and compare to maintenance thresholds).

☐ Manufacturer and part number for **proprietary parts** of structural BMP(s) when applicable.

☐ **Maintenance thresholds** specific to the structural BMP(s), with a location-specific frame of reference (e.g., level of accumulated materials that triggers removal of the materials, to be identified based on viewing marks on silt posts or measured with a survey rod with respect to a fixed benchmark within the BMP).

☐ Recommended **equipment** to perform maintenance.

☐ When applicable, necessary special **training or certification** requirements for inspection and maintenance personnel such as confined space entry or hazardous waste management.

RECORDING REQUESTED BY:

WHEN RECORDED MAIL TO:

(property owner)

SPACE ABOVE THIS LINE FOR RECORDER'S USE

MAINTENANCE NOTIFICATION AGREEMENT FOR CATEGORY 1 STORMWATER STRUCTURAL BMPs

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

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

_____, the Owner(s) of the hereinafter described real property:

Address Miller Road and Valley Center Road Post Office Box _____ Zip Code 92082.

Assessor Parcel No.(s) 188-231-34

List each Structural Best Management Practice (BMP) for the property as follows: BMP ID, Type, Permit #, Sheet #.
DMA1-BMP1 THROUGH DMA4-BMP4, BIOFILTRATION BASINS WITH IMPERMEABLE LINER, PDS2012-2700-15688

Attach BMP sheets and details as Exhibit A.

Owner(s) of the above property acknowledge the existence of the stormwater Structural BMP(s) on the said property. Perpetual maintenance of the Structural BMP(s) is the requirement of the State NPDES Permit, Order No. R9-2013-0001 and subsequent amendments, Section E.3.e. and the County of San Diego Watershed Protection Ordinance (WPO) Ordinance No. 10410 Section 67.812 through Section 67.814, and County BMP Design Manual Chapters 7 & 8. In consideration of the requirement to construct and maintain Structural BMP(s), as conditioned by Discretionary Permit, Grading Permit, and/or Building Permit (as may be applicable), I/we hereby covenant and agree that:

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

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

_____ _____

Owner Signature(s)

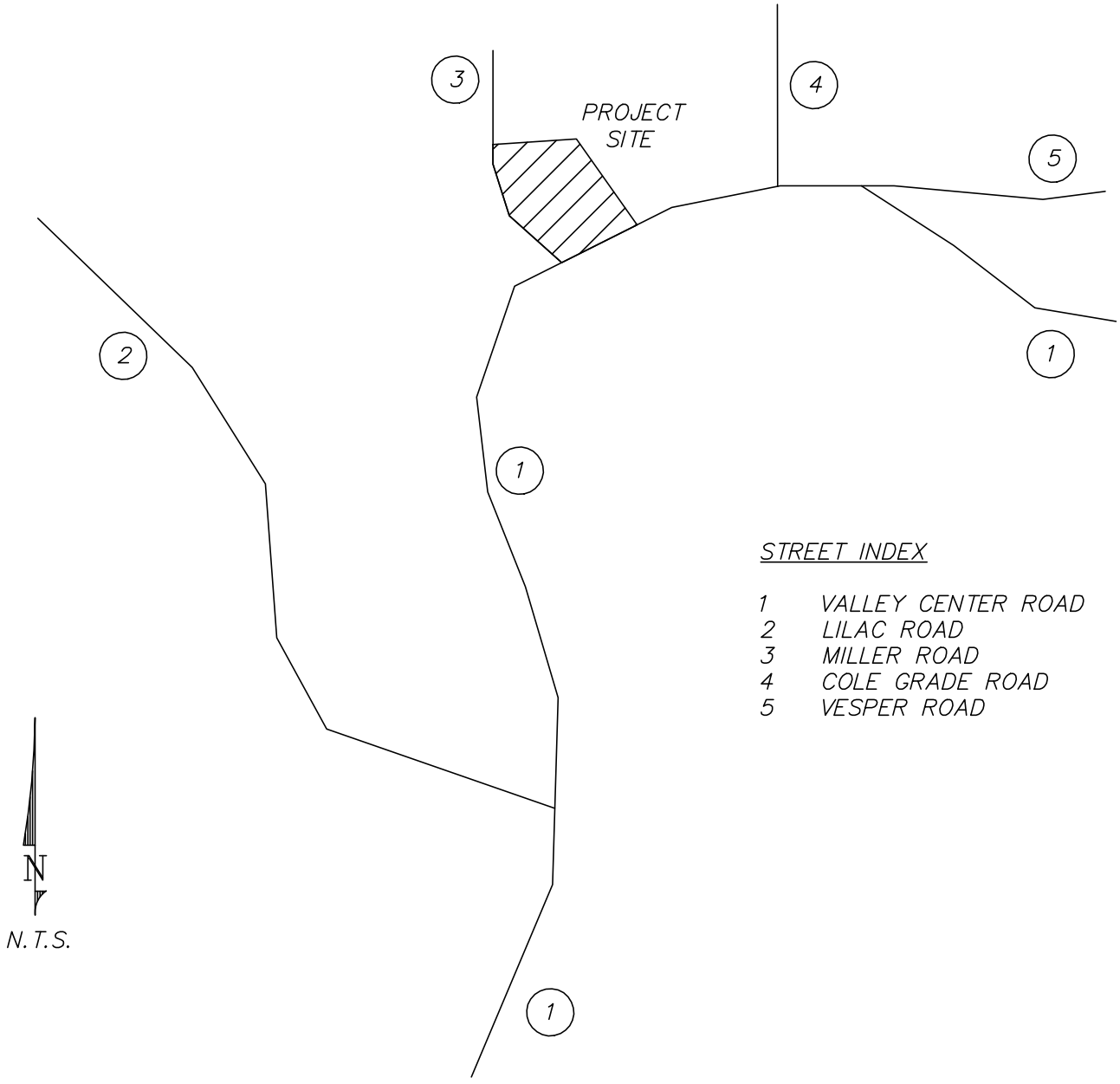
_____ _____

Print Owner Name(s) and Title

Template Date: 8-16-2019

EXHIBIT A - SITE DETAILS

NTS



STREET INDEX

1 VALLEY CENTER ROAD
2 LILAC ROAD
3 MILLER ROAD
4 COLE GRADE ROAD
5 VESPER ROAD

SITE ADDRESS:

NEC CORNER
VALLEY CENTER ROAD AND MILLER ROAD
VALLEY CENTER, CALIFORNIA 92082

LEGAL DESCRIPTION:

PORTION OF PARCEL 2 AND PARCEL 3
OF PARCEL MAP 8636

APN:

188-231-34

MILLER ROAD PLAZA	1 OF 2	PDS2012-2700-15688

EXHIBIT A: BMP LOCATION

NTS

LEGEND

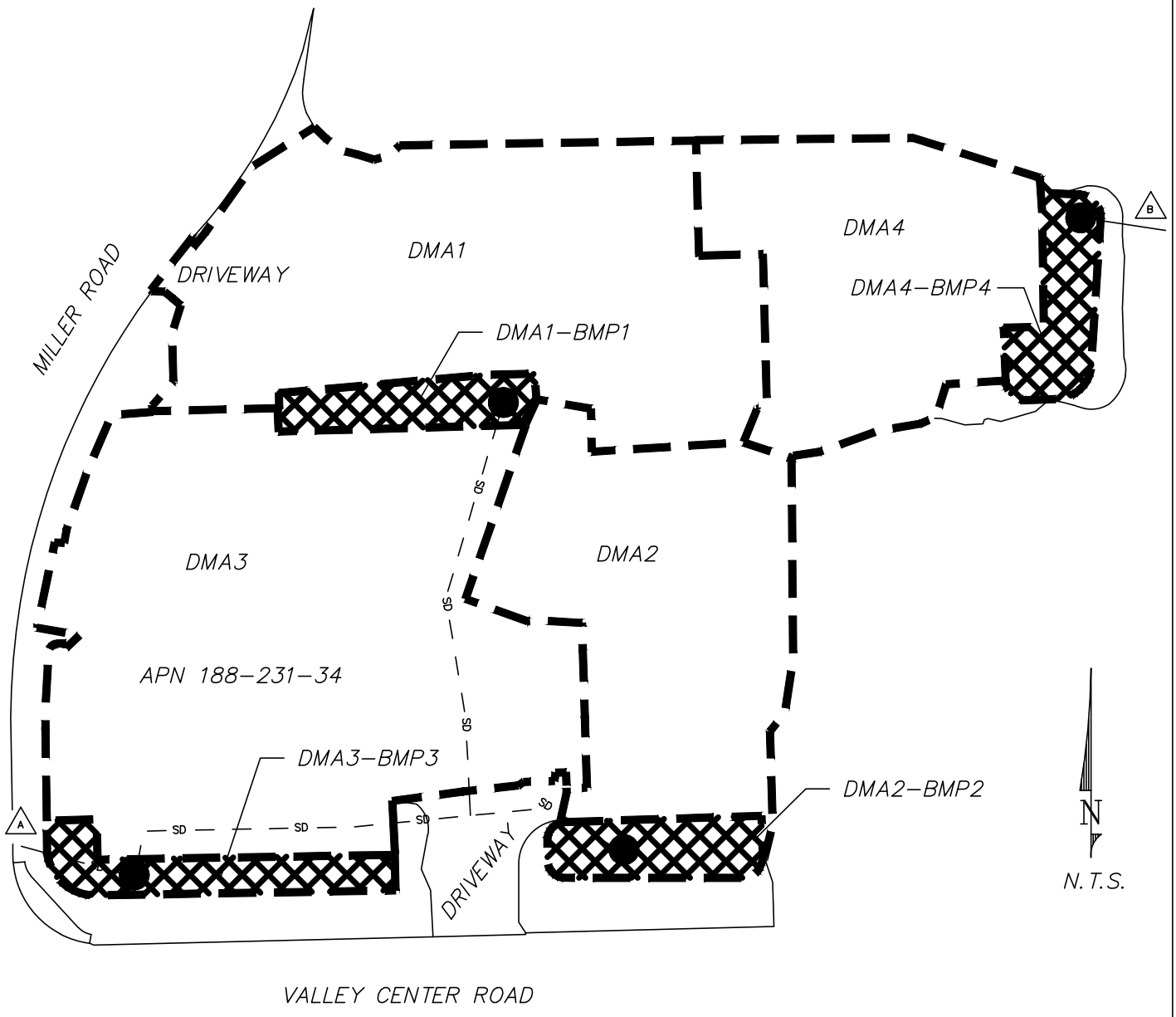
DMA BOUNDARY

PROPOSED BIOFILTRATION WITH IMPERMEABLE LINER BMP

PROPOSED PRIVATE. STORM DRAIN

PROPOSED INLET STENCILING

COMPLIANCE POINT



MILLER ROAD PLAZA	2 OF 2	PDS2012–2700–15688

EXHIBIT B: MAINTEANCE PLAN

NTS

TYPICAL MAINTENANCE ACTIVITIES:

BIOFILTRATION WITH IMPERMEABLE LINER:

ROUTINE ACTION: INSPECT HEALTH OF VEGETATION

MAINTENANCE INDICATOR:	*DEAD VEGETATION OR BIO*
FIELD MEASUREMENTS:	*VISUAL INSPECTION*
INSPECTION FREQUENCY:	*TWICE A YEAR*
MAINTENANCE ACTIVITY:	*RE-ESTABLISH VEGETATION AS NEEDED*
APPROXIMATE COSTS:	*VARIES PER MAINTENANCE REQUIRED*

ROUTINE ACTION: INSPECT FOR DEBRIS ACCUMULATION

MAINTENANCE INDICATOR:	*DEBRIS, TRASH, OR LITTER PRESENT*
FIELD MEASUREMENTS:	*VISUAL INSPECTION*
INSPECTION FREQUENCY:	*DURING ROUTINE TRASHING*
MAINTENANCE ACTIVITY:	*REMOVE DEBRIS, TRASH, AND LITTER*
APPROXIMATE COSTS:	*NONE ANTICIPATED*

ROUTINE ACTION: INSPECT FOR SEDIMENTATION ACCUMULATION

MAINTENANCE INDICATOR:	*SEDIMENT AT OR NEAR HEIGHT OF VEGETATION*
FIELD MEASUREMENTS:	*VISUAL INSPECTION*
INSPECTION FREQUENCY:	*ONCE AT END OF SUMMER SEASON* *ONCE AT END OF RAINY SEASON*
MAINTENANCE ACTIVITY:	*REMOVE SEDIMENT AND RE-VEGETATE*
APPROXIMATE COSTS:	*$1,100 PER MAINTENANCE (APPROX. ONCE EVERY 3 YEARS)*

ROUTINE ACTION: INSPECT FOR STANDING WATER

MAINTENANCE INDICATOR:	*STANDING WATER AFTER 96 HOURS*
FIELD MEASUREMENTS:	*VISUAL INSPECTION*
INSPECTION FREQUENCY:	*AFTER EACH QUALIFYING RAIN EVENT*
MAINTENANCE ACTIVITY:	*DEWATER AND INSPECT SUB-DRAIN DISCHARGE POINTS*
APPROXIMATE COSTS:	*VARIES PER MAINTENANCE REQUIRED*

EXHIBIT B: MAINTEANCE PLAN

NTS

ROUTINE ACTION: INSPECT OUTLET

MAINTENANCE INDICATOR:	BROKEN INLET STRUCTURE OR GRATE
FIELD MEASUREMENTS:	VISUAL INSPECTION
INSPECTION FREQUENCY:	TWICE A YEAR
MAINTENANCE ACTIVITY:	REPLACE GRATE
APPROXIMATE COSTS:	VARIES PER MAINTENANCE REQUIRED

ROUTINE ACTION: INSPECT RIP RAP OUTLET

MAINTENANCE INDICATOR:	CLOGGED OUTLET
FIELD MEASUREMENTS:	VISUAL INSPECTION
INSPECTION FREQUENCY:	AFTER EVERY RAIN EVENT ONCE AT END OF SUMMER SEASON ONCE AT END OF RAINY SEASON
MAINTENANCE ACTIVITY:	UNCLOG OUT OR REPLACE PIPE
APPROXIMATE COSTS:	VARIES PER MAINTENANCE REQUIRED

12.0 Alternative Compliance Project (ACP) Requirements

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

Offsite Alternative Compliance Participation Form

PDP INFORMATION	
Record ID:	PDS2012-2700-15688 (MAIN), PDS2020-LDPCHG-00902
Assessor's Parcel Number(s) [APN(s)]	188-231-34
ACP Information	
Record ID:	No Alternative Compliance Proposed
Assessor's Parcel Number(s) [APN(s)]	
Project Owner/Address	
Is your ACP in the same watershed as your PDP? ☐ Yes ☐ No	Will your ACP project be completed prior to the completion of the PDP? ☐ Yes ☐ No
Does your ACP account for all Deficits generated by the PDP? ☐ Yes ☐ No (PDP and/or ACP must be redesigned to account for all deficits generated by the PDP.	What is the difference between your PDP debits and ACP Credits? *(ACP Credits -Total PDP Debits = Total Earned Credits)

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:	6 Carat Carwash Hydrology Certification
Prepared By:	Wynn Engineering, Inc.
Date:	June 28, 2023

  - 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.

civil engineering
structural engineering
land surveying

WYNN ENGINEERING

HYDROLOGY CERTIFICATION LETTER

Date: June 28, 2023

Attention: PDS Land Development
County of San Diego

Subject: Hydrology/Hydraulic Certification
6 Carat Carwash
PDS2022-MUP-22-003

It is my professional opinion as the Engineer of Record that the proposed site improvements presented by the 6 Carat Carwash on PDS2022-MUP-22-003 will not will significantly alter the project site's downstream drainage patterns and that the flow is conveyed in a controlled, safe manner from the project site as to not create erosion or other related impacts downstream in the previously installed storm drain system, water quality basin, and further downstream in the site's storm drain system.

This project is part of the larger development that was approved and constructed by PDS2012-2700-15688 and PDS2020-LDPCHG-00902.

This area is accounted for in the original hydrology of the original project and was defined as DMA3 and contributed to BMP3. The project built DMA3 and BMP3 with this project's building and impervious impacts as defined in PDS2022-MUP-22-003 to meet DCV, HMP, and Flood Control requirements during the original approval process.

Furthermore, DMA3 originally contained 36,134 sq-ft of imperviousness. This will accommodate the project's tributary imperviousness of 35,786 sq-ft of imperviousness as presented in PDS2022-MUP-22-003. This is a minor reduction, but also means that it will not impact the design, HMP calculations, flood control calculations, or impact what was approved as part of the original approvals under PDS2012-2700-15688 and PDS2020-LDPCHG-00902.

The following summary illustrates the differences:

DMA, DCV and HMP Summary and Comparison Data Table			
Design Element	***Miller Road Plaza PDP-SWQMP***	***6 Carat Car Wash PDP-SWQMP***	***Comparison***
DMA Permeable Area Contribution (sq-ft)	2,201	2,549	+ 348
DMA Impervious Area Contribution (sq-ft)	36,134	35,786	- 348
Total DMA Area Contribution (sq-ft)	38,335	38,335	No Change
DCV (cu-ft)	2,084	2,061	- 23
HMP Sizing Required (sq-ft)	2,545	2,523	- 22
HMP Sizing Provided (sq-ft)	2,627	2,627	No Change
HMP Orifice Sizing (inches)	0.96	0.96	No Change
HMP Drawdown Time (hours)	15.4	15.4	No Change

27315 Valley Center Road – Valley Center, CA 92082 – (760) 749-8722 – Fax (760) 749-9412
Email: wynneng@wynnengineering.com – Los Angeles (310) 306-9728 – Fax (310) 306-2129

No changes or modifications will be required to be made to the installed storm drain elements of the original approvals based on proposed PDS2022-MUP-22-003.

I hereby declare that I am the Engineer of Record 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 standards.

Gary R. Wynn
R.C.E. No. 43202

6/28/23

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 or Printouts	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**	• DCV calculations from SSD-BMP tool • Dispersion Areas calculations from SSD-BMP tool	• Fact Sheet SD-B (Appendix E.8) • Appendix I
☐ **Tree Wells**	• DCV calculations from SSD-BMP tool • Tree Well calculations from SSD-BMP tool	• Fact Sheet SD-A (Appendix E.7) • Appendix I

- Submit this cover page and all "Required Sub-attachments or Printouts" 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)***	
				No Self-Mitigating Areas Proposed

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

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

<u>Natural and Landscaped Areas</u>

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

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

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

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

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

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

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

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

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

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

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

DMA #	***DMA Area (ft^2)***	***Permit # and Sheet #***
		No De Minimus Areas Propsoed

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

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

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

6.3 Self-retaining DMAs using Significant Site Design BMPs

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

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

DMA #	**DMA Area (ft^2)**	**BMP Type** (choose one per DMA)		***Permit # and Sheet #***
		Dispersion Area (Att. 6.3.1)	**Tree Wells (Att. 6.3.2)**	
		☐	☐	
		☐	☐	
		☐	☐	No Self-Retaining Areas Proposed
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
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		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	

- "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, BMPDM Appendix I, and any other guidance or instruction identified by the County.

6.3.1 Self-retaining DMAs with Impervious Dispersion Areas

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

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

Summary Sheet for Self-retaining DMAs with Impervious Area Dispersion

Attach Printouts from SSD-BMP tool below

- DCV calculations from SSD-BMP tool
- Dispersion Areas calculations from SSD-BMP tool

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)**
	No Tree Wells Proposed

- 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 I.1. An automated version of Worksheet I.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

Attach Printouts from SSD-BMP tool below

- DCV calculations from SSD-BMP tool
- Tree Wells calculations from SSD-BMP tool

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 6 Carat Carwash
Permit Application Number PDS2022-MUP-22-003

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).

R.C.E. No.: 43202 Expires: 3/31/2024

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

Gary R. Wynn

Print Name

Wynn Engineering, Inc.

Company

June 28, 2023 Engineer's Seal:

Date

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 entire disturbed area of the project site was allocated to DMAs as outlined in the DMA Exhibit of the previously approved PDP-SWQMP for the Miller Road Plaza under PDS2021-2700-15688 and PDS2020-LDPCHC-00902.

This project was allocated as DMA3 and is annotated the same in this PDP-SWQMP DMA mapping. The original project proponent built out the site with only minor alterations for field conditions which has predicated this PDP-SWQMP.

Per BMPDM Section 5.1, the following Steps were followed:

Step 1: Determine DCV – The DCV was determined using the COSD Automated Spreadsheets. Please see the attached worksheets.

Step 2: Determine Retention Requirements – The Retention requirements were determined using the COSD Automated Spreadsheets. In addition, infiltration rates have not been determined at this point in time because the previous SWQMP stated no infiltration was feasible and it assumed the same site characteristics still exist on the project site. No Infiltration is being reflected in the design from the start. Please see the attached worksheets.

Step 3: Determine BMP Performance per Appendix B.3 – Performance standards and design was performed using the COSD Automatic Spreadsheets. Please see the attached worksheets.

Then, Section 5.2 was used to determine areas that are excluded from DCV Calculations and no areas are excluded at this time.

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

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

BMP ID #	DMA #	DMA Area (ft^2)	Structural BMP Type							Permit # and Sheet #
			Harvest and Use	Infiltration	Unlined Biofiltration	Lined Biofiltration	Flow-thru treatment	Hydromodification Management[1]	Other	
BMP3	PERM	2,549	☐	☐	☐	☒	☐	☐	☐	PDS2020-MUP-22-003
	IMP	35,786	☐	☐	☐	☒	☐	☐	☐	DMA Exhibit
			☐	☐	☐	☐	☐	☐	☐	
			☐	☐	☐	☐	☐	☐	☐	
			☐	☐	☐	☐	☐	☐	☐	
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[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 # DMA3-BMP3	**Permit # and Sheet #** PDS2020-LDPCHG-00902
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	Gary R. Wynn Wynn Engineering, Inc. 27315 Valley Center Road Valley Center, California 92082
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)	

[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	DMA3										unitless
	2	85th Percentile 24-hr Storm Depth	0.75										inches
	3	Impervious Surfaces Not Directed to Dispersion Area (C=0.90)	35,786										sq-ft
	4	Semi-Pervious Surfaces Not Serving as Dispersion Area (C=0.30)	0										sq-ft
	5	Engineered Pervious Surfaces Not Serving as Dispersion Area (C=0.10)	0										sq-ft
	6	Natural Type A Soil Not Serving as Dispersion Area (C=0.10)	0										sq-ft
	7	Natural Type B Soil Not Serving as Dispersion Area (C=0.14)	0										sq-ft
	8	Natural Type C Soil Not Serving as Dispersion Area (C=0.23)	0										sq-ft
	9	Natural Type D Soil Not Serving as Dispersion Area (C=0.30)	2,549										sq-ft
Dispersion Area, Tree Well & Rain Barrel Inputs (Optional)	10	Does Tributary Incorporate Dispersion, Tree Wells, and/or Rain Barrels?	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	38,335	0	0	0	0	0	0	0	0	0	sq-ft
	23	Initial Runoff Factor for Standard Drainage Areas	0.86	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	0.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	unitless
	26	Initial Design Capture Volume	2,061	0	0	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	0.86	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	2,061	0	0	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	0.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	unitless
	36	Final Effective Tributary Area	32,968	0	0	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	2,061	0	0	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	DMA3	-	-	-	-	-	-	-	-	-	unitless
	2	85th Percentile Rainfall Depth	0.75	-	-	-	-	-	-	-	-	-	inches
	3	Predominant NRCS Soil Type Within BMP Location	D										unitless
	4	Is proposed BMP location Restricted or Unrestricted for Infiltration Activities?	Restricted										unitless
	5	Nature of Restriction	Groundwater										unitless
	6	Do Minimum Retention Requirements Apply to this Project?	Yes										yes/no
	7	Are Habitable Structures Greater than 9 Stories Proposed?	No										yes/no
Advanced Analysis	8	Has Geotechnical Engineer Performed an Infiltration Analysis?	No										yes/no
	9	Design Infiltration Rate Recommended by Geotechnical Engineer											in/hr
Result	10	Design Infiltration Rate Used To Determine Retention Requirements	0.000	-	-	-	-	-	-	-	-	-	in/hr
	11	Percent of Average Annual Runoff that Must be Retained within DMA	1.5%	-	-	-	-	-	-	-	-	-	percentage
	12	Fraction of DCV Requiring Retention	0.01	-	-	-	-	-	-	-	-	-	ratio
	13	Required Retention Volume	21	-	-	-	-	-	-	-	-	-	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	DMA3	-	-	-	-	-	-	-	-	-	sq-ft
	2	Design Infiltration Rate Recommended	0.000	-	-	-	-	-	-	-	-	-	in/hr
	3	Design Capture Volume Tributary to BMP	2,061	-	-	-	-	-	-	-	-	-	cubic-feet
	4	Is BMP Vegetated or Unvegetated?	Vegetated										unitless
	5	Is BMP Impermeably Lined or Unlined?	Lined										unitless
	6	Does BMP Have an Underdrain?	Underdrain										unitless
	7	Does BMP Utilize Standard or Specialized Media?	Standard										unitless
	8	Provided Surface Area	2,627										sq-ft
	9	Provided Surface Ponding Depth	12										inches
	10	Provided Soil Media Thickness	21										inches
	11	Provided Gravel Thickness (Total Thickness)	18										inches
	12	Underdrain Offset	3										inches
	13	Diameter of Underdrain or Hydromod Orifice (Select Smallest)	0.96										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	1.00	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	0.40	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	2.25	0.00	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)	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	ratio
	25	Calculated Retention Storage Drawdown Time	120	0	0	0	0	0	0	0	0	0	hours
	26	Efficacy of Retention Processes	0.26	0.00	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)	526	0	0	0	0	0	0	0	0	0	cubic-feet
	28	Design Capture Volume Remaining for Biofiltration	1,535	0	0	0	0	0	0	0	0	0	cubic-feet
Biofiltration Calculations	29	Max Hydromod Flow Rate through Underdrain	0.0482	0.0000	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	0.79	0.00	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	0.79	0.00	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	4.75	0.00	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	0.00	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	22.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	inches
	38	Drawdown Time for Surface Ponding	15	0	0	0	0	0	0	0	0	0	hours
	39	Drawdown Time for Effective Biofiltration Depth	28	0	0	0	0	0	0	0	0	0	hours
	40	Total Depth Biofiltered	26.95	0.00	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	2,302	0	0	0	0	0	0	0	0	0	cubic-feet
	42	Option 1 - Provided Biofiltration Volume	2,302	0	0	0	0	0	0	0	0	0	cubic-feet
	43	Option 2 - Store 0.75 DCV: Target Volume	1,151	0	0	0	0	0	0	0	0	0	cubic-feet
	44	Option 2 - Provided Storage Volume	1,151	0	0	0	0	0	0	0	0	0	cubic-feet
	45	Portion of Biofiltration Performance Standard Satisfied	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	ratio
Result	46	Do Site Design Elements and BMPs Satisfy Annual Retention Requirements?	Yes	-	-	-	-	-	-	-	-	-	yes/no
	47	Overall Portion of Performance Standard Satisfied (BMP Efficacy Factor)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	ratio
	48	**Deficit of Effectively Treated Stormwater**	**0**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	cubic-feet

No Warning Messages

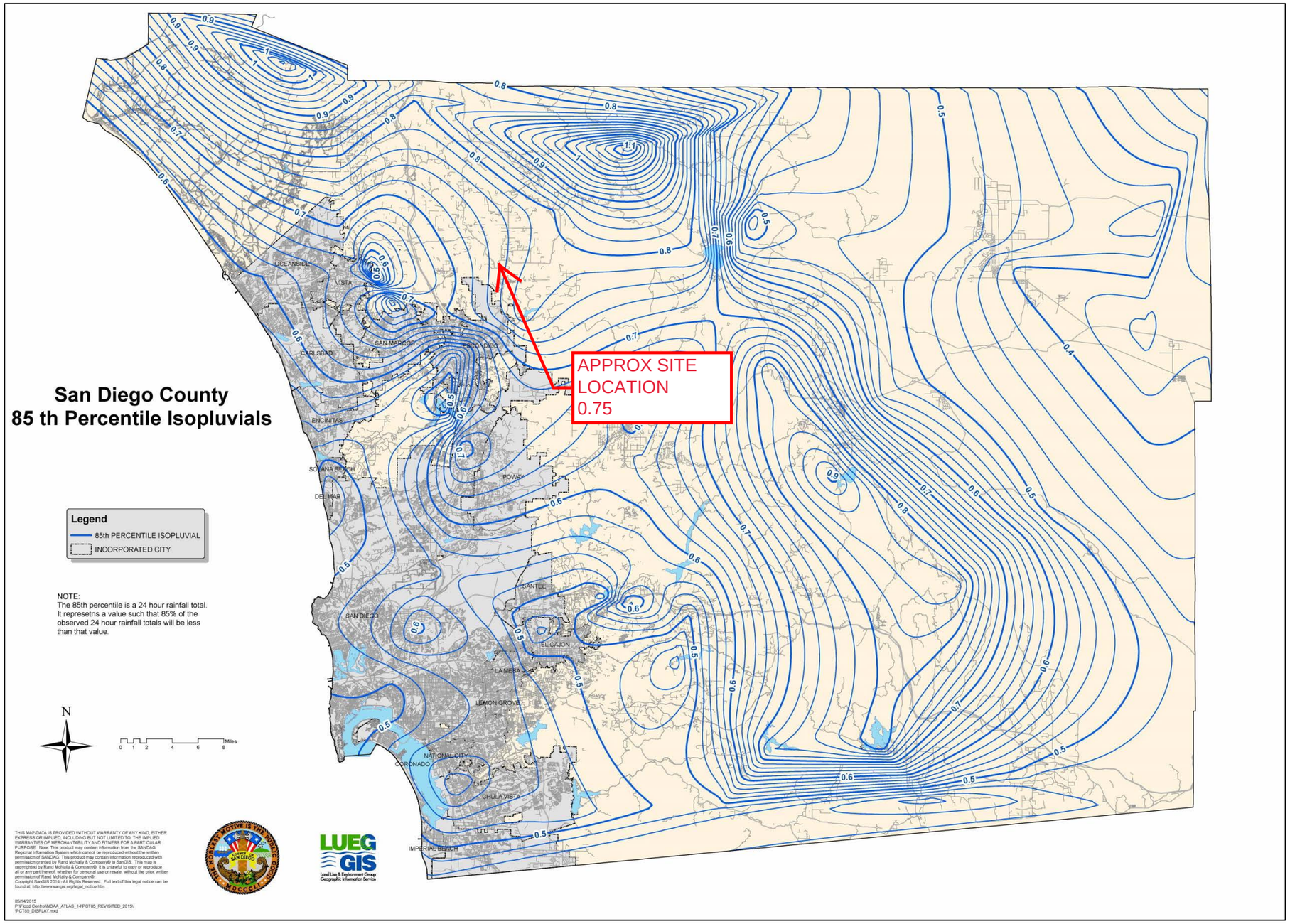

Figure B.1-1: 85th Percentile 24-hour Isopluvial Map

7.5 Identification and Narrative of Receiving Water and Pollutants of Concern

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

A. General Description

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

Flow-Through Treatment Control is not proposed at this time.

B. Water Body Impairments and Priorities

List any 303(d) impaired water bodies[6] within the path of storm water from the project site to the Pacific Ocean (or bay, lagoon, lake or reservoir, as applicable), identify the pollutant(s)/stressor(s) causing impairment, and identify any TMDLs and/or Highest Priority Pollutants from the WQIP for the impaired water bodies:

303(d) Impaired Water Body	Pollutant(s)/Stressor(s)	TMDLs / WQIP Highest Priority Pollutant

C. Identification of Project Site Pollutants

Identify pollutants expected from the project site based on all proposed use(s) of the site (see BMP Design Manual Appendix B.6.

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

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

8.0 General Requirements

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

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

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

8.1 Flow Control Facility Design

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

BMP3 was initially installed by PDS2020-LDPCHG-00902 and its characteristics will remain as installed as they have been determined to still be applicable to the revised design.

Please refer to the attached BMP Sizing Spreadsheets for the BMP.

BMP Sizing Spreadsheet V3.0

Project Name:	6 Carat Carwash (DMA3)
Project Applicant:	6 Carat Enterprise Inc
Jurisdiction:	County of San Diego
Parcel (APN):	188-231-47
Hydrologic Unit:	903.16
Rain Gauge:	Oceanside
Total Project Area (sf):	38,335
Channel Susceptibility:	High

BMP Sizing Spreadsheet V3.0			
Project Name:	6 Carat Carwash (DMA3)	Hydrologic Unit:	903.16
Project Applicant:	6 Carat Enterprise Inc	Rain Gauge:	Oceanside
Jurisdiction:	County of San Diego	Total Project Area:	38,335
Parcel (APN):	188-231-47	Low Flow Threshold:	0.1Q2
BMP Name:	BMP3	BMP Type:	Biofiltration
BMP Native Soil Type:	N/A - Impervious Liner	BMP Infiltration Rate (in/hr):	N/A

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)
IMP PAVING	35,786	D	Moderate	Concrete	1.0	0.07	2505
PERMEABLE	2,549	D	Moderate	Landscape	0.1	0.07	18
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
						0	0
BMP Tributary Area	38,335					Minimum BMP Size	2523
						Proposed BMP Size*	2627

* 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:	6 Carat Carwash (DMA3)	Hydrologic Unit:	903.16
Project Applicant:	6 Carat Enterprise Inc	Rain Gauge:	Oceanside
Jurisdiction:	County of San Diego	Total Project Area:	38,335
Parcel (APN):	188-231-47	Low Flow Threshold:	0.1Q2
BMP Name	BMP3	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				
IMP PAVING	Oceanside	D	Moderate	0.575	0.822	0.047	**0.67**
PERMEABLE	Oceanside	D	Moderate	0.575	0.059	0.003	**0.05**

3.75	**0.051**	**0.72**	**0.96**
Max Orifice Head (feet)	**Max Tot. Allowable Orifice Flow (cfs)**	**Max Tot. Allowable Orifice Area (in^2)**	**Max Orifice Diameter (in)**

0.047	**0.051**	**0.72**	**0.960**
Average outflow during surface drawdown (cfs)	Max Orifice Outflow (cfs)	Actual Orifice Area (in^2)	Selected Orifice Diameter (in)

Drawdown (Hrs)	15.4

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
A	Discharge Point	Existing Storm Drain in Miller Road
B	Discharge Point	Overland Flow Discharge Point to Adjacent Property

8.3 Geomorphic Assessment of Receiving Water Channels

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

A geomorphic assessment has not been performed at this time.

8.4 Vector Control Plan

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

The BMPs drains within 96 hours and a Vector Control Plan in not needed for the proposed BMPs based on the calculations in the original PDP-SWQMP.

The BMP drain in less than 24 hours and will not need additional design.

BMP3 = 15.4 hours

9.0 General Requirements

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

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

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

9.1 Documentation of Hydromodification Management Exemption (BMPDM Section 1.6)

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

Exemption Type per BMPDM Figure 1-2 (select one)

☐ a. The proposed project will discharge runoff directly to existing underground storm drains discharging directly to water storage reservoirs, lakes, enclosed embayments, or the Pacific Ocean.

☐ b. The proposed project will discharge runoff directly to conveyance channels whose bed and bank are concrete lined all the way from the point of discharge to water storage reservoirs, lakes, enclosed embayments, or the Pacific Ocean.

☐ c. The proposed project will discharge runoff directly to an area identified by the County as appropriate for an exemption by the WMAA for the watershed in which the project resides[2].

Explanation (add or attach pages as necessary)

Site is not exempt from HMP.

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

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

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

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

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

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

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

It should be noted that the project site has an existing approved PDP-SWQMP that applies to it and construction started multiple years ago. As such, the area being developed is considered 'disturbed' areas and should be exempt from CCYSA requirements due to the overall subdivision handling this element.

(1) The project site is not outlined on the Google Earth mapping of the County's provided CCYSA data.

(2) The project site is outlined on the provided map.

(3) No on-site impacts are present.

(4) No impacts to note.

(5) No impacts to note.

[3] Applicants may refine initial mapping results using options identified in BMPDM Appendix H.1.2.
[4] Tributary areas must be shown to demonstrate that upstream offsite PCCSYAs do not exist. If bypassing these areas, only the bypass should be shown.

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

Please see section A.

MILLER ROAD PLAZA
PDS2012-2700-15688 (MAIN)

Blue Sage Ln
Jake Rd
Jenny Jay Ct
Miller Rd
APPROX SITE LOCATION
School Bus Ln
Canyon Rd
S6
Balerina Ln
Indian Creek Rd/valley Center Rd
Indian Creek Rd
Chaparral Terrace
Juba Rd
Lizard Rocks Rd
Gole Grade Rd
N
1000 ft
Google Earth
© 2018 Google

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.

Please see attached CCYSA Exhibit that shows no CCYSA impacts are present on the previously disturbed project site.

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

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

Please see section A.

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

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

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

Please see attached CCYSA Exhibit that shows no CCYSA impacts are present on the previously disturbed project site.

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

PART 1 General Project and Applicant Information

Table 1: Project and Applicant Information

A. Project Summary Information	**ID No. IVF-20___-____ To be assigned by DPW-WPP**
Project Name	No new BMPs. See Record SWQMP
Record ID (e.g. grading/improvement plan number, building permit)	
Project Address	Click here to enter text.
Assessor's Parcel Number(s) APN(s)	
Project Watershed (complete Hydrologic Unit, Area, and Subarea Name with Numeric Identifier)	
B. Owner Information	
Name	
Address	Click here to enter text.
Email Address	
Phone Number	Click here to enter text.

****THIS PAGE IS FOR PARTIAL RECORD PLAN VERIFICATIONS ONLY ****

If this is a partial Installation Verification Form submittal, list ALL DMAs and BMPs for the Priority Development Project in **Table 2**. Provide acceptance information where applicable.

Table 2: Information for Partial IVF Submittals

A: DMA and BMP Information

DMA #	Structural and Significant Site Design BMPs	WPP Acceptance Date	IVF ID No. (e.g. 2018-001)
	No new BMPs. See Record SWQMP		

B: DMA and BMP Map

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

Map to be inserted once BMPs are accepted for use during plan check process

PART 2 DMA and BMP Inventory Information

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

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

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

DMA #	BMP Information			Maintenance Category	Maintenance Agreement or Maintenance Notification Recorded Doc. #	Construction Plan Sheet #	Landscape Plan # & Sheet # (For Vegetated BMPs Only)	FOR DPW-WPP USE ONLY *Reviewer concurs that the BMP(s) may be accepted into inventory (date and initial)*
	Quantity	Description/Type of Structural BMP	BMP ID #(s)					
Part A Structural BMPs (S-BMPs)								
		None, See Record SWQMP						
Part B Significant Site Design BMPs (SSD-BMPs)								
				---	---			
				---	---			
				---	---			

PART 3 Required Attachments for All BMPs Listed in Table 3

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

☐ Photographs: Labeled photographs illustrating proper construction of each S-BMP or SSD-BMP.

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

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

For Grading and Improvement projects only, ALSO submit:

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

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

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

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

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

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

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

Required only for Verifications for Partial Record Plans

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

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

PART 4 Preparer's Certification

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

Note: Structural BMPs (Table 3, Part A) must be certified by a licensed professional engineer.

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

Preparer's Printed Name:

_____

Email: _____

Phone Number: _____

Preparer's Signed Name:

_____

Date: _ _____

COUNTY - OFFICIAL USE ONLY:

For County Inspectors

County Department: _____

Date verification received from EOW: _____

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

Inspector Name: _____

Inspector's Signature: _____ Date: _____

For Building Division Only

Inspection Supervisor Name: _____

Inspector Supervisor's Signature: _____ Date: _____

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

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

For Watershed Protection Program Only

Date Received: _____

WPP Reviewer: _____

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

WPP Reviewer's Signature: _____ Date: _____

11.0 Cover Sheet and General Requirements

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

a. Applicability of Maintenance Agreements

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

☒ Maintenance Notification (Category 1 BMPs)

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

☐ Stormwater Maintenance Agreement (Category 2 BMPs)

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

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

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

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

b. Maintenance Plan Requirements

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

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

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

☐ Features to **facilitate inspection** (e.g., observation ports, cleanouts, silt posts, or other features that allow the inspector to view necessary components of the structural BMP and compare to maintenance thresholds).

☐ Manufacturer and part number for **proprietary parts** of structural BMP(s) when applicable.

☐ **Maintenance thresholds** specific to the structural BMP(s), with a location-specific frame of reference (e.g., level of accumulated materials that triggers removal of the materials, to be identified based on viewing marks on silt posts or measured with a survey rod with respect to a fixed benchmark within the BMP).

☐ Recommended **equipment** to perform maintenance.

☐ When applicable, necessary special **training or certification** requirements for inspection and maintenance personnel such as confined space entry or hazardous waste management.

NOTE TO PLAN REVIEWER

DMA3-BMP3 has been installed and will be maintained by the original PDP-SWQMP of record under PDS2012-2700-15688 and PDS2020-LDPCHG-00902.

Please refer to the reference copy provided in Attachment 4.

12.0 Alternative Compliance Project (ACP) Requirements

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

Offsite Alternative Compliance Participation Form

PDP INFORMATION	
Record ID:	PDS2022-MUP-22-003
Assessor's Parcel Number(s) [APN(s)]	188-231-47
ACP Information	
Record ID:	No Alternative Compliance Proposed
Assessor's Parcel Number(s) [APN(s)]	
Project Owner/Address	
Is your ACP in the same watershed as your PDP? ☐ Yes ☐ No	Will your ACP project be completed prior to the completion of the PDP? ☐ Yes ☐ No
Does your ACP account for all Deficits generated by the PDP? ☐ Yes ☐ No (PDP and/or ACP must be redesigned to account for all deficits generated by the PDP.	What is the difference between your PDP debits and ACP Credits? *(ACP Credits -Total PDP Debits = Total Earned Credits)