Snipes-Dye associates

PRIORITY DEVELOPMENT PROJECT STORMWATER QUALITY MANAGEMENT PLAN (SWQMP)

For

BRADLEY APARTMENT COMPLEX

1065 East Bradley Ave., El Cajon CA, 92021

County of San Diego

PDS2019-LDGRMJ-30236 / PDS2019-LDPIIP-60071

Applicant/Developer:
1065 East Bradley, LLC
7626 El Cajon Blvd.
La Mesa, CA 91942
(619) 823-3402
Contact: Philip Chodur

Prepared By:

Snipes-Dye Associates
civil engineers and land surveyors
8348 Center Drive, Suite G
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EC5021

Dated: July 23, 2020
Revised: November 9, 2023

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	Bradley Apartment Complex	
Project Address	1065 East Bradley Avenue, El Cajon, CA 92021	
Assessor's Parcel # (APN)	388-331-04, 05, & 06	
Permit # / Record ID	PDS2019-LDGRMJ-30236 & PDS2019-LDPIIP-60071	
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	1065 East Bradley, LLC., Contact: Philip Chodur	
Address	7626 El Cajon Blvd., La Mesa, CA 91942	
Phone	(619) 823-3402	**Email:** pchodur@sbcglobal.net

SWQMP Preparer		
Name	William A. Snipes, P.E.	
Company (if applicable)	Snipes-Dye Associates	
Address	8348 Center Drive, Suite G, La Mesa, CA 91942	
Phone	(619) 697-9234	**Email:** bill@snipesdye.com, nick@snipesdye.com
PE Number (if applicable)	50477	

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 14, 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.):

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

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	7/30/2020	Initial Submittal
2	3/04/2022	Second Submittal
3	06/14/2023	Third Submittal
4	11/09/2023	Fourth Submittal
Plan Changes		
1		Initial Submittal
2		
3		

General Directions

Note: These directions may be omitted from the print version of the SWQMP submittal.

① Scope of SWQMP Submittal and Submittal Record (inside front cover)

Use the ***Submittal Scope*** table to document the scope of activities covered under this SWQMP Form. Select one of the three options presented.

- ***SWQMP addresses the entire project***. If this SWQMP form addresses the entire project from start to finish, additional documentation of the project scope is not required.
- ***SWQMP implements requirements of an earlier master SWQMP submittal***. If this SWQMP Form implements requirements identified in an earlier master SWQMP Form, documentation of those earlier requirements must be provided. Include a copy of the previous submittal as **Attachment 4**.
- ***First of multiple SWQMP submittals***. If this is the first of multiple SWQMP submittals, use the spaces provided under Part c to identify and briefly describe which project elements are addressed in this submittal and which ones will be addressed in future submittals. For example, this PDP addresses only streets and roads, but individual lots will be documented in future submittals.

Use 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.

② PDP SWQMP Submittal Checklist

The checklist on Page 1 summarizes the tables and attachments to be included with this PDP SWQMP submittal. It should be filled out after completing the remainder of the form. Tables and attachments with boxes already checked (☒) are required for all projects. All tables are required. The applicability of attachments not already checked will be identified during the completion of this form.

③ Attachment 1: Stormwater Intake Form

Submit a copy of your completed ***Storm Water Intake Form*** as **Attachment 1**.

④ Tables 1, 2, and 3: Baseline Site Design and Source Control BMPs

Table 1 Completion: Complete **Table 1** to document existing and proposed site features and the BMPs to be implemented for them. All BMPs must be implemented ***where applicable and feasible***. Applicability is generally assumed if a feature exists or is proposed.

Table 2 Completion: Table 2 is not required for Small Residential Projects. Applicants should check the box at the top of the table to confirm it does not apply.

> *Small Residential Projects* are those requiring *either:* a Building Permit, Minor Residential Grading Permit, or Site Plan Permit for a single family home; *or* a Tentative Parcel Map Permit for up to 4 single family homes and a remainder parcel.

All other projects must complete **Table 2** to identify applicable requirements for documenting pollutant-generating sources/ features and source control BMPs.

BMPs must be implemented for **Table 1** and **2** features ***where feasible***. Leaving the box for a BMP unchecked means it will not be implemented (either partially or fully) either because it is inapplicable or infeasible. Explanations must be provided in **Table 3**. Tables 1 and 2 both provide specific instructions on when explanations are required.

⑤ Attachment 5: Existing Site and Drainage Description

Complete **Attachment 5** to provide a description of (1) the existing pre-development condition of the site, and (2) existing and proposed drainage conditions for the site. If required, include a copy of the site Drainage Study with Attachment 5.

⑥ Structural Performance Standards

Determine which Structural Performance Standards apply to the PDP, where they apply, and which compliance strategies you will use to satisfy them. Record your selections in **Table 4** as follows.

Table 4, Part A.1, Selection of Standards: First select the standards that apply to the project.

- *Pollutant control plus hydromodification* — Select if the PDP is not exempt from hydromodification management requirements. It must satisfy both the Pollutant Control Performance Standard (BMPDM Section 2.2) and the Hydromodification Management Performance Standard (BMPDM Section 2.3).
- *Pollutant control only* — Select if the PDP is exempt from hydromodification management requirements per BMPDM Section 6.1. Document the exemption in **Attachment 9**.

Table 4, Part A.2, Application of Standards: Next indicate where on the site the standards apply.

- If this is a **New Development Project**, the standards apply to all impervious surfaces on the site.
- If this is a **Redevelopment Project**, their applicability will depend on the ratio of created or replaced impervious areas to existing impervious areas (see BMPDM Section 1.7). Complete the calculations in the table to determine your obligation. The **percent (%) impervious created or replaced (c)** is determined by dividing the **impervious area created or replaced (b)** by the **existing impervious area (a)** and multiplying the result by 100.
  - **If c is 50% or more**: The standards apply to all impervious surfaces on the site (a + b).
  - **If c is less than 50%**: The standards apply only to created or replaced impervious surfaces (b only).

Table 4, Part B.1: Summary of Required Attachments (1 through 5)

Use this part of the table to summarize which of Attachments 1 through 5 will be included with the SWQMP submittal. If you are completing an **electronic version** of this form, your selections will be automatically recorded based on your previous input. If you are completing a **hard copy** of this form, you must manually select Attachments 3 and 4 as applicable (see pages 4 and 6). Note that Attachments 1,2, and 5 are required for all projects.

Table 4, Part B.2: Selection of Compliance Strategies

Complete Part B.2 to document which compliance options will be used to satisfy the applicable standards for the site. Before doing so, you must determine which option will be used for each DMA. The following four potential design options are presented in detail in BMPDM Chapters 5 and 6.

1. **Self-mitigating DMAs** (BMPDM Section 5.2.1)
2. **De Minimis DMAs** (BMPDM Section 5.2.2)
3. **Self-retaining DMAs** (BMPDM Section 5.2.3)
4. **Structural BMPs**
   - Pollutant Control BMPs (BMPDM Sections 5.4)
   - Hydromodification BMPs (BMPDM Chapter 6)
   - Alternative Compliance Project (BMPDM Section 1.8)

Only one compliance option may be used per individual DMA. Regardless of which option is selected for any DMA, it must fully satisfy the applicable standard(s) determined in Part A.1.

On the left side of Part B, check the applicable boxes for each compliance option to be used.

⑦ Summary of Additional Required Attachments (6 through 12)

You must complete and submit each attachment identified for the compliance options selected. Applicable attachments are listed to the right of each compliance option. If you are completing an **electronic version** of this form, the required attachments for each design option will automatically be selected when you choose the compliance option. As noted above, these selections will also be recorded on the PDP SWQMP Submittal Checklist (Page 1). If you are completing a **hard copy** of this form, you will need to manually check the boxes for each applicable attachment on both pages.

Note that Attachment 9 (Critical Coarse Sediment Yield Areas) is required for all PDPs. If the PDP is exempt from hydromodification requirements, the exemption must be documented in Attachment 9.

⑧ Table 5: Critical Coarse Sediment Yield Area Requirements

Complete **Table 5** to select a compliance pathway for addressing Critical Coarse Sediment Yield Area (CCSYA) requirements for the PDP. See BMPDM Appendix H for additional description of requirements and options. Document Table 5 selections, including hydromodification management exemptions, in **Attachment 9**.

⑨ Tables 6 and 7: Temporary Construction Phase BMPs

Complete **Table 6** to document the minimum construction BMPs to be implemented for the project. Each BMP must be implemented ***where applicable and feasible***. At least one BMP must be selected for each construction activity listed in the table (except Erosion Control for Disturbed Slopes, which requires one BMP per season).

If applicable, use **Table 7** to describe why BMPs not selected in Table 6 are either infeasible or are only partially feasible. Justifications must be provided for all construction activity types for which NO BMPs were selected. If requested by County staff, also justify why specific individual BMPs were not selected.

⑩ Attachment 2: DMA Exhibits and Construction Plans

Exhibits and construction plan sets incorporating all applicable site features, activities, and BMPs identified in **Tables 1, 2, and 6** must be submitted as **Attachment 2 (DMA Exhibits and Construction Plan Sheets)**. See the Attachment 2 cover sheet for additional instructions.

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.*

	a. 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 in Appendix C of the BMP Design Manual 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 in Appendix C of the BMP Design Manual 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 Site Features	There are no existing natural site features.
BMP	SD-G	
Feature	Buffers around water bodies.	There are no existing natural water bodies to protect.
BMP	SD-H	
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]
29,146 s.f.	100,764 s.f.	345.7%

☒ *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)				☐	☐	☐	☐

- *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	Erosion control for disturbed slopes.	Not Applicable. Project does not have any disturbed slopes to be protected.
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:	Bradley Apartment Complex
Record ID (Permit) No(s):	PDS2019-LDGRMJ-30236 & PDS2019-LDPIIP-60071
Assessor's Parcel No(s):	388-331-04, 05, and 06
Street Address (or Intersection):	1065-1069 East Bradley Ave.,
City, State, Zip:	El Cajon, CA 92021
Part 2. Applicant / Project Proponent Information	
Name:	Philip Chodur
Company:	G8 Development, Inc.
Street Address:	7626 El Cajon Blvd.
City, State, Zip:	La Mesa, CA 91942
Phone Number	(619) 823-3402
Email:	pchodur@sbcglobal.net

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)
	33,731	102,568	2.94

Ⓑ	☒ 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)**

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

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

Part 4. Priority Classification & SWQMP Form Selection

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

Part 5. Applicant Signature

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

Applicant / Project Proponent Signature: [signature] Date: 6/14/23

- ***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).

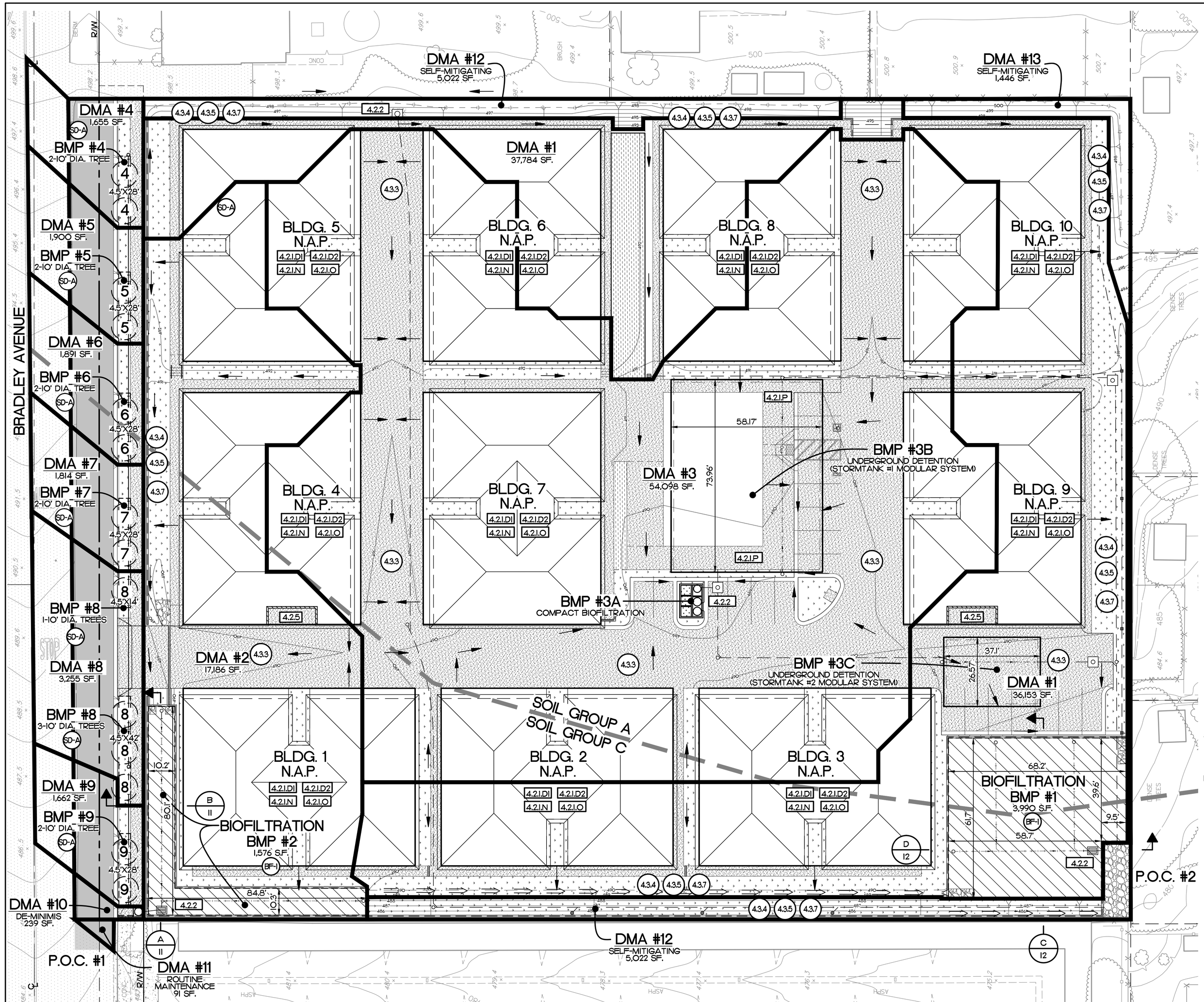
DMA Exhibit ID #:	**PDS2019-LDGRMJ-30236, SHEETS 9**	
A. Features required for all exhibits		
1. Existing Site Features		
☒ Underlying hydrologic soil group (A, B, C, D)	☒ Topography and impervious areas	
☒ Approximate depth to groundwater	☒ Existing drainage network, directions, and offsite connections	
☐ Natural hydrologic features		
2. Drainage Management Area (DMA) Information		
☒ Proposed drainage network, directions, and offsite connections	☒ DMA boundaries, ID numbers, areas, and type (structural BMP, de minimis, etc.)	
3. Proposed Site Changes, Features, and BMPs		
☒ Proposed demolition and grading	☒ Construction BMPs[2]	
☒ Group 1, 2, and 3 Features[1]	☒ Baseline source control BMPs	
☒ Group 4 Features	☒ Baseline source control BMPs	
B. Proposed Features and BMPs Specific to Individual SWQMP Attachments[3]		
☒ Attachment 6	☐ SSD-BMP impervious dispersion areas ☒ SSD-BMP tree wells	
☒ Attachment 7	☒ Structural pollutant control BMPs	
☐ Attachment 8	☐ Structural hydromodification management BMPs ☐ Point(s) of Compliance (POC) for hydromodification management ☐ Proposed drainage boundary and drainage area to each POC	
☒ Attachment 9	☐ Onsite CCSYAs	☐ Bypass of onsite CCSYAs ☒ Bypass of upstream offsite CCSYAs

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

2.2 Individual Structural BMP DMA Mapbook

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

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



PROJECT PERMANENT BMP'S

1. SOURCE CONTROL BMP'S:

- 4.2.1 PREVENT ILLICIT DISHCARGES INTO THE MS4.
- 4.2.2 MARK ALL INLETS WITH THE WORDS "NO DUMPING - DRAINS TO OCEAN" OR SIMILAR LANGUAGE. SEE STENCIL TEMPLATE ON THIS SHEET.
- 4.2.5 PROTECT TRASH STORAGE AREAS FROM RAINFALL, RUN-ON, RUNOFF, AND WIND DISPERSAL. TRASH ENCLOSURES WITH CONCRETE SLAB, SCREENED WALLS, AND DUMPSTERS WITH LIDS.
- 4.2.1 D1 NEED FOR FUTURE INDOOR AND STRUCTURAL PEST CONTROL.
- 4.2.1 D2 LANDSCAPE / OUTDOOR PESTICIDE USE. MAINTAIN LANDSCAPING USING MINIMUM OR NO PESTICIDES.
- 4.2.1 N AIR CONDITIONING CONDENSATE DRAIN LINES SHALL DISCHARGE INTO LANDSCAPE AREAS AND MAY NOT DISCHARGE TO THE STORM DRAIN SYSTEM.
- 4.2.1 O AVOID ROOFING, GUTTERS, AND TRIM MADE OF COPPER OR OTHER UNPROTECTED METALS THAT MAY LEACH INTO RUNOFF.
- 4.2.1 P PLAZAS, SIDEWALKS & PARKING LOTS MUST BE SWEPT REGULARLY.

2. SITE DESIGN BMP'S:

- SD-A TREES PLANTED PER COUNTY OF SAN DIEGO BMP DESIGN MANUAL (SEPT. 2020) BMP FACT SHEET SD-A, FOR THE INTERCEPTION OF RAINFALL AND RUNOFF.
- 4.3.3 MINIMIZE IMPERVIOUS AREAS: PROPOSED MULTI-STORY BUILDING TO REDUCE SIZE OF FOOTPRINT.
- 4.3.4 MINIMIZE SOIL COMPACTION.
- 4.3.5 IMPERVIOUS AREA DISPERSION: DRAIN ROOFTOPS TO ADJACENT LANDSCAPE AREAS.
- 4.3.7 LANDSCAPING WITH NATIVE OR DROUGHT TOLERANT SPECIES.

3. STRUCTURAL BMP'S:

- BF-I BIOFILTRATION BASIN

SELF-MITIGATING DMAs NOTES

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

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

BMP STENCIL PLACEMENT NOTES

A) THE PROPOSED CURB INLETS SHALL HAVE A STENCIL OR TILE PLACED WITH PROHIBITIVE LANGUAGE "NO DUMPING THIS DRAINS TO OCEAN" AND/OR GRAPHICAL ICONS TO DISCOURAGE ILLEGAL DUMPING.

B) 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.

LEGEND

- DMA BOUNDARY
- DIRECTION OF FLOW
- PERVIOUS AREA (LANDSCAPE)
- IMPERVIOUS AREA (CONCRETE)
- IMPERVIOUS AREA (ASPHALT)
- PERVIOUS AREA (D.G.)
- IMPERVIOUS AREA (ROOF TOP)
- DMA I.D. — DMA #1
- BIOFILTRATION BASIN (BF-1)
- UNDERGROUND DETENTION (STORMTANK SYSTEM)
- BIOFILTRATION BASIN (MODULAR WETLANDS SYSTEM)
- STORM DRAIN CLEANOUT
- PVC SDR-35 STORM DRAIN PIPE
- DRAINAGE DITCH
- TREE WELL (SD-A) — 4
- AMENDED SOIL LIMITS

NOTES

1. SITE IS LOCATED WITHIN LAKE WOHLFORD RAIN GAUGE BASIN.
2. UNDERLYING HYDROLOGIC SOIL GROUPS A & C.
3. SITE IS RELATIVELY FLAT.
4. GROUNDWATER DEPTH IS UNKNOWN.
5. BASED ON WMAA MAPS CRITICAL COARSE SEDIMENT YIELD AREAS (CCSYAS) WERE NOT IDENTIFIED WITHIN PROJECT FOOTPRINT OR UPSTREAM AREAS DRAINING THROUGH THE PROJECT FOOTPRINT.
6. PROPOSED STRUCTURAL AND SIGNIFICANT SITE DESIGN BMP'S FOR POLLUTANT CONTROL CONSIST OF THE FOLLOWING: 2 BIOFILTRATION BASINS (BF-1), 6 TREE WELLS (SD-A), AND 2 PROPRIETARY BIOFILTRATION BASIN (MODULAR WETLANDS SYSTEM).
7. COUNTY OF SAN DIEGO'S 85TH PERCENTILE ISOPLUVIAL MAP WAS UTILIZED FOR SIZING STRUCTURAL BMPS TO COMPLY WITH TREATMENT CONTROL REQUIREMENTS P_{85TH} = 0.49 INCH.

TREE WELL NOTE

FOR TREE WELL CONSTRUCTION DETAILS AND SPECIFICATIONS REFER TO COUNTY OF SAN DIEGO IMPROVEMENT PLANS FOR BRADLEY AVENUE WIDENING DRAWING NO. PDS2019-LDPIIP-50071.

HYDROMODIFICATION MANAGEMENT EXEMPTION

THIS PROJECT IS EXEMPT FROM HYDROMODIFICATION MANAGEMENT REQUIREMENTS SINCE IT WILL DISCHARGE RUNOFF DIRECTLY TO FORESTER CREEK WHICH IS AN AREA IDENTIFIED IN THE WATERSHED MANAGEMENT AREA ANALYSIS (WMAA). THE WMAA HAS SHOWN THAT FUTURE INCREASES IN IMPERVIOUS AREAS WITHIN THE WATERSHED ARE NOT EXPECTED TO INCREASE THE EROSION POTENTIAL IN FORESTER CREEK.

SEE POST-CONSTRUCTION BMP FACILITY SUMMARY TABLE AND DRAINAGE MANAGEMENT AREAS TABLE ON SHEET 11

RECORD PLAN

BY: _____ DATE: _____

PRIVATE CONTRACT

SHEET	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	27 SHEETS
10		

DMA EXHIBIT / BMP PLAN FOR:

BRADLEY APARTMENT COMPLEX

CALIFORNIA COORDINATE INDEX 238-1785

APPROVED: FOR WILLIAM P. MORGAN COUNTY ENGINEER

BY: _____ DATE

ENGINEER OF WORK

WILLIAM A. SNIPES R.C.E. 50477

PDS2019-LDGRMJ-30236

ENGINEER OF WORK
Snipes-Dye associates
civil engineers and land surveyors
8348 CENTER DRIVE, STE. G, LA MESA, CA 91942
TELEPHONE (619) 697-9234 FAX (619) 460-2033
WILLIAM A. SNIPES R.C.E. 50477
EXPIRES 06-30-25

REGISTERED PROFESSIONAL ENGINEER — WILLIAM A. SNIPES — No. 50477 — Exp. 06-30-25 — STATE OF CALIFORNIA — CIVIL

COUNTY APPROVED CHANGES

No.	Description	Approved by	Date

BENCH MARK

DESCRIPTION: STANDARD BENCHMARK # 91

LOCATION: TOP OF CURB, N END CB RETURN AT NW CORNER GRETA STREET AND FIRST STREET

RECORD FROM: CITY OF EL CAJON

ELEVATION: 515.161 DATUM: NAVD 88

ENGINEER'S NAME - SNIPES-DYE ASSOCIATES
PHONE NO. (619) 697-9234

HWD RMB20032

POST-CONSTRUCTION BMP FACILITY SUMMARY TABLE

BMP ID	BMP TYPE	APPROX. DIMENSIONS	PLAN AREA (SF)	PONDING SURFACE DEPTH (IN.)	MEDIA THICKNESS (IN.)	MULCH LAYER (IN.)	ASTM 3.3 WASHED SAND (IN.)	AGGREGATE STORAGE LAYER ABOVE UNDERDRAIN, INCL. 3" ASTM NO. 8 STONE (IN.)	AGGREGATE STORAGE LAYER BELOW UNDERDRAIN (IN.)	TOTAL FACILITY DEPTH INCL. 1'-2" FREEBOARD (FT)
BMP #1	BIOFILTRATION BASIN (BF-1)	40' W X 58' L	3,990	6	18	3	3	12	3	4.92
BMP #2	BIOFILTRATION BASIN (BF-1)	10' W X 158' L	1,576	6	18	3	3	12	3	4.92

BMP ID	BMP TYPE	REQUIRED TREATMENT (CFS)	PROVIDED TREATMENT (CFS)	MODULAR WETLANDS SYSTEM MODEL
BMP #3A	COMPACT BIOFILTRATION (BF-3)	0.318	0.375	MWS-L-8-12-4'-11"-C-HC

BMP ID	BMP TYPE	APPROX. DIMENSIONS	REQUIRED VOLUME (CF)	PROPOSED BMP VOLUME (CF)
BMP #3B	CISTERN BMP (STORMTANK MODULES)	56.5' W X 72' L X 3' D	12,870	12,871

BMP ID	BMP TYPE	# OF TREES	CANOPY DIA. OF TREE (FT.)	TREATMENT VOLUME PROVIDED (CF)	AMENDED SOIL LIMITS FOOTPRINT	DEPTH (INCL. 3" MULCH LAYER & 6" SAND AT BOTTOM - FOR SOIL TYPE C)	NOTES
BMP #4	TREE WELLS (SD-A)	2	10	80	4.5' x 28'	2'-9"	FOR TREE WELL CONSTRUCTION SPECIFICATIONS & DETAILS REFER TO COUNTY IMPROVEMENT PLANS NO. PDS2019-LDPIIP-60071 AND LANDSCAPE PLANS NO. PDS2020-LP-20-088.
BMP #5	TREE WELLS (SD-A)	2	10	80	4.5' x 28'	2'-9"	FOR TREE WELL CONSTRUCTION SPECIFICATIONS & DETAILS REFER TO COUNTY IMPROVEMENT PLANS NO. PDS2019-LDPIIP-60071 AND LANDSCAPE PLANS NO. PDS2020-LP-20-088.
BMP #6	TREE WELLS (SD-A)	2	10	80	4.5' x 28'	3'-3"	FOR TREE WELL CONSTRUCTION SPECIFICATIONS & DETAILS REFER TO COUNTY IMPROVEMENT PLANS NO. PDS2019-LDPIIP-60071 AND LANDSCAPE PLANS NO. PDS2020-LP-20-088.
BMP #7	TREE WELLS (SD-A)	2	10	80	4.5' x 28'	3'-3"	FOR TREE WELL CONSTRUCTION SPECIFICATIONS & DETAILS REFER TO COUNTY IMPROVEMENT PLANS NO. PDS2019-LDPIIP-60071 AND LANDSCAPE PLANS NO. PDS2020-LP-20-088.
BMP #8	TREE WELLS (SD-A)	4	10	160	4.5' X 56'	3'-3"	FOR TREE WELL CONSTRUCTION SPECIFICATIONS & DETAILS REFER TO COUNTY IMPROVEMENT PLANS NO. PDS2019-LDPIIP-60071 AND LANDSCAPE PLANS NO. PDS2020-LP-20-088.
BMP #9	TREE WELLS (SD-A)	2	10	80	4.5' x 28'	3'-3"	FOR TREE WELL CONSTRUCTION SPECIFICATIONS & DETAILS REFER TO COUNTY IMPROVEMENT PLANS NO. PDS2019-LDPIIP-60071 AND LANDSCAPE PLANS NO. PDS2020-LP-20-088.

DRAINAGE MANAGEMENT AREAS - BRADLEY APARTMENTS

DESCRIPTION	TRIBUTARY TO BMP	BMP TYPE	BMP SURFACE AREA (SF)	SOIL TYPE	DEPTH TO GROUNDWATER	PRE-PROJECT SLOPE	IMPERVIOUS DMAs			PERVIOUS DMAs		TOTAL DMA AREA	TOTAL DISTURBED AREA
							POST-PROJECT SURFACE TYPE IMPERVIOUS	POST-PROJECT SURFACE AREA IMPERVIOUS (SF)	OFF-SITE SURFACE AREA	POST-PROJECT SURFACE TYPE PERVIOUS	POST-PROJECT SURFACE AREA PERVIOUS (SF)		
DMA #1	BMP #1	BIOFILTRATION BASIN (BF-1)	3,990	A & C	> 20 FEET	FLAT (0%-5%)	ROOFTOPS & CONCRETE PAVEMENT	29,991	-	LANDSCAPING	6,162		
DMA #2	BMP #2	BIOFILTRATION BASIN (BF-1)	1,576	A & C	> 20 FEET	FLAT (0%-5%)	ROOFTOPS & CONCRETE PAVEMENT	14,080	-	LANDSCAPING	3,106		
DMA #3	BMP #3A/3B	COMPACT BIOFILTRATION (BF-1) W/ CISTERN (HU-1)	N/A	A & C	> 20 FEET	FLAT (0%-5%)	ROOFTOPS & CONCRETE PAVEMENT	50,901	-	LANDSCAPING	3,197		
DMA #4	BMP #4	TREE WELL (SD-A)	126	A	> 20 FEET	FLAT (0%-5%)	AC PAVEMENT	1,059	520	LANDSCAPING	76		
DMA #5	BMP #5	TREE WELL (SD-A)	126	A	> 20 FEET	FLAT (0%-5%)	AC PAVEMENT	1,080	744	LANDSCAPING	76		
DMA #6	BMP #6	TREE WELL (SD-A)	126	A & C	> 20 FEET	FLAT (0%-5%)	AC PAVEMENT	1,133	716	LANDSCAPING	42		
DMA #7	BMP #7	TREE WELL (SD-A)	126	C	> 20 FEET	FLAT (0%-5%)	AC PAVEMENT	1,049	693	LANDSCAPING	72		
DMA #8	BMP #8	TREE WELL (SD-A)	252	C	> 20 FEET	FLAT (0%-5%)	AC PAVEMENT	1,954	1,299	LANDSCAPING	2		
DMA #9	BMP #9	TREE WELL (SD-A)	126	C	> 20 FEET	FLAT (0%-5%)	AC PAVEMENT	991	613	LANDSCAPING	58		
DMA #10	DE-MINIMIS	DE-MINIMIS	N/A	C	> 20 FEET	FLAT (0%-5%)	AC/CONC. PAVEMENT	239	-	LANDSCAPING	0		
DMA #11	EXEMPT	ROUTINE MAINTENANCE ACTIVITIES	N/A	C	> 20 FEET	FLAT (0%-5%)	AC PAVEMENT	91	-	LANDSCAPING	0		
DMA #12	SELF-MITIGATING	SELF-MITIGATING	N/A	C	> 20 FEET	FLAT (0%-5%)	N/A	0	-	LANDSCAPING	5,022		
DMA #13	SELF-MITIGATING	SELF-MITIGATING	N/A	C	> 20 FEET	FLAT (0%-5%)	N/A	0	-	LANDSCAPING	1,446		
TOTAL AREA (SF)			4,782					102,568	4,585		20,925	132,860	128,275

RECORD PLAN

BY: _____ DATE: _____

PRIVATE CONTRACT

SHEET 11 | COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS | 27 SHEETS

DMA EXHIBIT / BMP PLAN FOR:

BRADLEY APARTMENT COMPLEX

CALIFORNIA COORDINATE INDEX 238-1785

ENGINEER OF WORK

Snipes-Dye associates

civil engineers and land surveyors

8348 CENTER DRIVE, STE. G, LA MESA, CA 91942

TELEPHONE (619) 697-9234 FAX (619) 460-2033

WILLIAM A. SNIPES R.C.E. 50477

EXPIRES 06-30-25

REGISTERED PROFESSIONAL ENGINEER · WILLIAM A. SNIPES · No. 50477 · Exp. 06-30-25 · CIVIL · STATE OF CALIFORNIA

COUNTY APPROVED CHANGES

No.	Description	Approved by	Date

BENCH MARK

DESCRIPTION: STANDARD BENCHMARK # 91

LOCATION: TOP OF CURB, N END CB RETURN AT NW CORNER GRETA STREET AND FIRST STREET

RECORD FROM: CITY OF EL CAJON

ELEVATION: 515.161 DATUM: NAVD 88

APPROVED: FOR WILLIAM P. MORGAN COUNTY ENGINEER

BY: _____ DATE

ENGINEER OF WORK

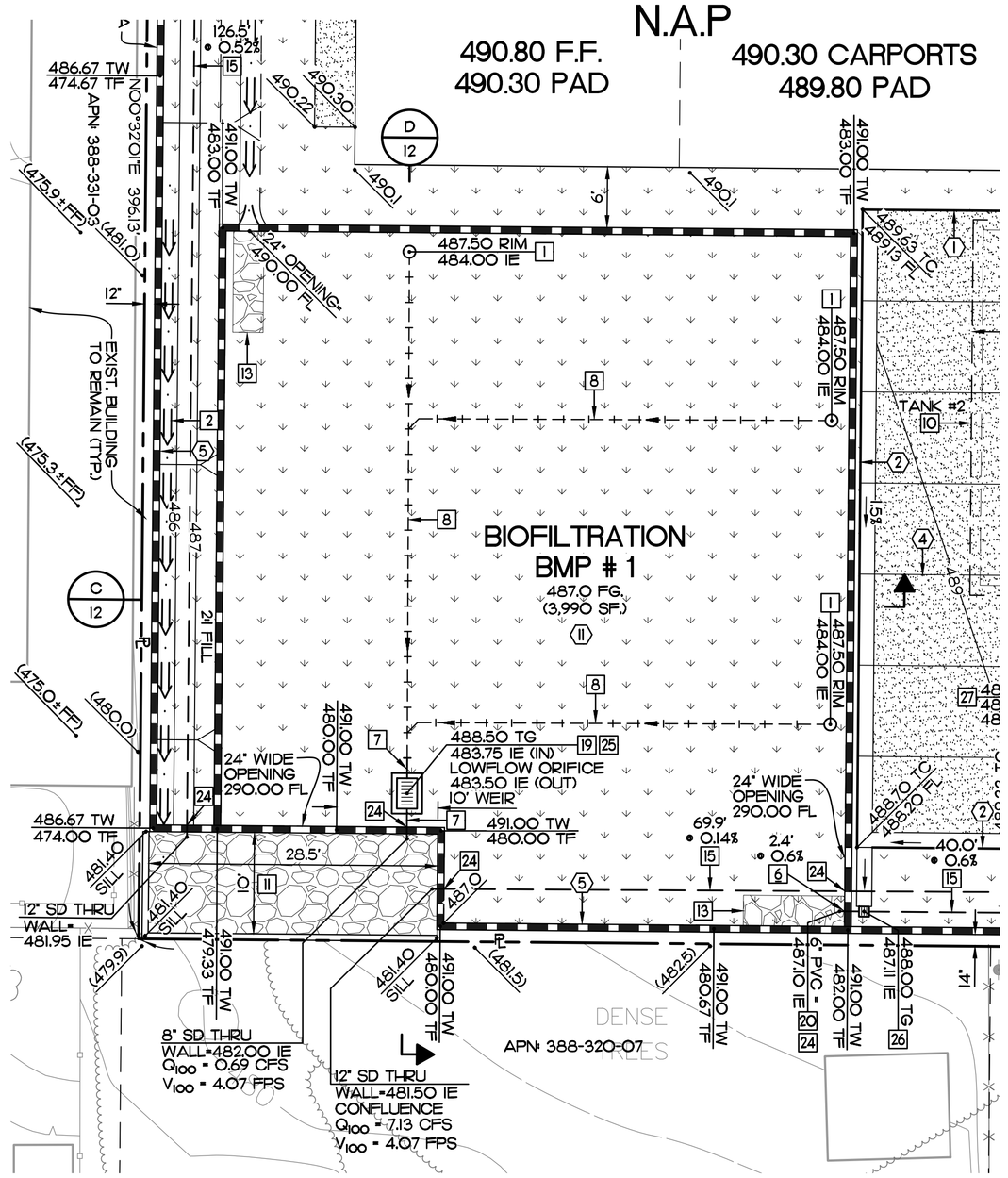
WILLIAM A. SNIPES R.C.E. 50477

PDS2019-LDGRMJ-30236

ENGINEER'S NAME - SNIPES-DYE ASSOCIATES

PHONE NO. (619) 697-9234

HWD RMB20032



KEY NOTES

PVT. IMPROVEMENTS

(1) PVT. 6" CURB PER SDRSD G-1 (TYP.).

(2) PVT. 6" CURB/GUTTER TYPE G PER SDRSD G-2 (TYP.).

(4) STRIPING PER BUILDING PLANS.

(5) RETAINING WALL PLAN/PROFILE PER SHT'S 24-27.

(11) ALL PROPOSED VEGETATION TO BE CONSTRUCTED/INSTALLED WITHIN BIOFILTRATION BASIN AND TREE WELLS SHALL BE CONFORMANCE WITH APPROVED LANDSCAPE AND IRRIGATION PLAN NO. PDS2020-LP-20-088, AND SHALL BE INCLUDED IN PROJECT SWQMP.

PVT. STORM DRAIN

[1] PVT. STORM DRAIN CLEANOUT PER DETAIL 1 ON SHT. 2.

[2] PVT. DRAINAGE DITCH TYPE D PER SDRSD D-75 (TYP.).

[6] PVT. 6" PVC SDR-35 PER SDRSD D-60.

[7] PVT. 8" PVC SDR-35 PER SDRSD D-60.

[8] PVT. 8" PVC SDR-35 PERFORATED PIPE.

[10] PVT. BRENTWOOD STORMTANK #2 SYSTEM (LAYFIELD) PER DETAILS ON SHT'S 15-23.

[11] PVT. NO. 2 BACKING (10'X28.5'X1.1' THICK) ROCK RIP-RAP PER SDRSD D-40, TYPE 2.

[13] PVT. 3'-6" ROCKS (3'X10'X0.7' THICK).

[15] PVT. 12" PVC SDR-35 PER SDRSD D-60.

[19] MARK ALL INLETS WITH THE WORDS "NO DUMPING-DRAINS TO WATERWAYS" OR SIMILAR. SEE STENCIL TEMPLATE ON SHT. 10.

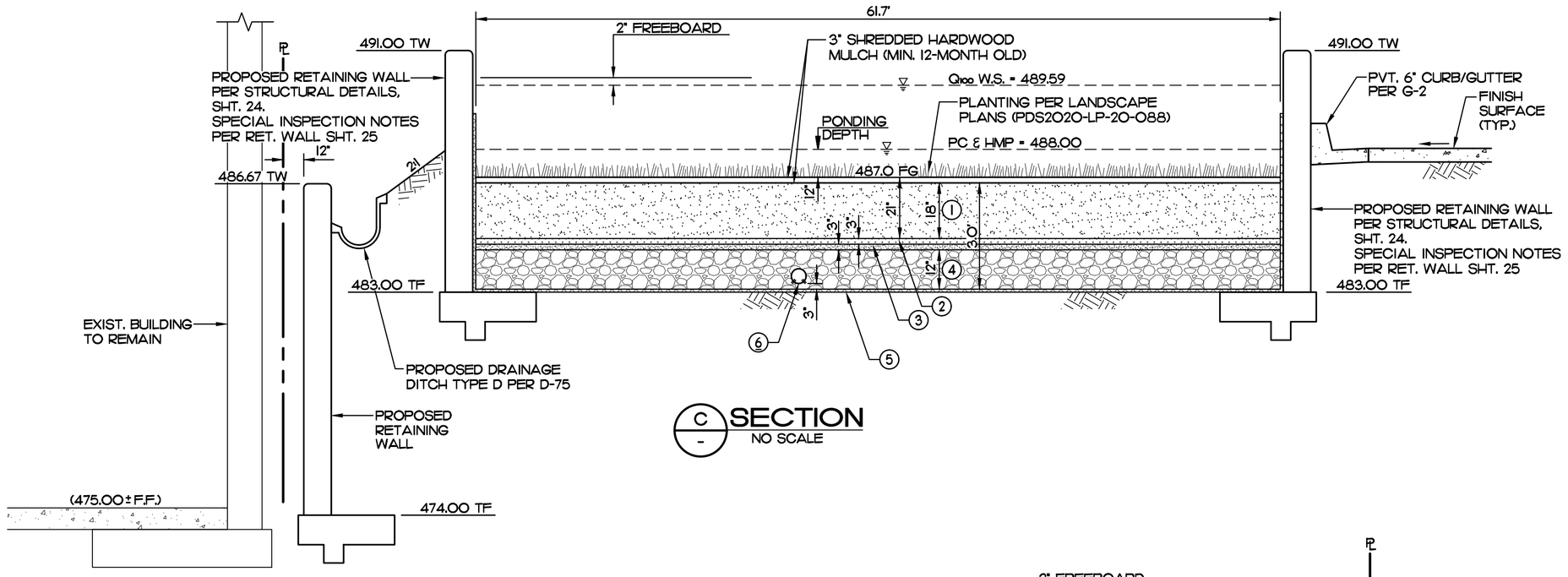
[24] STORM DRAIN PIPE THRU STEM/ FOOTING PER DETAIL 3, SHT. 14.

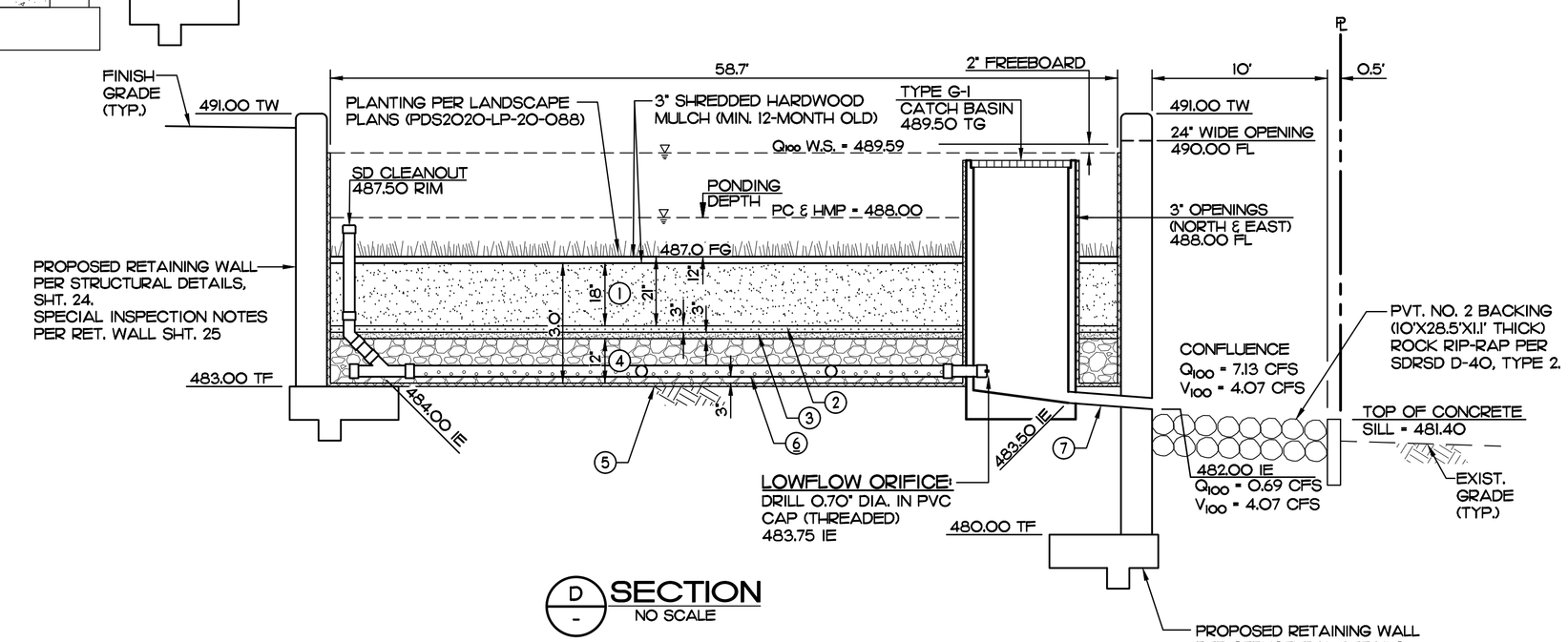
[25] PVT. CATCH BASIN TYPE G-1 PER SDRSD D-08.

[27] STORM DRAIN CLEANOUT TYPE A PER SDRSD D-09 W/ WEIR & 1" LOWFLOW ORIFICE. SEE DETAIL 5, SHT. 14.

WALL ELEVATIONS ARE FOR INFORMATIONAL PURPOSES ONLY. SEE WALL PLAN/PROFILE SHT'S. 24-27.

PERMANENT POST-CONSTRUCTION BMP DEVICES (BIOFILTRATION BASIN) SHOWN ON THESE PLANS SHALL NOT BE REMOVED OR MODIFIED WITHOUT THE APPROVAL OF THE COUNTY OF SAN DIEGO.





NOTE:

ALL PROPOSED VEGETATION TO BE CONSTRUCTED/INSTALLED WITHIN BIOFILTRATION BASIN AND TREE WELLS SHALL BE CONFORMANCE WITH APPROVED LANDSCAPE AND IRRIGATION PLAN NO. PDS2020-LP-20-088, AND SHALL BE INCLUDED IN PROJECT SWQMP.

KEY NOTES

(1) BIORETENTION SOIL MEDIA (BSM) (5in/hr MIN. PERCOLATION RATE) PER BSM MIXTURE RIGHT.

(2) 3" CLEAN ε WASHED ASTMC 33 FINE AGGREGATE SAND.

(3) 3" LAYER WASHED ASTM 8 STONE.

(4) CLASS 2 PERMEABLE MATERIAL PER CALTRANS 68-2.02F(3).

(5) IMPERMEABLE LINER (30 MIL PVC GEOMEMBRANE BY EPI OR APPROVED EQUAL) PER MANUFACTURER'S SPECIFICATIONS.

(6) 8" PVC PERFORATED PIPE • 0.5% SLOPE.

(7) 8" PVC SDR-35 • 0.5% SLOPE.

BSM MIXTURE[2]

BMP COMPOSITION	SAND	SANDY LOAM			COMPOST
		SAND	SILT	CLAY	
VOLUME	65%	20%			15%
WEIGHT	85% - 90%	10% MAX.	5% MAX.		9% MAX.[1]

1. [1] 9% COMPOST BY WEIGHT SHOULD PRIMARILY FALL INTO SAND COMPONENT (SEE COMPOST GRADATION LIMITS RIGHT (ASTM D422 OR APPROVED EQUAL) AND SHOULD RESULT IN APPROXIMATELY 2%-5% ORGANIC MATTER BY WEIGHT.
2. EXTRACTABLE NUTRIENT: PHOSPHORUS SHOULD BE 15% MAX. MG/KG DRY WEIGHT.
3. FOR BSM SPECIFICATIONS, SEE APPENDIX G IN COUNTY OF SAN DIEGO LID MANUAL (JULY, 2014) AND APPENDIX F.2 OF THE COUNTY OF SAN DIEGO 2020 BMP DESIGN MANUAL.

COMPOST GRADATION

SIEVE SIZE	PERCENT PASSING (BY WEIGHT)	
	MIN.	MAX.
1/2 INCH.	97	100
NO. 200	0	5

SECTION - BIOFILTRATION #1

RECORD PLAN

BY: _____ DATE: _____

ENGINEER OF WORK

Snipes-Dye associates
civil engineers and land surveyors
8348 CENTER DRIVE, STE. G, LA MESA, CA 91942
TELEPHONE (619) 697-9234 FAX (619) 460-2033

WILLIAM A. SNIPES R.C.E. 50477
EXPIRES 06-30-25

REGISTERED PROFESSIONAL ENGINEER · WILLIAM A. SNIPES · No. 50477 · Exp. 06-30-25 · CIVIL · STATE OF CALIFORNIA

COUNTY APPROVED CHANGES			
No.	Description	Approved by	Date

BENCH MARK

DESCRIPTION: STANDARD BENCHMARK # 91

LOCATION: TOP OF CURB, N END CB RETURN AT NW CORNER GRETA STREET AND FIRST STREET

RECORD FROM: CITY OF EL CAJON

ELEVATION: 515.161 DATUM: NAVD 88

PRIVATE CONTRACT

SHEET 12 | COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS | 27 SHEETS

BMP SECTIONS FOR:

BRADLEY APARTMENT COMPLEX

CALIFORNIA COORDINATE INDEX 238-1785

APPROVED: FOR WILLIAM P. MORGAN COUNTY ENGINEER

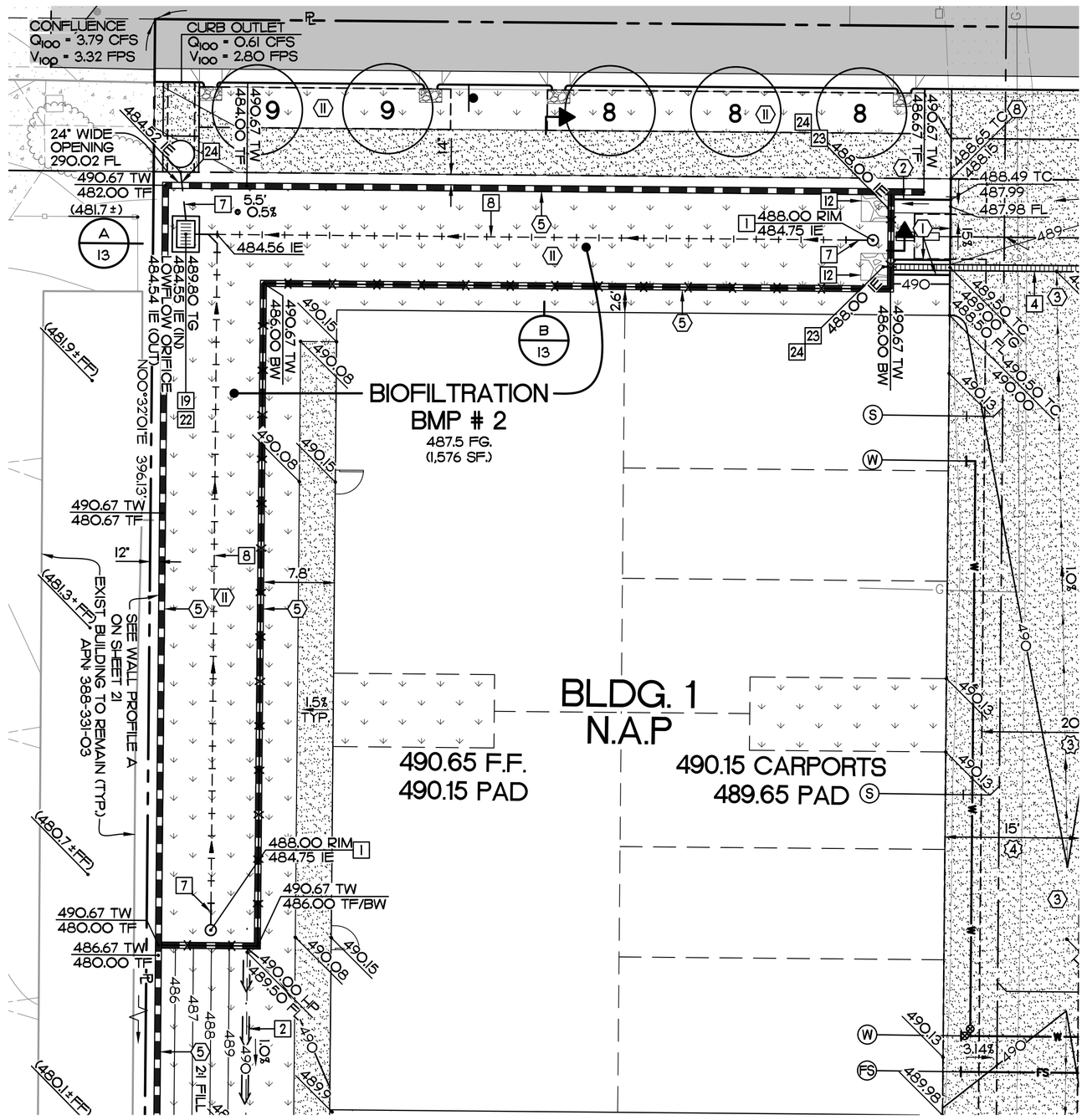
BY: _____ DATE

ENGINEER OF WORK
WILLIAM A. SNIPES R.C.E. 50477

PDS2019-LDGRMJ-30236

ENGINEER'S NAME - SNIPES-DYE ASSOCIATES
PHONE NO. (619) 697-9234

HWD RMB20032



WALL ELEVATIONS ARE FOR INFORMATIONAL PURPOSES ONLY.
SEE WALL PLAN/PROFILE SHT'S. 24-27.

PERMANENT POST-CONSTRUCTION BMP DEVICES (BIOFILTRATION BASIN) SHOWN ON THESE PLANS SHALL NOT BE REMOVED OR MODIFIED WITHOUT THE APPROVAL OF THE COUNTY OF SAN DIEGO.

KEY NOTES

PVT. IMPROVEMENTS

(1) PVT. 6" CURB PER SDRSD G-1 (TYP.).

(2) PVT. 6" CURB/GUTTER TYPE G PER SDRSD G-2 (TYP.).

(3) 6.5" CONCRETE (560-C-3550) PAVEMENT W/ #4 REBARS @ 18" O.C., BOTH DIRECTIONS.

(5) RETAINING WALL PLAN/PROFILE PER SHT'S 22-25.

(8) PVT. TOP OF CURB TRANSITION PER DETAIL 2, SHT. 2.

(11) ALL PROPOSED VEGETATION TO BE CONSTRUCTED/INSTALLED WITHIN BIOFILTRATION BASIN AND TREE WELLS SHALL BE CONFORMANCE WITH APPROVED LANDSCAPE AND IRRIGATION PLAN NO. PDS2020-LP-20-088, AND SHALL BE INCLUDED IN PROJECT SWQMP.

PVT. STORM DRAIN

[1] PVT. STORM DRAIN CLEANOUT PER DETAIL 1 ON SHT. 2.

[2] PVT. DRAINAGE DITCH TYPE D PER SDRSD D-75 (TYP.).

[4] PVT. 4" TRENCH DRAIN PER DETAIL 3, SHT. 2.

[7] PVT. 8" PVC SDR-35 PER SDRSD D-60.

[8] PVT. 8" PVC SDR-35 PERFORATED PIPE.

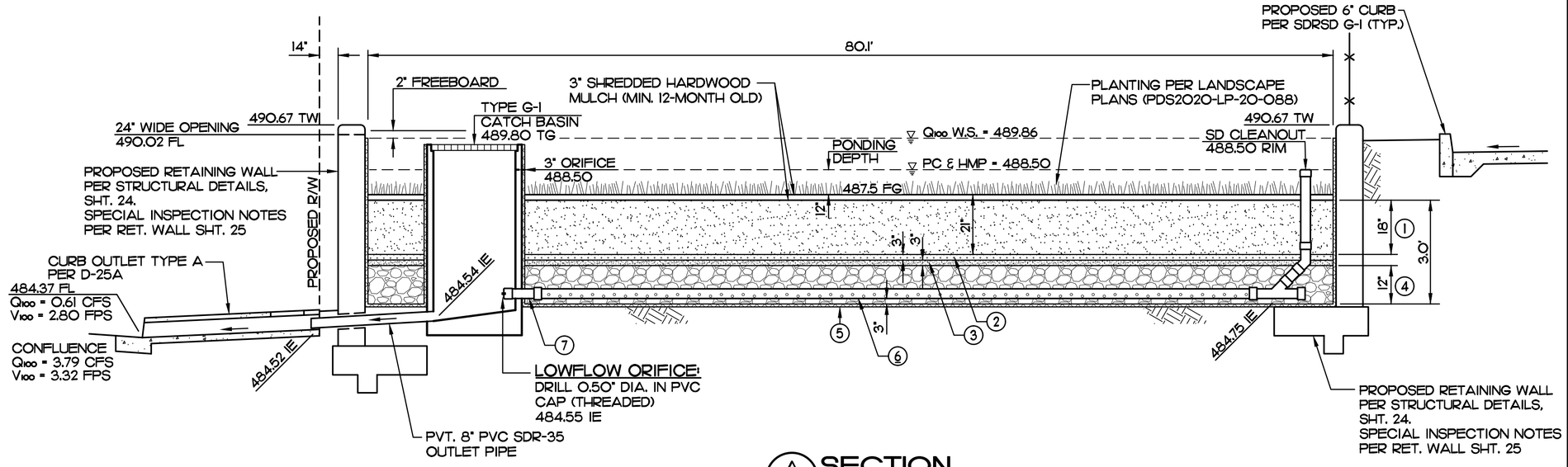
[12] PVT. 3'-6" ROCKS (3'X3'X0.7' THICK).

[19] MARK ALL INLETS WITH THE WORDS 'NO DUMPING-DRAINS TO WATERWAYS' OR SIMILAR. SEE STENCIL TEMPLATE ON SHT. 10.

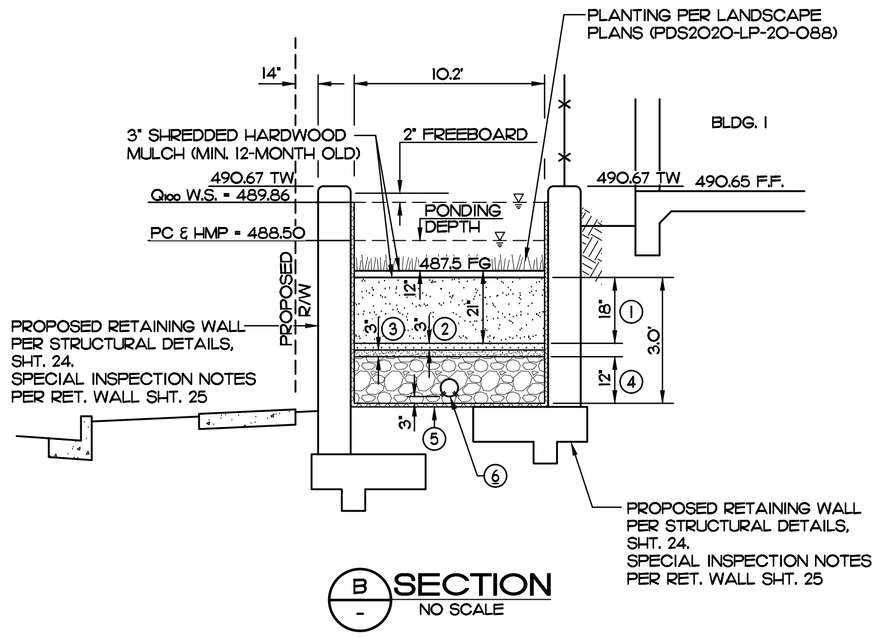
[22] PVT. CATCH BASIN TYPE G-1 PER SDRSD D-08.

[23] 6" SLEEVE W/ BACK WATER CHECK VALVE (CCV 2-HG SOLUTIONS) PER DETAIL 2, SHT. 14.

[24] STORM DRAIN PIPE THRU STEM/ FOOTING PER DETAIL 3, SHT. 14.



A — SECTION
NO SCALE



B — SECTION
NO SCALE

KEY NOTES

(1) BIORETENTION SOIL MEDIA (BSM) (5in/hr MIN. PERCOLATION RATE) PER BSM MIXTURE RIGHT.

(2) 3" CLEAN & WASHED ASTMC 33 FINE AGGREGATE SAND.

(3) 3" LAYER WASHED ASTM 8 STONE.

(4) CLASS 2 PERMEABLE MATERIAL PER CALTRANS 68-2.02F(3).

(5) IMPERMEABLE LINER (30 MIL PVC GEOMEMBRANE BY EPI OR APPROVED EQUAL) PER MANUFACTURER'S SPECIFICATIONS.

(6) 8" PVC PERFORATED PIPE @ 0.5% SLOPE.

(7) 8" PVC SDR-35 @ 0.5% SLOPE.

NOTE:

ALL PROPOSED VEGETATION TO BE CONSTRUCTED/INSTALLED WITHIN BIOFILTRATION BASIN AND TREE WELLS SHALL BE CONFORMANCE WITH APPROVED LANDSCAPE AND IRRIGATION PLAN NO. PDS2020-LP-20-088, AND SHALL BE INCLUDED IN PROJECT SWQMP.

BSM MIXTURE[23]					
BMP COMPOSITION	SAND	SANDY LOAM			COMPOST
		SAND	SILT	CLAY	
VOLUME	65%	20%			15%
WEIGHT	85% - 90%	10% MAX.		5% MAX.	9% MAX.[1]

1. '9% COMPOST BY WEIGHT SHOULD PRIMARILY FALL INTO SAND COMPONENT (SEE COMPOST GRADATION LIMITS RIGHT (ASTM D422 OR APPROVED EQUAL) AND SHOULD RESULT IN APPROXIMATELY 2%-5% ORGANIC MATTER BY WEIGHT.
2. EXTRACTABLE NUTRIENT: PHOSPHORUS SHOULD BE 15% MAX. MG/KG DRY WEIGHT.
3. FOR BSM SPECIFICATIONS, SEE APPENDIX G IN COUNTY OF SAN DIEGO LID MANUAL (JULY, 2014) AND APPENDIX F.2 OF THE COUNTY OF SAN DIEGO 2020 BMP DESIGN MANUAL.

COMPOST GRADATION		
SIEVE SIZE	PERCENT PASSING (BY WEIGHT)	
	MIN.	MAX.
1/2 INCH	97	100
NO. 200	0	5

SECTION - BIOFILTRATION #2

N

10 5 0 10 20 30
SCALE: 1"=10'

RECORD PLAN

BY: _____ DATE: _____

ENGINEER OF WORK
Snipes-Dye associates
civil engineers and land surveyors
8348 CENTER DRIVE, STE. G, LA MESA, CA 91942
TELEPHONE (619) 697-9234 FAX (619) 460-2033
WILLIAM A. SNIPES R.C.E. 50477
EXPIRES 06-30-25

REGISTERED PROFESSIONAL ENGINEER · WILLIAM A. SNIPES · No. 50477 · Exp. 06-30-25 · CIVIL · STATE OF CALIFORNIA

COUNTY APPROVED CHANGES			
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PRIVATE CONTRACT

SHEET	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	SHEETS
13		27

BMP SECTIONS FOR:

BRADLEY APARTMENT COMPLEX

CALIFORNIA COORDINATE INDEX 238-1785

APPROVED: FOR WILLIAM P. MORGAN COUNTY ENGINEER

BY: _____ DATE

ENGINEER OF WORK
WILLIAM A. SNIPES R.C.E. 50477

PDS2019-LDGRMJ-30236

HWD RMB20032

ENGINEER'S NAME - SNIPES-DYE ASSOCIATES
PHONE NO. (619) 697-9234

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 AND IMPROVEMENT 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

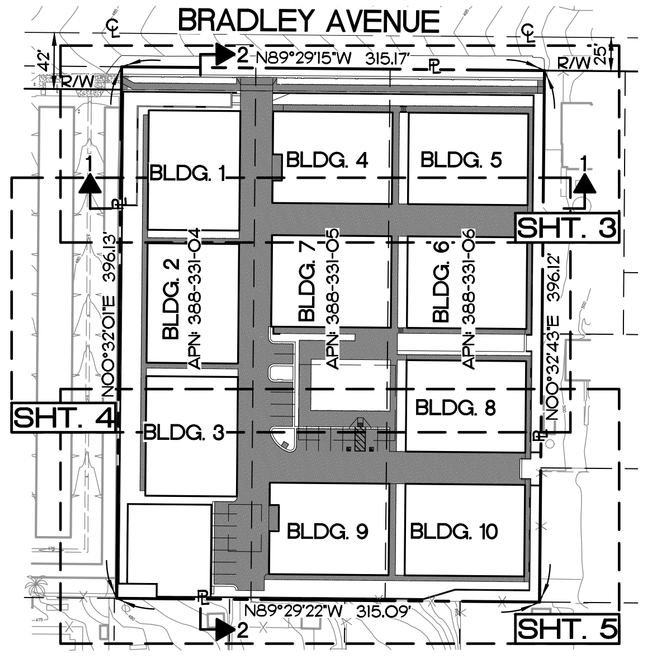
GRADING PLAN FOR BRADLEY APARTMENT COMPLEX

GENERAL NOTES

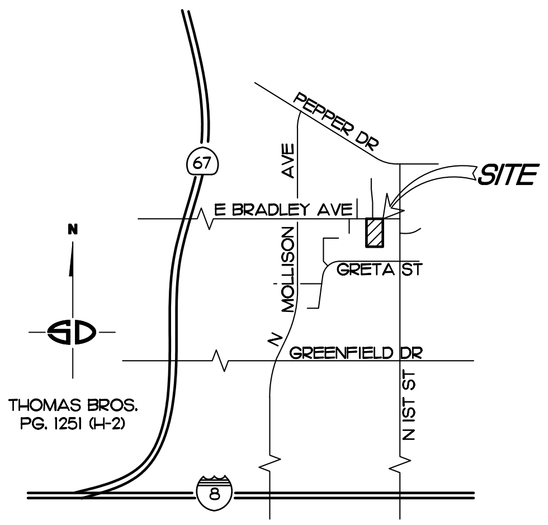
1. APPROVAL OF THIS GRADING PLAN DOES NOT CONSTITUTE APPROVAL OF VERTICAL OR HORIZONTAL ALIGNMENT OF ANY PRIVATE ROAD SHOWN HEREON FOR COUNTY ROAD PURPOSES.
2. FINAL APPROVAL OF THESE GRADING PLANS IS SUBJECT TO FINAL APPROVAL OF THE ASSOCIATED IMPROVEMENT PLANS WHERE APPLICABLE. FINAL CURB GRADE ELEVATIONS 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 AND ELECTRIC	1-800-422-4133
AT&T	1-800-422-4133
HELIX WATER DISTRICT	1-619-446-0585

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 WORK'S 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 (SECTION 87.403 & 87.410). ANY SUCH WAIVER MUST BE OBTAINED FROM THE DIRECTOR OF PLANNING AND DEVELOPMENT SERVICES.
10. ALL OPERATIONS CONDUCTED ON THE PREMISES, INCLUDING THE WARMING UP, REPAIR, ARRIVAL, DEPARTURE OR RUNNING OF TRUCKS, EARTH-MOVING EQUIPMENT, CONSTRUCTION EQUIPMENT AND ANY OTHER ASSOCIATED GRADING EQUIPMENT SHALL BE LIMITED TO THE PERIOD BETWEEN 7:00AM AND 6:00PM EACH DAY, MONDAY THROUGH 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:
    CUT - 1 1/2:1 FOR MINOR SLOPES (SLOPES < 15'), 2:1 FOR MAJOR SLOPES
    FILL - 2:1
    EXCAVATION: 7,500 C.Y. FILL: 7,500 C.Y. IMPORT/EXPORT: 0 C.Y.
    (NOTE: A SEPARATE VALID PERMIT MUST EXIST FOR EITHER WASTE OR IMPORT AREAS BEFORE PERMIT TO BE ISSUED).
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. PERMANENT POST-CONSTRUCTION BMP DEVICES SHOWN ON PLAN SHALL NOT BE REMOVED OR MODIFIED WITHOUT THE APPROVAL FROM THE DEPARTMENT OF PUBLIC WORKS.
16. THE APPLICANT IS RESPONSIBLE FOR THE ROAD MAINTENANCE (SWEEPING AS NECESSARY) AND REPAIRS OF ANY DAMAGE CAUSED BY THEM TO THE ON-SITE AND OFF-SITE COUNTY MAINTAINED OR PRIVATE ROADS THAT SERVE THE PROPERTY EITHER DURING CONSTRUCTION OR SUBSEQUENT OPERATIONS. THE APPLICANT WILL REPAIR THOSE PORTIONS OF THE ROUTE THAT WOULD BE DAMAGED BY THE HEAVY LOADS THAT LOADED TRUCKS PLACE ON THE ROUTE IDENTIFIED.
17. FINAL APPROVAL OF THIS GRADING PLAN IS SUBJECT TO FINAL APPROVAL OF THE ASSOCIATED IMPROVEMENT PLANS WHERE APPLICABLE. FINAL CURB GRADE ELEVATIONS MAY REQUIRE CHANGE TO THESE PLANS.
18. THE ENGINEER-OF-WORK SHALL COMPLY WITH ALL PROJECT APPLICABLE LAWS THAT INCLUDE, BUT ARE NOT LIMITED TO, HEALTH, SAFETY, AND ENVIRONMENTAL LAWS, ORDINANCES, AND REGULATIONS RELATING TO THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, AND U.S. FEDERAL GOVERNMENT. THE PROJECT IS SUBJECT TO ENFORCEMENT UNDER PERMITS FROM THE SAN DIEGO REGIONAL WATER QUALITY CONTROL BOARD (RWQCB) AND THE COUNTY OF SAN DIEGO WATERSHED PROTECTION, STORMWATER MANAGEMENT, AND DISCHARGE CONTROL ORDINANCE NO. 10410, COUNTY OF SAN DIEGO HYDRAULIC DESIGN MANUAL, AND ALL OTHER APPLICABLE ORDINANCES AND STANDARDS FOR THE LIFE OF THIS PERMIT. THE PROJECT SITE SHALL BE IN COMPLIANCE WITH ALL APPLICABLE STORMWATER REGULATIONS REFERENCED ABOVE AND ALL OTHER APPLICABLE ORDINANCES AND STANDARDS. THIS INCLUDES COMPLIANCE WITH THE APPROVED STORM WATER QUALITY MANAGEMENT PLAN (SQWMP), ALL REQUIREMENTS FOR LOW IMPACT DEVELOPMENT (LID), HYDROMODIFICATION, DETENTION FACILITIES, MATERIALS AND WASTES CONTROL, EROSION CONTROL, AND SEDIMENT CONTROL ON THE PROJECT SITE.
19. THE ISSUANCE OF THIS PERMIT/APPROVAL BY THE COUNTY OF SAN DIEGO DOES NOT AUTHORIZE THE APPLICANT FOR THE PERMIT/APPROVAL TO VIOLATE ANY FEDERAL, STATE, OR COUNTY LAWS, ORDINANCES, REGULATIONS, OR POLICIES INCLUDING, BUT NOT LIMITED TO THE FEDERAL ENDANGERED SPECIES ACT AND CLEAN WATER ACT. GRADING AND/OR FURTHER DEVELOPMENT ARE PROHIBITED WITHIN THE AREAS DESIGNATED "LIMITS OF JURISDICTIONAL HABITAT" UNTIL FEDERAL PERMITS AND STATE PERMITS (IF ANY) HAVE BEEN ACQUIRED.



KEY MAP
SCALE: 1" =80'



VICINITY MAP
NO SCALE

GEOTECHNICAL NOTES

1. GEOTECHNICAL ENGINEER OF RECORD SHALL TEST AND APPROVE ALL FILL MATERIAL, PRIOR TO PLACEMENT, TO VERIFY SOIL PARAMETERS, INCLUDING EXPANSIVE INDEX, AND ENSURE THAT THE FILL MATERIAL IS ADEQUATE TO SUPPORT IMPROVEMENTS. TEST RESULTS AND CERTIFICATION LETTER STATING THAT SOIL HAS BEEN TESTED AND IS ADEQUATE TO SUPPORT THE PROPOSED IMPROVEMENTS SHALL BE PROVIDED TO THE COUNTY INSPECTOR.
2. PURSUANT TO COUNTY GRADING ORDINANCE SECTION 87.420 THE GEOTECHNICAL ENGINEER OF RECORD AND THE CIVIL ENGINEER OF RECORD SHALL SUPERVISE GRADING OPERATIONS AND SHALL COMPLY WITH THE REQUIREMENTS OF COUNTY OF SAN DIEGO GRADING ORDINANCE SECTIONS 87.421 TO 87.430.
3. IF CAPPING EXPANSIVE SOILS WITH ON-EXPANSIVE SOIL TO MITIGATE THE EXPANSIVE POTENTIAL IS USED, THE CAP SHOULD BE COMPACTED, NON-EXPANSIVE, SELECT SOIL PLACED FOR A MINIMUM THICKNESS 3' OVER THE EXPANSIVE SOIL AND FOR A MINIMUM DISTANCE OF 8' BEYOND THE EXTERIOR PERIMETER OF THE STRUCTURE. SPECIAL PRECAUTIONS SHOULD BE TAKEN TO ENSURE THAT THE NON-EXPANSIVE SOIL REMAINS UNCONTAMINATED AND THE MINIMUM THICKNESS AND DIMENSIONS AROUND THE STRUCTURE ARE MAINTAINED. THE EXPANSIVE SOILS UNDERLYING THE CAP OF NON-EXPANSIVE CAP SHOULD BE PRE-SATURATED TO A DEPTH OF 3' TO OBTAIN A DEGREE SATURATION EXCEEDING 90% BEFORE ANY CONSTRUCTION SUPPORTED BY THE COMPACTED CAP.

THE NON-EXPANSIVE SOIL COMPRISING THE CAP SHOULD CONFORM TO THE FOLLOWING:

MINIMUM COMPACTION	90%
MAXIMUM EXPANSION INDEX	30
MINIMUM ANGLE OF INTERNAL FRICTION	30 DEG.

REFERENCE DRAWINGS

DESCRIPTION	DRAWING NUMBER	AGENCY
WATER MAIN	W.O. 7386	HELIX WATER DISTRICT
SEWER MAIN	A-192, NS-912	COUNTY OF SAN DIEGO SANITATION DISTRICT
ROAD IMPROVEMENTS	CG 2849	COUNTY OF SAN DIEGO

PROJECT INFORMATION

TOTAL NUMBER OF BUILDINGS = 10
TOTAL NUMBER OF DWELLING UNITS = 60

LEGAL DESCRIPTION

APN # 388-331-04, 05, & 06
THE EASTERLY 100 FEET OF THE WESTERLY 445 FEET OF THE WEST 6 ACRES: COMMENCING AT A POINT 11 CHAINS WEST AND 24 RODS NORTH OF THE SOUTH-EAST CORNER OF SECTION 35, TOWNSHIP 15 SOUTH, RANGE 1 WEST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF SAN DIEGO, THENCE 80 RODS, THENCE NORTH 24 RODS, THENCE WEST 80 RODS, THENCE SOUTH 24 RODS TO THE POINT OF COMMENCEMENT, SAID PROPERTY BEING ALSO KNOWN AS LOT 12 OF SOMERMONT PLACE, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 661.

TOGETHER WITH:
THE EASTERLY 100 FEET OF THE WESTERLY 545 FEET OF THE FOLLOWING DESCRIBED PROPERTY: COMMENCING AT A POINT 11 CHAINS WEST AND 24 RODS NORTH OF THE SOUTH-EAST CORNER OF SECTION 35, TOWNSHIP 15 SOUTH, RANGE 1 WEST, SAN BERNARDINO BASE AND MERIDIAN, THENCE 80 RODS, THENCE NORTH 24 RODS, THENCE WEST 80 RODS, THENCE SOUTH 24 RODS TO THE POINT OF COMMENCEMENT, SAID PROPERTY BEING ALSO KNOWN AS LOT 12 OF SOMERMONT PLACE, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 661.

ALSO TOGETHER WITH:
ALL THE WESTERLY 6 ACRES, EXCEPTING THE WESTERLY 545 FEET THEREOF OF THE FOLLOWING DESCRIBED PROPERTY: COMMENCING AT A POINT 11 CHAINS WEST AND 24 RODS NORTH OF THE SOUTH-EAST CORNER OF SECTION 35, TOWNSHIP 15 SOUTH, RANGE 1 WEST, SAN BERNARDINO BASE AND MERIDIAN, THENCE 80 RODS, THENCE NORTH 24 RODS, THENCE WEST 80 RODS, THENCE SOUTH 24 RODS TO THE POINT OF COMMENCEMENT, SAID PROPERTY BEING ALSO KNOWN AS LOT 12 OF SOMERMONT PLACE, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 661.

OWNER'S CERTIFICATE

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

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

BY: _____ DATE: _____
PHILIP CHODUR, PRESIDENT

ASSESSOR'S PARCEL NO. 388-331-04, 05 & 06
1065 EAST BRADLEY, LLC.
7626 EL CAJON BLVD.
LA MESA, CA 91942
PHONE: (619) 823-3402

SOILS ENGINEER'S CERTIFICATE

I, CHIN C. CHEN, A REGISTERED GEOTECHNICAL ENGINEER OF THE STATE OF CALIFORNIA, PRINCIPALLY DOING BUSINESS IN THE FIELD OF APPLIED SOIL MECHANICS, HEREBY VERIFY THAT A SAMPLING AND RELATIVE DENSITY AND "R" VALUE TESTS OF THE SOIL TYPES PREVALENT WITHIN THE SITE WAS MADE BY ME OR UNDER MY DIRECTION BETWEEN .

THESE GRADING PLANS HAVE BEEN REVIEWED BY THE UNDERSIGNED AND FOUND TO BE IN COMPLIANCE WITH THE RECOMMENDATIONS OUTLINED IN OUR SOILS AND GEOTECHNICAL REPORT FOR THIS PROJECT. THE SOILS REPORT SHALL BE CONSIDERED PART OF THIS PLAN, AND ALL GRADING WORK SHALL BE DONE IN ACCORDANCE WITH THE SAN DIEGO COUNTY GRADING ORDINANCE AND THE SPECIFICATIONS AND RECOMMENDATIONS OF SAID REPORT:

SITE INSPECTION: PROPOSED RESIDENTIAL BUILDING SITE, 1067 & 1069 E. BRADLEY AVENUE, EL CAJON AREA, COUNTY OF SAN DIEGO, DATED JUNE 27, 2019, PREPARED BY SOIL TESTERS, FILE NO. 1251-H2A-19

SOIL TESTERS
P.O. BOX 1195
LAKESIDE, CA 92040
(619) 443-0060

BY: _____ DATE: _____
CHIN C. CHEN R.C.E. 34442

DECLARATION OF RESPONSIBLE CHARGE

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 ARE CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME, AS ENGINEER OF WORK, OF MY RESPONSIBILITIES FOR PROJECT DESIGN.

SNIPES-DYE ASSOCIATES
8348 CENTER DRIVE, SUITE G
LA MESA, CA 91942-2910
PHONE: (619) 697-9234

REGISTERED PROFESSIONAL ENGINEER — WILLIAM A. SNIPES — No. 50477 — Exp. 06-30-25 — CIVIL — STATE OF CALIFORNIA

BY: _____ DATE: _____
WILLIAM A. SNIPES, R.C.E. 50477
EXPIRES 06-30-25

SHEET INDEX

EARTHWORK QUANTITIES

EXCAVATION: 7,500 C.Y.
EMBANKMENT: 7,500 C.Y.
IMPORT/EXPORT: 0 C.Y.
(FOR PERMIT PURPOSES ONLY)

WORK TO BE DONE

THE GRADING AND DRAINAGE WORK CONSIST OF THE FOLLOWING WORK TO BE DONE IN ACCORDANCE WITH THE PLANS, THE CURRENT SAN DIEGO COUNTY ENGINEERING DEPARTMENT STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS FOR IMPROVEMENT OF SUBDIVISION STREETS, INCLUDING THE STANDARD REFERENCED DRAWINGS. STANDARD SPECIFICATIONS:

1. STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (CURRENT EDITION).
2. STANDARD SPECIAL PROVISIONS.
3. SAN DIEGO COUNTY GRADING ORDINANCE.
4. SAN DIEGO AREA REGIONAL STANDARD DRAWING (CURRENT EDITION).
5. HELIX WATER DISTRICT & WATER AGENCY STANDARDS (WAS).

LEGEND

IMPROVEMENT	STANDARD DWGS.	SYMBOL
EXISTING CONTOUR		490
EXISTING SPOT ELEVATION		x 489.6
EXISTING CONCRETE SURFACE		
EXISTING ASPHALT SURFACE		
EXISTING WATER LINE		W
EXISTING SEWER LINE		S
EXISTING OVER-HEAD UTILITIES		OH
EXISTING GAS LINE		G
PROPERTY BOUNDARY		
PROPOSED CONTOUR		490
PROPOSED SPOT ELEVATION		492.47 TC / 491.97
PROPOSED PVT. CONC. PAVEMENT		
PROPOSED PVT. 6" CONCRETE CURB	R.S.D. G-01	
PROPOSED PVT. 6" CONCRETE CURB/GUTTER	R.S.D. G-02, TYPE G	
PROPOSED PVT. RETAINING WALL	SEE SHT'S 24-27	
PROPOSED PVT. PVC SDR-35 STORM DRAIN (SIZE INDICATED ON PLANS)	R.S.D. D-60	SD
PROPOSED PVT. 1" PVC SCH-80 WATER	W.A.S. WP-02	W
PROPOSED PVT. 2" PVC SCH-80 WATER	W.A.S. WP-02	W
PROPOSED PVT. 6" PVC C900 CL-305 FIRE SERVICE	W.A.S. WP-02	FS
PROPOSED PUBLIC 8" PVC SDR-35 MAIN (SEE PDS2019-LDPIIP-60071)	R.S.D. SP-01, SP-02	
PROPOSED PVT. 4" PVC SDR-35 SWR LATERAL (SEE PDS2019-LDPIIP-60071)	W.A.S. SP-01, SP-02	S
PROPOSED ABANDONMENT OF EXIST. PVT. SEWER LATERALS (SEE PDS2019-LDPIIP-60071)	DETAIL 'B', SHT. 2	E S
PROPOSED PUBLIC SEWER MANHOLE	R.S.D. SM-01, SM-03, SM-04, SM-05 & W.A.S. SM-09	
PROPOSED STORM DRAIN (PRIVATE) / SEWER CLEANOUT (PRIVATE)	DETAIL 1, SHT. 2	
PROPOSED REMOVAL OF EXIST. 8" SEWER MAIN		
PROPOSED PVT. 1 1/2" RPBPD (IRRIGATION)	W.A.S. WR-01	
PROPOSED PVT. 2" RPBPD (DOMESTIC WATER)	W.A.S. WR-01	
PROPOSED PVT. 6" RPBPD (FIRE)	W.A.S. WF-05	
PROPOSED PVT. 6" FIRE HYDRANT ASSEMBLY	W.A.S. WF-01	FS
PROPOSED PVT. THRUST BLOCK	W.A.S. WT-01	
PROPOSED PVT. 18" CATCH BASIN	DETAIL 4, SHT. 2	
PROPOSED PVT. 6" ATRIUM DRAIN	DETAIL 5, SHT. 2	
PROPOSED PVT. 8" PVC PERFORATED PIPE		
PROPOSED PVT. 4" TRENCH DRAIN	DETAIL 3, SHT. 2	
PROPOSED PVT. 3"-6" ROCKS (SIZE INDICATED ON PLANS)		
PROPOSED PVT. NO. 2 BACKING ROCK (10'X29'X1.1' THICK) RIP-RAP	R.S.D. D-40, TYPE 2	
PROPOSED PVT. BIOFILTRATION BASIN	SEE SECTION'S A-D SHT'S 12-13	
PROPOSED PVT. UNDERGROUND DETENTION	DETAILS SHT'S 15-23	
PROPOSED PVT. MODULAR WETLAND SYSTEM	DETAIL 1, SHT. 14	
PROPOSED PVT. TREE WELL (L.I.D.)		4
PROPOSED PVT. DRAINAGE DITCH	D-75, TYPE D	
DIRECTION OF DRAINAGE		

DISTURBED AREA CALC

PAD + SLOPES:	120,962 SF. (2.77 AC.)
DRIVEWAY:	7,313 SF. (0.17 AC.)
PRIMARY SEPTIC:	N/A
FIRE CLEARING:	N/A
TOTAL:	128,275 SF. (2.94 AC.)
1 AC, PROVIDE WDID# :	
SWPPP/CONSTRUCTION SITE RISK LEVEL:	2

DIGALERT 811

STORMWATER STRUCTURAL POLLUTANT CONTROL AND AND HYDRO-MODIFICATION CONTROL BMP'S

DESCRIPTION / TYPE	SHEET	BMP ID NO.	MAINTENANCE CATEGORY	MAINTENANCE AGREEMENT RECORDED DOCUMENT NO.
BIOFILTRATION BASIN PER BF-1	10, 12-13	BMP #1 & #2	ONE	
MODULAR WETLANDS PER BF-3 W/ W/ UNDERGROUND DETENTION	10, 14-21	BMP'S #3A & #3B	ONE	
TREE WELLS (PDS2019-LDPIIP-60071, SHTS. 9-12)	10	BMP'S #4 TO #9	--	

▪ BMP'S APPROVED AS PART OF STORMWATER QUALITY MANAGEMENT PLAN (SWQMP) DATE _____ ON FILE WITH DPW. ANY CHANGES TO THE ABOVE BMP'S WILL REQUIRE SWQMP REVISION AND PLAN CHANGE APPROVALS.

NOTE

CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL 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 DESIGN PROFESSIONAL.

California Council of Civil Engineers & Land Surveyors

UNAUTHORIZED CHANGES & USES: THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, OR UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THESE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.

California Council of Civil Engineers & Land Surveyors

SD COUNTY SANITATION DISTRICT

WINTER GARDENS SERVICE AREA
REVIEWD BY: _____
DATE: _____
"VALID TWO YEARS FROM DATE"

FIRE AGENCY

SAN MIGUEL FIRE PROTECTION DISTRICT
APPROVED BY: _____
DATE: _____

APPLICANT

1065 EAST BRADLEY, LLC.
ATTN: PHILIP CHODUR
7626 EL CAJON BLVD.
LA MESA, CA 91942
(619) 823-3402

ASSESSOR'S PARCEL NUMBER

388-331-04
388-331-05
388-331-06

SITE ADDRESS

1065 E. BRADLEY AVENUE
EL CAJON, 92021

HELIX WATER DISTRICT

RMB20032
ACCEPTED BY TIM ROSS _____ DATE
EXPIRES ONE YEAR AFTER SIGNATURE DATE

RECORD PLAN

BY: _____
DATE: _____

ENGINEER OF WORK

Snipes-Dye associates
civil engineers and land surveyors
8348 CENTER DRIVE, STE. G, LA MESA, CA 91942
TELEPHONE (619) 697-9234 FAX (619) 460-2033

COUNTY APPROVED CHANGES

No.	Description	Approved by	Date

PERMITS

WDID NO. 9 C37
IMPROVEMENT PLAN NO. PDS2019-LDPIIP-60071
BUILDING PLAN NO. PDS2020-CWASPC-0000
CERTIFICATE OF COMPLIANCE NO. PDS2020-CC-20-011
CENTERLINE REVIEW NO. PDS2021-LDREFL-00469
LANDSCAPE PLAN NO. PDS2020-LP-20-088

BENCH MARK

DESCRIPTION: STANDARD BENCHMARK # 91
LOCATION: TOP OF CURB, N END CB RETURN AT NW CORNER GRETA STREET AND FIRST STREET
RECORD FROM: CITY OF EL CAJON
ELEVATION: 515.161 DATUM: NAVD 88

PRIVATE CONTRACT

SHEET 1 | COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS | 27 SHEETS

GRADING TITLE / NOTES FOR:

BRADLEY APARTMENT COMPLEX

CALIFORNIA COORDINATE INDEX 238-1785

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

ENGINEER OF WORK
WILLIAM A. SNIPES R.C.E. 50477

PDS2019-LDGRMJ-30236

HWD RMB20032

1065 E. BRADLEY AVENUE - GRADING

ENGINEER'S NAME - SNIPES-DYE ASSOCIATES
PHONE NO. (619) 697-9234
RMB20032

GRADING PLAN NOTES

NOTICE: IN ORDER TO AVOID IMPACTS TO NESTING MIGRATORY BIRDS AND RAPTORS, WHICH ARE A SENSITIVE BIOLOGICAL RESOURCE TO CEQA, THE MBTA AND FISH AND WILDLIFE CODE, BREEDING SEASON AVOIDANCE SHALL BE IMPLEMENTED ON ALL PLANS. THERE SHALL BE NO BRUSHING, CLEARING AND/OR GRADING SUCH THAT NONE WILL BE ALLOWED DURING THE BREEDING SEASON OF MIGRATORY BIRDS OR RAPTORS, BETWEEN JANUARY 15 AND AUGUST 31. THE DIRECTOR OF PDS MAY WAIVE THIS CONDITION, THROUGH WRITTEN CONCURRENCE FROM THE U.S. FISH AND WILDLIFE SERVICE AND THE CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE, PROVIDED THAT NO NESTING OR BREEDING BIRDS ARE PRESENT WITHIN 300 FEET OF THE BRUSHING, CLEARING OR GRADING (500 FEET FROM RAPTORS) BASED ON A SURVEY CONDUCTED BY A COUNTY-APPROVED BIOLOGICAL CONSULTANT WITHIN SEVEN DAYS PRIOR TO THE PROPOSED START OF CLEARING/GRADING. IF NESTING BIRDS ARE PRESENT IN THE VICINITY, PRIOR TO GRANTING PERMISSION PDS AND THE WILDLIFE AGENCIES MARY REQUIRE AVOIDANCE MEASURES SUCH AS, BUT NOT LIMITED TO, STAKING AND POSTING AN AREA 300 FEET FROM THE NEST TO PROHIBIT ALL CLEARING, GRUBBING AND CONSTRUCTION WORK WITHIN THE PERIMETER UNTIL THE QUALIFIED BIOLOGIST DETERMINES THAT THE NESTS ARE NO LONGER OCCUPIED WITH WRITTEN NOTIFICATION TO THE APPROVAL OF THE DIRECTOR OF PDS.

DURING CONSTRUCTION: (THE FOLLOWING ACTIONS SHALL OCCUR THROUGHOUT THE DURATION OF GRADING CONSTRUCTION).

PALEO-GR-1 PALEONTOLOGICAL MONITORING INTENT:
IN ORDER TO COMPLY WITH MITIGATION MONITORING AND REPORTING PROGRAM A PALEONTOLOGICAL MONITORING PROGRAM SHALL BE IMPLEMENTED. DESCRIPTION OF REQUIREMENT: THIS PROJECT HAS MARGINAL LEVELS OF SENSITIVE PAEONTOLOGICAL 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 PDS 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, PDCI) SHALL MAKE SURE THAT THE GRDING CONTRACTOR IS ON-SITE PERFORMING MONITORING DUTIES OF THIS CONDITION. THE (DPW, PDCI) SHALL CONTACT PDS IF THE GRADING CONTRACTOR OR APPLICANT FAILS TO COMPPLY WITH THIS CONDITION.

ROUGH GRADING: (PRIOR TO ROUGH GRADING APPROVAL AND ISSUANCE OF ANY BUILDING PERMIT).

PALEO-GR-2 PALEONTOLOGICAL MONITORING INTENT:
IN ORDER TO COMPLY WITH THE ADOPTED MITIGATION MONITORING AND REPORTING PROGRAM AND THE COUNTY OF SAN DIEGO GUIDELINES FOR DETERMINING SIGNIFICANCE AND REPORT FORMAT AND CONTENT REQUIREMENTS FOR PALEONTOLOGICAL RESOURCES, A PALEONTOLOGICAL 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 PALENOTOLOGICAL RESOURCES WERE DISCOVERED, SUBMIT A "NO FOSSILS FOUND" LETTER FROM THE GRADING CONTRACTOR TO PDS STATING THE MONITORING HAS BEEN COMPLETED AND THAT NO FOSSILS WERE DISCOVERED, AND INCLUDING THE NAMES AND SIGNATURES FROM THE FOSSILS MONITORS. THE LETTER SHALL BE IN THE FORMAT OF ATTACHMENT E OF THE COUNTY OF SAN DIEGO GUIDELINES FOR DETERMINING SIGNIFICANCE FOR PALENTOLOGICAL 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 CURATION PHASE OF THE MONITORING.

DOCUMENTATION: THE APPLICANT SHALL SUBMIT THE LETTER REPORT TO PDS 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: PDS SHALL REVIEW THE FINAL NEGATIVE LETTER REPORT OR FIELD MONITORING MEMO FOR COMPLIANCE WITH THE PROJECT MMRP, AND INFORM (DPW, PDCI) THAT THE REQUIREMENT IS COMPLETED.

SPECIAL NOTES

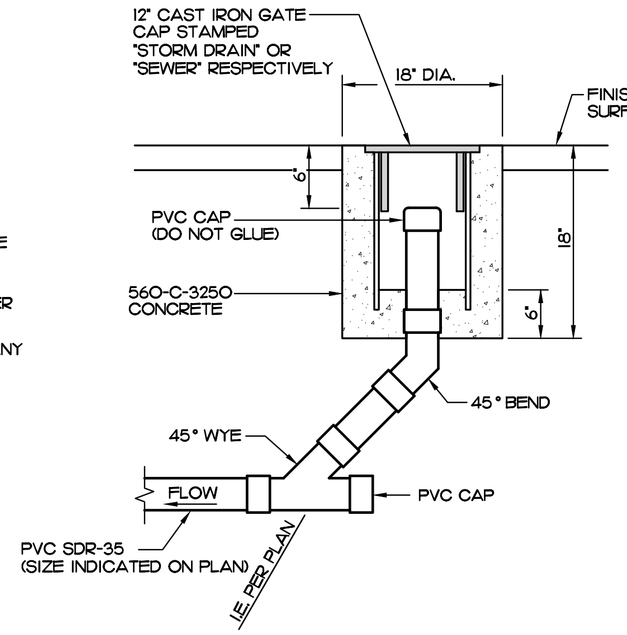
1. ONSITE DRAINAGE FACILITIES WILL BE MAINTAINED BY THE OWNER.
2. PROPERTY OWNER IS AWARE OF THE COUNTY WATER CONSERVATION IN LANDSCAPING ORDINANCE AND WILL PROCESS LANDSCAPE AND IRRIGATION PLANS IN ACCORDANCE WITH ORDINANCE NO. 10032 DURING BUILDING PERMIT PHASE.
3. THE PROPERTY OWNER IS AWARE OF THE COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH POLICIES AND WILL OBTAIN DEH APPROVAL DURING BUILDING PERMIT PHASE.

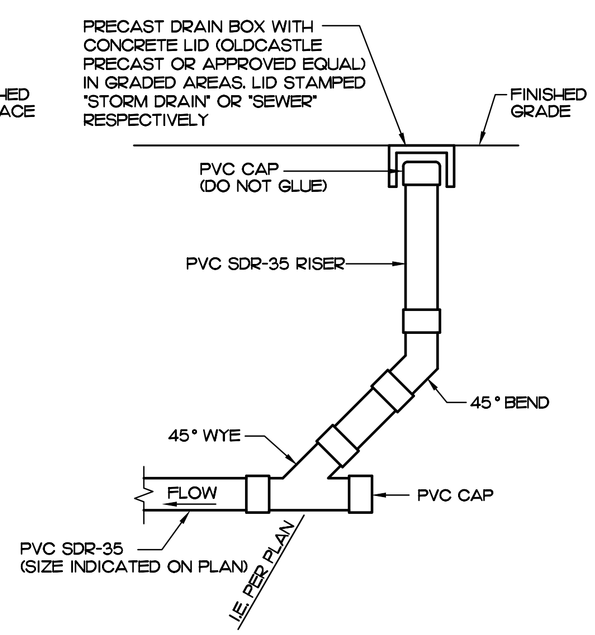
MONUMENTATION GENERAL NOTE

"THE CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE AND PROTECT ALL SURVEY CONTROL MONUMENTS, WHETHER SHOWN ON THESE PLANS OR NOT, WITHIN THE PROJECT AREA. ALL SURVEY MONUMENTS, WHETHER FOR HORIZONTAL OR VERTICAL CONTROL, THAT WILL OR COULD BE DISTURBED OR REMOVED BY THE CONTRACTOR, OR HIS EMPLOYEES, AGENTS, SUBCONTRACTORS, CONSULTANT OR LICENSEES, SHALL BE LOCATED PRIOR TO BEING DISTURBED OR REMOVED AND REPLACED OR RESET, IN ACCORDANCE WITH THE CALIFORNIA BUSINESS & PROFESSIONS CODE SECTION 8771(B), AT THE CONTRACTOR'S SOLE EXPENSE, UNDER THE SUPERVISION OF A LICENSED LAND SURVEYOR OR REGISTERED CIVIL ENGINEER AUTHORIZED TO PRACTICE LAND SURVEYING IN THE STATE OF CALIFORNIA. IN ADDITION, A RECORD OF SURVEY OR CORNER RECORD, AS APPLICABLE, SHALL BE FILED AND/OR RECORDED, IN ACCORDANCE WITH THE PROVISIONS OF SAID CODE."

HELIX WATER DISTRICT NOTES

1. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO CONTACT HELIX WATER DISTRICT 48 HOURS PRIOR TO COMMENCING WORK AT (619) 596-3860 AND UNDERGROUND SERVICE ALERT FOR LOCATION OF EXISTING WATER FACILITIES AT 1-800-422-4133.
2. CONTRACTOR TO PROTECT ALL EXISTING HELIX WATER DISTRICT FACILITIES AND SHALL BE FINANCIALLY RESPONSIBLE FOR ANY DAMAGE TO HELIX WATER DISTRICT FACILITIES AS A RESULT OF HIS/HER OPERATION. HELIX WATER DISTRICT SHALL BE NOTIFIED IMMEDIATELY TO REPAIR ANY DAMAGE. CONTRACTOR TO PROVIDE CONTINUOUS WATER SERVICE TO ALL WATER ACCOUNTS SHOWN OR NOT SHOWN ON THESE PLANS DURING ALL PHASES OF CONSTRUCTION.
3. APPROVAL/REVIEW OF PLANS BY HELIX WATER DISTRICT DOES NOT CONSTITUTE RESPONSIBILITY FOR ACCURACY OF INFORMATION NOR LOCATIONS OF ANY EXISTING FACILITIES.
4. DEVELOPER SHALL BE RESPONSIBLE FOR THE COST OF RELOCATING ANY WATER FACILITIES THAT FALL WITHIN ANY PROPOSED FACILITIES OR IMPROVEMENTS.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR RELOCATION OR ADJUSTMENT OF ANY NEW OR EXISTING WATER SERVICE APPURTENANCES, MANHOLES, GATE VALVE COVERS, OR METER BOXES TO NEW FINISH GRADE.
6. EXISTING WATER SERVICES SERVING THE PROPERTY THAT WILL NOT BE USED SHALL BE ABANDONED BY THE DISTRICT AT THE OWNER'S EXPENSE.
7. ALL UNDERGROUND UTILITIES AND LATERALS SHALL BE INSTALLED BEFORE CONSTRUCTION OF CURBS, CONCRETE CROSS GUTTERS, SIDEWALK OR SURFACING OF STREETS.
8. DEVELOPER AGREES THAT IF THEY, THEIR EMPLOYEES, AGENTS, OR ANY INDEPENDENT CONTRACTORS OR SUBCONTRACTORS SHOULD USE WATER OTHER THAN THROUGH AN AUTHORIZED WATER METER, DEVELOPER SHALL PAY A CHARGE, DETERMINED BY HELIX WATER DISTRICT, PER OCCURRENCE FOR SAID USE. SAID PAYMENT MAY BE DEDUCTED FROM ANY DEPOSIT DEVELOPER HAS WITH HELIX WATER DISTRICT.
9. NO PERSON, OTHER THAN AN EMPLOYEE OR AGENT OF THE HELIX WATER DISTRICT, SHALL HAVE A RIGHT TO OPERATE ANY PART OF A HELIX WATER DISTRICT DISTRIBUTION SYSTEM AND FIRE HYDRANTS. ANY PERSON WHO TAMPERS OR INTERFERES WITH ANY PART OR COMPONENT OF SAID SYSTEM, OR CAUSES OR PERMITS ANY ACT OF TAMPERING OR INTERFERING WITH THE SYSTEM, SHALL BE LIABLE FOR ANY INJURY OR DAMAGE CAUSED THEREBY OR RESULTING THERE FROM. A CHARGE, DETERMINED BY HELIX WATER DISTRICT, PER OCCURRENCE WILL BE IMPOSED ON ANY PERSON OR COMPANY WHO OPERATES ANY PART OF THE HELIX WATER DISTRICT WATER SYSTEM WITHOUT PROPER AUTHORIZATION.
10. FOR WORK OVER EXISTING WATER FACILITIES, HEAVY EQUIPMENT (ABOVE H20 LOADING) SHALL NOT BE USED WHEN COVER OVER THE WATER MAIN IS LESS THAN 36 INCHES THROUGH ALL PHASES OF CONSTRUCTION, INCLUDING THE REMOVAL, OVER EXCAVATION, AND/OR INSTALLATION OF PAVEMENT SECTIONS, WITHOUT THE WRITTEN APPROVAL OF HELIX WATER DISTRICT.
11. STOCKPILING OF SPOILS OR ANY MATERIALS IS NOT ALLOWED WITHIN THE HELIX WATER DISTRICT EASEMENT.
12. ANY FINISHED SURFACE IMPROVEMENT OTHER THAN ASPHALT ABOVE THE PIPELINE OR UNDERGROUND FACILITIES, WILL REQUIRE AN ENCROACHMENT REMOVAL AGREEMENT. PERMEABLE FINISH-ED SURFACE IMPROVEMENTS ARE PROHIBITED WITH-IN HELIX WATER DISTRICT WATER MAIN EASEMENT.
13. TRENCH REPAIR IS TO BE BY HELIX WATER DISTRICT TRENCH DETAIL OR THE CITY OR COUNTY TRENCH REPAIR DETAIL, WHICHEVER IS MORE STRINGENT.
14. FOR ALL WATER REQUIREMENTS SEE THE WATER IMPROVEMENT PLANS, HWD RMB20032.



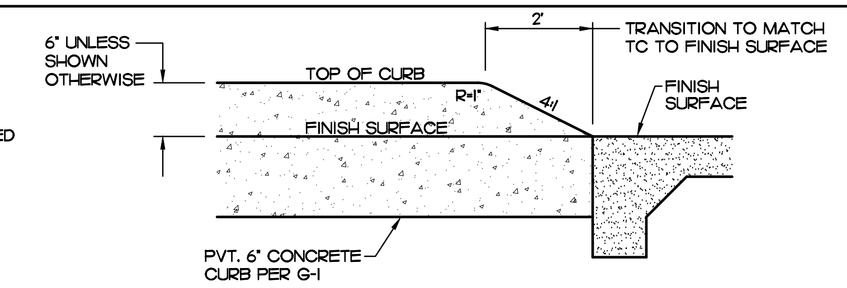


NOTES
1. ALL DRAIN GRATES AND STRUCTURE LIDS TO BE SECURED WITH TAMPER PROOF FASTENERS.
2. ALL PVC PIPE SHALL BE SAME SIZE.

PAVEMENT AREA GRADED AREA

STORM DRAIN/SEWER CLEANOUT (PRIVATE)

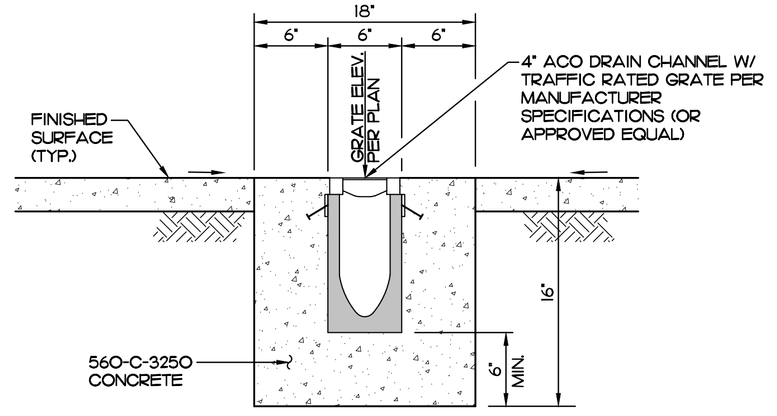
1 DETAIL - NO SCALE



NOTE: CURB END DETAIL TO BE UTILIZED WHERE THE CURB ENDS INTO A DRIVEWAY.

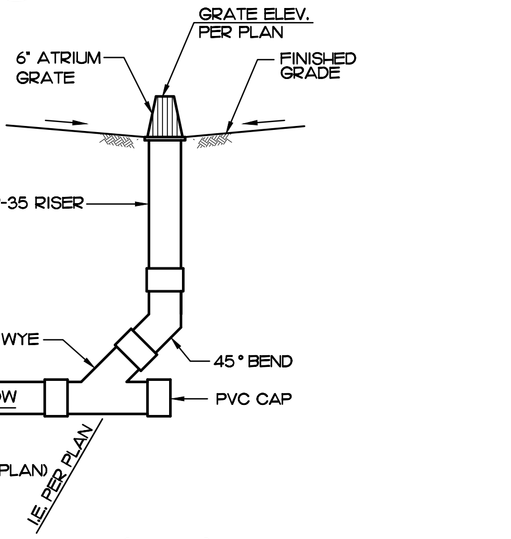
TOP OF CURB TRANSITION (PVT.)

2 DETAIL - NO SCALE



4" TRENCH DRAIN (PRIVATE)

3 DETAIL - NO SCALE

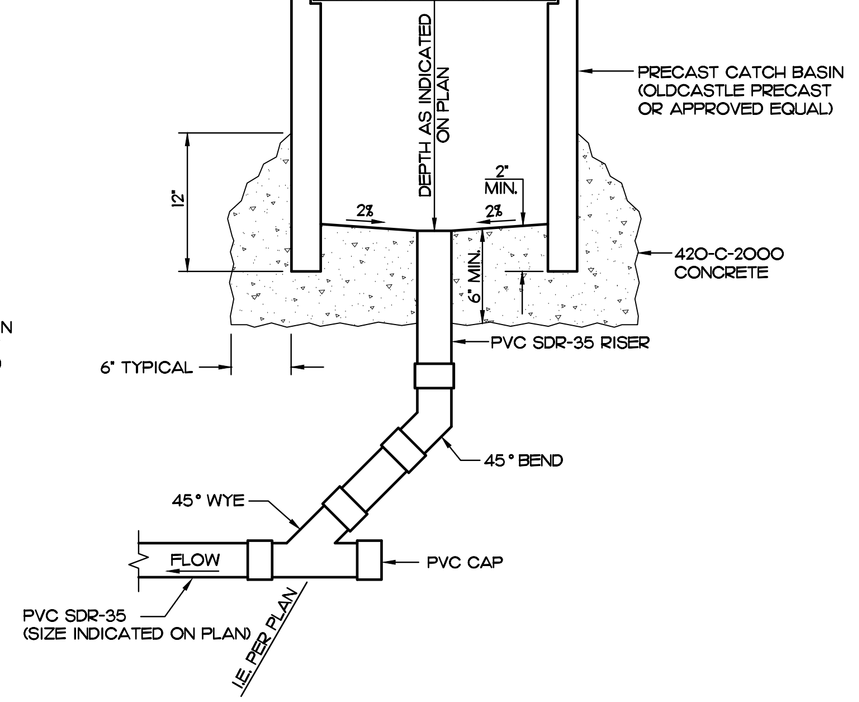


6" ATRIUM (PVT.)

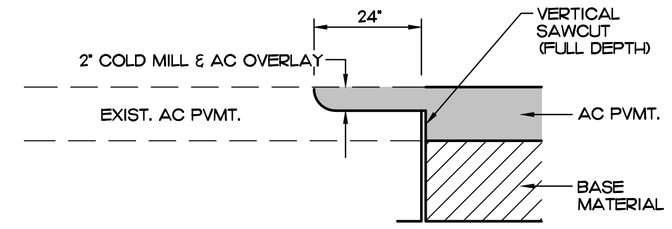
5 DETAIL - NO SCALE

18" SHALLOW CATCH BASIN (PVT.)

4 DETAIL - NO SCALE



18" DEEP CATCH BASIN (PVT.)



AC PAVEMENT MATCH WITH GRIND AND OVERLAY

6 DETAIL - NO SCALE

ENGINEER OF WORK
Snipes-Dye associates
civil engineers and land surveyors
8348 CENTER DRIVE, STE. G, LA MESA, CA 91942
TELEPHONE (619) 697-9234 FAX (619) 460-2033

WILLIAM A. SNIPES R.C.E. 50477
EXPIRES 06-30-25

REGISTERED PROFESSIONAL ENGINEER · WILLIAM A. SNIPES · No. 50477 · Exp. 06-30-25 · CIVIL · STATE OF CALIFORNIA

COUNTY APPROVED CHANGES			
No.	Description	Approved by	Date

BENCH MARK
DESCRIPTION: STANDARD BENCHMARK # 91
LOCATION: TOP OF CURB, N END CB RETURN AT NW CORNER GRETA STREET AND FIRST STREET
RECORD FROM: CITY OF EL CAJON
ELEVATION: 515.161 DATUM: NAVD 88

RECORD PLAN
BY: _____ DATE: _____

PRIVATE CONTRACT

SHEET	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	SHEETS
2		27

NOTES / DETAILS FOR:
BRADLEY APARTMENT COMPLEX
CALIFORNIA COORDINATE INDEX 238-1785

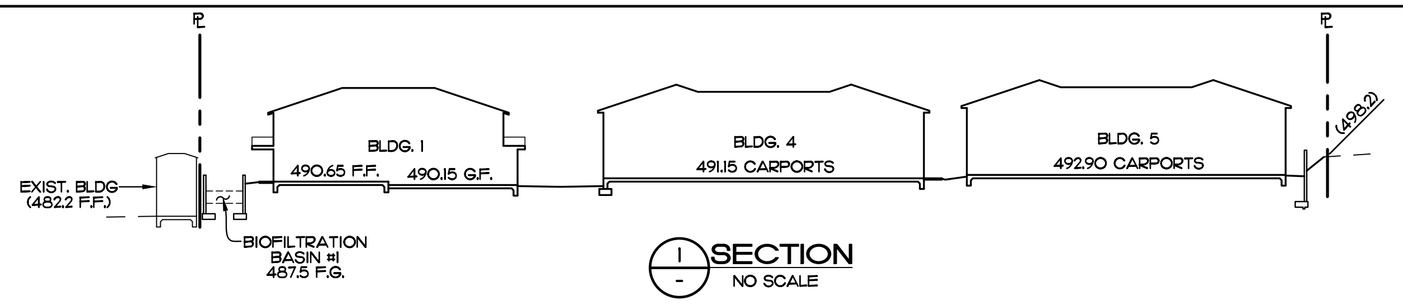
APPROVED: FOR WILLIAM P. MORGAN COUNTY ENGINEER
BY: _____ DATE

ENGINEER OF WORK
WILLIAM A. SNIPES R.C.E. 50477

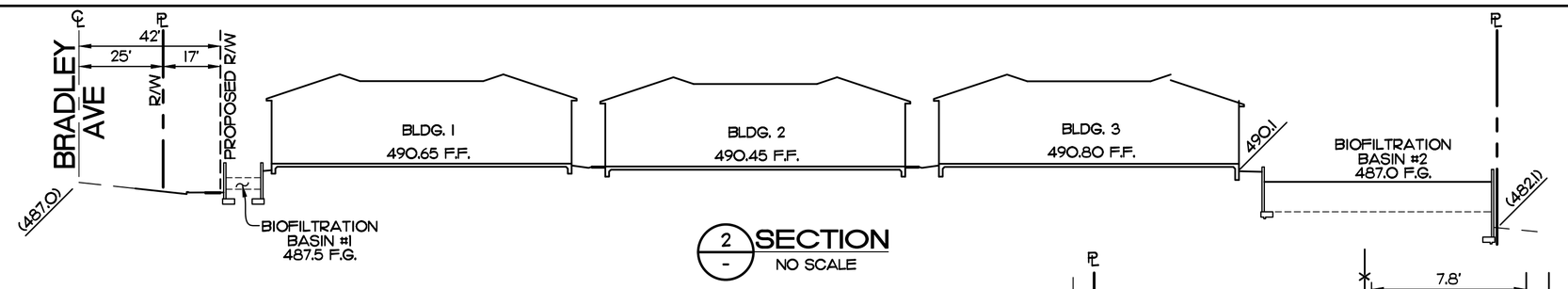
PDS2019-LDGRMJ-30236

ENGINEER'S NAME - SNIPES-DYE ASSOCIATES
PHONE NO. (619) 697-9234

HWD RMB20032



1 SECTION
NO SCALE



2 SECTION
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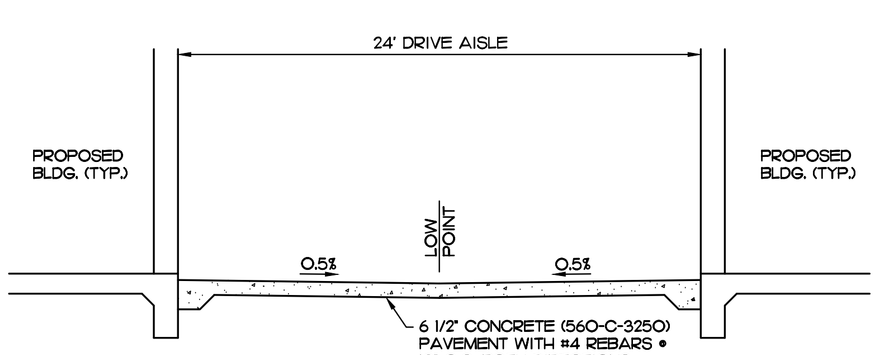

AA TYPICAL SECTION
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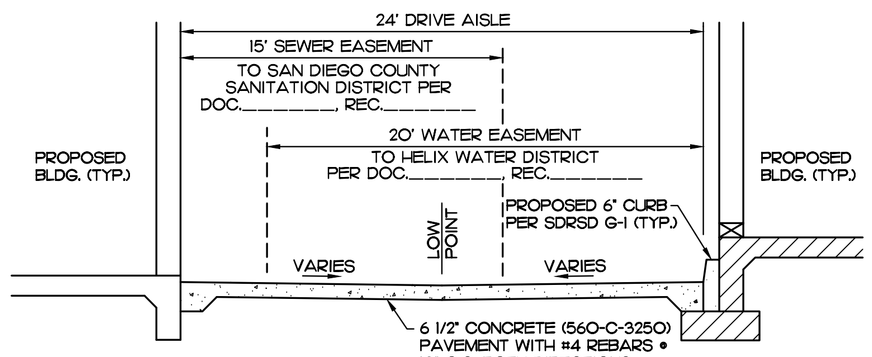

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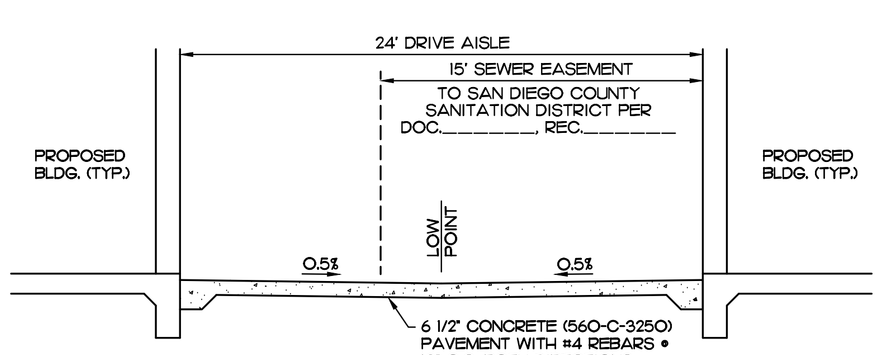
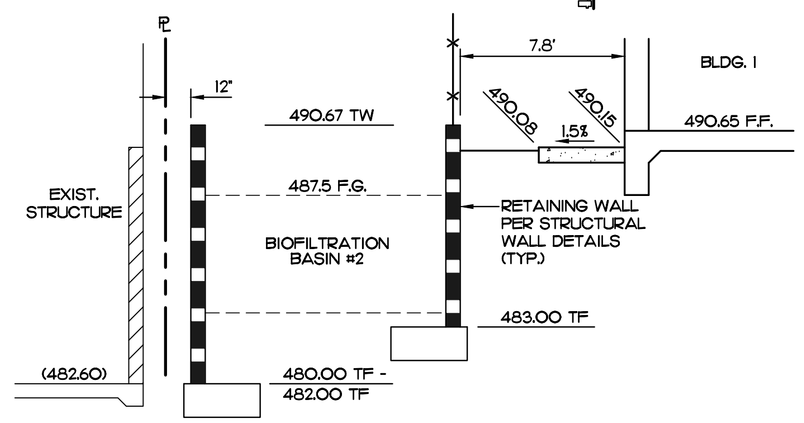
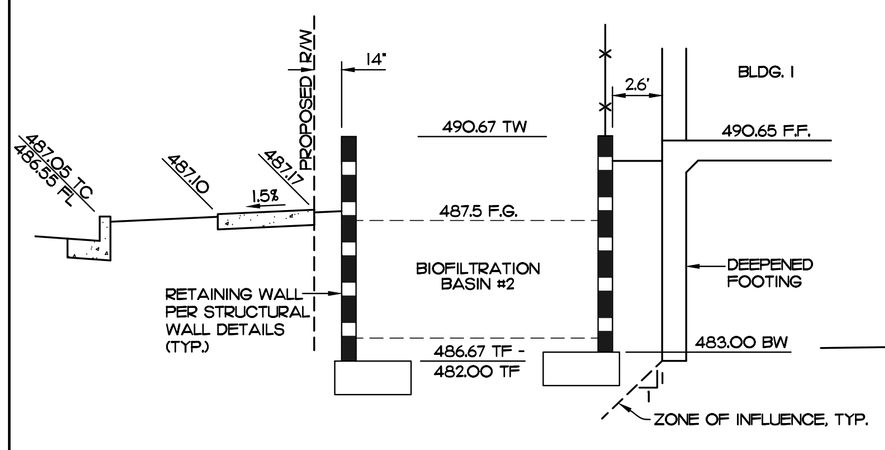


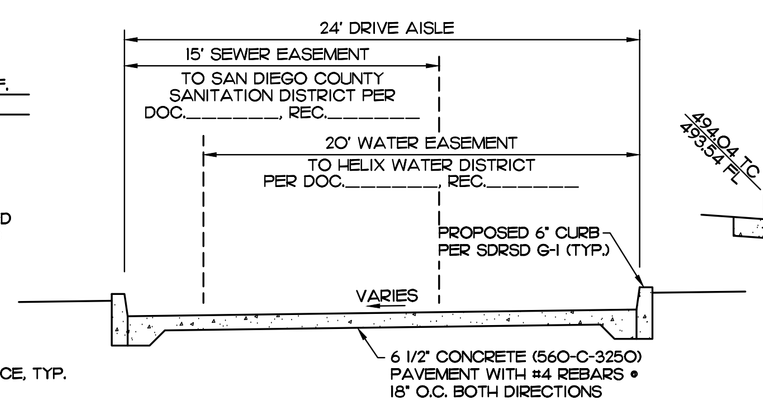
CC TYPICAL SECTION
NO SCALE



DD TYPICAL SECTION
NO SCALE



EE TYPICAL SECTION
NO SCALE



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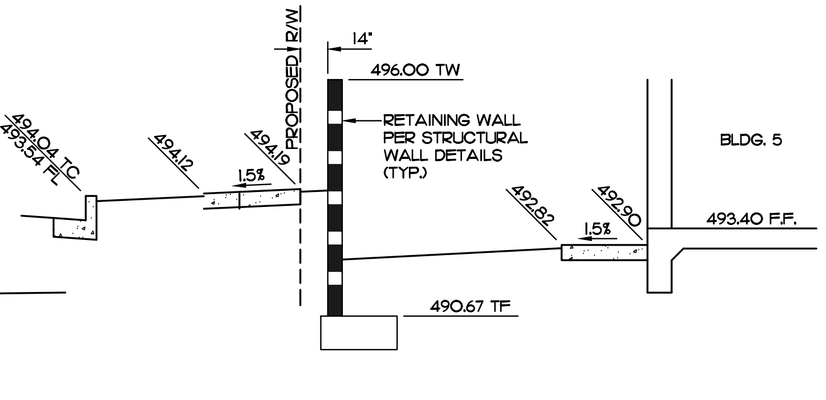

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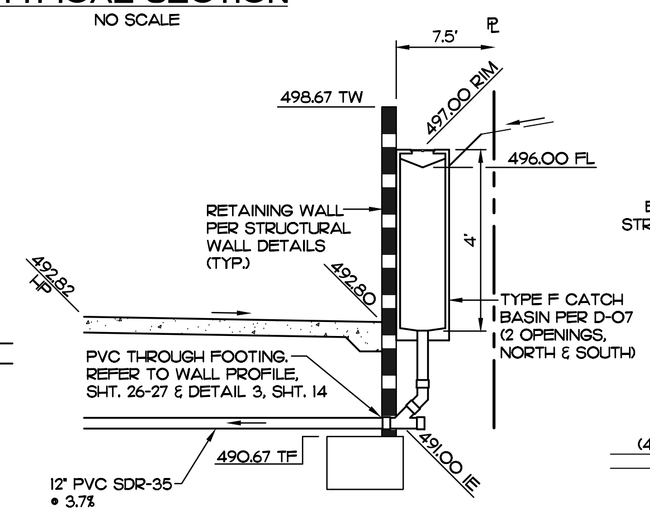

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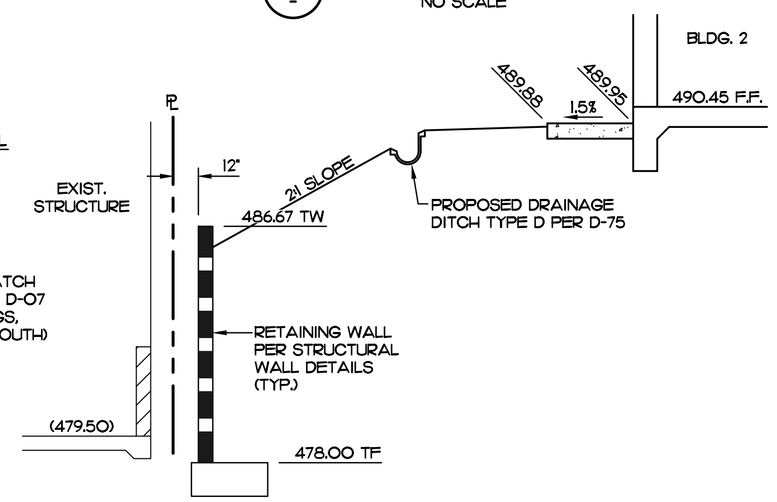

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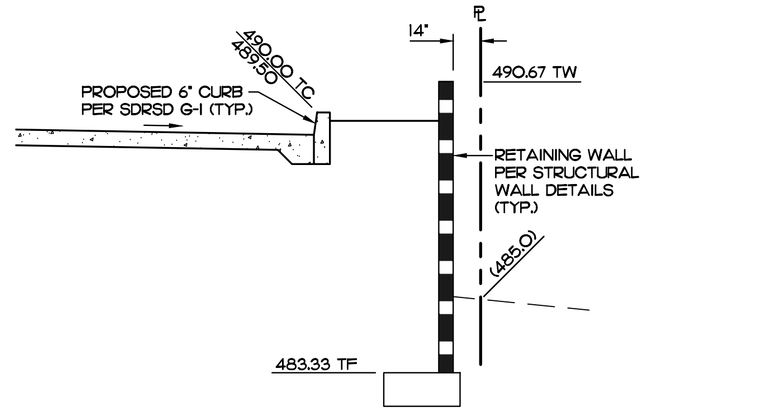

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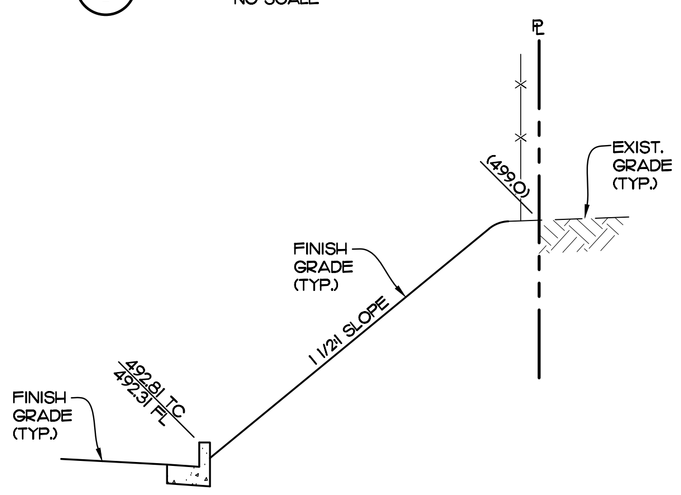

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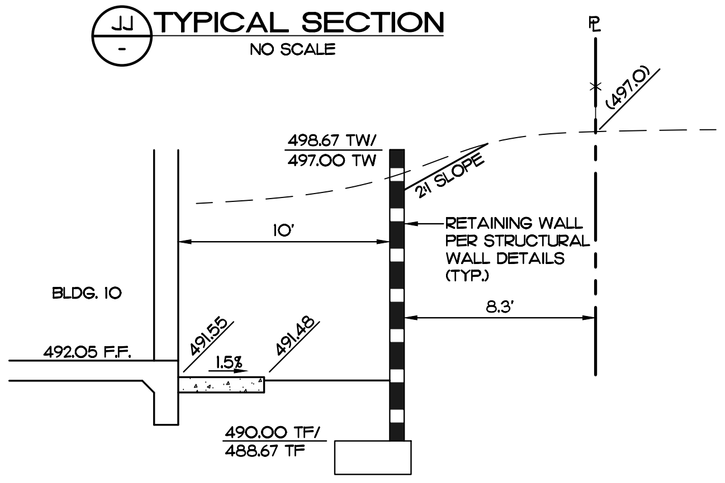

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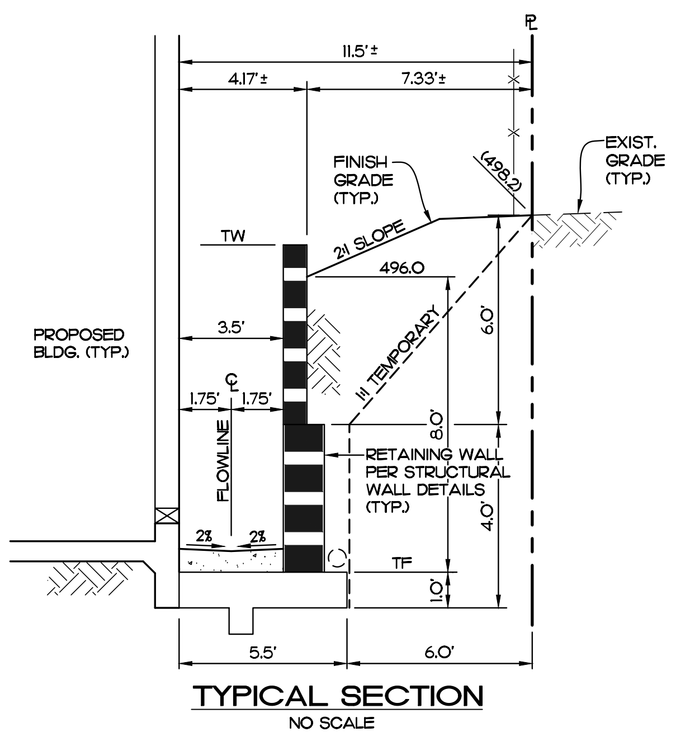

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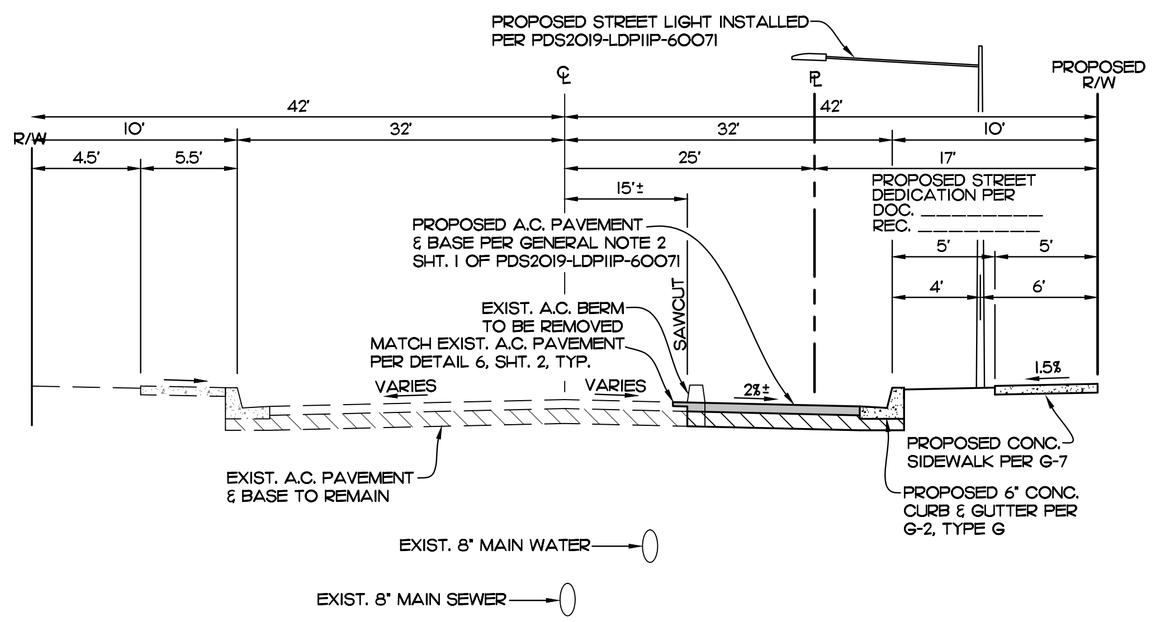


TYPICAL SECTION - BRADLEY AVENUE
NO SCALE

RECORD PLAN

BY:_____ DATE:_____

PRIVATE CONTRACT

SHEET 3 | COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS | 27 SHEETS

SECTIONS FOR:

BRADLEY APARTMENT COMPLEX

CALIFORNIA COORDINATE INDEX 238-1785

APPROVED: FOR WILLIAM P. MORGAN COUNTY ENGINEER

BY:_____ DATE

ENGINEER OF WORK
WILLIAM A. SNIPES R.C.E. 50477

PDS2019-LDGRMJ-30236

ENGINEER OF WORK
Snipes-Dye associates
civil engineers and land surveyors
8348 CENTER DRIVE, STE. G, LA MESA, CA 91942
TELEPHONE (619) 697-9234 FAX (619) 460-2033

WILLIAM A. SNIPES R.C.E. 50477
EXPIRES 06-30-25

REGISTERED PROFESSIONAL ENGINEER · WILLIAM A. SNIPES · No. 50477 · Exp. 06-30-25 · CIVIL · STATE OF CALIFORNIA

COUNTY APPROVED CHANGES

No.	Description	Approved by	Date

BENCH MARK

DESCRIPTION: STANDARD BENCHMARK # 91

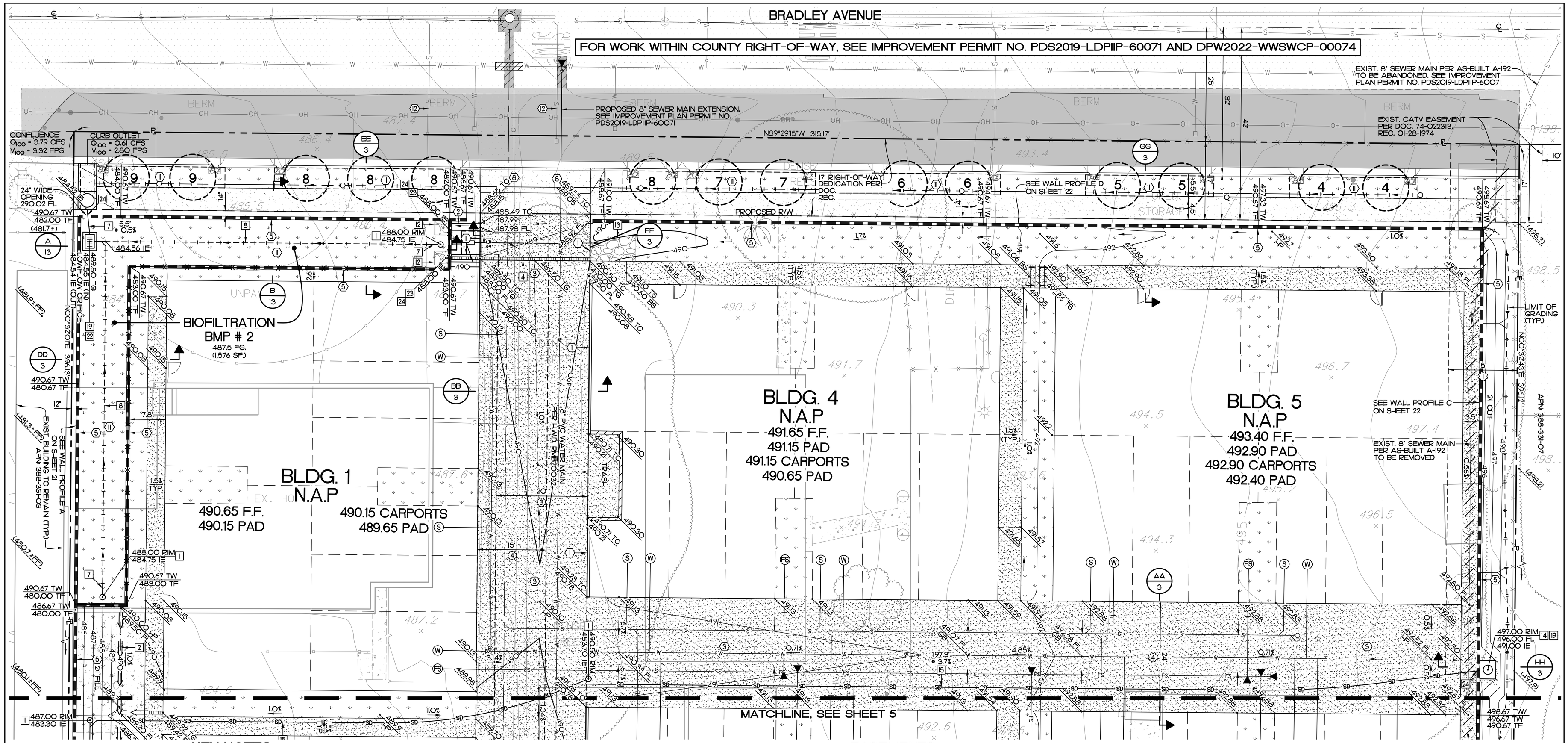
LOCATION: TOP OF CURB, N END CB RETURN AT NW CORNER GRETA STREET AND FIRST STREET

RECORD FROM: CITY OF EL CAJON

ELEVATION: 515.161 DATUM: NAVD 88

ENGINEER'S NAME - SNIPES-DYE ASSOCIATES
PHONE NO. (619) 697-9234

HWD RMB20032



KEY NOTES

PVT. IMPROVEMENTS

⟨1⟩ PVT. 6" CURB PER SDRSD G-1 (TYP.).

⟨2⟩ PVT. 6" CURB/GUTTER TYPE G PER SDRSD G-2 (TYP.).

⟨3⟩ 6.5" CONCRETE (560-C-3550) PAVEMENT W/ #4 REBARS @ 18" O.C., BOTH DIRECTIONS.

⟨5⟩ RETAINING WALL PLAN/PROFILE PER SHT'S 24-27.

⟨8⟩ PVT. TOP OF CURB TRANSITION PER DETAIL 2, SHT. 2.

⟨11⟩ ALL PROPOSED VEGETATION TO BE CONSTRUCTED/INSTALLED WITHIN BIOFILTRATION BASIN AND TREE WELLS SHALL BE CONFORMANCE WITH APPROVED LANDSCAPE AND IRRIGATION PLAN NO. PDS2020-LP-20-088, AND SHALL BE INCLUDED IN PROJECT SWQMP.

PVT. STORM DRAIN

[1] PVT. STORM DRAIN CLEANOUT PER DETAIL 1 ON SHT. 2.

[2] PVT. DRAINAGE DITCH TYPE D PER SDRSD D-75 (TYP.).

[4] PVT. 4" TRENCH DRAIN PER DETAIL 3, SHT. 2.

[7] PVT. 8" PVC SDR-35 PER SDRSD D-60.

[8] PVT. 8" PVC SDR-35 PERFORATED PIPE.

[12] PVT. 3'-6" ROCKS (3'X3'X0.7' THICK).

[13] PVT. 3'-6" ROCKS (3'X10'X0.7' THICK).

[14] PVT. CATCH BASIN TYPE F PER SDRSD D-07 (2 OPENINGS, NORTH & SOUTH).

[15] PVT. 12" PVC SDR-35 PER SDRSD D-60.

[19] MARK ALL INLETS WITH THE WORDS "NO DUMPING-DRAINS TO WATERWAYS" OR SIMILAR. SEE STENCIL TEMPLATE ON SHT. 10.

[22] PVT. CATCH BASIN TYPE G-1 PER SDRSD D-08 W/ 0.5" LOWFLOW ORIFICE.

[23] 6" SLEEVE W/ BACK WATER CHECK VALVE (CCV 2-HG SOLUTIONS) PER DETAIL 2, SHT. 14.

[24] STORM DRAIN PIPE THRU STEM/ FOOTING PER DETAIL 3, SHT. 14.

PUBLIC IMPROVEMENTS

⟨12⟩ EXIST. SEWER LATERAL TO BE ABANDONED PER PDS2019-LDPIIP-60071.

EASEMENTS

⟨1⟩ EXISTING COUNTY OF SAN DIEGO SEWER EASEMENT REC. OCTOBER 6, 1966 PER DOC. NO. 161743, O.R. TO BE QUITCLAIMED

⟨3⟩ 20' WATER EASEMENT TO HELIX WATER DISTRICT PER DOC. _____, REC. _____

⟨4⟩ 15' SEWER EASEMENT TO SAN DIEGO COUNTY SANITATION DISTRICT PER DOC. _____, REC. _____

SEE SHEET 7 FOR PVT. UTILITY INFORMATION

WALL ELEVATIONS ARE FOR INFORMATIONAL PURPOSES ONLY. SEE WALL PLAN/PROFILE SHT'S. 24-27.

N

SCALE: 1"=10'

ENGINEER OF WORK
Snipes-Dye associates
civil engineers and land surveyors
8348 CENTER DRIVE, STE. G, LA MESA, CA 91942
TELEPHONE (619) 697-9234 FAX (619) 460-2033
WILLIAM A. SNIPES R.C.E. 50477
EXPIRES 06-30-25

REGISTERED PROFESSIONAL ENGINEER · WILLIAM A. SNIPES · No. 50477 · Exp. 06-30-25 · CIVIL · STATE OF CALIFORNIA

COUNTY APPROVED CHANGES			
No.	Description	Approved by	Date

BENCH MARK

DESCRIPTION: STANDARD BENCHMARK # 91

LOCATION: TOP OF CURB, N END CB RETURN AT NW CORNER GRETA STREET AND FIRST STREET

RECORD FROM: CITY OF EL CAJON

ELEVATION: 515.161 DATUM: NAVD 88

RECORD PLAN

BY: _____ DATE: _____

PRIVATE CONTRACT

SHEET 4 | COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS | 27 SHEETS

GRADING PLAN FOR:

BRADLEY APARTMENT COMPLEX

CALIFORNIA COORDINATE INDEX 238-1785

APPROVED: FOR WILLIAM P. MORGAN COUNTY ENGINEER

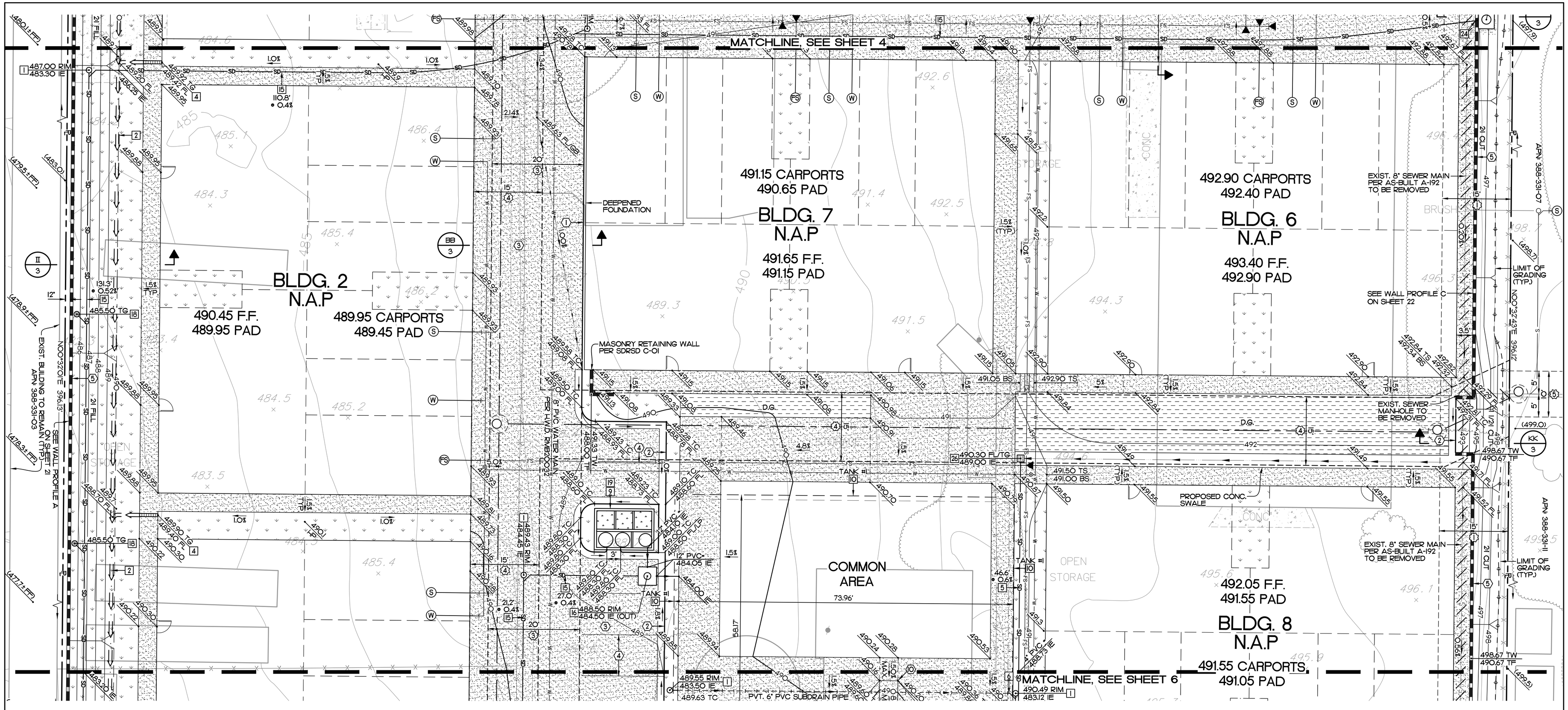
BY: _____ DATE

ENGINEER OF WORK
WILLIAM A. SNIPES R.C.E. 50477

PDS2019-LDGRMJ-30236

HWD RMB20032

ENGINEER'S NAME - SNIPES-DYE ASSOCIATES
PHONE NO. (619) 697-9234



KEY NOTES

PVT. IMPROVEMENTS

(1) PVT. 6" CURB PER SDRSD G-1 (TYP.).

(2) PVT. 6" CURB/GUTTER TYPE G PER SDRSD G-2 (TYP.).

(3) 6.5" CONCRETE (560-C-3550) PAVEMENT W/ #4 REBARS @ 18" O.C., BOTH DIRECTIONS.

(4) STRIPING PER BUILDING PLANS.

(5) RETAINING WALL PLAN/PROFILE PER SHT'S 24-27.

(10) PVT. CURB RAMP PER SDRSD G-30, G-31 (TYPE D) & G-32A.

PVT. STORM DRAIN

[1] PVT. STORM DRAIN CLEANOUT PER DETAIL 1 ON SHT. 2.

[2] PVT. DRAINAGE DITCH TYPE D PER SDRSD D-75 (TYP.).

[4] PVT. 4" TRENCH DRAIN PER DETAIL 3, SHT. 2.

[5] PVT. 4" PVC SDR-35 PER SDRSD D-60.

[6] PVT. 6" PVC SDR-35 PER SDRSD D-60.

[9] PVT. MODULAR WETLANDS SYSTEM PER DETAILS ON SHT. 14.

[10] PVT. BRENTWOOD STORMTANK #1 SYSTEM (LAYFIELD) PER DETAILS ON SHT'S 15-23.

[15] PVT. 12" PVC SDR-35 PER SDRSD D-60.

[16] STORM DRAIN CLEANOUT TYPE A PER SDRSD D-09. SEE DETAIL 4, SHT. 14.

[18] PVT. 6" ATRIUM DRAIN PER DETAIL 5, SHT. 2.

[19] MARK ALL INLETS WITH THE WORDS "NO DUMPING-DRAINS TO WATERWAYS" OR SIMILAR. SEE STENCIL TEMPLATE ON SHT. 10.

[24] STORM DRAIN PIPE THRU STEM/ FOOTING PER DETAIL 3, SHT. 14.

[26] PVT. 18" CATCH BASIN PER DETAIL 4, SHT. 2.

EASEMENTS

(1) EXISTING COUNTY OF SAN DIEGO SEWER EASEMENT REC. OCTOBER 6, 1966 PER DOC. NO. 161743, O.R. TO BE QUITCLAIMED

(3) 20' WATER EASEMENT TO HELIX WATER DISTRICT PER DOC. _____, REC. _____

(4) 15' SEWER EASEMENT TO SAN DIEGO COUNTY SANITATION DISTRICT PER DOC. _____, REC. _____

(5) EXISTING 10' SEWER EASEMENT REC. _____ PER DOC. NO. _____, O.R.

SEE SHEET 7 FOR PVT. UTILITY INFORMATION

WALL ELEVATIONS ARE FOR INFORMATIONAL PURPOSES ONLY. SEE WALL PLAN/PROFILE SHT'S. 24-27.

PERMANENT POST-CONSTRUCTION BMP DEVICES (BIOFILTRATION BASIN, MODULAR WETLAND SYSTEM AND STORMTANK SYSTEM) SHOWN ON THIS PLAN SHALL NOT BE REMOVED OR MODIFIED WITHOUT THE APPROVAL OF THE COUNTY OF SAN DIEGO.

N

10 5 0 10 20 30

SCALE: 1"=10'

ENGINEER OF WORK

Snipes-Dye associates

civil engineers and land surveyors

8348 CENTER DRIVE, STE. G, LA MESA, CA 91942

TELEPHONE (619) 697-9234 FAX (619) 460-2033

WILLIAM A. SNIPES R.C.E. 50477

EXPIRES 06-30-25

REGISTERED PROFESSIONAL ENGINEER · WILLIAM A. SNIPES · No. 50477 · Exp. 06-30-25 · CIVIL · STATE OF CALIFORNIA

RECORD PLAN

BY: _____ DATE: _____

COUNTY APPROVED CHANGES

No.	Description	Approved by	Date

BENCH MARK

DESCRIPTION: STANDARD BENCHMARK # 91

LOCATION: TOP OF CURB, N END CB RETURN AT NW CORNER GRETA STREET AND FIRST STREET

RECORD FROM: CITY OF EL CAJON

ELEVATION: 515.161 DATUM: NAVD 88

PRIVATE CONTRACT

SHEET	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	SHEETS
5		27

GRADING PLAN FOR:

BRADLEY APARTMENT COMPLEX

CALIFORNIA COORDINATE INDEX 238-1785

APPROVED: FOR WILLIAM P. MORGAN COUNTY ENGINEER

BY: _____

DATE

ENGINEER OF WORK

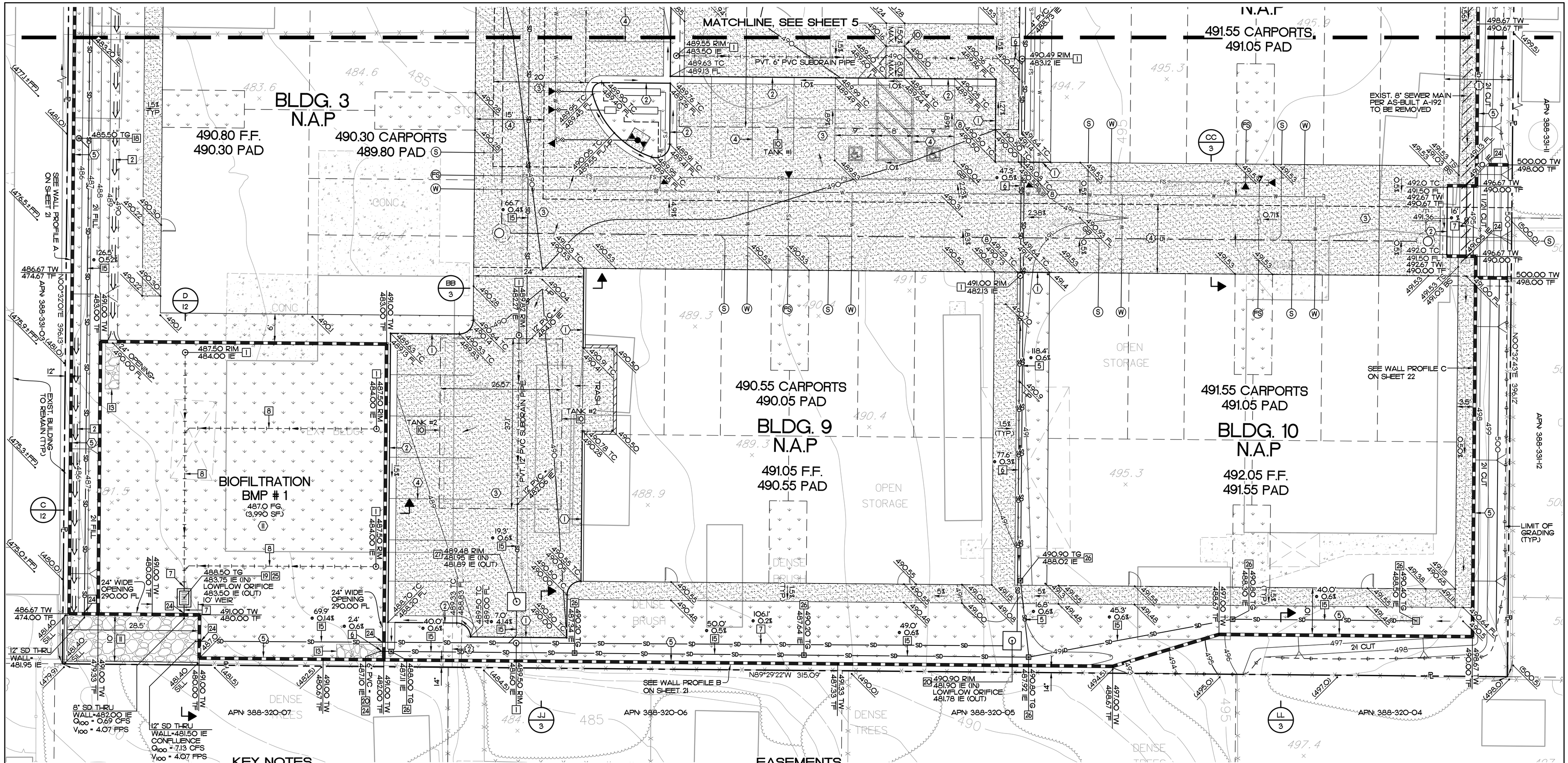
WILLIAM A. SNIPES R.C.E. 50477

PDS2019-LDGRMJ-30236

ENGINEER'S NAME - SNIPES-DYE ASSOCIATES

PHONE NO. (619) 697-9234

HWD RMB20032



KEY NOTES

PVT. IMPROVEMENTS

1. PVT. 6" CURB PER SDRSD G-1 (TYP.).
2. PVT. 6" CURB/GUTTER TYPE G PER SDRSD G-2 (TYP.).
3. 6.5" CONCRETE (560-C-3550) PAVEMENT W/ #4 REBARS @ 18" O.C., BOTH DIRECTIONS.
4. STRIPING PER BUILDING PLANS.
5. RETAINING WALL PLAN/PROFILE PER SHT'S 24-27.
6. PVT. TOP OF CURB TRANSITION PER DETAIL 2, SHT. 2.
10. PVT. CURB RAMP PER SDRSD G-30, G-31 (TYPE D) & G-32A.
11. ALL PROPOSED VEGETATION TO BE CONSTRUCTED/INSTALLED WITHIN BIOFILTRATION BASIN AND TREE WELLS SHALL BE CONFORMANCE WITH APPROVED LANDSCAPE AND IRRIGATION PLAN NO. PDS2020-LP-20-088, AND SHALL BE INCLUDED IN PROJECT SWQMP.

PVT. STORM DRAIN

1. PVT. STORM DRAIN CLEANOUT PER DETAIL 1 ON SHT. 2.
2. PVT. DRAINAGE DITCH TYPE D PER SDRSD D-75 (TYP.).
5. PVT. 4" PVC SDR-35 PER SDRSD D-60.
6. PVT. 6" PVC SDR-35 PER SDRSD D-60.
7. PVT. 8" PVC SDR-35 PER SDRSD D-60.
8. PVT. 8" PVC SDR-35 PERFORATED PIPE.
10. PVT. BRENTWOOD STORMTANK #1 & #2 SYSTEM (LAYFIELD) PER DETAILS ON SHT'S 15-23.
11. PVT. NO. 2 BACKING (10'X28.5'X1.1' THICK) ROCK RIP-RAP PER SDRSD D-40, TYPE 2.
13. PVT. 3'-6" ROCKS (3'X10'X0.7' THICK).
15. PVT. 12" PVC SDR-35 PER SDRSD D-60.
18. PVT. 6" ATRIUM DRAIN PER DETAIL 5, SHT. 2.
19. MARK ALL INLETS WITH THE WORDS "NO DUMPING-DRAINS TO WATERWAYS" OR SIMILAR. SEE STENCIL TEMPLATE ON SHT. 10.
20. STORM DRAIN CLEANOUT TYPE A PER SDRSD D-09 W/ 0.81' LOWFLOW ORIFICE.
24. STORM DRAIN PIPE THRU STEM/ FOOTING PER DETAIL 3, SHT. 14.
25. PVT. MODIFIED CATCH BASIN TYPE G-I W/ 2-OPENINGS PER SDRSD D-08.
26. PVT. 18" CATCH BASIN PER DETAIL 4, SHT. 2.
27. STORM DRAIN CLEANOUT TYPE A PER SDRSD D-09 W/ WEIR 1'X2' @ 481.93 ORIFICE. SEE DETAIL 5, SHT. 14.

EASEMENTS

1. EXISTING COUNTY OF SAN DIEGO SEWER EASEMENT REC. OCTOBER 6, 1966 PER DOC. NO. 161743, O.R. TO BE QUITCLAIMED
2. EXISTING SDG&E UTILITIES EASEMENT REC. SEPTEMBER 11, 1968 PER DOC. NO. 1968-156689, O.R. TO BE VACATED
4. 15' SEWER EASEMENT TO SAN DIEGO COUNTY SANITATION DISTRICT PER DOC. _____, REC. _____

SEE SHEET 7 FOR PVT. UTILITY INFORMATION

WALL ELEVATIONS ARE FOR INFORMATIONAL PURPOSES ONLY. SEE WALL PLAN/PROFILE SHT'S. 24-27.

RECORD PLAN

BY:_____ DATE:_____

PRIVATE CONTRACT

SHEET		
6	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	27 SHEETS

GRADING PLAN FOR:

BRADLEY APARTMENT COMPLEX

CALIFORNIA COORDINATE INDEX 238-1785

APPROVED: FOR WILLIAM P. MORGAN COUNTY ENGINEER

BY:_____ DATE

ENGINEER OF WORK
WILLIAM A. SNIPES R.C.E. 50477

PDS2019-LDGRMJ-30236

COUNTY APPROVED CHANGES

No.	Description	Approved by	Date

BENCH MARK

DESCRIPTION: STANDARD BENCHMARK # 91

LOCATION: TOP OF CURB, N END CB RETURN AT NW CORNER GRETA STREET AND FIRST STREET

RECORD FROM: CITY OF EL CAJON

ELEVATION: 515.161 DATUM: NAVD 88

ENGINEER OF WORK

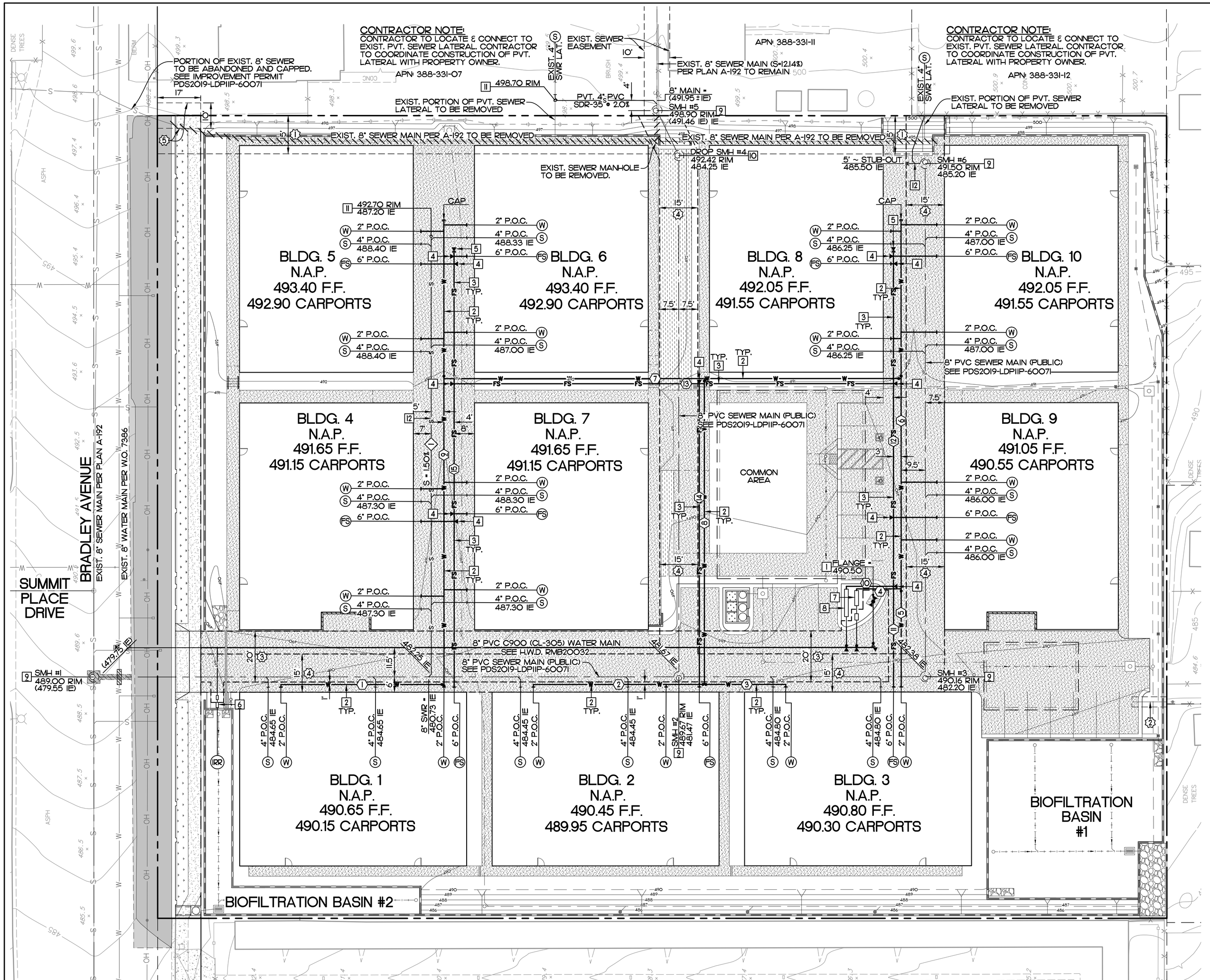
Snipes-Dye associates
civil engineers and land surveyors
8348 CENTER DRIVE, STE. G, LA MESA, CA 91942
TELEPHONE (619) 697-9234 FAX (619) 460-2033

WILLIAM A. SNIPES R.C.E. 50477
EXPIRES 06-30-25

REGISTERED PROFESSIONAL ENGINEER · WILLIAM A. SNIPES · No. 50477 · Exp. 06-30-25 · CIVIL · STATE OF CALIFORNIA

ENGINEER'S NAME - SNIPES-DYE ASSOCIATES
PHONE NO. (619) 697-9234

HWD RMB20032



KEY NOTES

PVT. WATER / FIRE

1. FIRE HYDRANT ASSEMBLY PER WAS WF-01 & WF-04.
2. PVT. 2" PVC SCHEDULE 80 PER WAS WP-02.
3. PVT. 6" PVC C900 CL-305 FIRE SERVICE PER WAS WP-02.
4. THRUST BLOCK PER WAS WT-01.
5. END CAP & THRUST BLOCK PER WAS WT-01.
6. 1 1/2" RPBPD WATER SERVICE PER WR-01.
7. 2" RPBPD WATER SERVICE PER WR-01.
8. 6" RPBPD FIRE SERVICE PER WR-02.

PVT. SEWER

9. SEWER MANHOLE PER SDRSD SM-01.
10. SEWER DROP MANHOLE PER W.A.S. SM-09.
11. PVT. SEWER CLEANOUT PER DETAIL 1 ON SHT. 2.
12. PVT. 6" PVC SDR-35 SEWER PER SDRSD SP-02, UNLESS OTHERWISE NOTED.

PRIVATE SEWER MAIN NOTE:
PROPOSED PVT. SEWER COLLECTION FACILITIES AND LATERALS SHALL BE REVIEWED, PERMITTED AND INSPECTED BY THE PLANNING & DEVELOPMENT SERVICES (PDS) BUILDING PERMIT DIVISION.

PDS BUILDING NO. PDS2020-CMASP-0000

EASEMENTS

1. EXISTING COUNTY OF SAN DIEGO SEWER EASEMENT REC. OCTOBER 6, 1966 PER DOC. NO. 161743, O.R. TO BE QUITCLAIMED
2. EXISTING SDG&E UTILITIES EASEMENT REC. SEPTEMBER 11, 1968 PER DOC. NO. 1968-156689, O.R. (SDG&E EASEMENT TO BE VACATED)
3. 20' WATER EASEMENT TO HELIX WATER DISTRICT PER DOC. _____, REC. _____
4. 15' SEWER EASEMENT TO SAN DIEGO SANITATION DISTRICT PER DOC. _____, REC. _____
5. EXISTING CATV EASEMENT REC. JANUARY 28, 1974 PER DOC. NO. 74-022313, O.R.

FOR WORK WITHIN COUNTY RIGHT-OF-WAY, SEE IMPROVEMENT PERMIT NO. PDS2019-LDPIIP-60071

FOR PUBLIC SEWER MAIN, SEE IMPROVEMENT PERMIT NO. PDS2019-LDPIIP-60071 AND DPW2022-WWSWCP-00074

PVT. WATER /FIRE SERVICE DATA

◇	DELTA/BRG	RADIUS	LENGTH	REMARK
1	N 00°30'45"E	--	64.03'	PVT. 2" PVC SCH-80
2	N 00°30'45"E	--	67.16'	PVT. 2" PVC SCH-80
3	N 00°30'45"E	--	31.92'	PVT. 2" PVC SCH-80
4	N 00°30'45"E	--	17.50'	PVT. 2" PVC SCH-80
5	N 89°29'15"W	--	38.50'	PVT. 2" PVC SCH-80
6	N 89°29'15"W	--	144.95'	PVT. 2" PVC SCH-80
7	N 00°30'45"E	--	179.46'	PVT. 2" PVC SCH-80
8	N 89°29'15"W	--	120.08'	PVT. 2" PVC SCH-80
9	N 89°29'15"W	--	182.45'	PVT. 2" PVC SCH-80
10	N 00°30'45"E	--	18.50'	PVT. 6" PVC C900 CL-305
11	N 89°29'15"W	--	39.50'	PVT. 6" PVC C900 CL-305
12	N 89°29'15"W	--	131.63'	PVT. 6" PVC C900 CL-305
13	N 00°30'45"E	--	172.46'	PVT. 6" PVC C900 CL-305
14	N 89°29'15"W	--	119.08'	PVT. 6" PVC C900 CL-305
15	N 89°29'15"W	--	171.12'	PVT. 6" PVC C900 CL-305

PVT. SEWER DATA

◇	DELTA/BRG	RADIUS	LENGTH	REMARK
1	N 89°29'15"W	--	173.00'	PVT. 6" PVC SDR-35

ENGINEER OF WORK
Snipes-Dye associates
civil engineers and land surveyors
8348 CENTER DRIVE, STE. G, LA MESA, CA 91942
TELEPHONE (619) 697-9234 FAX (619) 460-2033
WILLIAM A. SNIPES R.C.E. 50477
EXPIRES 06-30-25

REGISTERED PROFESSIONAL ENGINEER · WILLIAM A. SNIPES · No. 50477 · Exp. 06-30-25 · CIVIL · STATE OF CALIFORNIA

COUNTY APPROVED CHANGES

No.	Description	Approved by	Date

BENCH MARK
DESCRIPTION: STANDARD BENCHMARK # 91
LOCATION: TOP OF CURB, N END CB RETURN AT NW CORNER GRETA STREET AND FIRST STREET
RECORD FROM: CITY OF EL CAJON
ELEVATION: 515.161 DATUM: NAVD 88

RECORD PLAN
BY: _____ DATE: _____

PRIVATE CONTRACT

SHEET		
7	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	27 SHEETS

UTILITY PLAN SHEET FOR:

BRADLEY APARTMENT COMPLEX

CALIFORNIA COORDINATE INDEX 238-1785

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

ENGINEER OF WORK
WILLIAM A. SNIPES R.C.E. 50477

PDS2019-LDGRMJ-30236

HWD RMB20032

ENGINEER'S NAME - SNIPES-DYE ASSOCIATES
PHONE NO. (619) 697-9234

STORM WATER MANAGEMENT NOTES

1. DURING THE RAINY SEASON THE AMOUNT OF EXPOSED SOIL ALLOWED AT ONE TIME SHALL NOT EXCEED THAT WHICH CAN BE ADEQUATELY PROTECTED BY THE PROPERTY OWNER IN THE EVENT OF A RAINSTORM. 1.25" SHALL BE RETAINED ON THE JOB SITE IN A MANNER THAT ALLOWS FULL DEPLOYMENT AND COMPLETE INSTALLATION IN 48 HOURS OR LESS ON A FORECAST RAIN.

2. NO AREA BEING DISTURBED SHALL EXCEED 50 ACRES AT ANY GIVEN TIME WITHOUT DEMONSTRATING TO THE SAN DIEGO COUNTY D.P.W. DIRECTOR'S SATISFACTION THAT ADEQUATE EROSION AND SEDIMENT CONTROL CAN BE MAINTAINED. ANY DISTURBED AREA THAT IS NOT ACTIVELY GRADED FOR 15 DAYS MUST BE FULLY PROTECTED FROM EROSION, UNTIL ADEQUATE LONG-TERM PROTECTIONS ARE INSTALLED, THE DISTURBED AREA SHALL BE INCLUDED WHEN CALCULATING THE ACTIVE DISTURBANCE AREA. ALL EROSION CONTROL MEASURES SHALL REMAIN INSTALLED MAINTAINED DURING ANY INACTIVE PERIOD.

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

4. A NOTICE OF INTENT (NOI) HAS BEEN, OR WILL BE FILED WITH THE STATE WATER RESOURCES CONTROL BOARD (SWRCB) AND THAT A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN OR WILL BE PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF CALIFORNIA GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY (PERMIT NO. CASOOOOO2) FOR ALL OPERATIONS ASSOCIATED WITH THESE PLANS. THE NOI NUMBER ASSIGNED BY SWRCB FOR THIS PROJECT IS WDID NO._____, THE PERMITTEE SHALL KEEP A COPY OF THE SWPPP ON SITE AND AVAILABLE FOR REVIEW BY COUNTY.

EMERGENCY EROSION CONTROL MEASURES NOTES

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

BMP STENCIL PLACEMENT NOTES

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

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

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

BFM'S AND SFM'S NOTES

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

1. APPLICATION RATES SHALL BE 3500 POUNDS PER ACRE MINIMUM FOR 2:1 OR SHALLOWER SLOPES AND 4000 POUNDS PER ACRE FOR SLOPES STEEPER THAN 2:1.
2. BFM SHALL BE APPLIED AT LEAST 24 HOURS BEFORE OR AFTER RAINFALL.
3. THE SITE MUST BE PROTECTED WITH BROW DITCHES AND / OR DIVERSION BERMS AT THE TOP OF SLOPES TO DIVERT FLOW FROM THE FACE OF THE SLOPE.
4. BFM SHALL BE APPLIED TO PROVIDE 100% COVERAGE (I.E. APPLICATION FROM MULTIPLE ANGLES).
5. FOR PERMANENT EROSION CONTROL PURPOSES, BFM MUST BE INSTALLED 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.

THE USE OF SFM'S IS SUBJECT TO THE FOLLOWING LIMITATIONS AND RESTRICTIONS.

1. SFM MAY BE USED FOR TEMPORARY EROSION CONTROL FOR DISTURBED AREAS WITH A SLOPE RATIO OF 1 VERTICAL TO 2 HORIZONTAL OR SHALLOWER, INCLUDING PAD AND SEPTIC FIELD AREAS.
2. THE SFM SHALL BE APPLIED AT LEAST 24 HOURS BEFORE OR AFTER RAINFALL AND SHALL BE APPLIED TO PROVIDE 100% COVERAGE (I.E. APPLIED FROM MULTIPLE DIRECTIONS AND ANGLES.
3. THE APPLICATION AREA MUST BE PROTECTED BY BROW DITCHES AND OR DIVERSION BERMS AT TOP OF SLOPES TO DIVERT FLOW FROM THE SURFACE OF THE PROTECTED SLOPE.
4. FOR PERMANENT EROSION CONTROL PURPOSES, SFM MUST BE INSTALLED IN CONJUNCTION WITH SEEDED EROSION CONTROL VEGETATION OR HAND PLANTINGS. AS WITH ALL OTHER APPLICATIONS, SFM WILL NOT BE CONSIDERED PERMANENT UNTIL 70% VEGETATION ESTABLISHMENT.
5. COVERAGE AND CONCENTRATION: FOR EACH AREA COVERED, THE MINIMUM APPLICATION VOLUME SHALL BE 10 GALLONS NON-TOXIC WATER-PERMEABLE SOIL-STABILIZING LIQUID EMULSION WITH 3,000 LBS OF HYDRAULIC MULCH. THE EMULSION MUST BE DESIGNED TO PROTECT SOIL, PREVENT EROSION, AND FLOCCULATE (CLUMP) SEDIMENT.
6. A LETTER FROM THE HYDROSEED CONTRACTOR CERTIFYING THE SFM WAS INSTALLED IN ACCORDANCE WITH APPROVED APPLICATION RATES, COVERAGE AND MANUFACTURER'S DILUTION RATIO SHALL BE SUBMITTED TO THE COUNTY INSPECTOR FOR APPROVAL.

SILTATION AND SEDIMENT CONTROL MEASURES NOTES

1. THE SEDIMENT BASINS SHALL BE PROVIDED AT THE LOWER END OF EVERY DRAINAGE AREA PRODUCING SEDIMENT RUNOFF. THE BASINS SHALL BE MAINTAINED AND CLEANED TO DESIGN CONTOURS AFTER EVERY RUNOFF PRODUCING STORM. THE BASINS SHOULD BE SEMI-PERMANENT STRUCTURES THAT WOULD REMAIN UNTIL SOIL STABILIZING VEGETATION HAS BECOME WELL ESTABLISHED ON ALL ERODIBLE SLOPES.
2. SEDIMENTATION BASINS MAY NOT BE REMOVED OR MADE INOPERATIVE WITHOUT PRIOR APPROVAL OF THE COUNTY ENGINEER.
3. SEWER OR STORM DRAIN TRENCHES THAT ARE CUT THROUGH BASIN DIKES OR BASIN INLET DIKES SHALL BE PLUGGED WITH GRAVEL BAGS FROM TOP OF PIPE TO TOP OF DIKE.
4. ALL UTILITY TRENCHES SHALL BE BLOCKED AT THE PRESCRIBED INTERVALS WITH A DOUBLE ROW OF GRAVEL BAGS WITH A TOP ELEVATION LEVEL WITH, AND TWO GRAVEL BAGS BELOW, THE GRADED SURFACE OF THE STREET. GRAVEL BAGS ARE TO BE PLACED WITH LAPPED COURSES. THE INTERVALS PRESCRIBED BETWEEN GRAVEL BAGS BLOCKING SHALL DEPEND ON THE SLOPE OF THE GROUND SURFACE, BUT NOT TO EXCEED THE FOLLOWING:

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

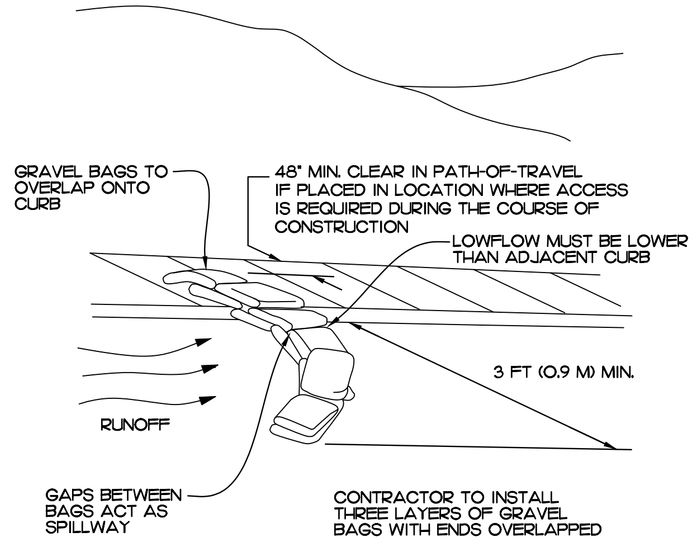
5. AFTER UTILITY TRENCHES ARE BACKFILLED AND COMPACTED, THE SURFACES OVER SUCH TRENCHES SHALL BE MOUNDED SLIGHTLY TO PREVENT CHANNELING OF WATER IN THE TRENCH AREA. CARE SHOULD BE EXERCISED TO PROVIDE FOR CROSS FLOW AT FREQUENT INTERVALS WHERE TRENCHES ARE NOT ON THE CENTERLINE OF A CROWNED STREET.
6. ALL BUILDING PADS SHOULD BE SLOPED TOWARDS THE DRIVEWAYS AND VELOCITY CHECK DAMS PROVIDED AT THE BASE OF ALL DRIVEWAYS DRAINING INTO THE STREET.
7. PROVIDE VELOCITY CHECK DAMS IN ALL UNPAVED GRADED CHANNELS AT THE INTERVALS INDICATED BELOW:

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

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

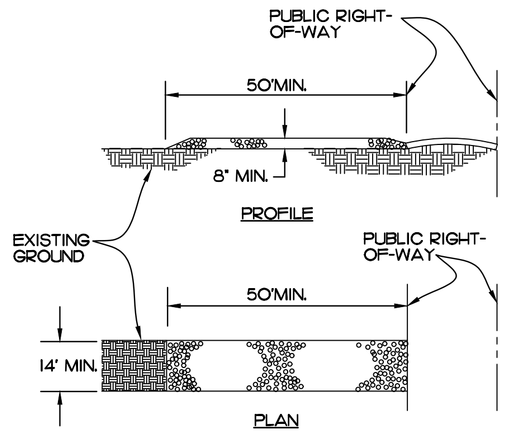
GRADE OF THE STREET	INTERVAL	NUMBER OF BAGS HIGH
LESS THAN 2%	AS REQUIRED 200 FEET MAX.	1
2% TO 4%	100 FEET	1
4% TO 6%	50 FEET	1
6% TO 10%	50 FEET	2
OVER 10%	25 FEET	2

9. PROVIDE A GRAVEL BAG SILT BASIN OR TRAP BY EVERY STORM DRAIN INLET TO PREVENT SEDIMENT FROM ENTERING DRAIN SYSTEM.
10. GRAVEL BAGS AND FILL MATERIAL SHALL BE STOCKPILED AT INTERVALS, READY FOR USE WHEN REQUIRED.
11. ALL EROSION CONTROL DEVICES WITHIN THE DEVELOPMENT SHOULD BE MAINTAINED DURING AND AFTER EVERY RUNOFF PRODUCING STORM, IF POSSIBLE, MAINTENANCE CREWS WOULD BE REQUIRED TO HAVE ACCESS TO ALL AREAS.
12. PROVIDE ROCK RIPRAP ON CURVES AND STEEP DROPS IN ALL EROSION PRONE DRAINAGE CHANNELS DOWNSTREAM FROM THE DEVELOPMENT. THIS PROTECTION WOULD REDUCE EROSION CAUSED BY THE INCREASED FLOWS THAT MAY BE ANTICIPATED FROM DENUDED SLOPES, OR FROM IMPERVIOUS SURFACES.
13. ANY PROPOSED ALTERNATE CONTROL MEASURES MUST BE APPROVED IN ADVANCE BY ALL RESPONSIBLE AGENCIES: I.E., COUNTY ENGINEER, DEPARTMENT OF ENVIRONMENTAL HEALTH, FLOOD CONTROL AND OFFICE OF ENVIRONMENTAL MANAGEMENT, ETC.



DETAIL - GRAVEL BAG BERM

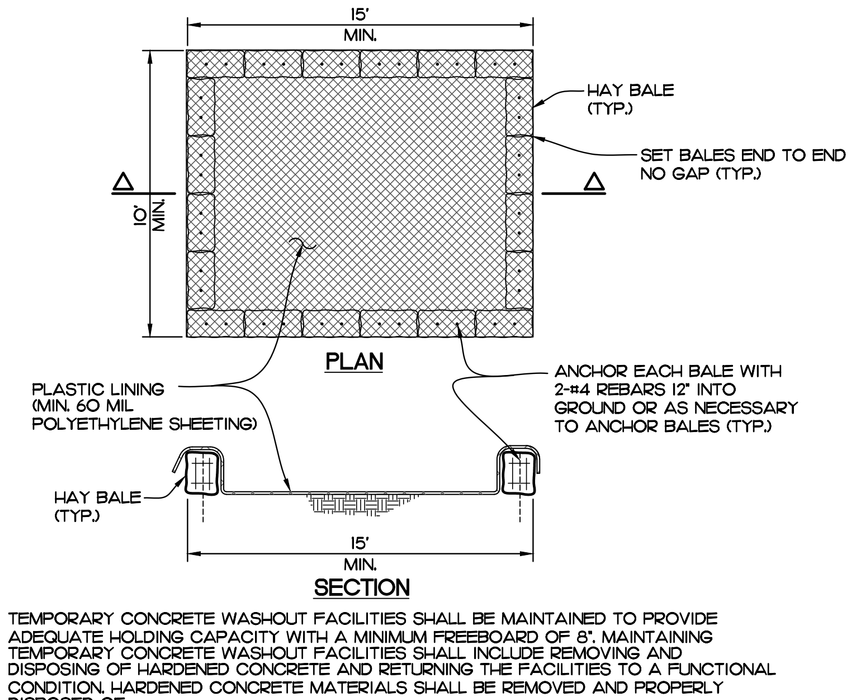
NO SCALE



PROVIDE APPROPRIATE TRANSITION BETWEEN STABILIZED CONSTRUCTION ENTRANCE AND PUBLIC RIGHT-OF-WAY

DETAIL - STABILIZED CONSTRUCTION ENTRANCE

NO SCALE

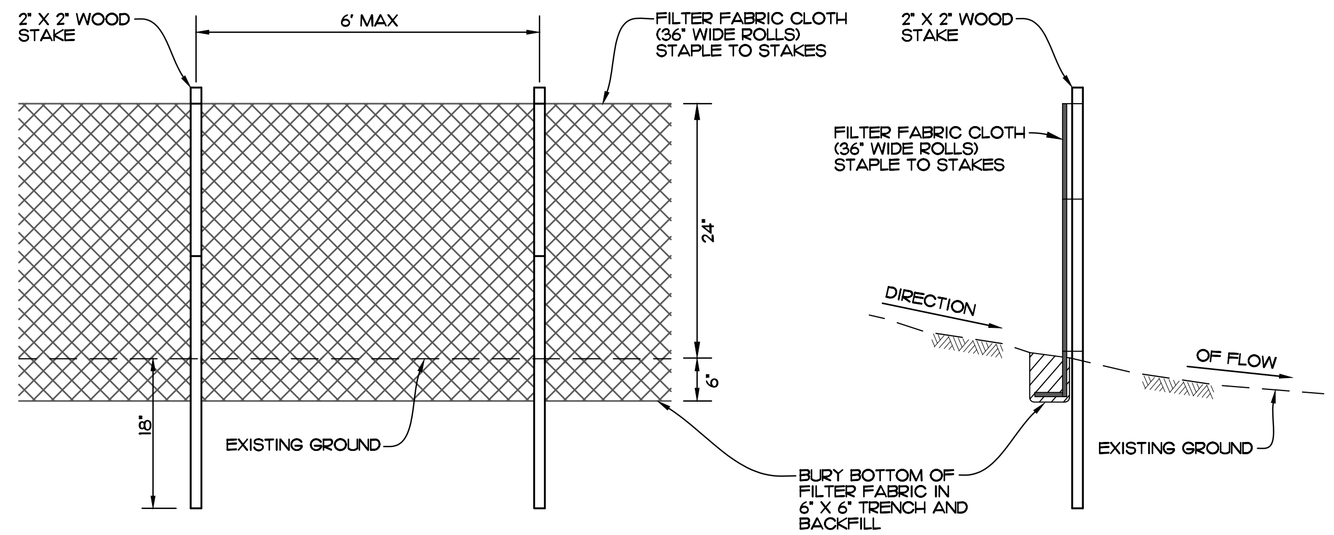


SECTION

TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE MAINTAINED TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM FREEBOARD OF 8". MAINTAINING TEMPORARY CONCRETE WASHOUT FACILITIES SHALL INCLUDE REMOVING AND DISPOSING OF HARDENED CONCRETE AND RETURNING THE FACILITIES TO A FUNCTIONAL CONDITION. HARDENED CONCRETE MATERIALS SHALL BE REMOVED AND PROPERLY DISPOSED OF.

TEMPORARY CONCRETE WASHOUT (ABOVE GRADE)

NO SCALE



DETAIL - SILT FENCE

NO SCALE

ENGINEER OF WORK

Snipes-Dye associates

civil engineers and land surveyors

8348 CENTER DRIVE, STE. G, LA MESA, CA 91942

TELEPHONE (619) 697-9234 FAX (619) 460-2033

WILLIAM A. SNIPES R.C.E. 50477

EXPIRES 06-30-25

REGISTERED PROFESSIONAL ENGINEER · WILLIAM A. SNIPES · No. 50477 · Exp. 06-30-25 · CIVIL · STATE OF CALIFORNIA

COUNTY APPROVED CHANGES			
No.	Description	Approved by	Date

BENCH MARK

DESCRIPTION: STANDARD BENCHMARK # 91

LOCATION: TOP OF CURB, N END CB RETURN AT NW CORNER GRETA STREET AND FIRST STREET

RECORD FROM: CITY OF EL CAJON

ELEVATION: 515.161 DATUM: NAVD 88

PRIVATE CONTRACT

SHEET		
8	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	27 SHEETS

EROSION CONTROL NOTES / DETAILS FOR:

BRADLEY APARTMENT COMPLEX

CALIFORNIA COORDINATE INDEX 238-1785

APPROVED: FOR WILLIAM P. MORGAN COUNTY ENGINEER

BY:

DATE

ENGINEER OF WORK

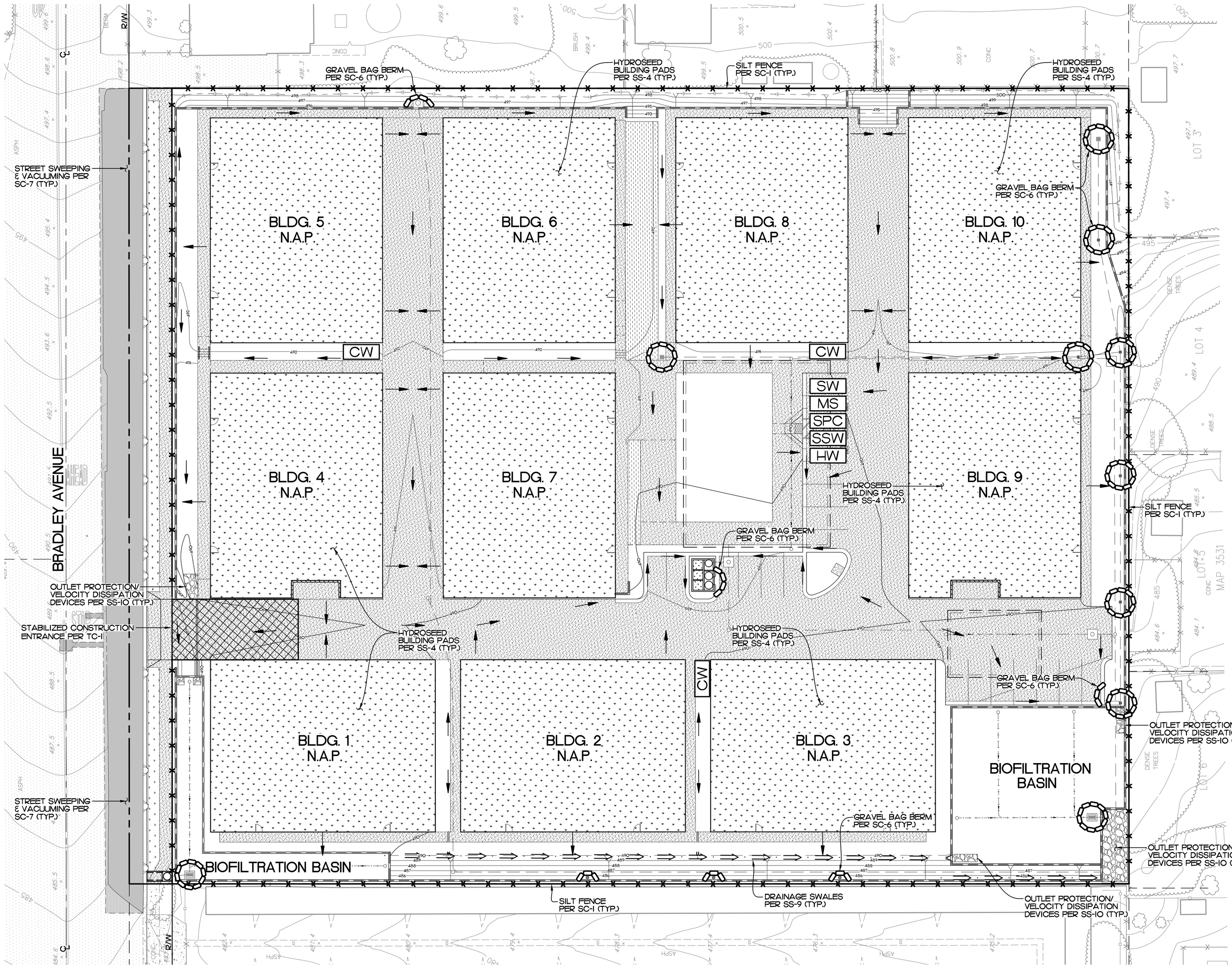
WILLIAM A. SNIPES R.C.E. 50477

PDS2019-LDGRMJ-30236

HWD RMB20032

ENGINEER'S NAME - SNIPES-DYE ASSOCIATES

PHONE NO. (619) 697-9234



LEGEND

THE FOLLOWING BMP'S ARE TO BE UTILIZED :

			SYMBOL
1.	SCHEDULING	SS-1	
2.	HYDROSEED	SS-4	
3.	EARTH DIKES/DRAINAGE SWALES & LINED DITCHES	SS-9	
4.	OUTLET PROTECTION/VELOCITY DISSIPATION DEVICES	SS-10	
5.	SILT FENCE	SC-1	
6.	GRAVEL BAG BERM	SC-6	
7.	STREET SWEEPING & VACUUMING	SC-7	
8.	STORM DRAIN INLET PROTECTION	SC-10	
9.	WIND EROSION CONTROL	WE-1	
10.	STABILIZED CONSTRUCTION ENTRANCE	TC-1	
11.	WATER CONSERVATION PRACTICES	NS-1	
12	PAVING AND GRINDING OPERATIONS	NS-3	
13.	ILLICIT CONNECTION/ILLEGAL DISCHARGE DETECTION AND REPORTING	NS-6	
14.	CONCRETE CURING	NS-12	
15.	CONCRETE FINISH	NS-14	
16.	MATERIAL DELIVERY & STORAGE	WM-1	MS
17.	MATERIAL USE	WM-2	
18.	SPILL PREVENTION AND CONTROL	WM-4	SPC
19.	SOLID WASTE MANAGEMENT	WM-5	SW
20.	HAZARDOUS WASTE MANAGEMENT	WM-6	HW
21.	CONCRETE WASTE MANAGEMENT	WM-8	CW
22.	SANITARY/SEPTIC WASTE MANAGEMENT	WM-9	SSW
23.	LIQUID WASTE MANAGEMENT	WM-10	
24.	DIRECTION OF FLOW		

N

20 10 0 20 40 60

SCALE: 1"=20'

ENGINEER OF WORK

Snipes-Dye associates

civil engineers and land surveyors

8348 CENTER DRIVE, STE. G, LA MESA, CA 91942

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WILLIAM A. SNIPES R.C.E. 50477
EXPIRES 06-30-25

REGISTERED PROFESSIONAL ENGINEER · WILLIAM A. SNIPES · No. 50477 · Exp. 06-30-25 · CIVIL · STATE OF CALIFORNIA

COUNTY APPROVED CHANGES			
No.	Description	Approved by	Date

BENCH MARK

DESCRIPTION: STANDARD BENCHMARK # 91

LOCATION: TOP OF CURB, N END CB RETURN AT NW CORNER GRETA STREET AND FIRST STREET

RECORD FROM: CITY OF EL CAJON

ELEVATION: 515.161 DATUM: NAVD 88

PRIVATE CONTRACT

SHEET		
9	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	27 SHEETS

EROSION CONTROL & CONSTRUCTION BMP PLAN FOR:

BRADLEY APARTMENT COMPLEX

CALIFORNIA COORDINATE INDEX 238-1785

APPROVED: FOR WILLIAM P. MORGAN
COUNTY ENGINEER

BY:

DATE

ENGINEER OF WORK

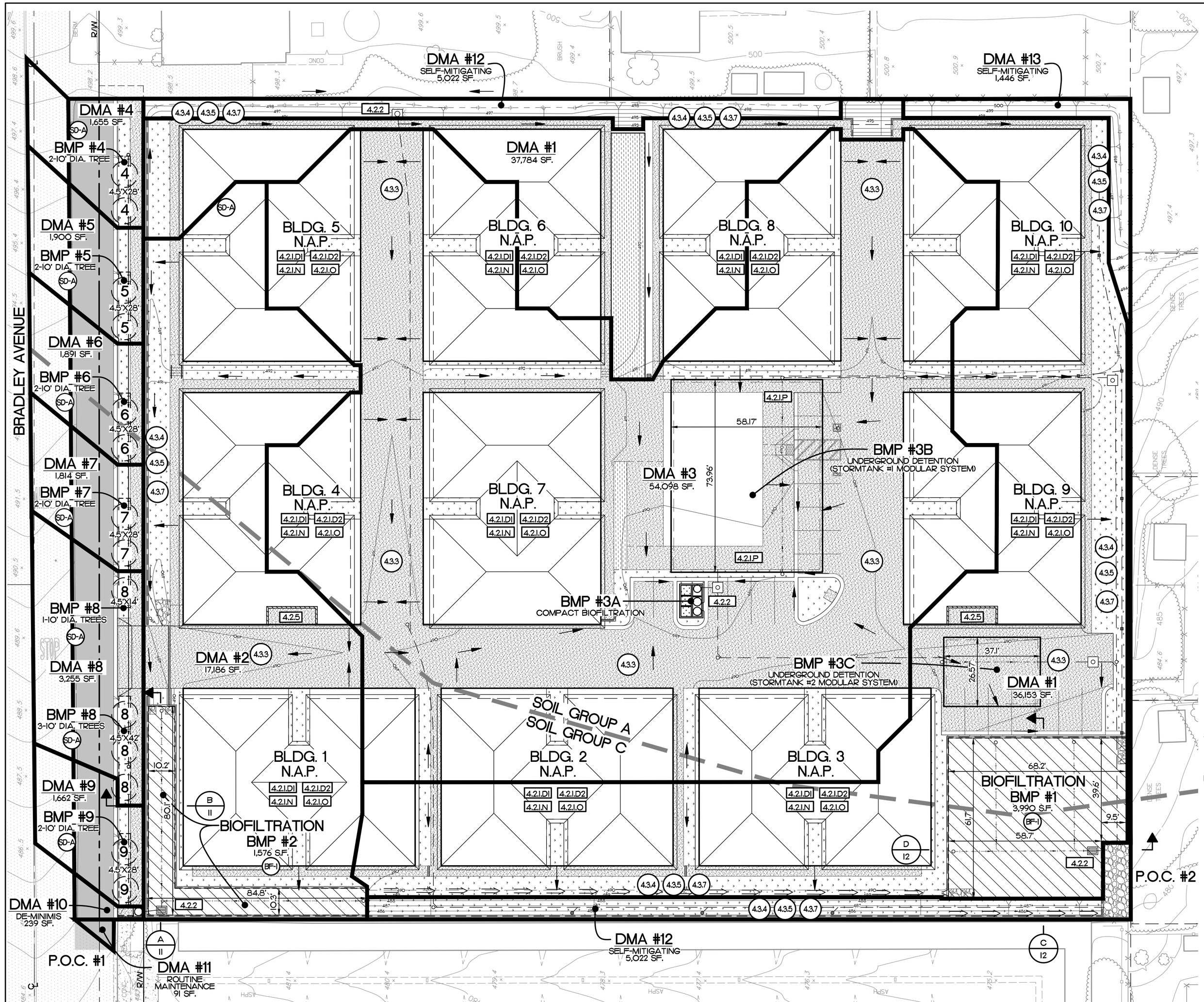
WILLIAM A. SNIPES R.C.E. 50477

PDS2019-LDGRMJ-30236

ENGINEER'S NAME - SNIPES-DYE ASSOCIATES

PHONE NO. (619) 697-9234

HWD RMB20032



PROJECT PERMANENT BMP'S

1. SOURCE CONTROL BMP'S:

- 4.2.1 PREVENT ILLICIT DISHCARGES INTO THE MS4.
- 4.2.2 MARK ALL INLETS WITH THE WORDS "NO DUMPING - DRAINS TO OCEAN" OR SIMILAR LANGUAGE. SEE STENCIL TEMPLATE ON THIS SHEET.
- 4.2.5 PROTECT TRASH STORAGE AREAS FROM RAINFALL, RUN-ON, RUNOFF, AND WIND DISPERSAL. TRASH ENCLOSURES WITH CONCRETE SLAB, SCREENED WALLS, AND DUMPSTERS WITH LIDS.
- 4.2.1 D1 NEED FOR FUTURE INDOOR AND STRUCTURAL PEST CONTROL.
- 4.2.1 D2 LANDSCAPE / OUTDOOR PESTICIDE USE. MAINTAIN LANDSCAPING USING MINIMUM OR NO PESTICIDES.
- 4.2.1 N AIR CONDITIONING CONDENSATE DRAIN LINES SHALL DISCHARGE INTO LANDSCAPE AREAS AND MAY NOT DISCHARGE TO THE STORM DRAIN SYSTEM.
- 4.2.1 O AVOID ROOFING, GUTTERS, AND TRIM MADE OF COPPER OR OTHER UNPROTECTED METALS THAT MAY LEACH INTO RUNOFF.
- 4.2.1 P PLAZAS, SIDEWALKS & PARKING LOTS MUST BE SWEPT REGULARLY.

2. SITE DESIGN BMP'S:

- SD-A TREES PLANTED PER COUNTY OF SAN DIEGO BMP DESIGN MANUAL (SEPT. 2020) BMP FACT SHEET SD-A, FOR THE INTERCEPTION OF RAINFALL AND RUNOFF.
- 4.3.3 MINIMIZE IMPERVIOUS AREAS: PROPOSED MULTI-STORY BUILDING TO REDUCE SIZE OF FOOTPRINT.
- 4.3.4 MINIMIZE SOIL COMPACTION.
- 4.3.5 IMPERVIOUS AREA DISPERSION: DRAIN ROOFTOPS TO ADJACENT LANDSCAPE AREAS.
- 4.3.7 LANDSCAPING WITH NATIVE OR DROUGHT TOLERANT SPECIES.

3. STRUCTURAL BMP'S:

- BF-I BIOFILTRATION BASIN

SELF-MITIGATING DMAs NOTES

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

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

BMP STENCIL PLACEMENT NOTES

A) THE PROPOSED CURB INLETS SHALL HAVE A STENCIL OR TILE PLACED WITH PROHIBITIVE LANGUAGE "NO DUMPING THIS DRAINS TO OCEAN" AND/OR GRAPHICAL ICONS TO DISCOURAGE ILLEGAL DUMPING.

B) 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.

LEGEND

- DMA BOUNDARY
- DIRECTION OF FLOW
- PERVIOUS AREA (LANDSCAPE)
- IMPERVIOUS AREA (CONCRETE)
- IMPERVIOUS AREA (ASPHALT)
- PERVIOUS AREA (D.G.)
- IMPERVIOUS AREA (ROOF TOP)
- DMA I.D. — DMA #1
- BIOFILTRATION BASIN (BF-1)
- UNDERGROUND DETENTION (STORMTANK SYSTEM)
- BIOFILTRATION BASIN (MODULAR WETLANDS SYSTEM)
- STORM DRAIN CLEANOUT
- PVC SDR-35 STORM DRAIN PIPE
- DRAINAGE DITCH
- TREE WELL (SD-A) — 4
- AMENDED SOIL LIMITS

NOTES

1. SITE IS LOCATED WITHIN LAKE WOHLFORD RAIN GAUGE BASIN.
2. UNDERLYING HYDROLOGIC SOIL GROUPS A & C.
3. SITE IS RELATIVELY FLAT.
4. GROUNDWATER DEPTH IS UNKNOWN.
5. BASED ON WMAA MAPS CRITICAL COARSE SEDIMENT YIELD AREAS (CCSYAS) WERE NOT IDENTIFIED WITHIN PROJECT FOOTPRINT OR UPSTREAM AREAS DRAINING THROUGH THE PROJECT FOOTPRINT.
6. PROPOSED STRUCTURAL AND SIGNIFICANT SITE DESIGN BMP'S FOR POLLUTANT CONTROL CONSIST OF THE FOLLOWING: 2 BIOFILTRATION BASINS (BF-1), 6 TREE WELLS (SD-A), AND 2 PROPRIETARY BIOFILTRATION BASIN (MODULAR WETLANDS SYSTEM).
7. COUNTY OF SAN DIEGO'S 85TH PERCENTILE ISOPLUVIAL MAP WAS UTILIZED FOR SIZING STRUCTURAL BMPS TO COMPLY WITH TREATMENT CONTROL REQUIREMENTS P_{85TH} = 0.49 INCH.

TREE WELL NOTE

FOR TREE WELL CONSTRUCTION DETAILS AND SPECIFICATIONS REFER TO COUNTY OF SAN DIEGO IMPROVEMENT PLANS FOR BRADLEY AVENUE WIDENING DRAWING NO. PDS2019-LDPIIP-50071.

HYDROMODIFICATION MANAGEMENT EXEMPTION

THIS PROJECT IS EXEMPT FROM HYDROMODIFICATION MANAGEMENT REQUIREMENTS SINCE IT WILL DISCHARGE RUNOFF DIRECTLY TO FORESTER CREEK WHICH IS AN AREA IDENTIFIED IN THE WATERSHED MANAGEMENT AREA ANALYSIS (WMAA). THE WMAA HAS SHOWN THAT FUTURE INCREASES IN IMPERVIOUS AREAS WITHIN THE WATERSHED ARE NOT EXPECTED TO INCREASE THE EROSION POTENTIAL IN FORESTER CREEK.

SEE POST-CONSTRUCTION BMP FACILITY SUMMARY TABLE AND DRAINAGE MANAGEMENT AREAS TABLE ON SHEET 11

RECORD PLAN

BY: _____ DATE: _____

PRIVATE CONTRACT

SHEET	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	27 SHEETS
10		

DMA EXHIBIT / BMP PLAN FOR:

BRADLEY APARTMENT COMPLEX

CALIFORNIA COORDINATE INDEX 238-1785

APPROVED: FOR WILLIAM P. MORGAN COUNTY ENGINEER

BY: _____ DATE

ENGINEER OF WORK

WILLIAM A. SNIPES R.C.E. 50477

PDS2019-LDGRMJ-30236

ENGINEER OF WORK
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civil engineers and land surveyors
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WILLIAM A. SNIPES R.C.E. 50477
EXPIRES 06-30-25

REGISTERED PROFESSIONAL ENGINEER — WILLIAM A. SNIPES — No. 50477 — Exp. 06-30-25 — STATE OF CALIFORNIA — CIVIL

COUNTY APPROVED CHANGES

No.	Description	Approved by	Date

BENCH MARK

DESCRIPTION: STANDARD BENCHMARK # 91

LOCATION: TOP OF CURB, N END CB RETURN AT NW CORNER GRETA STREET AND FIRST STREET

RECORD FROM: CITY OF EL CAJON

ELEVATION: 515.161 DATUM: NAVD 88

ENGINEER'S NAME - SNIPES-DYE ASSOCIATES
PHONE NO. (619) 697-9234

HWD RMB20032

POST-CONSTRUCTION BMP FACILITY SUMMARY TABLE

BMP ID	BMP TYPE	APPROX. DIMENSIONS	PLAN AREA (SF)	PONDING SURFACE DEPTH (IN.)	MEDIA THICKNESS (IN.)	MULCH LAYER (IN.)	ASTM 3.3 WASHED SAND (IN.)	AGGREGATE STORAGE LAYER ABOVE UNDERDRAIN, INCL. 3" ASTM NO. 8 STONE (IN.)	AGGREGATE STORAGE LAYER BELOW UNDERDRAIN (IN.)	TOTAL FACILITY DEPTH INCL. 1'-2" FREEBOARD (FT)
BMP #1	BIOFILTRATION BASIN (BF-1)	40' W X 58' L	3,990	6	18	3	3	12	3	4.92
BMP #2	BIOFILTRATION BASIN (BF-1)	10' W X 158' L	1,576	6	18	3	3	12	3	4.92

BMP ID	BMP TYPE	REQUIRED TREATMENT (CFS)	PROVIDED TREATMENT (CFS)	MODULAR WETLANDS SYSTEM MODEL
BMP #3A	COMPACT BIOFILTRATION (BF-3)	0.318	0.375	MWS-L-8-12-4'-11"-C-HC

BMP ID	BMP TYPE	APPROX. DIMENSIONS	REQUIRED VOLUME (CF)	PROPOSED BMP VOLUME (CF)
BMP #3B	CISTERN BMP (STORMTANK MODULES)	56.5' W X 72' L X 3' D	12,870	12,871

BMP ID	BMP TYPE	# OF TREES	CANOPY DIA. OF TREE (FT.)	TREATMENT VOLUME PROVIDED (CF)	AMENDED SOIL LIMITS FOOTPRINT	DEPTH (INCL. 3" MULCH LAYER & 6" SAND AT BOTTOM - FOR SOIL TYPE C)	NOTES
BMP #4	TREE WELLS (SD-A)	2	10	80	4.5' x 28'	2'-9"	FOR TREE WELL CONSTRUCTION SPECIFICATIONS & DETAILS REFER TO COUNTY IMPROVEMENT PLANS NO. PDS2019-LDPIIP-60071 AND LANDSCAPE PLANS NO. PDS2020-LP-20-088.
BMP #5	TREE WELLS (SD-A)	2	10	80	4.5' x 28'	2'-9"	FOR TREE WELL CONSTRUCTION SPECIFICATIONS & DETAILS REFER TO COUNTY IMPROVEMENT PLANS NO. PDS2019-LDPIIP-60071 AND LANDSCAPE PLANS NO. PDS2020-LP-20-088.
BMP #6	TREE WELLS (SD-A)	2	10	80	4.5' x 28'	3'-3"	FOR TREE WELL CONSTRUCTION SPECIFICATIONS & DETAILS REFER TO COUNTY IMPROVEMENT PLANS NO. PDS2019-LDPIIP-60071 AND LANDSCAPE PLANS NO. PDS2020-LP-20-088.
BMP #7	TREE WELLS (SD-A)	2	10	80	4.5' x 28'	3'-3"	FOR TREE WELL CONSTRUCTION SPECIFICATIONS & DETAILS REFER TO COUNTY IMPROVEMENT PLANS NO. PDS2019-LDPIIP-60071 AND LANDSCAPE PLANS NO. PDS2020-LP-20-088.
BMP #8	TREE WELLS (SD-A)	4	10	160	4.5' X 56'	3'-3"	FOR TREE WELL CONSTRUCTION SPECIFICATIONS & DETAILS REFER TO COUNTY IMPROVEMENT PLANS NO. PDS2019-LDPIIP-60071 AND LANDSCAPE PLANS NO. PDS2020-LP-20-088.
BMP #9	TREE WELLS (SD-A)	2	10	80	4.5' x 28'	3'-3"	FOR TREE WELL CONSTRUCTION SPECIFICATIONS & DETAILS REFER TO COUNTY IMPROVEMENT PLANS NO. PDS2019-LDPIIP-60071 AND LANDSCAPE PLANS NO. PDS2020-LP-20-088.

DRAINAGE MANAGEMENT AREAS - BRADLEY APARTMENTS

DESCRIPTION	TRIBUTARY TO BMP	BMP TYPE	BMP SURFACE AREA (SF)	SOIL TYPE	DEPTH TO GROUNDWATER	PRE-PROJECT SLOPE	IMPERVIOUS DMAs			PERVIOUS DMAs		TOTAL DMA AREA	TOTAL DISTURBED AREA
							POST-PROJECT SURFACE TYPE IMPERVIOUS	POST-PROJECT SURFACE AREA IMPERVIOUS (SF)	OFF-SITE SURFACE AREA	POST-PROJECT SURFACE TYPE PERVIOUS	POST-PROJECT SURFACE AREA PERVIOUS (SF)		
DMA #1	BMP #1	BIOFILTRATION BASIN (BF-1)	3,990	A & C	> 20 FEET	FLAT (0%-5%)	ROOFTOPS & CONCRETE PAVEMENT	29,991	-	LANDSCAPING	6,162		
DMA #2	BMP #2	BIOFILTRATION BASIN (BF-1)	1,576	A & C	> 20 FEET	FLAT (0%-5%)	ROOFTOPS & CONCRETE PAVEMENT	14,080	-	LANDSCAPING	3,106		
DMA #3	BMP #3A/3B	COMPACT BIOFILTRATION (BF-1) W/ CISTERN (HU-1)	N/A	A & C	> 20 FEET	FLAT (0%-5%)	ROOFTOPS & CONCRETE PAVEMENT	50,901	-	LANDSCAPING	3,197		
DMA #4	BMP #4	TREE WELL (SD-A)	126	A	> 20 FEET	FLAT (0%-5%)	AC PAVEMENT	1,059	520	LANDSCAPING	76		
DMA #5	BMP #5	TREE WELL (SD-A)	126	A	> 20 FEET	FLAT (0%-5%)	AC PAVEMENT	1,080	744	LANDSCAPING	76		
DMA #6	BMP #6	TREE WELL (SD-A)	126	A & C	> 20 FEET	FLAT (0%-5%)	AC PAVEMENT	1,133	716	LANDSCAPING	42		
DMA #7	BMP #7	TREE WELL (SD-A)	126	C	> 20 FEET	FLAT (0%-5%)	AC PAVEMENT	1,049	693	LANDSCAPING	72		
DMA #8	BMP #8	TREE WELL (SD-A)	252	C	> 20 FEET	FLAT (0%-5%)	AC PAVEMENT	1,954	1,299	LANDSCAPING	2		
DMA #9	BMP #9	TREE WELL (SD-A)	126	C	> 20 FEET	FLAT (0%-5%)	AC PAVEMENT	991	613	LANDSCAPING	58		
DMA #10	DE-MINIMIS	DE-MINIMIS	N/A	C	> 20 FEET	FLAT (0%-5%)	AC/CONC. PAVEMENT	239	-	LANDSCAPING	0		
DMA #11	EXEMPT	ROUTINE MAINTENANCE ACTIVITIES	N/A	C	> 20 FEET	FLAT (0%-5%)	AC PAVEMENT	91	-	LANDSCAPING	0		
DMA #12	SELF-MITIGATING	SELF-MITIGATING	N/A	C	> 20 FEET	FLAT (0%-5%)	N/A	0	-	LANDSCAPING	5,022		
DMA #13	SELF-MITIGATING	SELF-MITIGATING	N/A	C	> 20 FEET	FLAT (0%-5%)	N/A	0	-	LANDSCAPING	1,446		
TOTAL AREA (SF)			4,782					102,568	4,585		20,925	132,860	128,275

RECORD PLAN

BY: _____ DATE: _____

PRIVATE CONTRACT

SHEET 11 | COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS | 27 SHEETS

DMA EXHIBIT / BMP PLAN FOR:

BRADLEY APARTMENT COMPLEX

CALIFORNIA COORDINATE INDEX 238-1785

ENGINEER OF WORK

Snipes-Dye associates

civil engineers and land surveyors

8348 CENTER DRIVE, STE. G, LA MESA, CA 91942

TELEPHONE (619) 697-9234 FAX (619) 460-2033

WILLIAM A. SNIPES R.C.E. 50477

EXPIRES 06-30-25

REGISTERED PROFESSIONAL ENGINEER · WILLIAM A. SNIPES · No. 50477 · Exp. 06-30-25 · CIVIL · STATE OF CALIFORNIA

COUNTY APPROVED CHANGES

No.	Description	Approved by	Date

BENCH MARK

DESCRIPTION: STANDARD BENCHMARK # 91

LOCATION: TOP OF CURB, N END CB RETURN AT NW CORNER GRETA STREET AND FIRST STREET

RECORD FROM: CITY OF EL CAJON

ELEVATION: 515.161 DATUM: NAVD 88

APPROVED: FOR WILLIAM P. MORGAN COUNTY ENGINEER

BY: _____ DATE

ENGINEER OF WORK

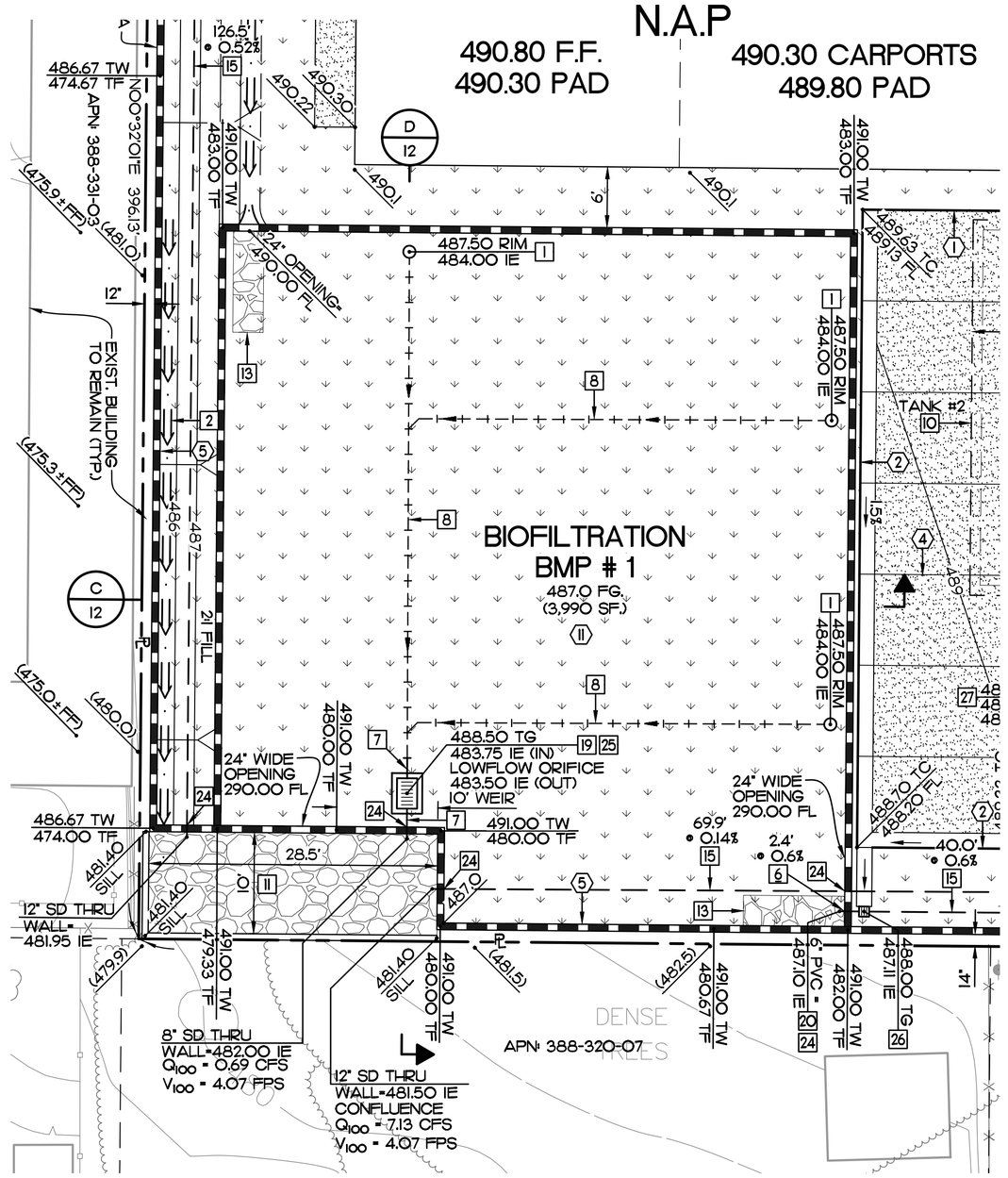
WILLIAM A. SNIPES R.C.E. 50477

PDS2019-LDGRMJ-30236

ENGINEER'S NAME - SNIPES-DYE ASSOCIATES

PHONE NO. (619) 697-9234

HWD RMB20032



KEY NOTES

PVT. IMPROVEMENTS

(1) PVT. 6" CURB PER SDRSD G-1 (TYP.).

(2) PVT. 6" CURB/GUTTER TYPE G PER SDRSD G-2 (TYP.).

(4) STRIPING PER BUILDING PLANS.

(5) RETAINING WALL PLAN/PROFILE PER SHT'S 24-27.

(11) ALL PROPOSED VEGETATION TO BE CONSTRUCTED/INSTALLED WITHIN BIOFILTRATION BASIN AND TREE WELLS SHALL BE CONFORMANCE WITH APPROVED LANDSCAPE AND IRRIGATION PLAN NO. PDS2020-LP-20-088, AND SHALL BE INCLUDED IN PROJECT SWQMP.

PVT. STORM DRAIN

[1] PVT. STORM DRAIN CLEANOUT PER DETAIL 1 ON SHT. 2.

[2] PVT. DRAINAGE DITCH TYPE D PER SDRSD D-75 (TYP.).

[6] PVT. 6" PVC SDR-35 PER SDRSD D-60.

[7] PVT. 8" PVC SDR-35 PER SDRSD D-60.

[8] PVT. 8" PVC SDR-35 PERFORATED PIPE.

[10] PVT. BRENTWOOD STORMTANK #2 SYSTEM (LAYFIELD) PER DETAILS ON SHT'S 15-23.

[11] PVT. NO. 2 BACKING (10'X28.5'X1.1' THICK) ROCK RIP-RAP PER SDRSD D-40, TYPE 2.

[13] PVT. 3'-6" ROCKS (3'X10'X0.7' THICK).

[15] PVT. 12" PVC SDR-35 PER SDRSD D-60.

[19] MARK ALL INLETS WITH THE WORDS "NO DUMPING-DRAINS TO WATERWAYS" OR SIMILAR. SEE STENCIL TEMPLATE ON SHT. 10.

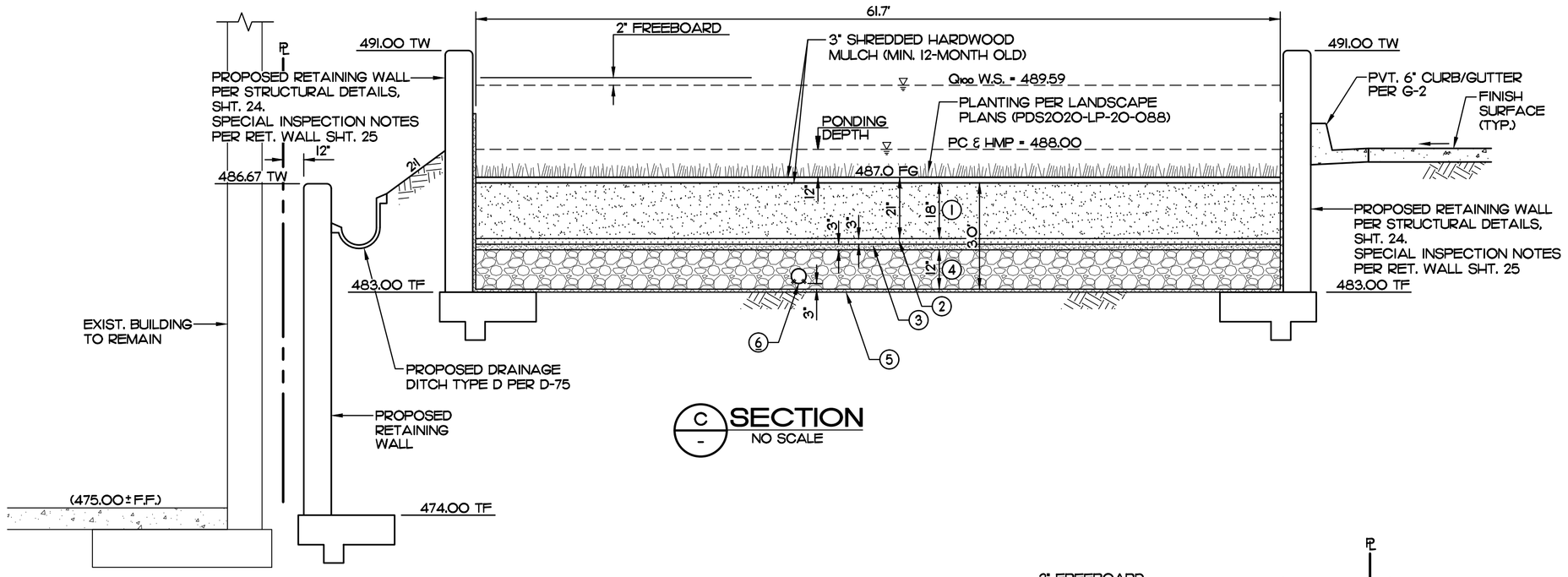
[24] STORM DRAIN PIPE THRU STEM/ FOOTING PER DETAIL 3, SHT. 14.

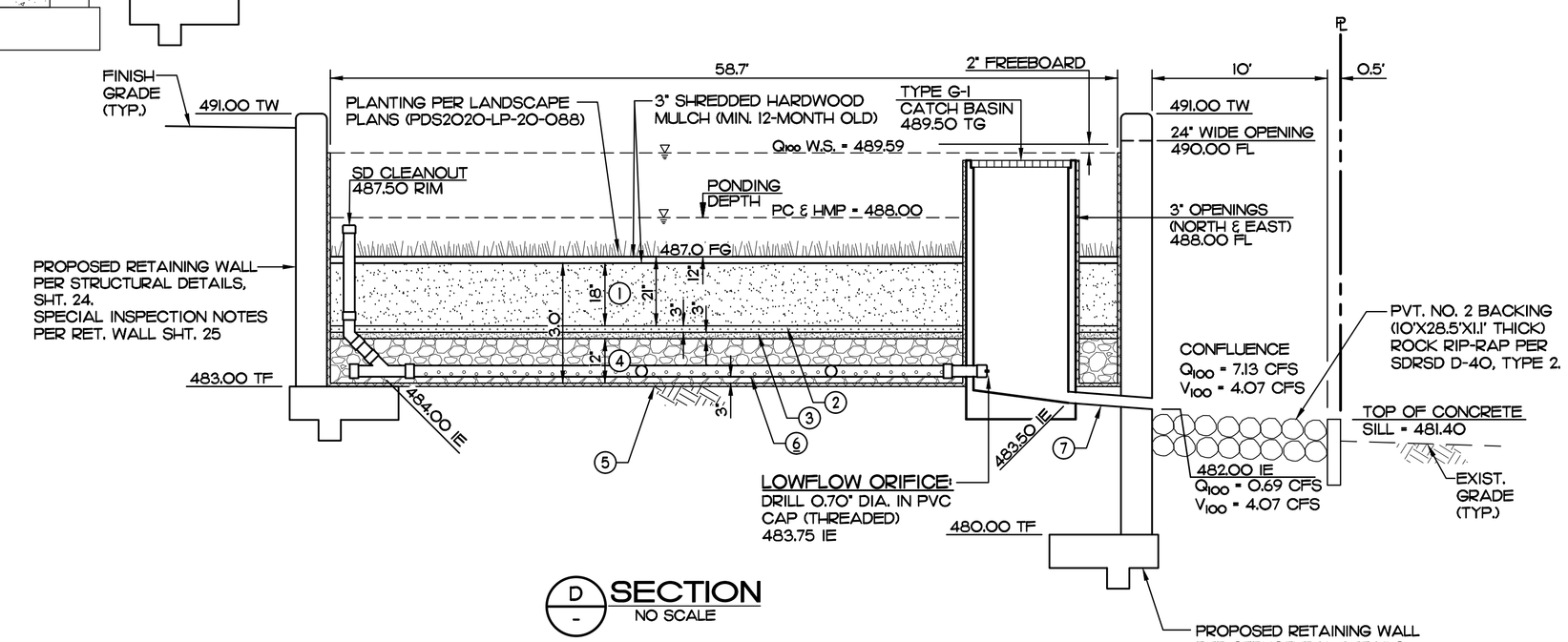
[25] PVT. CATCH BASIN TYPE G-1 PER SDRSD D-08.

[27] STORM DRAIN CLEANOUT TYPE A PER SDRSD D-09 W/ WEIR & 1" LOWFLOW ORIFICE. SEE DETAIL 5, SHT. 14.

WALL ELEVATIONS ARE FOR INFORMATIONAL PURPOSES ONLY. SEE WALL PLAN/PROFILE SHT'S. 24-27.

PERMANENT POST-CONSTRUCTION BMP DEVICES (BIOFILTRATION BASIN) SHOWN ON THESE PLANS SHALL NOT BE REMOVED OR MODIFIED WITHOUT THE APPROVAL OF THE COUNTY OF SAN DIEGO.





NOTE:

ALL PROPOSED VEGETATION TO BE CONSTRUCTED/INSTALLED WITHIN BIOFILTRATION BASIN AND TREE WELLS SHALL BE CONFORMANCE WITH APPROVED LANDSCAPE AND IRRIGATION PLAN NO. PDS2020-LP-20-088, AND SHALL BE INCLUDED IN PROJECT SWQMP.

KEY NOTES

(1) BIORETENTION SOIL MEDIA (BSM) (5in/hr MIN. PERCOLATION RATE) PER BSM MIXTURE RIGHT.

(2) 3" CLEAN ε WASHED ASTMC 33 FINE AGGREGATE SAND.

(3) 3" LAYER WASHED ASTM 8 STONE.

(4) CLASS 2 PERMEABLE MATERIAL PER CALTRANS 68-2.02F(3).

(5) IMPERMEABLE LINER (30 MIL PVC GEOMEMBRANE BY EPI OR APPROVED EQUAL) PER MANUFACTURER'S SPECIFICATIONS.

(6) 8" PVC PERFORATED PIPE • 0.5% SLOPE.

(7) 8" PVC SDR-35 • 0.5% SLOPE.

BSM MIXTURE[2]

BMP COMPOSITION	SAND	SANDY LOAM			COMPOST
		SAND	SILT	CLAY	
VOLUME	65%	20%			15%
WEIGHT	85% - 90%	10% MAX.	5% MAX.		9% MAX.[1]

1. [1] 9% COMPOST BY WEIGHT SHOULD PRIMARILY FALL INTO SAND COMPONENT (SEE COMPOST GRADATION LIMITS RIGHT (ASTM D422 OR APPROVED EQUAL) AND SHOULD RESULT IN APPROXIMATELY 2%-5% ORGANIC MATTER BY WEIGHT.
2. EXTRACTABLE NUTRIENT: PHOSPHORUS SHOULD BE 15% MAX. MG/KG DRY WEIGHT.
3. FOR BSM SPECIFICATIONS, SEE APPENDIX G IN COUNTY OF SAN DIEGO LID MANUAL (JULY, 2014) AND APPENDIX F.2 OF THE COUNTY OF SAN DIEGO 2020 BMP DESIGN MANUAL.

COMPOST GRADATION

SIEVE SIZE	PERCENT PASSING (BY WEIGHT)	
	MIN.	MAX.
1/2 INCH.	97	100
NO. 200	0	5

SECTION - BIOFILTRATION #1

RECORD PLAN

BY: _____ DATE: _____

ENGINEER OF WORK

Snipes-Dye associates
civil engineers and land surveyors
8348 CENTER DRIVE, STE. G, LA MESA, CA 91942
TELEPHONE (619) 697-9234 FAX (619) 460-2033

WILLIAM A. SNIPES R.C.E. 50477
EXPIRES 06-30-25

REGISTERED PROFESSIONAL ENGINEER · WILLIAM A. SNIPES · No. 50477 · Exp. 06-30-25 · CIVIL · STATE OF CALIFORNIA

COUNTY APPROVED CHANGES			
No.	Description	Approved by	Date

BENCH MARK

DESCRIPTION: STANDARD BENCHMARK # 91

LOCATION: TOP OF CURB, N END CB RETURN AT NW CORNER GRETA STREET AND FIRST STREET

RECORD FROM: CITY OF EL CAJON

ELEVATION: 515.161 DATUM: NAVD 88

PRIVATE CONTRACT

SHEET 12 | COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS | 27 SHEETS

BMP SECTIONS FOR:

BRADLEY APARTMENT COMPLEX

CALIFORNIA COORDINATE INDEX 238-1785

APPROVED: FOR WILLIAM P. MORGAN COUNTY ENGINEER

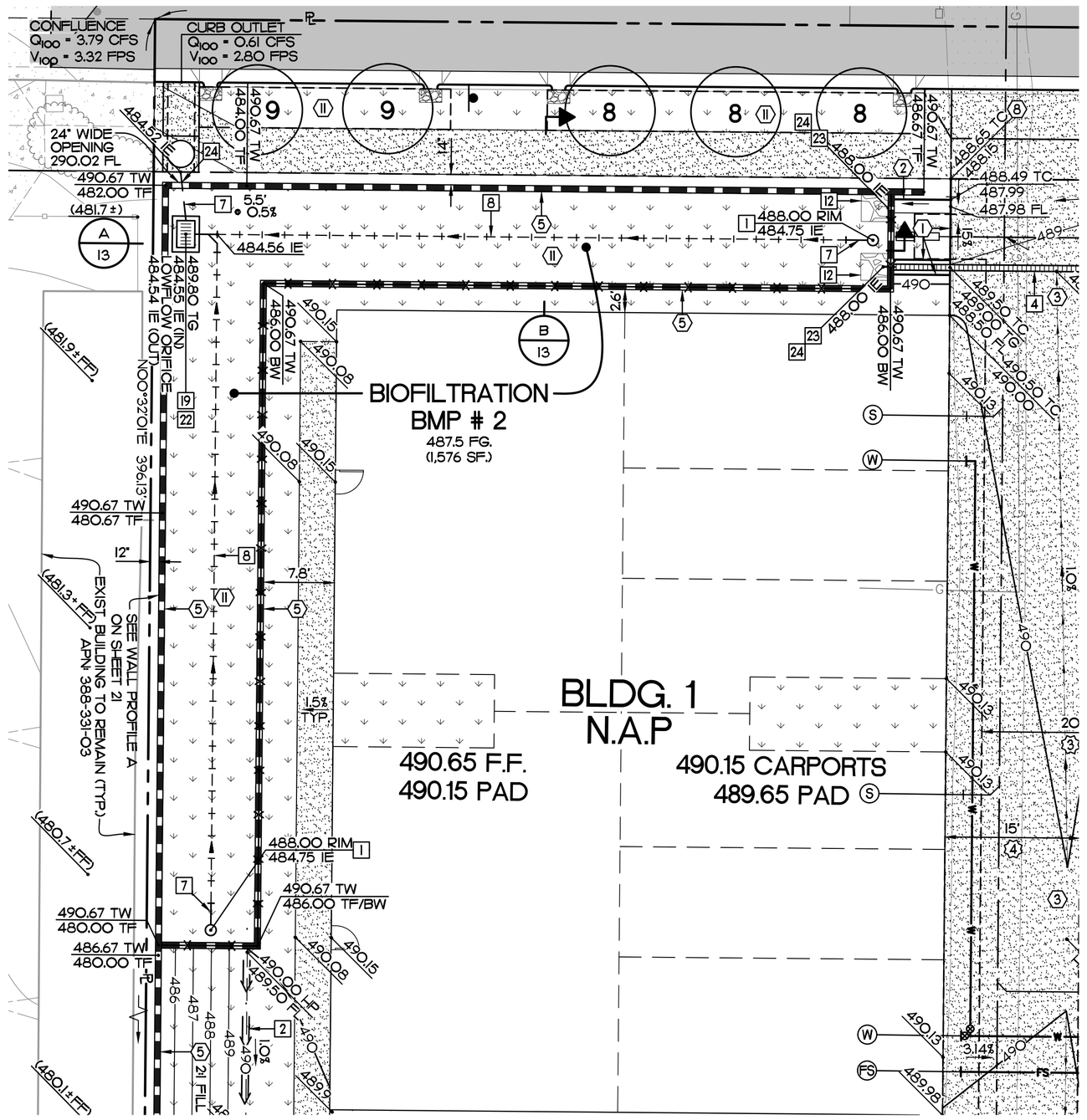
BY: _____ DATE

ENGINEER OF WORK
WILLIAM A. SNIPES R.C.E. 50477

PDS2019-LDGRMJ-30236

ENGINEER'S NAME - SNIPES-DYE ASSOCIATES
PHONE NO. (619) 697-9234

HWD RMB20032



WALL ELEVATIONS ARE FOR INFORMATIONAL PURPOSES ONLY.
SEE WALL PLAN/PROFILE SHT'S. 24-27.

PERMANENT POST-CONSTRUCTION BMP DEVICES (BIOFILTRATION BASIN) SHOWN ON THESE PLANS SHALL NOT BE REMOVED OR MODIFIED WITHOUT THE APPROVAL OF THE COUNTY OF SAN DIEGO.

KEY NOTES

PVT. IMPROVEMENTS

(1) PVT. 6" CURB PER SDRSD G-1 (TYP.).

(2) PVT. 6" CURB/GUTTER TYPE G PER SDRSD G-2 (TYP.).

(3) 6.5" CONCRETE (560-C-3550) PAVEMENT W/ #4 REBARS @ 18" O.C., BOTH DIRECTIONS.

(5) RETAINING WALL PLAN/PROFILE PER SHT'S 22-25.

(8) PVT. TOP OF CURB TRANSITION PER DETAIL 2, SHT. 2.

(11) ALL PROPOSED VEGETATION TO BE CONSTRUCTED/INSTALLED WITHIN BIOFILTRATION BASIN AND TREE WELLS SHALL BE CONFORMANCE WITH APPROVED LANDSCAPE AND IRRIGATION PLAN NO. PDS2020-LP-20-088, AND SHALL BE INCLUDED IN PROJECT SWQMP.

PVT. STORM DRAIN

[1] PVT. STORM DRAIN CLEANOUT PER DETAIL 1 ON SHT. 2.

[2] PVT. DRAINAGE DITCH TYPE D PER SDRSD D-75 (TYP.).

[4] PVT. 4" TRENCH DRAIN PER DETAIL 3, SHT. 2.

[7] PVT. 8" PVC SDR-35 PER SDRSD D-60.

[8] PVT. 8" PVC SDR-35 PERFORATED PIPE.

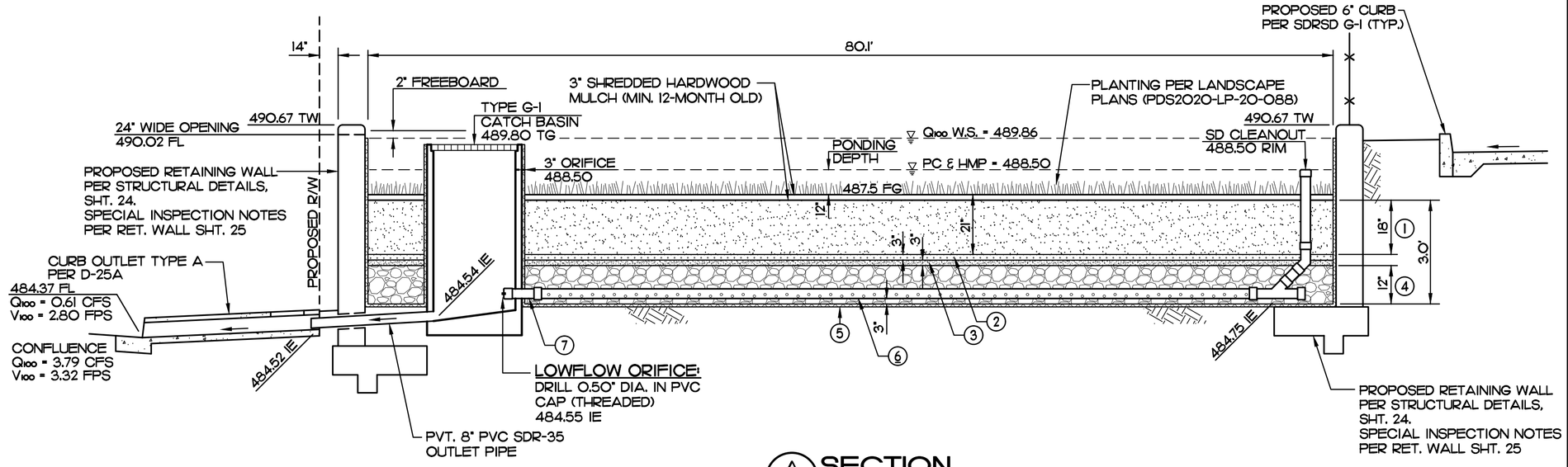
[12] PVT. 3'-6" ROCKS (3'X3'X0.7' THICK).

[19] MARK ALL INLETS WITH THE WORDS 'NO DUMPING-DRAINS TO WATERWAYS' OR SIMILAR. SEE STENCIL TEMPLATE ON SHT. 10.

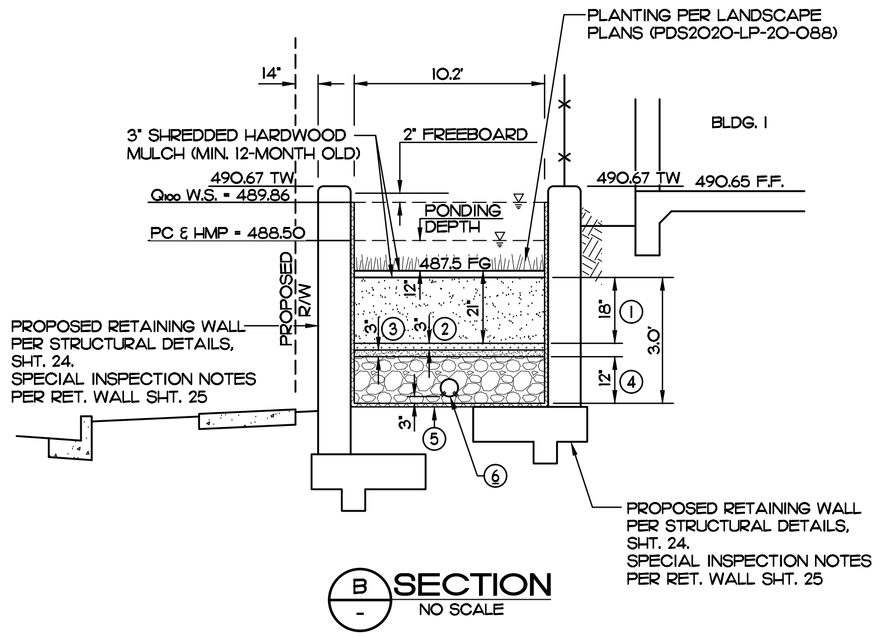
[22] PVT. CATCH BASIN TYPE G-1 PER SDRSD D-08.

[23] 6" SLEEVE W/ BACK WATER CHECK VALVE (CCV 2-HG SOLUTIONS) PER DETAIL 2, SHT. 14.

[24] STORM DRAIN PIPE THRU STEM/ FOOTING PER DETAIL 3, SHT. 14.



A — SECTION
NO SCALE



B — SECTION
NO SCALE

KEY NOTES

(1) BIORETENTION SOIL MEDIA (BSM) (5in/hr MIN. PERCOLATION RATE) PER BSM MIXTURE RIGHT.

(2) 3" CLEAN & WASHED ASTMC 33 FINE AGGREGATE SAND.

(3) 3" LAYER WASHED ASTM 8 STONE.

(4) CLASS 2 PERMEABLE MATERIAL PER CALTRANS 68-2.02F(3).

(5) IMPERMEABLE LINER (30 MIL PVC GEOMEMBRANE BY EPI OR APPROVED EQUAL) PER MANUFACTURER'S SPECIFICATIONS.

(6) 8" PVC PERFORATED PIPE @ 0.5% SLOPE.

(7) 8" PVC SDR-35 @ 0.5% SLOPE.

NOTE:

ALL PROPOSED VEGETATION TO BE CONSTRUCTED/INSTALLED WITHIN BIOFILTRATION BASIN AND TREE WELLS SHALL BE CONFORMANCE WITH APPROVED LANDSCAPE AND IRRIGATION PLAN NO. PDS2020-LP-20-088, AND SHALL BE INCLUDED IN PROJECT SWQMP.

BSM MIXTURE[23]					
BMP COMPOSITION	SAND	SANDY LOAM			COMPOST
		SAND	SILT	CLAY	
VOLUME	65%	20%			15%
WEIGHT	85% - 90%	10% MAX.		5% MAX.	9% MAX.[1]

1. '9% COMPOST BY WEIGHT SHOULD PRIMARILY FALL INTO SAND COMPONENT (SEE COMPOST GRADATION LIMITS RIGHT (ASTM D422 OR APPROVED EQUAL) AND SHOULD RESULT IN APPROXIMATELY 2%-5% ORGANIC MATTER BY WEIGHT.
2. EXTRACTABLE NUTRIENT: PHOSPHORUS SHOULD BE 15% MAX. MG/KG DRY WEIGHT.
3. FOR BSM SPECIFICATIONS, SEE APPENDIX G IN COUNTY OF SAN DIEGO LID MANUAL (JULY, 2014) AND APPENDIX F.2 OF THE COUNTY OF SAN DIEGO 2020 BMP DESIGN MANUAL.

COMPOST GRADATION		
SIEVE SIZE	PERCENT PASSING (BY WEIGHT)	
	MIN.	MAX.
1/2 INCH	97	100
NO. 200	0	5

SECTION - BIOFILTRATION #2

N

10 5 0 10 20 30
SCALE: 1"=10'

RECORD PLAN

BY: _____ DATE: _____

ENGINEER OF WORK
Snipes-Dye associates
civil engineers and land surveyors
8348 CENTER DRIVE, STE. G, LA MESA, CA 91942
TELEPHONE (619) 697-9234 FAX (619) 460-2033
WILLIAM A. SNIPES R.C.E. 50477
EXPIRES 06-30-25

REGISTERED PROFESSIONAL ENGINEER · WILLIAM A. SNIPES · No. 50477 · Exp. 06-30-25 · CIVIL · STATE OF CALIFORNIA

COUNTY APPROVED CHANGES			
No.	Description	Approved by	Date

BENCH MARK

DESCRIPTION: STANDARD BENCHMARK # 91
LOCATION: TOP OF CURB, N END CB RETURN AT NW CORNER GRETA STREET AND FIRST STREET
RECORD FROM: CITY OF EL CAJON
ELEVATION: 515.161 DATUM: NAVD 88

PRIVATE CONTRACT

SHEET	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	SHEETS
13		27

BMP SECTIONS FOR:

BRADLEY APARTMENT COMPLEX

CALIFORNIA COORDINATE INDEX 238-1785

APPROVED: FOR WILLIAM P. MORGAN COUNTY ENGINEER

BY: _____ DATE

ENGINEER OF WORK
WILLIAM A. SNIPES R.C.E. 50477

PDS2019-LDGRMJ-30236

HWD RMB20032

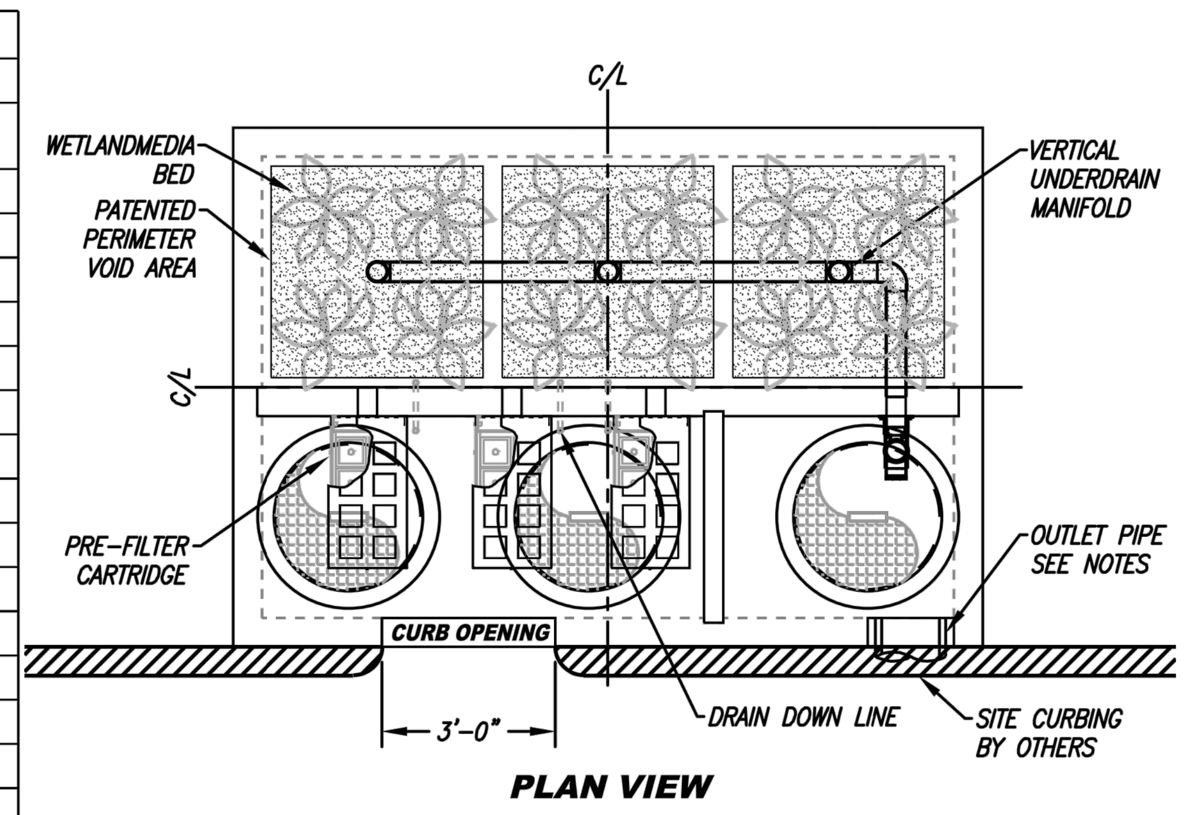
ENGINEER'S NAME - SNIPES-DYE ASSOCIATES
PHONE NO. (619) 697-9234

SITE SPECIFIC DATA

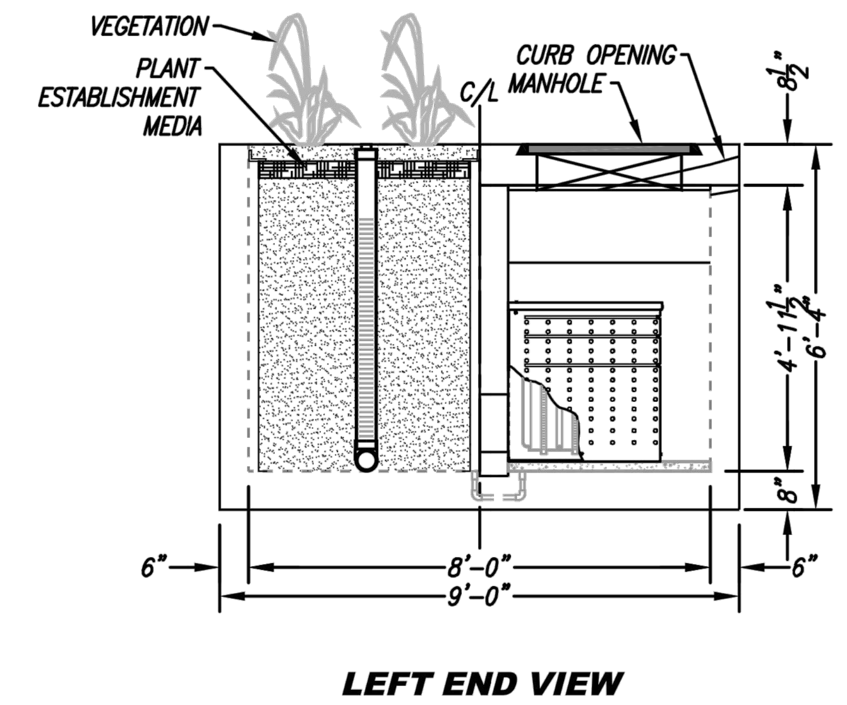
PROJECT NUMBER	728877-010	
PROJECT NAME	BRADLEY APARTMENT COMPLEX (BCE 9964)	
PROJECT LOCATION	EL CAJON, CA	
STRUCTURE ID	BMP #3A	
TREATMENT REQUIRED		
VOLUME BASED (CF)	FLOW BASED (CFS)	
N/A	0.375	
TREATMENT HGL AVAILABLE (FT)		N/K
PEAK BYPASS REQUIRED (CFS) – IF APPLICABLE		7.31

PIPE DATA	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	N/A	N/A	N/A
OUTLET PIPE	484.05	PVC	12"
	PRETREATMENT	BIOFILTRATION	DISCHARGE
RIM ELEVATION	489.80	489.80	489.80
SURFACE LOAD	PEDESTRIAN	N/A	PEDESTRIAN
FRAME & COVER	2EA #30"	OPEN PLANTER	#30"
WETLANDMEDIA VOLUME (CY)			8.62
ORIFICE SIZE (DIA. INCHES)			#2.71"

NOTES: PRELIMINARY NOT FOR CONSTRUCTION. OUTLET IE LOWERED BY 0.05' TO MEET FABRICATION REQUIREMENTS. EOR TO CONFIRM.



PLAN VIEW



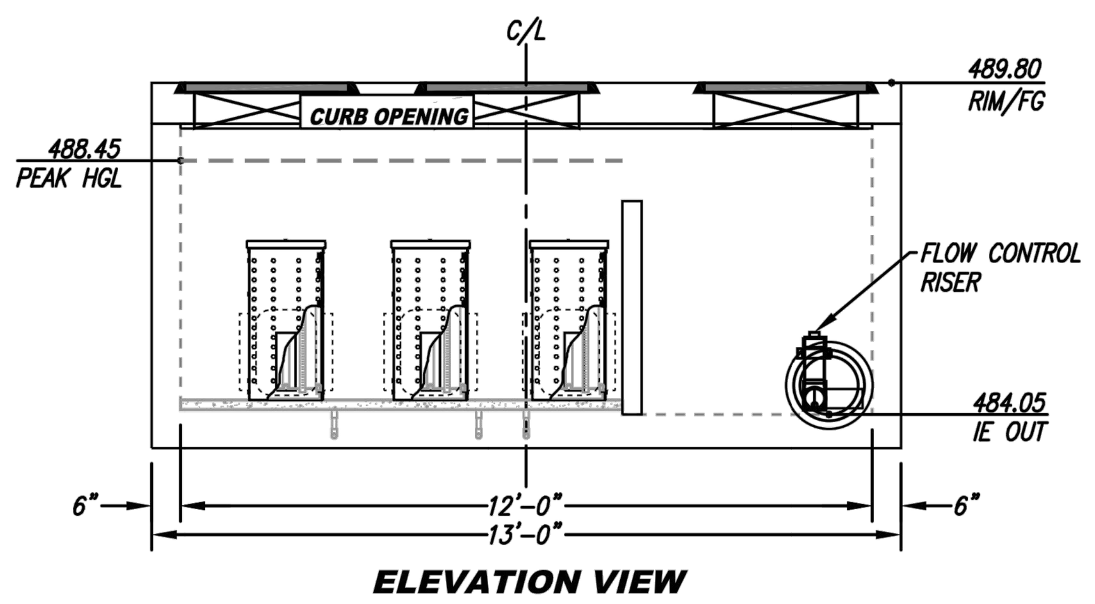
LEFT END VIEW

INSTALLATION NOTES

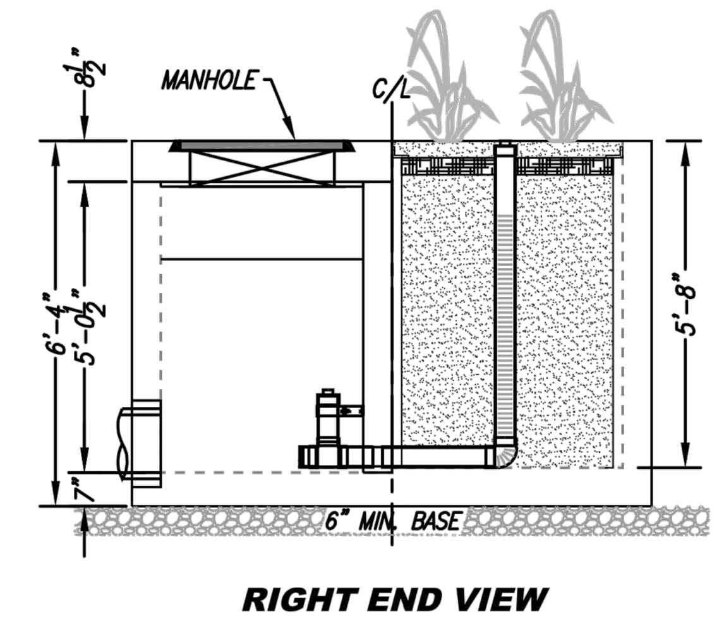
1. CONTRACTOR TO PROVIDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS REQUIRED TO OFFLOAD AND INSTALL THE SYSTEM AND APPURTENANCES IN ACCORDANCE WITH THIS DRAWING AND THE MANUFACTURERS' SPECIFICATIONS, UNLESS OTHERWISE STATED IN MANUFACTURER'S CONTRACT.
2. UNIT MUST BE INSTALLED ON LEVEL BASE. MANUFACTURER RECOMMENDS A MINIMUM 6" LEVEL ROCK BASE UNLESS SPECIFIED BY THE PROJECT ENGINEER. CONTRACTOR IS RESPONSIBLE FOR VERIFYING PROJECT ENGINEER'S RECOMMENDED BASE SPECIFICATIONS.
4. CONTRACTOR TO SUPPLY AND INSTALL ALL EXTERNAL CONNECTING PIPES. ALL PIPES MUST BE FLUSH WITH INSIDE SURFACE OF CONCRETE (PIPES CANNOT INTRUDE BEYOND FLUSH). INVERT OF OUTFLOW PIPE MUST BE FLUSH WITH DISCHARGE CHAMBER FLOOR. ALL PIPES SHALL BE SEALED WATERTIGHT PER MANUFACTURER'S STANDARD CONNECTION DETAIL.
5. CONTRACTOR RESPONSIBLE FOR INSTALLATION OF ALL PIPES, RISERS, MANHOLES, AND HATCHES. CONTRACTOR TO USE GROUT AND/OR BRICKS TO MATCH COVERS WITH FINISHED SURFACE UNLESS SPECIFIED OTHERWISE.
6. VEGETATION SUPPLIED AND INSTALLED BY OTHERS. ALL UNITS WITH VEGETATION MUST HAVE DRIP OR SPRAY IRRIGATION SUPPLIED AND INSTALLED BY OTHERS.
7. CONTRACTOR RESPONSIBLE FOR CONTACTING CONTECH FOR ACTIVATION OF UNIT. MANUFACTURER'S WARRANTY IS VOID WITHOUT PROPER ACTIVATION BY A CONTECH REPRESENTATIVE.

GENERAL NOTES

1. MANUFACTURER TO PROVIDE ALL MATERIALS UNLESS OTHERWISE NOTED.
2. ALL DIMENSIONS, ELEVATIONS, SPECIFICATIONS AND CAPACITIES ARE SUBJECT TO CHANGE. FOR PROJECT SPECIFIC DRAWINGS DETAILING EXACT DIMENSIONS, WEIGHTS AND ACCESSORIES PLEASE CONTACT BIO CLEAN.



ELEVATION VIEW



RIGHT END VIEW

INTERNAL BYPASS DISCLOSURE:

THE DESIGN AND CAPACITY OF THE PEAK CONVEYANCE METHOD TO BE REVIEWED AND APPROVED BY THE ENGINEER OF RECORD. HGL(S) AT PEAK FLOW SHALL BE ASSESSED TO ENSURE NO UPSTREAM FLOODING. PEAK HGL AND BYPASS CAPACITY SHOWN ON DRAWING ARE USED FOR GUIDANCE ONLY.

TREATMENT FLOW (CFS)	0.375
OPERATING HEAD (FT)	3.7
PRETREATMENT LOADING RATE (GPM/SF)	1.5
WETLAND MEDIA LOADING RATE (GPM/SF)	1.0

MODULAR WETLANDS — FOR PATENT INFORMATION, GO TO www.ContechES.com/IP

CONTECH ENGINEERED SOLUTIONS LLC — www.ContechES.com

MWS-L-8-12-5'-8"-C-HC
STORMWATER BIOFILTRATION SYSTEM
STANDARD DETAIL

10/17/23 BRIAN TRACY

√2gH Solutions LLC
Engineered Water Technology
www.2gHSolutions.com (727) 378-8180

VEOLIA — HYDROVEX®

2gH Solutions, LLC is the exclusive US representative for stormwater applications of the Hydrovex® line of products from Veolia Water Technologies Canada.

Hydrovex® CCV & LCV Check Valves

CCV Check Valve

LCV Check Valve

The Hydrovex® CCV & LCV Check Valves are designed to have extremely low head loss in submerged conditions. Their Buna-N rubber flaps are resistant to oils and greases, and are much lighter than conventional cast iron or steel flaps.

All materials are corrosion resistant, with frames available in 304 or 316 stainless steel.

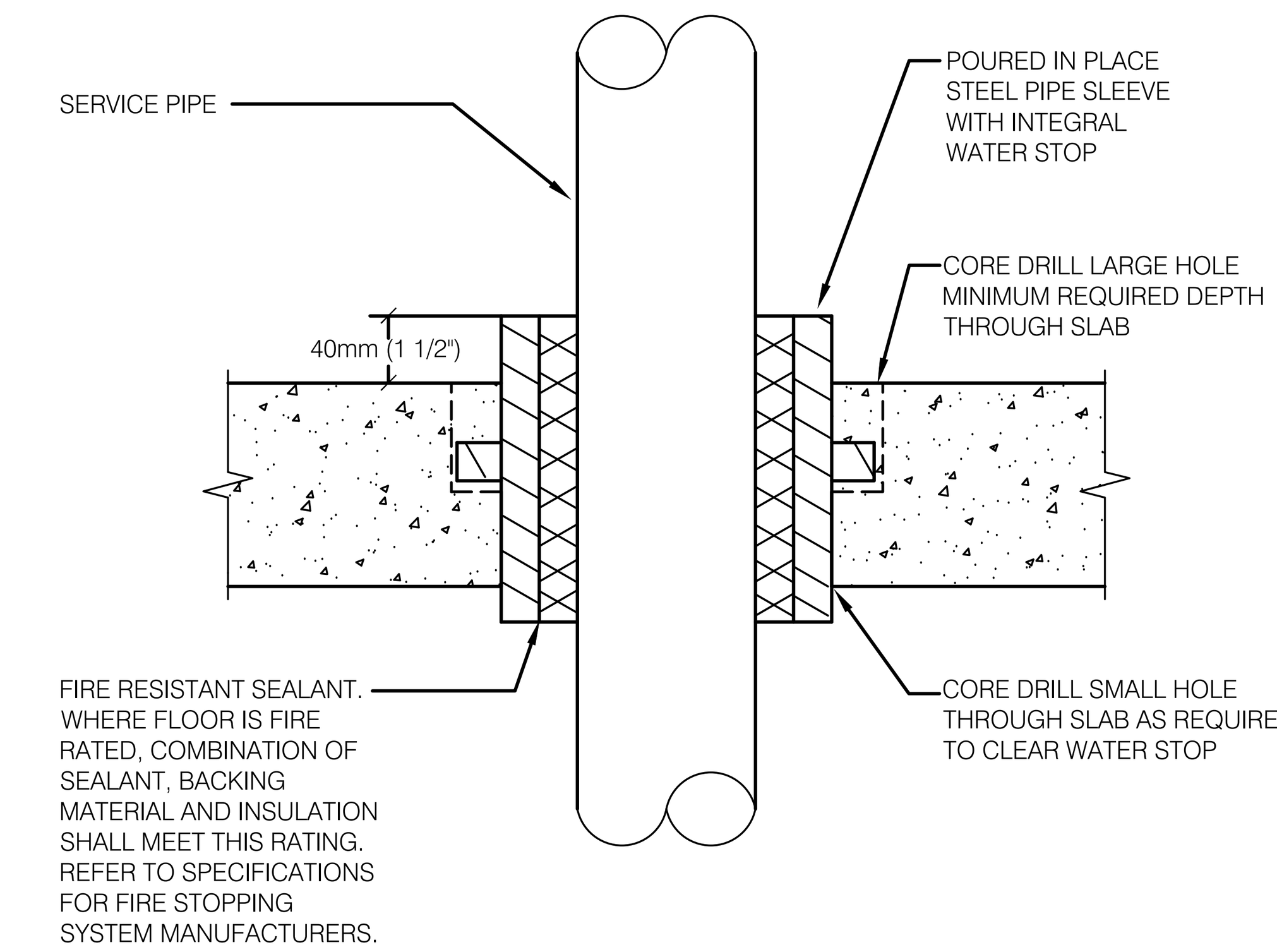
The Hydrovex® CCV is available in a gasketed flat back or round wall mounting configuration. Available sizes range from 4" to 24", with larger diameters available by request. A reinforced flap is available for high back pressure installations.

The Hydrovex® LCV check valve is designed for installations over weirs and slots. Available heights from 4" to 24", and in lengths up to 6 feet.

Advantages:

- Low headloss
- Minimal cracking pressure (less than 20% of the diameter or height)
- Minimal back pressure required for water-tight seating
- No mechanical components (bearings, bushings, etc.)
- Fast closing and seals properly, even with small downstream pressures
- Easy installation in existing overflow structures

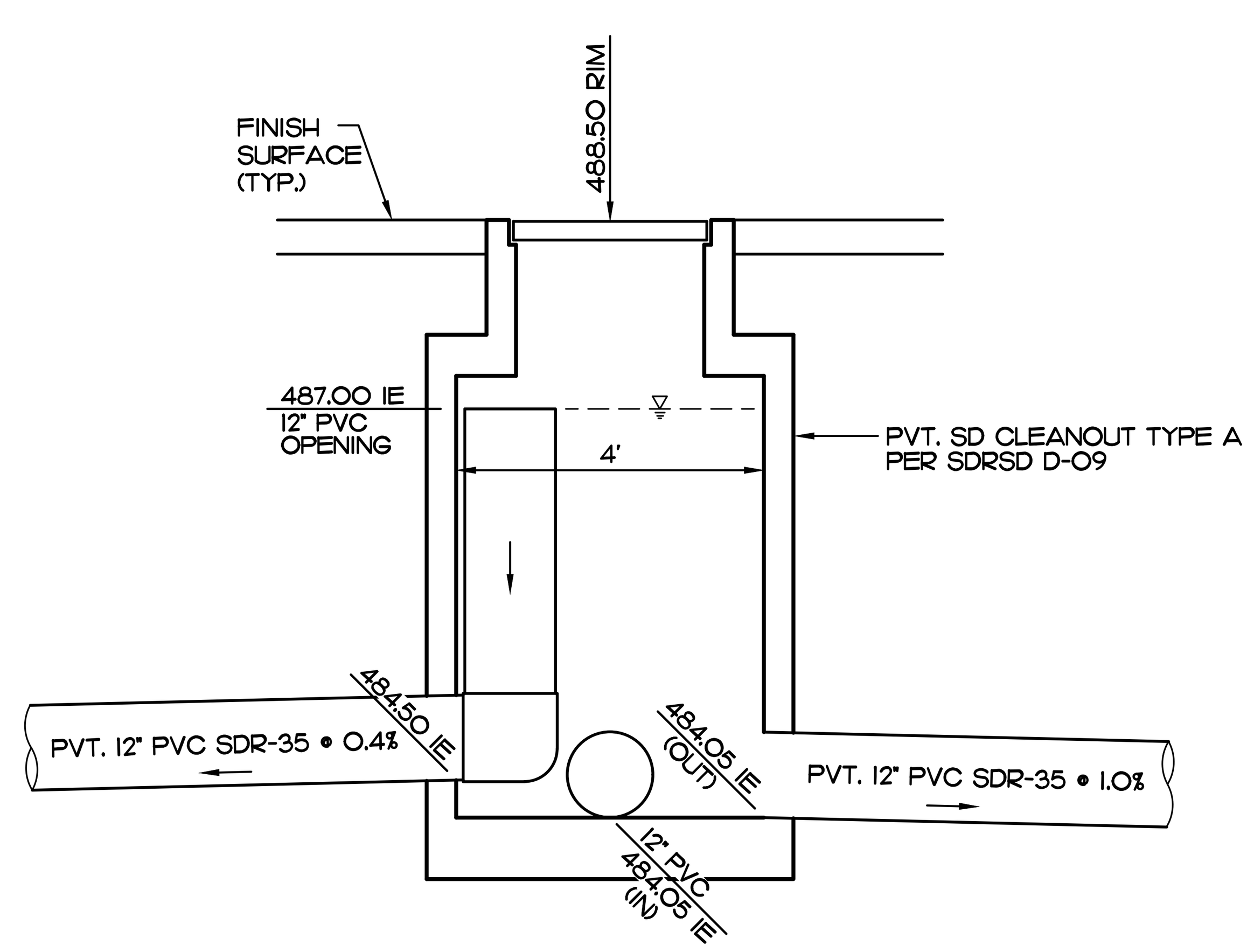
NOTE: THIS INFORMATION MAY NOT CONTAIN ALL DETAILS REQUIRED FOR CONSTRUCTION. APPROPRIATE MODIFICATION MAY BE REQUIRED TO ENSURE SUITABILITY OF THESE DRAWINGS FOR THE SPECIFIC APPLICATION. IT IS THE USERS RESPONSIBILITY TO ENSURE INSTALLATION OF THE EQUIPMENT/SYSTEM IS IN ACCORDANCE WITH BUILDING/PROJECT SPECIFICATIONS, APPLICABLE CODES AND STANDARDS.



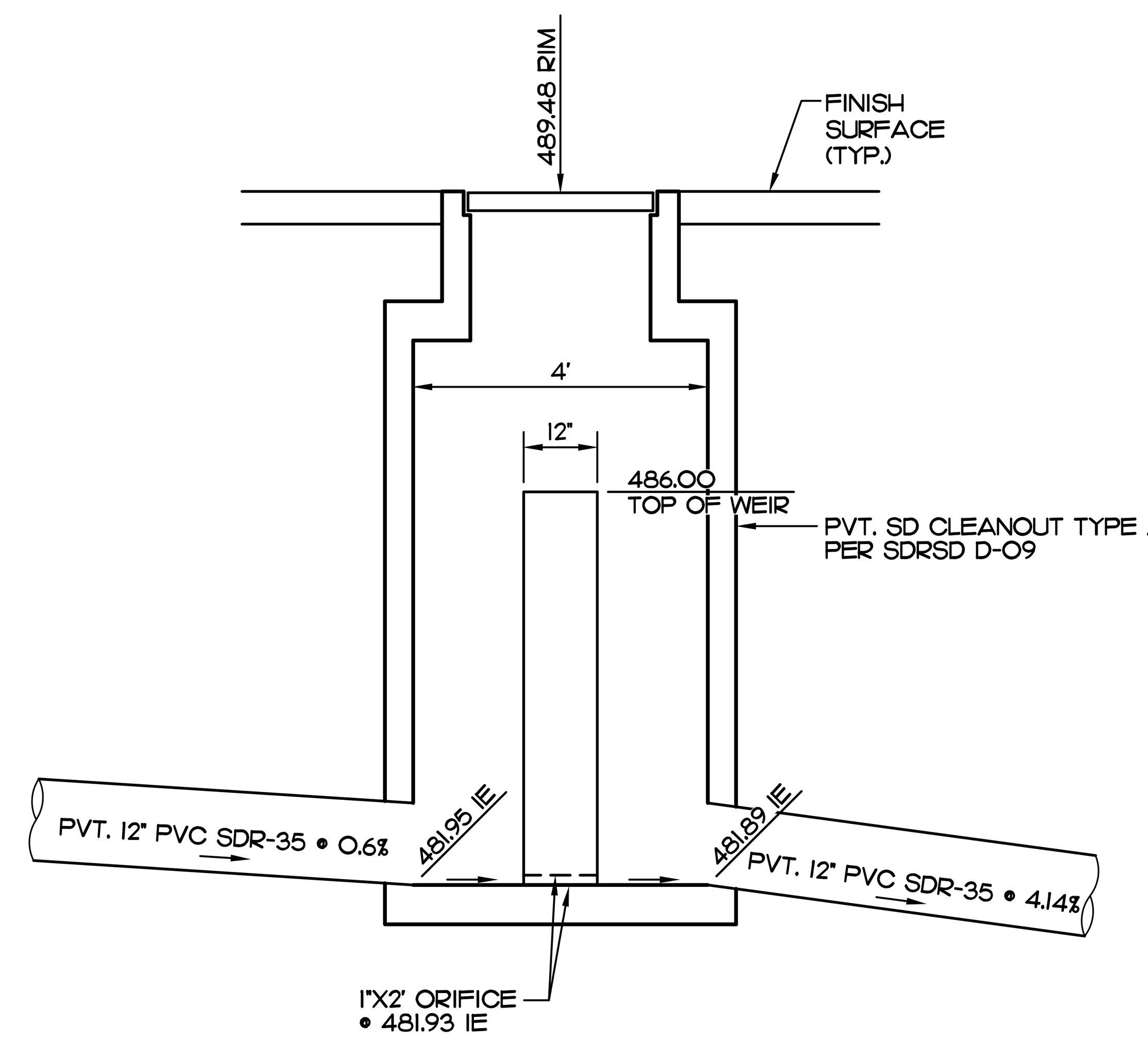
(1) DETAIL : PVT. STORMWATER BIODILTRATION SYSTEM (BMP #3A) OR APPROVED EQUAL
NO SCALE

(2) DETAIL : BACK WATER VALVE
NO SCALE

(3) DETAIL : CORE DRILLED PIPE SLEEVE
NO SCALE



(4) PVT. STORM DRAIN CLEANOUT
NO SCALE



(5) PVT. STORM DRAIN CLEANOUT W/ WEIR AND LOWFLOW ORIFICE
NO SCALE

ENGINEER OF WORK
Snipes-Dye associates
civil engineers and land surveyors
8348 CENTER DRIVE, STE. G, LA MESA, CA 91942
TELEPHONE (619) 697-9234 FAX (619) 460-2033

WILLIAM A. SNIPES R.C.E. 50477
EXPIRES 06-30-25

REGISTERED PROFESSIONAL ENGINEER — WILLIAM A. SNIPES — No. 50477 — Exp. 06-30-25 — CIVIL — STATE OF CALIFORNIA

COUNTY APPROVED CHANGES			
No.	Description	Approved by	Date

BENCH MARK

DESCRIPTION: STANDARD BENCHMARK # 91
LOCATION: TOP OF CURB, N END CB RETURN AT NW CORNER GRETA STREET AND FIRST STREET
RECORD FROM: CITY OF EL CAJON
ELEVATION: 515.161 DATUM: NAVD 88

RECORD PLAN

BY: ______ DATE: ______

PRIVATE CONTRACT

SHEET 14 — COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS — 27 SHEETS

BMP DETAILS FOR:

BRADLEY APARTMENT COMPLEX

CALIFORNIA COORDINATE INDEX 238-1785

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

ENGINEER OF WORK
WILLIAM A. SNIPES R.C.E. 50477

PDS2019-LDGRMJ-30236

HWD RMB20032

ENGINEER'S NAME - SNIPES-DYE ASSOCIATES
PHONE NO. (619) 697-9234

LAYFIELD

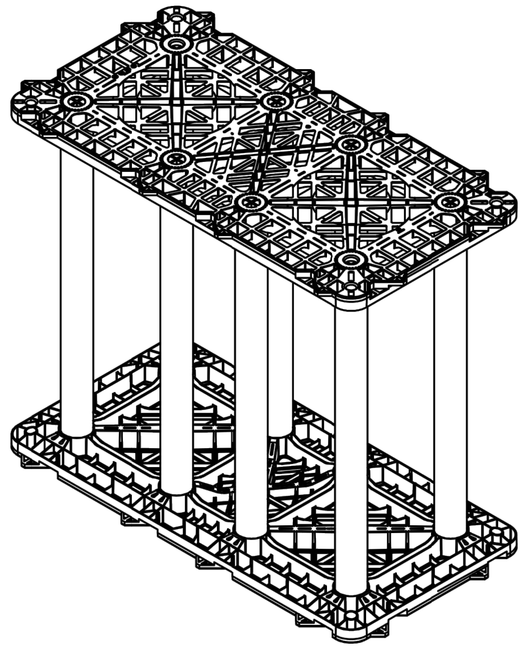
BRENTWOOD STORMTANK
MODULE LAYOUT DRAWINGS

1065 E. BRADLEY AVENUE

(Bradley Apartment Complex)

El Cajon, CA

Pages:



REFER TO STORMTANK INSTALLATION INSTRUCTIONS

LAYFIELD
18417 72nd Avenue
South Kent, WA 98032
Ph: (425)-254-1075
seattle@layfieldgroup.com

SINGLE STACK MODULE SYSTEM

Total Storage Volume		16,269 ft^3
Module Storage Volume		14,194.54 ft^3
Stone Storage Volume (Excluding Top)		2,074.46 ft^3
System Footprint		5,287.97 ft^2
Estimated Geotextile Fabric	NuBarrier LP8	1,351yd^2 3,068yd^2
Estimated Liner		13,805 ft^2
Estimated Stone Volume		401.46 yd^3
Excavation Required		1,101.31yd^3
Minimum Excavation Depth		4.67 5.17ft
Stone Type		$\frac{3}{4}$" Clear Stone
Stone Void Space		40%
Module Type		20 Series ST-36

1065 E. BRADLEY AVENUE
El Cajon, CA

REV	Record of Changes	Date	By
△	Preliminary Drawing	22OCT2019	AC
1	Revised Drawing	01NOV2019	AC
2	Revised Drawing	20NOV2019	AC
3	Revised Drawing	19MAY2020	AC
4	Revised Drawing	14JUL2020	AC
5	Revised Drawing + Layout	11JAN2022	LP
6	Corrected Quantities	15AUG2023	PE
7	Second Tank Added	31OCT2023	PE

Project Number: OP2021-0490

Page Name: Cover Page

Drawn by: PE | Checked By: JF

Scale: NTS | Date: 15AUG2023

THIS LAYOUT DRAWING WAS PREPARED TO SUPPORT THE ENGINEER OF RECORD FOR THE PROPOSED SYSTEM. IT IS THE RESPONSIBILITY OF THE ENGINEER OF RECORD TO REVIEW THE INFORMATION AND ENSURE THAT THE LAYOUT AND DESIGN IS IN FULL COMPLIANCE WITH ALL APPLICABLE LAWS AND REGULATIONS AND THAT THE STORMTANK SYSTEM HAS BEEN DESIGNED IN ACCORDANCE WITH BRENTWOOD'S REQUIREMENTS. LAYFIELD DOES NOT REVIEW OR APPROVE PLANS, SIZING OR DESIGNS.

Sheet: **01 OF 09**

ANSI B Size Page (Horizontal)

ENGINEER OF WORK
Snipes-Dye associates
civil engineers and land surveyors
8348 CENTER DRIVE, STE. G, LA MESA, CA 91942
TELEPHONE (619) 697-9234 FAX (619) 460-2033

WILLIAM A. SNIPES R.C.E. 50477
EXPIRES 06-30-25

REGISTERED PROFESSIONAL ENGINEER · WILLIAM A. SNIPES · No. 50477 · Exp. 06-30-25 · CIVIL · STATE OF CALIFORNIA

COUNTY APPROVED CHANGES			
No.	Description	Approved by	Date

RECORD PLAN

BY: _____ DATE: _____

BENCH MARK

DESCRIPTION: STANDARD BENCHMARK # 91

LOCATION: TOP OF CURB, N END CB RETURN AT NW CORNER GRETA STREET AND FIRST STREET

RECORD FROM: CITY OF EL CAJON

ELEVATION: 515.161 DATUM: NAVD 88

PRIVATE CONTRACT

SHEET	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	SHEETS
15		27

POST-CONSTRUCTION BMP DETAILS FOR:

BRADLEY APARTMENT COMPLEX

CALIFORNIA COORDINATE INDEX 238-1785

APPROVED: FOR WILLIAM P. MORGAN
COUNTY ENGINEER

BY: _____

DATE

ENGINEER OF WORK
WILLIAM A. SNIPES R.C.E. 50477

PDS2019-LDGRMJ-30236

ENGINEER'S NAME - SNIPES-DYE ASSOCIATES
PHONE NO. (619) 697-9234

HWD RMB20032

Material Quantity (ST-36)

ST-36	656
Platens	1312
36" Columns	5248
36" Side Panels	151
10" Observation Port	5

Elevations

Leveling Stone Invert	483.18
Bottom of Module	483.85
Module Invert	484.00
Top of Module	486.85
Top of Stone Backfill	487.85
Minimum Finished Grade	488.85
Maximum Finished Grade	494.85

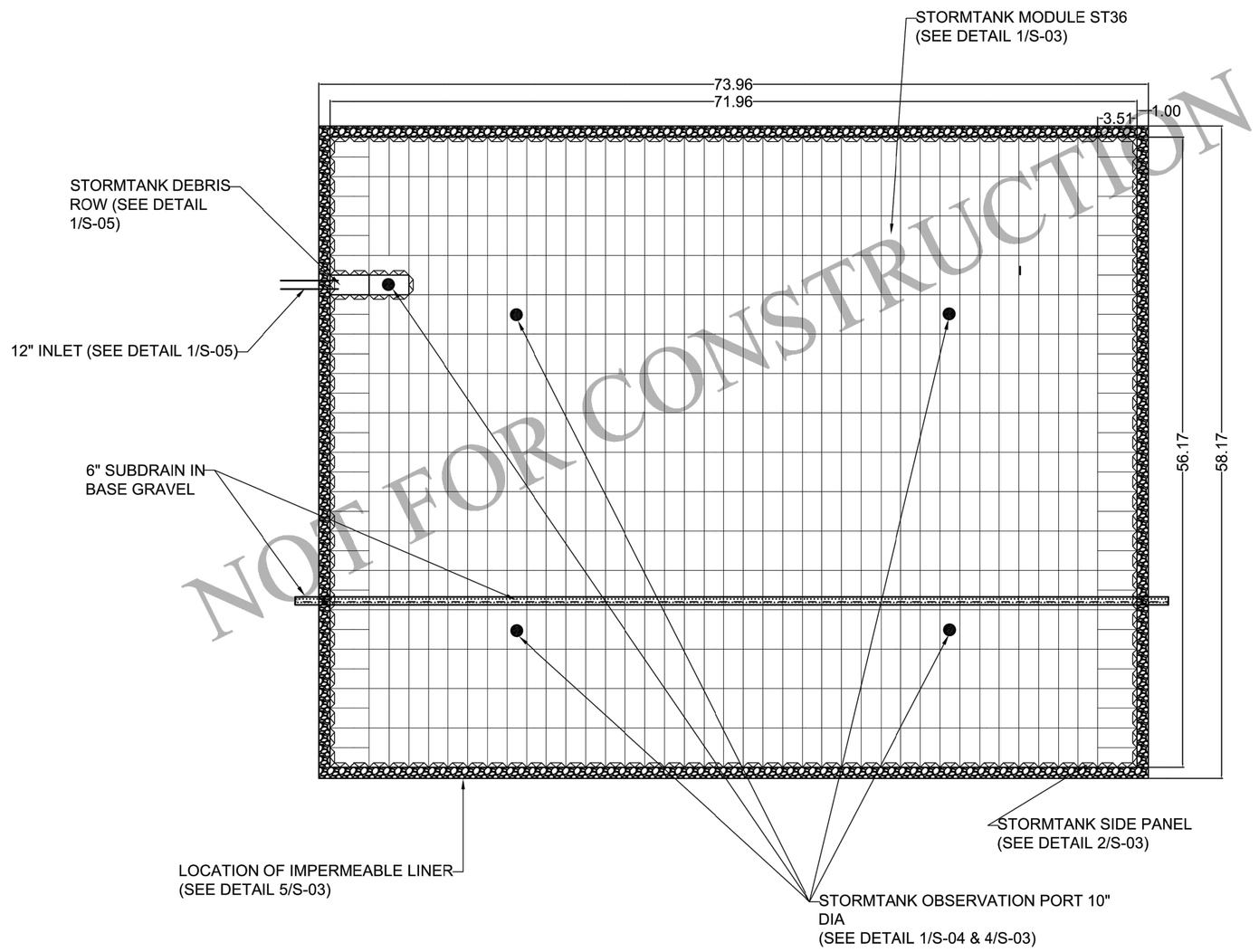
Contractor to confirm that quantities shipped to site match those listed above. Please report any discrepancy or damage to Layfield immediately.

NOTES:

a. All dimensions are measured in feet unless noted otherwise.
b. Reference Brentwood Industries standard drawings and notes for detailed information.
c. Reference current Brentwoood Module installation instructions for proper installation practices.
   https://stormwater.brentwoodindustries.com/resources/
d. Engineer of record to confirm conformance to manufacturer's allowable proximity to other structures and slopes.
e. All inlet and pipe locations and designs by others.
f. The sub-grade and side backfill needs to be compacted to 95%, unless noted otherwise.
g. During and after installation, the Brentwood Module area should be clearly marked and roped off to prevent unauthorized construction and equipment trafficking over the modules.
h. Top of Ground water is to be maintained 610 mm (2 ft) below the module to prevent buoyancy, unless otherwise noted by engineer.
i. The quantities related to stone and geosynthetics are estimated values as the roll size, overlaps, waste, ect. may vary.
j. Materials must be stored in a manner to prevent prolonged exposure to UV light.
k. Storm tank system is not considered complete until all backfill is installed to the minimum depth shown on Detail 5 Typical System Cross-Section. The installer MUST insure that the project site remains dry and free of water (both surface and groundwater) until the installation is complete, including the backfill as noted, to avoid damage to the tank system due to buoyancy.

1 S-02 **NOTES**

TANK 1



2 S-02 **MODULE LAYOUT**
SCALE: NTS

LAYFIELD
18417 72nd Avenue
South Kent, WA 98032
Ph: (425)-254-1075
seattle@layfieldgroup.com

SINGLE STACK MODULE SYSTEM

Total Storage Volume		13,163 ft^3
Module Storage Volume		11,698 ft^3
Stone Storage Volume (Excluding Top)		1,465 ft^3
System Footprint		4,302 ft^2
Estimated Geotextile Fabric	NuBarrier LP8	1,093 yd^2 2,418 yd^2
Estimated Liner		10,882 ft^2
Estimated Stone Volume		295 yd^3
Excavation Required		876 yd^3
Minimum Excavation Depth		4.67 ft
Stone Type		$\frac{3}{4}$" Clear Stone
Stone Void Space		40%
Module Type		20 Series ST-36

1065 E. BRADLEY AVENUE
El Cajon, CA

REV	Record of Changes	Date	By
△	Preliminary Drawing	22OCT2019	AC
1	Revised Drawing	01NOV2019	AC
2	Revised Drawing	20NOV2019	AC
3	Revised Drawing	19MAY2020	AC
4	Revised Drawing	14JUL2020	AC
5	Revised Drawing + Layout	11JAN2022	LP
6	Corrected Quantities	15AUG2023	PE
7	Second Tank Added	31OCT2023	PE

Project Number: OP2021-0490
Page Name: Tank 1 Layout
Drawn by: PE | Checked By: JF
Scale: NTS | Date: 15AUG2023

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Sheet: **02 OF 09**

ANSI B Size Page (Horizontal)

RECORD PLAN
BY: _____ DATE: _____

ENGINEER OF WORK
Snipes-Dye associates
civil engineers and land surveyors
8348 CENTER DRIVE, STE. G, LA MESA, CA 91942
TELEPHONE (619) 697-9234 FAX (619) 460-2033
WILLIAM A. SNIPES R.C.E. 50477
EXPIRES 06-30-25

REGISTERED PROFESSIONAL ENGINEER · WILLIAM A. SNIPES · No. 50477 · Exp. 06-30-25 · CIVIL · STATE OF CALIFORNIA

COUNTY APPROVED CHANGES			
No.	Description	Approved by	Date

BENCH MARK
DESCRIPTION: STANDARD BENCHMARK # 91
LOCATION: TOP OF CURB, N END CB RETURN AT NW CORNER GRETA STREET AND FIRST STREET
RECORD FROM: CITY OF EL CAJON
ELEVATION: 515.161 DATUM: NAVD 88

PRIVATE CONTRACT

SHEET	COUNTY OF SAN DIEGO	SHEETS
16	DEPARTMENT OF PUBLIC WORKS	27

POST-CONSTRUCTION BMP DETAILS FOR:
BRADLEY APARTMENT COMPLEX
CALIFORNIA COORDINATE INDEX 238-1785

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

ENGINEER OF WORK
WILLIAM A. SNIPES R.C.E. 50477

PDS2019-LDGRMJ-30236

ENGINEER'S NAME - SNIPES-DYE ASSOCIATES
PHONE NO. (619) 697-9234

HWD RMB20032

Material Quantity (ST-36)

ST-36	140
Platens	280
36" Columns	1120
36" Side Panels	77
10" Observation Port	3

Elevations

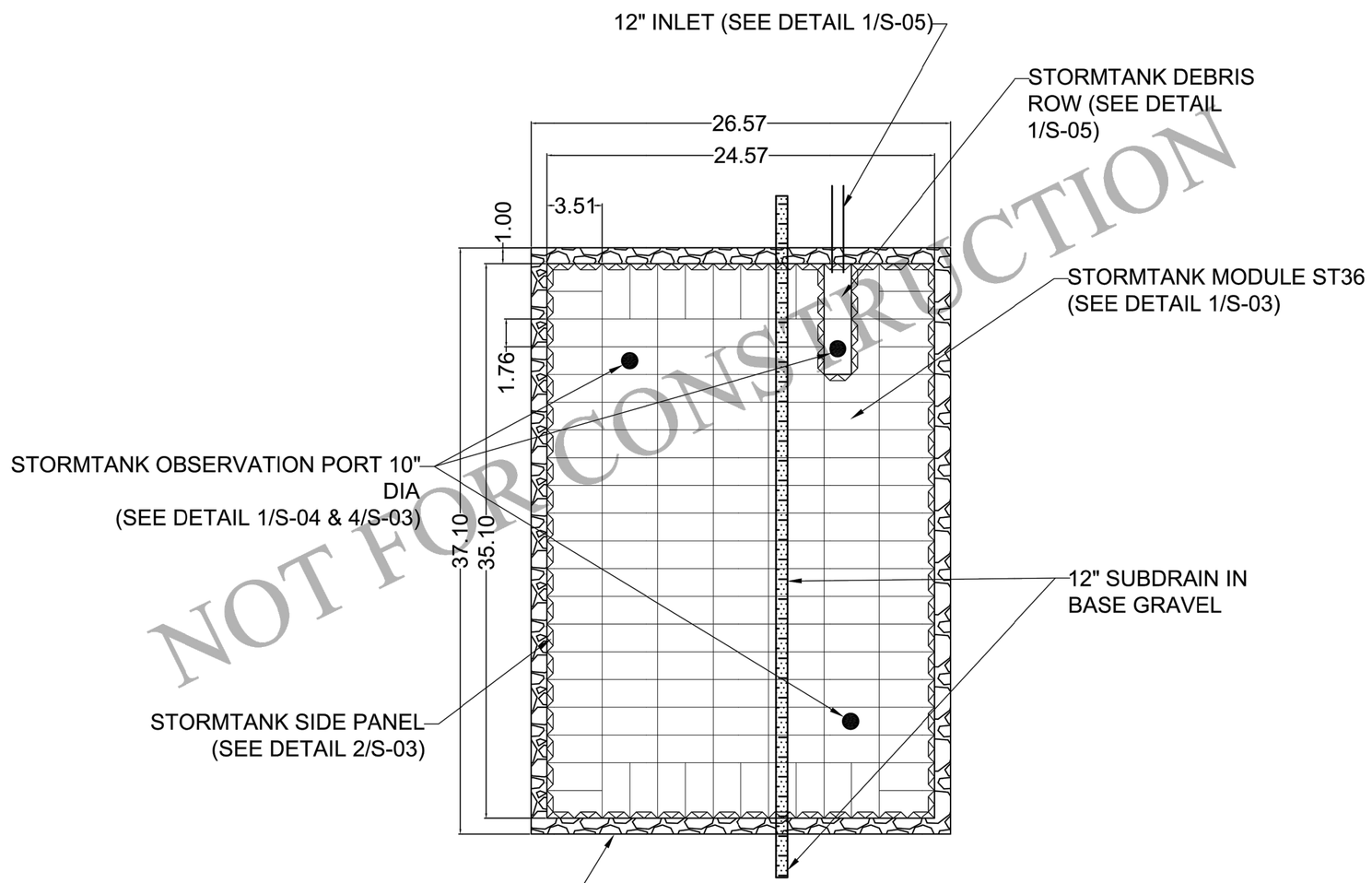
Leveling Stone Invert	481.98
Bottom of Module	483.60
Module Invert	483.75
Top of Module	486.60
Top of Stone Backfill	487.60
Minimum Finished Grade	488.60
Maximum Finished Grade	494.60

Contractor to confirm that quantities shipped to site match those listed above. Please report any discrepancy or damage to Layfield immediately.

NOTES:

a. All dimensions are measured in feet unless noted otherwise.
b. Reference Brentwood Industries standard drawings and notes for detailed information.
c. Reference current Brentwoood Module installation instructions for proper installation practices.
https://stormwater.brentwoodindustries.com/resources/
d. Engineer of record to confirm conformance to manufacturer's allowable proximity to other structures and slopes.
e. All inlet and pipe locations and designs by others.
f. The sub-grade and side backfill needs to be compacted to 95%, unless noted otherwise.
g. During and after installation, the Brentwood Module area should be clearly marked and roped off to prevent unauthorized construction and equipment trafficking over the modules.
h. Top of Ground water is to be maintained 610 mm (2 ft) below the module to prevent buoyancy, unless otherwise noted by engineer.
i. The quantities related to stone and geosynthetics are estimated values as the roll size, overlaps, waste, ect. may vary.
j. Materials must be stored in a manner to prevent prolonged exposure to UV light.
k. Storm tank system is not considered complete until all backfill is installed to the minimum depth shown on Detail 5 Typical System Cross-Section. The installer MUST insure that the project site remains dry and free of water (both surface and groundwater) until the installation is complete, including the backfill as noted, to avoid damage to the tank system due to buoyancy.

1 S-02 NOTES



TANK 2

2 S-02 MODULE LAYOUT
SCALE: NTS

LAYFIELD
18417 72nd Avenue
South Kent, WA 98032
Ph: (425)-254-1075
seattle@layfieldgroup.com

SINGLE STACK MODULE SYSTEM

Total Storage Volume		3,106 ft^3
Module Storage Volume		2,496.54 ft^3
Stone Storage Volume (Excluding Top)		609.46 ft^3
System Footprint		985.97 ft^2
Estimated Geotextile Fabric	NuBarrier LP8	258 yd^2 650 yd^2
Estimated Liner		2,923 ft^2
Estimated Stone Volume		106.46 yd^3
Excavation Required		225.31 yd^3
Minimum Excavation Depth		5.17 ft
Stone Type		$\frac{3}{4}$" Clear Stone
Stone Void Space		40%
Module Type		20 Series ST-36

1065 E. BRADLEY AVENUE
El Cajon, CA

REV	Record of Changes	Date	By
△	Preliminary Drawing	22OCT2019	AC
1	Revised Drawing	01NOV2019	AC
2	Revised Drawing	20NOV2019	AC
3	Revised Drawing	19MAY2020	AC
4	Revised Drawing	14JUL2020	AC
5	Revised Drawing + Layout	11JAN2022	LP
6	Corrected Quantities	15AUG2023	PE
7	Second Tank Added	31OCT2023	PE

Project Number: OP2021-0490
Page Name: Tank 2 Layout
Drawn by: PE | Checked By: JF
Scale: NTS | Date: 15AUG2023

THIS LAYOUT DRAWING WAS PREPARED TO SUPPORT THE ENGINEER OF RECORD FOR THE PROPOSED SYSTEM. IT IS THE RESPONSIBILITY OF THE ENGINEER OF RECORD TO REVIEW THE INFORMATION AND ENSURE THAT THE LAYOUT AND DESIGN IS IN FULL COMPLIANCE WITH ALL APPLICABLE LAWS AND REGULATIONS AND THAT THE STORMTANK SYSTEM HAS BEEN DESIGNED IN ACCORDANCE WITH BRENTWOOD'S REQUIREMENTS. LAYFIELD DOES NOT REVIEW OR APPROVE PLANS, SIZING OR DESIGNS.

Sheet: **03 OF 09**

ANSI B Size Page (Horizontal)

RECORD PLAN
BY: _____ DATE: _____

ENGINEER OF WORK
Snipes-Dye associates
civil engineers and land surveyors
8348 CENTER DRIVE, STE. G, LA MESA, CA 91942
TELEPHONE (619) 697-9234 FAX (619) 460-2033
WILLIAM A. SNIPES R.C.E. 50477
EXPIRES 06-30-25

REGISTERED PROFESSIONAL ENGINEER · WILLIAM A. SNIPES · No. 50477 · Exp. 06-30-25 · CIVIL · STATE OF CALIFORNIA

COUNTY APPROVED CHANGES

No.	Description	Approved by	Date

BENCH MARK
DESCRIPTION: STANDARD BENCHMARK # 91
LOCATION: TOP OF CURB, N END CB RETURN AT NW CORNER GRETA STREET AND FIRST STREET
RECORD FROM: CITY OF EL CAJON
ELEVATION: 515.161 DATUM: NAVD 88

PRIVATE CONTRACT

SHEET 17 | COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS | 27 SHEETS

POST-CONSTRUCTION BMP DETAILS FOR:
BRADLEY APARTMENT COMPLEX
CALIFORNIA COORDINATE INDEX 238-1785

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

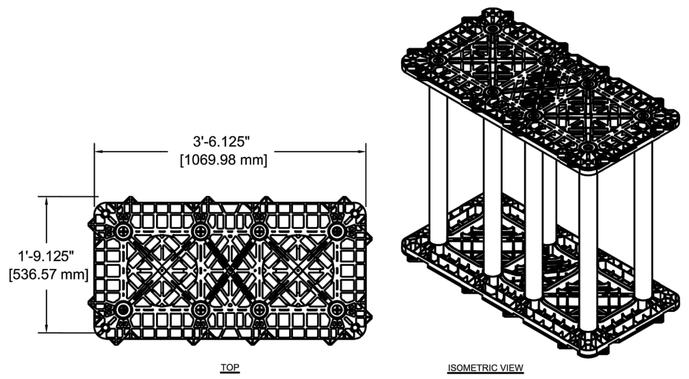
ENGINEER OF WORK
WILLIAM A. SNIPES R.C.E. 50477

PDS2019-LDGRMJ-30236

ENGINEER'S NAME - SNIPES-DYE ASSOCIATES
PHONE NO. (619) 697-9234

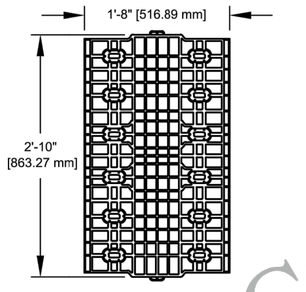
HWD RMB20032

TANK 1

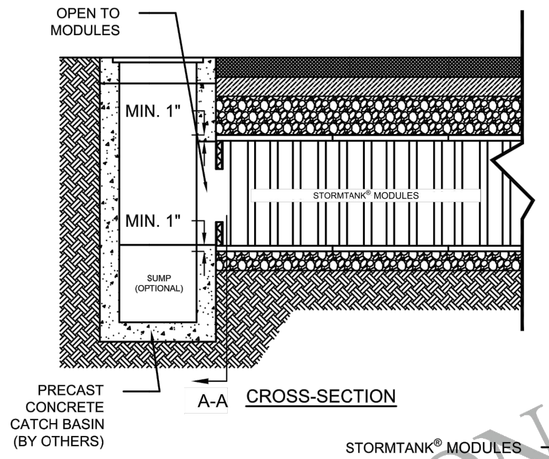


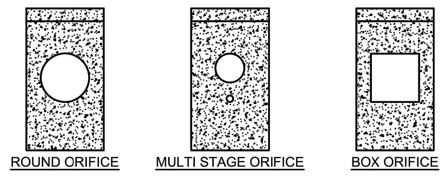
20 SERIES MODULE				
MODEL	HEIGHT (mm)	CAPACITY (m^3)	NOMINAL VOID	NOMINAL WEIGHT (kg)
2018	18" (457.2)	8.767 cf (0.2488)	95.50%	26.81 lbs. (12.16)
2024	24" (609.6)	11.789 cf (0.3346)	96.25%	29.39 lbs. (13.33)
2036	36" (914.4)	17.832 cf (0.5062)	97.05%	34.55 lbs. (15.67)

1 S-03 **36"(914 mm) MODULE DETAIL**



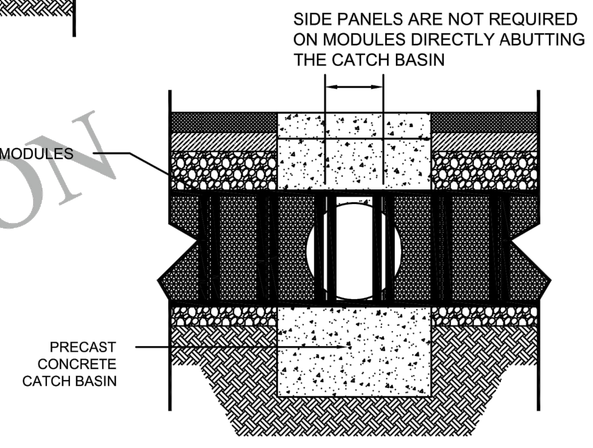
2 S-03 **36"(914 mm) SIDE PANEL DETAIL**



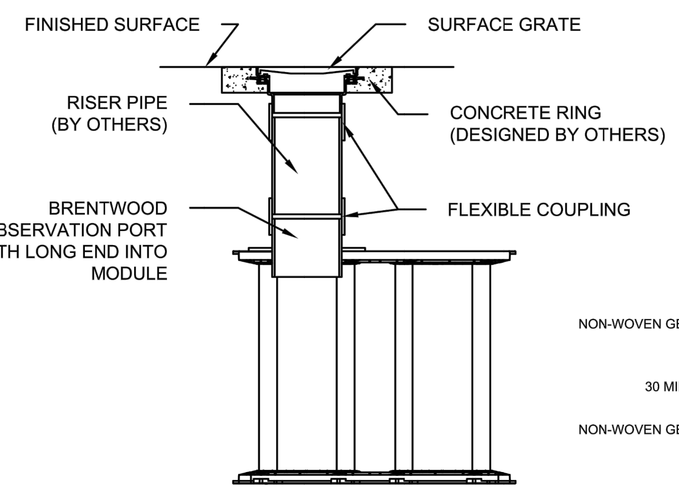


ORIFICE CONFIGURATIONS (BY OTHERS)

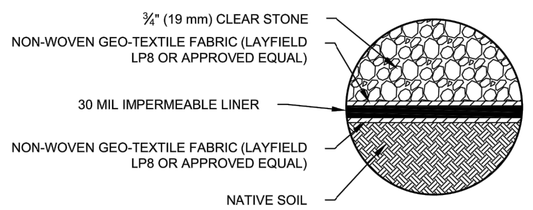
MAXIMUM PIPE DIAMETERS	
MODULE	NOMINAL PIPE DIAMETER (mm)
ST-18	14" (356)
ST-24	20" (508)
ST-30	26" (660)
ST-33	29" (737)
ST-36	32" (813)



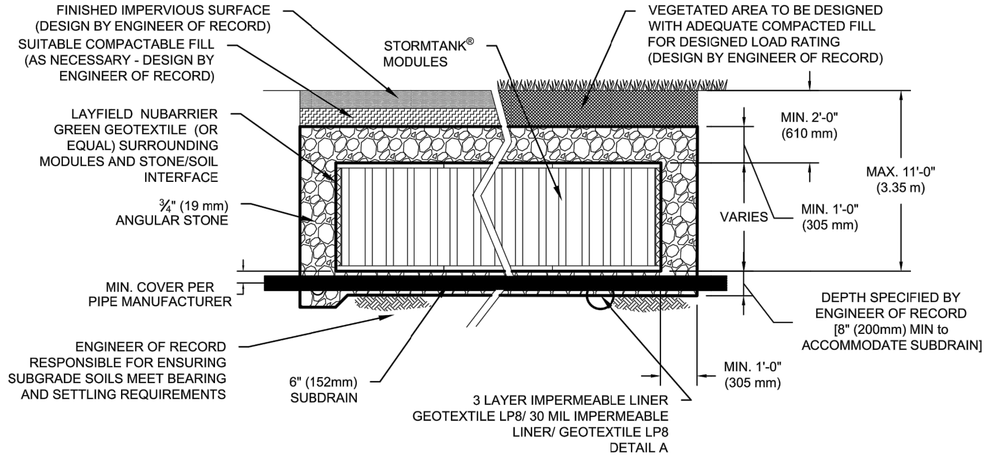
3 S-03 **TYP. CATCH BASIN ABUTMENT DETAIL (IF APPLICABLE)**



4 S-03 **SINGLE STACK OBSERVATION PORT DETAIL**



DETAIL "A"



5 S-03 **TYPICAL SINGLE STACKED SYSTEM BASIC CROSS-SECTION**

LAYFIELD
18417 72nd Avenue
South Kent, WA 98032
Ph: (425)-254-1075
seattle@layfieldgroup.com

SINGLE STACK MODULE SYSTEM

Total Storage Volume		13,163 ft^3
Module Storage Volume		11,698 ft^3
Stone Storage Volume (Excluding Top)		1,465 ft^3
System Footprint		4,302 ft^2
Estimated Geotextile Fabric	NuBarrier LP8	1,093 yd^2 2,418 yd^2
Estimated Liner		10,882 ft^2
Estimated Stone Volume		295 yd^3
Excavation Required		876 yd^3
Minimum Excavation Depth		4.67 ft
Stone Type		¾" Clear Stone
Stone Void Space		40%
Module Type		20 Series ST-36

1065 E. BRADLEY AVENUE
El Cajon, CA

REV	Record of Changes	Date	By
△	Preliminary Drawing	22OCT2019	AC
1	Revised Drawing	01NOV2019	AC
2	Revised Drawing	20NOV2019	AC
3	Revised Drawing	19MAY2020	AC
4	Revised Drawing	14JUL2020	AC
5	Revised Drawing + Layout	11JAN2022	LP
6	Corrected Quantities	15AUG2023	PE
7	Second Tank Added	31OCT2023	PE

Project Number: OP2021-0490
Page Name: TYP. Construction Details
Drawn by: PE | Checked By: JF
Scale: NTS | Date: 15AUG2023

THIS LAYOUT DRAWING WAS PREPARED TO SUPPORT THE ENGINEER OF RECORD FOR THE PROPOSED SYSTEM. IT IS THE RESPONSIBILITY OF THE ENGINEER OF RECORD TO REVIEW THE INFORMATION AND ENSURE THAT THE LAYOUT AND DESIGN IS IN FULL COMPLIANCE WITH ALL APPLICABLE LAWS AND REGULATIONS AND THAT THE STORMTANK SYSTEM HAS BEEN DESIGNED IN ACCORDANCE WITH BRENTWOOD'S REQUIREMENTS. LAYFIELD DOES NOT REVIEW OR APPROVE PLANS, SIZING OR DESIGNS.

Sheet: **04 OF 09**

ANSI B Size Page (Horizontal)

RECORD PLAN

BY: _____ DATE: _____

ENGINEER OF WORK
Snipes-Dye associates
civil engineers and land surveyors
8348 CENTER DRIVE, STE. G, LA MESA, CA 91942
TELEPHONE (619) 697-9234 FAX (619) 460-2033

WILLIAM A. SNIPES R.C.E. 50477
EXPIRES 06-30-25

REGISTERED PROFESSIONAL ENGINEER · WILLIAM A. SNIPES · No. 50477 Exp. 06-30-25 · CIVIL · STATE OF CALIFORNIA

COUNTY APPROVED CHANGES			
No.	Description	Approved by	Date

BENCH MARK

DESCRIPTION: STANDARD BENCHMARK # 91
LOCATION: TOP OF CURB, N END CB RETURN AT NW CORNER GRETA STREET AND FIRST STREET
RECORD FROM: CITY OF EL CAJON
ELEVATION: 515.161 DATUM: NAVD 88

PRIVATE CONTRACT

SHEET 18 | COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS | 27 SHEETS

POST-CONSTRUCTION BMP DETAILS FOR:
BRADLEY APARTMENT COMPLEX
CALIFORNIA COORDINATE INDEX 238-1785

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

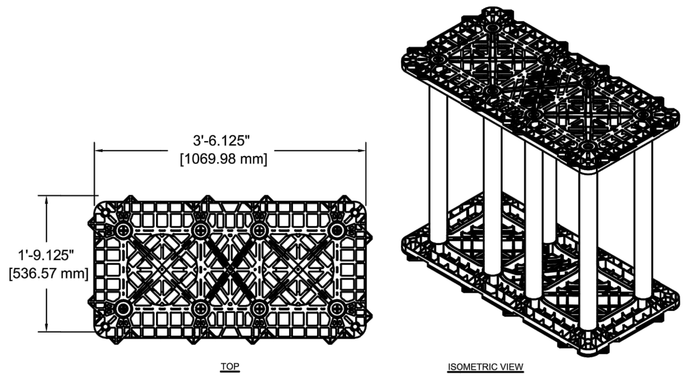
ENGINEER OF WORK
WILLIAM A. SNIPES R.C.E. 50477

PDS2019-LDGRMJ-30236

ENGINEER'S NAME - SNIPES-DYE ASSOCIATES
PHONE NO. (619) 697-9234

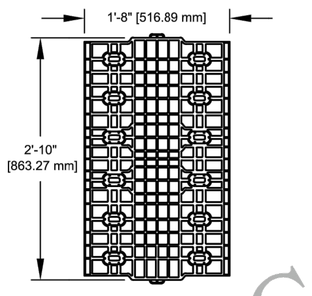
HWD RMB20032

TANK 2

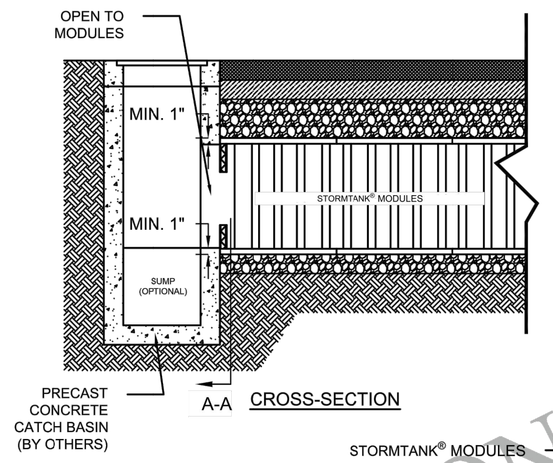


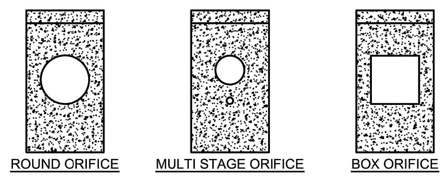
20 SERIES MODULE				
MODEL	HEIGHT (mm)	CAPACITY (m^3)	NOMINAL VOID	NOMINAL WEIGHT (kg)
2018	18" (457.2)	8.767 cf (0.2488)	95.50%	26.81 lbs. (12.16)
2024	24" (609.6)	11.789 cf (0.3346)	96.25%	29.39 lbs. (13.33)
2036	36" (914.4)	17.832 cf (0.5062)	97.05%	34.55 lbs. (15.67)

1 S-03 **36"(914 mm) MODULE DETAIL**



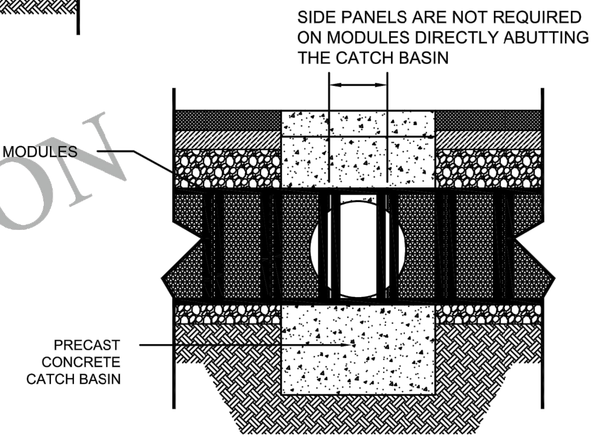
2 S-03 **36"(914 mm) SIDE PANEL DETAIL**



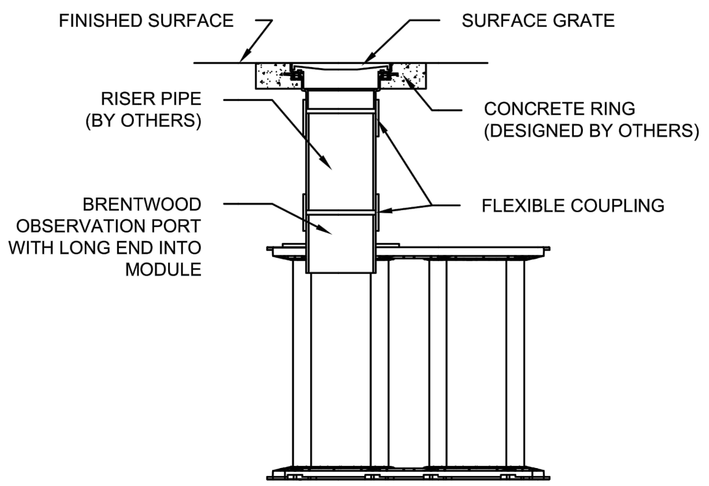


ORIFICE CONFIGURATIONS (BY OTHERS)

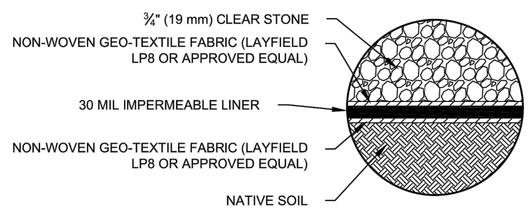
MAXIMUM PIPE DIAMETERS	
MODULE	NOMINAL PIPE DIAMETER (mm)
ST-18	14" (356)
ST-24	20" (508)
ST-30	26" (660)
ST-33	29" (737)
ST-36	32" (813)



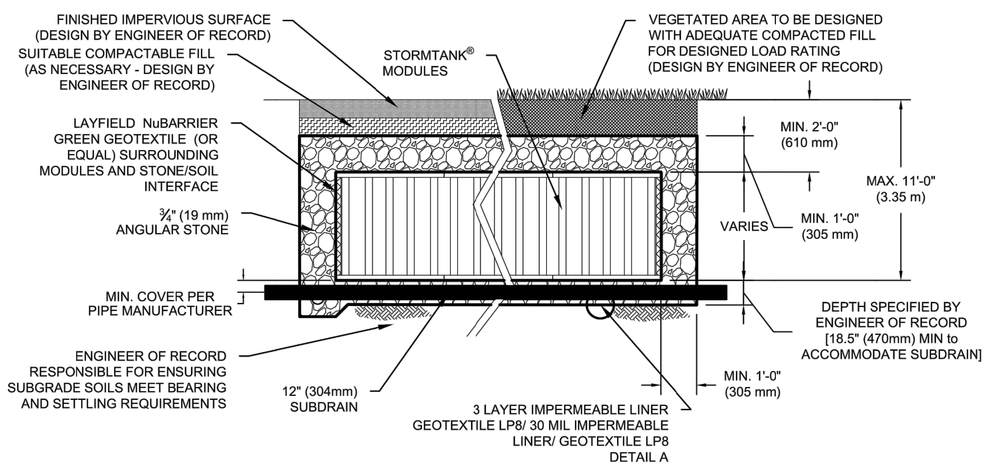
3 S-03 **TYP. CATCH BASIN ABUTMENT DETAIL (IF APPLICABLE)**



4 S-03 **SINGLE STACK OBSERVATION PORT DETAIL**



DETAIL "A"



5 S-03 **TYPICAL SINGLE STACKED SYSTEM BASIC CROSS-SECTION**

LAYFIELD
18417 72nd Avenue
South Kent, WA 98032
Ph: (425)-254-1075
seattle@layfieldgroup.com

SINGLE STACK MODULE SYSTEM

Total Storage Volume		3,106 ft^3
Module Storage Volume		2,496.54 ft^3
Stone Storage Volume (Excluding Top)		609.46 ft^3
System Footprint		862.61 ft^2
Estimated Geotextile Fabric	NuBarrier LP8	258 yd^2 650 yd^2
Estimated Liner		2,923 ft^2
Estimated Stone Volume		92.95 yd^3
Excavation Required		225.31 yd^3
Minimum Excavation Depth		5.17 ft
Stone Type		¾" Clear Stone
Stone Void Space		40%
Module Type		20 Series ST-36

1065 E. BRADLEY AVENUE
El Cajon, CA

REV	Record of Changes	Date	By
△	Preliminary Drawing	22OCT2019	AC
1	Revised Drawing	01NOV2019	AC
2	Revised Drawing	20NOV2019	AC
3	Revised Drawing	19MAY2020	AC
4	Revised Drawing	14JUL2020	AC
5	Revised Drawing + Layout	11JAN2022	LP
6	Corrected Quantities	15AUG2023	PE
7	Second Tank Added	31OCT2023	PE

Project Number: OP2021-0490

Page Name: TYP. Construction Details

Drawn by: PE | Checked By: JF

Scale: NTS | Date: 15AUG2023

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Sheet: **05 OF 09**

ANSI B Size Page (Horizontal)

RECORD PLAN

BY: _____ DATE: _____

ENGINEER OF WORK
Snipes-Dye associates
civil engineers and land surveyors
8348 CENTER DRIVE, STE. G, LA MESA, CA 91942
TELEPHONE (619) 697-9234 FAX (619) 460-2033
WILLIAM A. SNIPES R.C.E. 50477
EXPIRES 06-30-25

REGISTERED PROFESSIONAL ENGINEER · WILLIAM A. SNIPES · No. 50477 · Exp. 06-30-25 · CIVIL · STATE OF CALIFORNIA

COUNTY APPROVED CHANGES			
No.	Description	Approved by	Date

BENCH MARK

DESCRIPTION: STANDARD BENCHMARK # 91

LOCATION: TOP OF CURB, N END CB RETURN AT NW CORNER GRETA STREET AND FIRST STREET

RECORD FROM: CITY OF EL CAJON

ELEVATION: 515.161 DATUM: NAVD 88

PRIVATE CONTRACT

SHEET 19 | COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS | 27 SHEETS

POST-CONSTRUCTION BMP DETAILS FOR:

BRADLEY APARTMENT COMPLEX

CALIFORNIA COORDINATE INDEX 238-1785

APPROVED: FOR WILLIAM P. MORGAN COUNTY ENGINEER

BY: _____ DATE

ENGINEER OF WORK
WILLIAM A. SNIPES R.C.E. 50477

PDS2019-LDGRMJ-30236

ENGINEER'S NAME - SNIPES-DYE ASSOCIATES
PHONE NO. (619) 697-9234

HWD RMB20032

STEP 1:

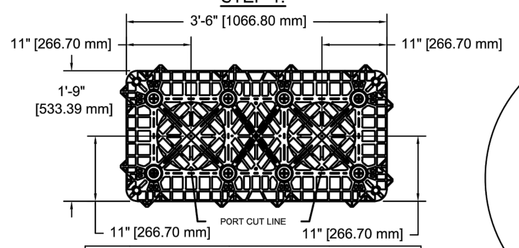
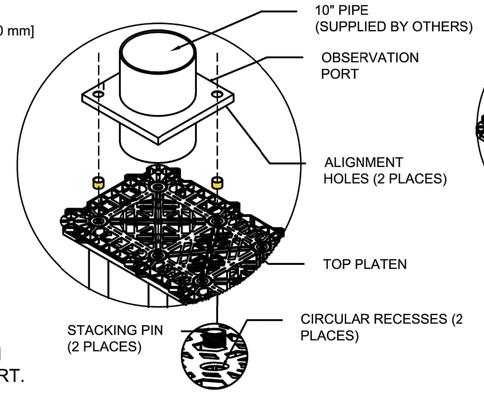


TABLE A: OBSERVATION PORT DIMENSION		
PORT SIZE	OPEN SIZE	RISER PIPE DIA.
6" (152 mm)	7" (178 mm)	6" (152 mm)
8" (203 mm)	9" (229 mm)	8" (203 mm)
10" (254 mm)	11" (279 mm)	10" (254 mm)

LAYOUT & CUT OPENING INTO EITHER CIRCLE SHOWN ON TOP PLATEN FOR BRENTWOOD OBSERVATION PORT.

STEP 2:



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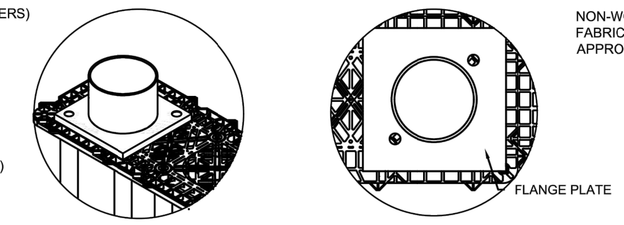
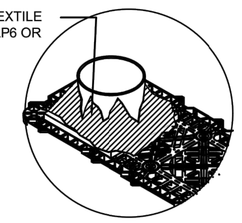
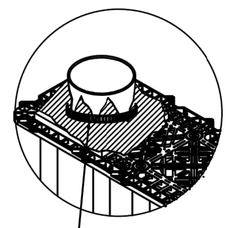


INSTALL OBSERVATION PORT

STEP 4:



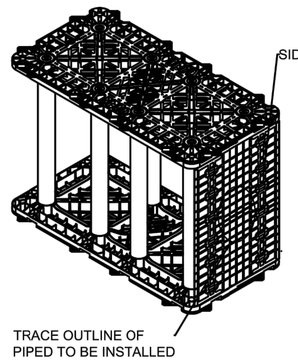
STEP 5:



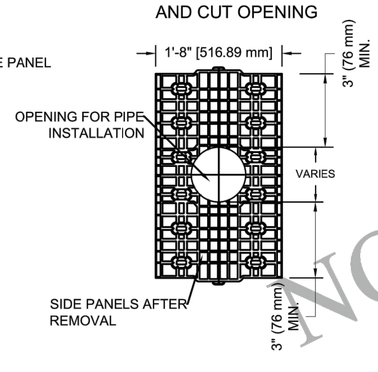
INSTALL GEOTEXTILE:
WRAP SPECIFIED GEOTEXTILE FABRIC AROUND ENTIRE INSTALLATION OF STORNTANK MODULES. CUT "X" PATTERN INTO GEOTEXTILE FABRIC AT OBSERVATION PORT AND PEEL EDGES OUT

1 S-04 TYP. OBSERVATION PORT INSTALLATION DETAIL

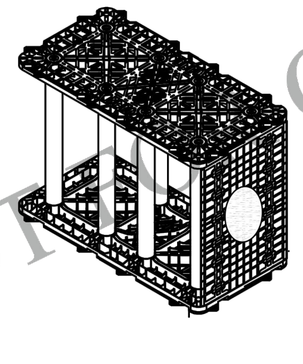
STEP 1:
LOCATE AND MARK OPENING



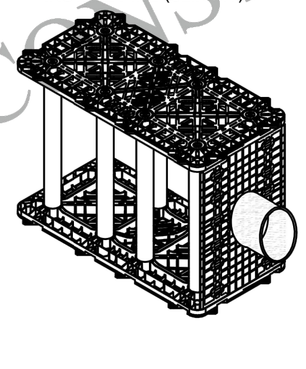
STEP 2:
REMOVE SIDE PANELS FROM MODULES AND CUT OPENING

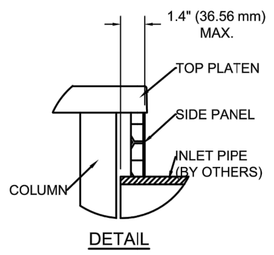


STEP 3:
REINSTALL SIDE PANELS



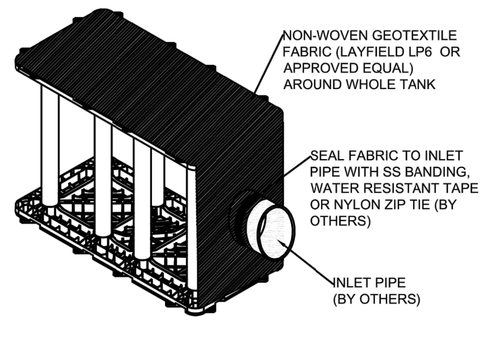
STEP 4:
INSTALL PIPE (SLIP FIT)





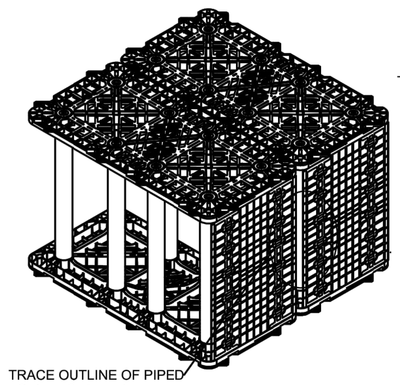
DETAIL

STEP 5:
WRAP AND SECURE GEOTEXTILE

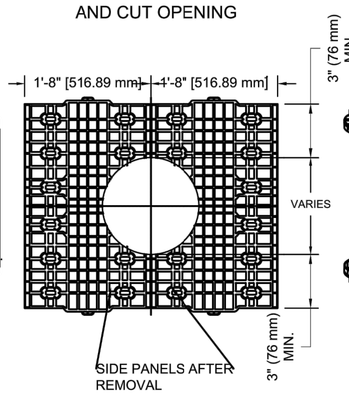


2 S-04 SMALL DIAMETER (14" [356 mm] AND SMALLER) PIPE CONNECTION DETAIL

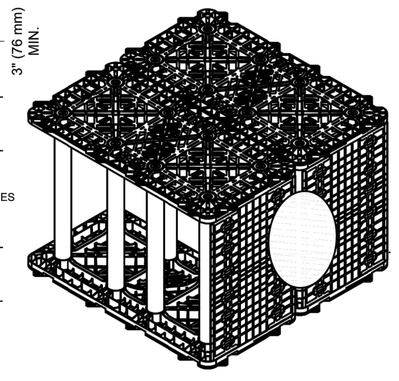
STEP 1:
LOCATE AND MARK OPENING



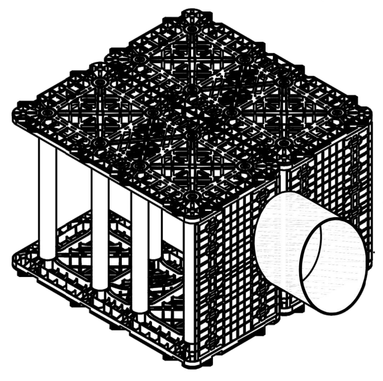
STEP 2:
REMOVE SIDE PANELS FROM MODULES AND CUT OPENING



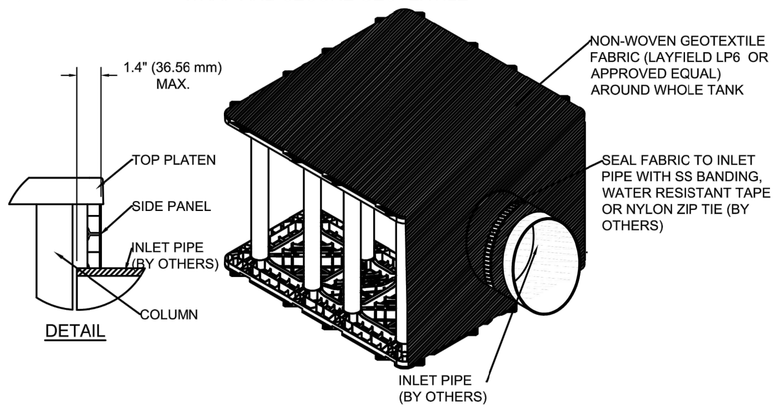
STEP 3:
REINSTALL SIDE PANELS



STEP 4:
INSTALL PIPE (SLIP FIT)



STEP 5:
WRAP AND SECURE GEOTEXTILE



DETAIL

3 S-04 LARGE DIAMETER (15" [381 mm] AND GREATER) PIPE CONNECTION DETAIL

LAYFIELD
18417 72nd Avenue
South Kent, WA 98032
Ph: (425)-254-1075
seattle@layfieldgroup.com

SINGLE STACK MODULE SYSTEM

Total Storage Volume		16,269 ft^3
Module Storage Volume		14,194.54 ft^3
Stone Storage Volume (Excluding Top)		2,074.46 ft^3
System Footprint		5,287.97 ft^2
Estimated Geotextile Fabric	NuBarrier LP8	1,351yd^2 3,068yd^2
Estimated Liner		13,805 ft^2
Estimated Stone Volume		401.46 yd^3
Excavation Required		1,101.31yd^3
Minimum Excavation Depth		4.67 5.17ft
Stone Type		$\frac{3}{4}$" Clear Stone
Stone Void Space		40%
Module Type		20 Series ST-36

1065 E. BRADLEY AVENUE
El Cajon, CA

REV	Record of Changes	Date	By
0	Preliminary Drawing	22OCT2019	AC
1	Revised Drawing	01NOV2019	AC
2	Revised Drawing	20NOV2019	AC
3	Revised Drawing	19MAY2020	AC
4	Revised Drawing	14JUL2020	AC
5	Revised Drawing + Layout	11JAN2022	LP
6	Corrected Quantities	15AUG2023	PE
7	Second Tank Added	31OCT2023	PE

Project Number: OP2021-0490

Page Name: TYP. Pipe Penetration Details

Drawn by: PE | Checked By: JF

Scale: NTS | Date: 15AUG2023

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Sheet: **06 OF 09**

ANSI B Size Page (Horizontal)

RECORD PLAN

BY: _____ DATE: _____

ENGINEER OF WORK
Snipes-Dye associates
civil engineers and land surveyors
8348 CENTER DRIVE, STE. G, LA MESA, CA 91942
TELEPHONE (619) 697-9234 FAX (619) 460-2033
WILLIAM A. SNIPES R.C.E. 50477
EXPIRES 06-30-25

REGISTERED PROFESSIONAL ENGINEER · WILLIAM A. SNIPES · No. 50477 · Exp. 06-30-25 · CIVIL · STATE OF CALIFORNIA

COUNTY APPROVED CHANGES

No.	Description	Approved by	Date

BENCH MARK

DESCRIPTION: STANDARD BENCHMARK # 91

LOCATION: TOP OF CURB, N END CB RETURN AT NW CORNER GRETA STREET AND FIRST STREET

RECORD FROM: CITY OF EL CAJON

ELEVATION: 515.161 DATUM: NAVD 88

PRIVATE CONTRACT

SHEET 20 | COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS | 27 SHEETS

POST-CONSTRUCTION BMP DETAILS FOR:

BRADLEY APARTMENT COMPLEX

CALIFORNIA COORDINATE INDEX 238-1785

APPROVED: FOR WILLIAM P. MORGAN COUNTY ENGINEER

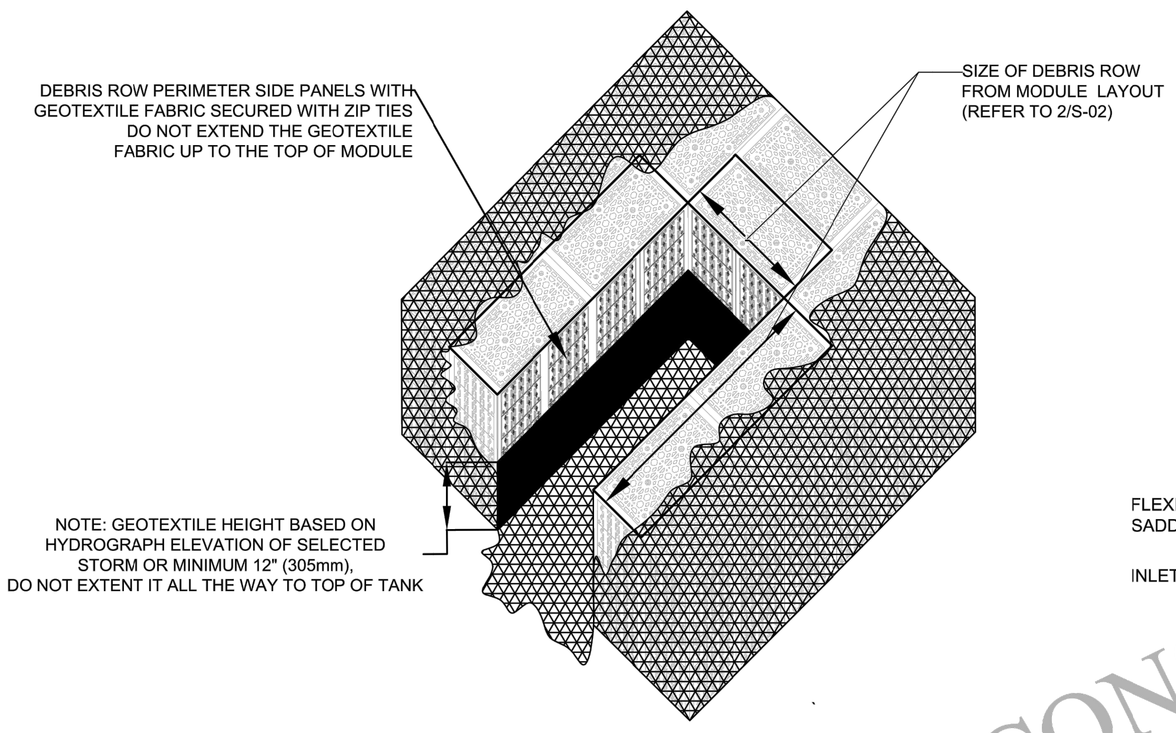
BY: _____ DATE

ENGINEER OF WORK
WILLIAM A. SNIPES R.C.E. 50477

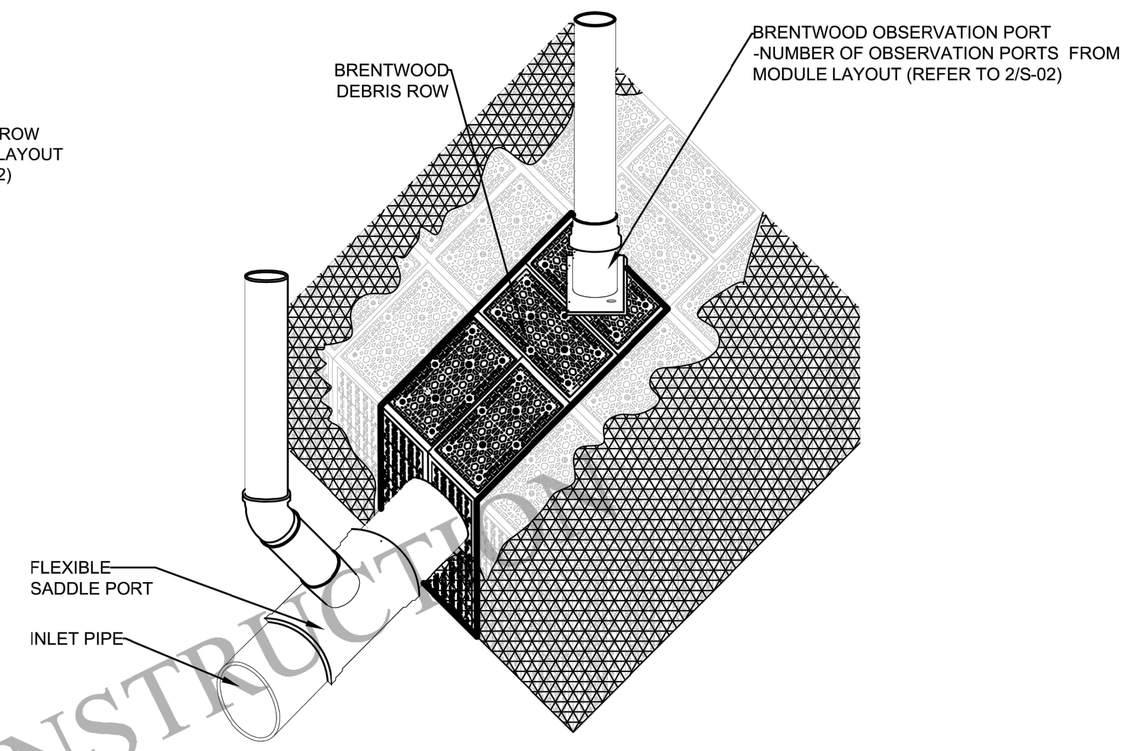
PDS2019-LDGRMJ-30236

ENGINEER'S NAME - SNIPES-DYE ASSOCIATES
PHONE NO. (619) 697-9234

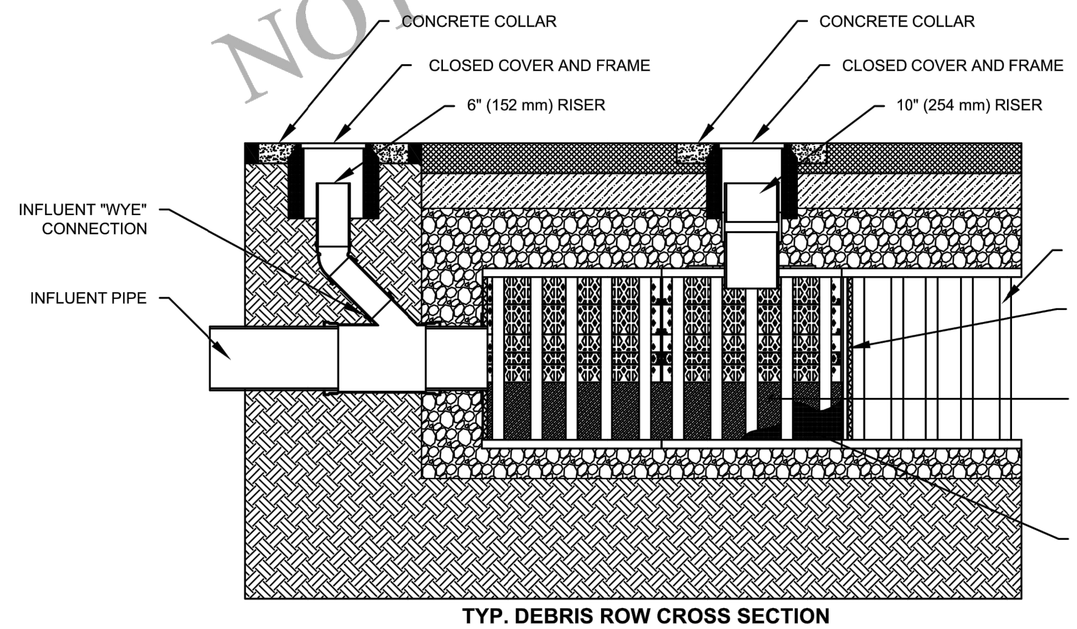
HWD RMB20032



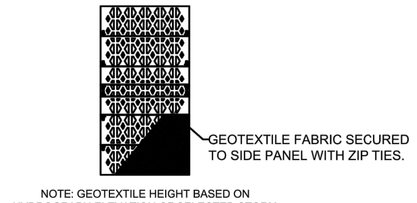
SIDE PANELS AND GEOTEXTILE FABRIC ALONG THE PERIMETER OF DEBRIS ROW



FINISHED DEBRIS ROW WITH INLET AND OBSERVATION PORT



TYP. DEBRIS ROW CROSS SECTION



1 / S-05 TYP. DEBRIS ROW DETAIL
SINGLE STACK SYSTEM

LAYFIELD
18417 72nd Avenue
South Kent, WA 98032
Ph: (425)-254-1075
seattle@layfieldgroup.com

SINGLE STACK MODULE SYSTEM

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4	Revised Drawing	14JUL2020	AC
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7	Second Tank Added	31OCT2023	PE

Project Number: OP2021-0490

Page Name: TYP. Debris Row Details

Drawn by: PE | Checked By: JF

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Sheet: **07 OF 09**

ANSI B Size Page (Horizontal)

RECORD PLAN

BY: _____ DATE: _____

ENGINEER OF WORK

Snipes-Dye associates
civil engineers and land surveyors
8348 CENTER DRIVE, STE. G, LA MESA, CA 91942
TELEPHONE (619) 697-9234 FAX (619) 460-2033
WILLIAM A. SNIPES R.C.E. 50477
EXPIRES 06-30-25

REGISTERED PROFESSIONAL ENGINEER — WILLIAM A. SNIPES — No. 50477 — Exp. 06-30-25 — CIVIL — STATE OF CALIFORNIA

COUNTY APPROVED CHANGES

No.	Description	Approved by	Date

BENCH MARK

DESCRIPTION: STANDARD BENCHMARK # 91

LOCATION: TOP OF CURB, N END CB RETURN AT NW CORNER GRETA STREET AND FIRST STREET

RECORD FROM: CITY OF EL CAJON

ELEVATION: 515.161 DATUM: NAVD 88

PRIVATE CONTRACT

SHEET 21 | COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS | 27 SHEETS

POST-CONSTRUCTION BMP DETAILS FOR:

BRADLEY APARTMENT COMPLEX

CALIFORNIA COORDINATE INDEX 238-1785

APPROVED: FOR WILLIAM P. MORGAN COUNTY ENGINEER

BY: _____ DATE

ENGINEER OF WORK: WILLIAM A. SNIPES R.C.E. 50477

PDS2019-LDGRMJ-30236

ENGINEER'S NAME - SNIPES-DYE ASSOCIATES
PHONE NO. (619) 697-9234

HWD RMB20032

General Conditions

- Review installation procedures and coordinate the installation with other construction activities, such as grading, excavation, utilities, construction access, erosion control, etc.
- Engineered Contract Drawings supersede all provided documentation, as the information furnished in this document is based on a typical installation.
- Coordinate the installation with manufacturer's representative/distributor to be on-site to review start up procedures and installation instructions.
- Components shall be unloaded, handled and stored in an area protected from traffic and in a manner to prevent damage.
- Assembled modules may be walked on, but vehicular traffic is prohibited until backfilled per Manufacturer's requirements. Protect the installation against damage with highly visible construction tape, fencing, or other means until construction is complete.

Ensure all construction occurs in accordance with Federal, Provincial and Local Laws, Ordinances, Regulations and Safety Requirements.

- Extra care and caution should be taken when temperatures are at or below 40° F (4.4° C).

NOT FOR CONSTRUCTION

These drawings shall not be used for construction until they have been reviewed for all design aspects (structural, geotechnical, stormwater) and approved by the Engineer of Record for the Project.

It is the Buyer's responsibility to ensure that the design into which the Product will be used has been approved by the Engineer of Record (not Layfield) with a review that may include, but not be limited to, Inlet and outlet configurations including inverts and pipe connections, storage volume, system footprint, Stormtank elevations including cover soil requirements, and proximity to structures and slopes.

1.0 StormTank® Assembly

StormTank® Modules:

StormTank® modules are delivered to the site as palletized components requiring simple assembly. No special equipment, tools or bonding agents are required; only a rubber mallet. A single worker can typically assemble a module in two minutes.

ASSEMBLY INSTRUCTIONS:

1. Place a platen on a firm level surface and insert the eight (8) columns into the platen receiver cups. Firmly tap each column with a rubber mallet to ensure the column is seated.
2. Place a second platen on a firm level surface. Flip the previously assembled components upside down onto the second platen, aligning the columns into the platen receiver cups.
3. Once aligned, seat the top assembly by alternating taps, with a rubber mallet at each structural column until all columns are firmly seated.

SIDE PANEL

4. If side panels are required, firmly tap the top platen upward to raise the top platen. Insert the side panel into the bottom platen.
5. Align the top of the side panel with the top platen and firmly seat the top platen utilizing a rubber mallet.

GENERAL NOTES:

- Remove packaging material and check for any damage. Report any damaged components to a StormTank® Distributor or Brentwood personnel.
- StormTank® components are backed by a one year warranty, when installed per manufacturer's recommendations.

2.0 Basin Excavation

1. Stake out and excavate to elevations per approved plans.Excavation Requirements:
   a. Sub-grade excavation must be a minimum of 6" (152 mm) below designed StormTank® Module invert.
   b. The excavation should extend a minimum of 12" (305 mm) beyond the StormTank® dimensions in each length and width (an additional 24" [610 mm] in total length and total width) to allow for adequate placement of side backfill material.
   c. Remove objectionable material encountered within the excavation, including protruding material from the walls.
   d. Furnish, install, monitor and maintain excavation support (e.g., shoring, bracing, trench boxes, etc.) as required by Federal, Provincial and Local Laws, Ordinances, Regulations and Safety Requirements.

3.0 Sub-Grade Requirements

1. Sub-grade shall be unfrozen, level (plus or minus 1%), and free of lumps or debris with no standing water, mud or muck. Do not use materials nor mix with materials that are frozen and/or coated with ice or frost.
2. Unstable, unsuitable and/or compromised areas should be brought to the Engineer's attention and mitigating efforts determined prior to compacting the sub-grade.
3. Sub-grade must be compacted to 95% Standard Proctor Density or as approved by the Engineer of Record. If code requirements restrict subgrade compaction, it is the requirement of the geotechnical Engineer to verify that the bearing capacity and settlement criteria for support of the system are met.

* The Engineer of Record shall reference Brentwood StormTank Module Installation document Appendix A for minimum soil bearing capacity required based on Load Rating and top cover depth. Minimum soil bearing capacity is required so that settlements are less than 1" through the entire sub-grade and do not exceed long-term 1/2" differential settlement between any two adjacent units within the system. Sub-grade must be designed to ensure soil bearing capacity is maintained throughout all soil saturation levels.

4.0 Leveling Bed Installation

1. Install geotextile fabric and/or liner material, as specified.
   a. Geotextile fabric shall be placed per manufacturer's recommendations.
   b. Additional material to be utilized for wrapping above the system must be protected from damage until use.
2. After the geotextile is secured, place a minimum 6" (152 mm) Leveling Bed.
   a. Material should be a 3/4" (19 mm) angular stone meeting Appendix B – Acceptable Fill Material.
   b. Material should be raked free of voids, lumps, debris, sharp objects and plate vibrated to a level with a maximum 1% slope.
3. Correct any unsatisfactory conditions.

5.0 StormTank® Module Placement

1. 1. Install geotextile fabric and/or liner material, as specified.
   a. Geotextile fabric shall be placed per manufacturer's recommendations.
   b. Additional material to be utilized for wrapping above the system must be protected from damage until use.
2. Mark the footprint of the modules for placement.
   a. Ensure module perimeter outline is square or similar prior to Module placement.
   b. Care should be taken to note any connections, ports or other irregular units to be placed.
3. Install the individual modules by hand, as detailed below.
   a. The modules should be installed as shown in the StormTank® submittal drawings with the short side of perimeter modules facing outward, except as otherwise required.
   b. Make sure the top/bottom platens are in alignment in all directions to within a maximum 1/4" (6.4 mm).
   c. For double stack configurations:
      i. Install the bottom module first. **DO NOT INTERMIX VARIOUS MODULE HEIGHTS ACROSS LAYERS.** Backfilling prior to proceeding to second layer is optional.
      ii. Insert stacking pins (2 per module) into the top platen of the bottom module.
      iii. Place the upper module directly on top of the bottom module in the same direction, making sure to engage the pins.
4. Install the modules to completion, taking care to avoid damage to the geotextile and/or liner material.
5. Locate any ports or other penetration of the StormTank®.
   a. Install ports/penetrations in accordance with the approved submittals, contract documents and manufacturer's recommendations.
6. Upon completion of module installation, wrap the modules in geotextile fabric and/or liner.
   a. Geotextile fabric shall be wrapped and secured per manufacturer's recommendations.
   b. Seal any ports/penetrations per Manufacturer's requirements

Notes:

- If damage occurs to the geotextile fabric or impermeable liner, repair the material in accordance with the geotextile/liner Manufacturer's recommendations.

LAYFIELD
18417 72nd Avenue
South Kent, WA 98032
Ph: (425)-254-1075
seattle@layfieldgroup.com

SINGLE STACK MODULE SYSTEM

Total Storage Volume		16,269 ft^3
Module Storage Volume		14,194.54 ft^3
Stone Storage Volume (Excluding Top)		2,074.46 ft^3
System Footprint		5,287.97 ft^2
Estimated Geotextile Fabric	NuBarrier LP8	1,351yd^2 3,068yd^2
Estimated Liner		13,805 ft^2
Estimated Stone Volume		401.46 yd^3
Excavation Required		1,101.31yd^3
Minimum Excavation Depth		4.67 5.17ft
Stone Type		$\frac{3}{4}$" Clear Stone
Stone Void Space		40%
Module Type		20 Series ST-36

1065 E. BRADLEY AVENUE
El Cajon, CA

REV	Record of Changes	Date	By
0	Preliminary Drawing	22OCT2019	AC
1	Revised Drawing	01NOV2019	AC
2	Revised Drawing	20NOV2019	AC
3	Revised Drawing	19MAY2020	AC
4	Revised Drawing	14JUL2020	AC
5	Revised Drawing + Layout	11JAN2022	LP
6	Corrected Quantities	15AUG2023	PE
7	Second Tank Added	31OCT2023	PE

Project Number: OP2021-0490

Page Name: Supplementary Notes

Drawn by: PE | Checked By: JF

Scale: NTS | Date: 15AUG2023

Sheet: **08 OF 09**

ANSI B Size Page (Horizontal)

RECORD PLAN

BY: _____ DATE: _____

PRIVATE CONTRACT

SHEET 22 | COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS | 27 SHEETS

POST-CONSTRUCTION BMP DETAILS FOR:

BRADLEY APARTMENT COMPLEX

CALIFORNIA COORDINATE INDEX 238-1785

APPROVED: FOR WILLIAM P. MORGAN COUNTY ENGINEER

BY: _____ DATE

ENGINEER OF WORK

WILLIAM A. SNIPES R.C.E. 50477

PDS2019-LDGRMJ-30236

ENGINEER OF WORK

Snipes-Dye associates
civil engineers and land surveyors
8348 CENTER DRIVE, STE. G, LA MESA, CA 91942
TELEPHONE (619) 697-9234 FAX (619) 460-2033

WILLIAM A. SNIPES R.C.E. 50477
EXPIRES 06-30-25

REGISTERED PROFESSIONAL ENGINEER — WILLIAM A. SNIPES — No. 50477 — Exp. 06-30-25 — CIVIL — STATE OF CALIFORNIA

COUNTY APPROVED CHANGES

No.	Description	Approved by	Date

BENCH MARK

DESCRIPTION: STANDARD BENCHMARK # 91

LOCATION: TOP OF CURB, N END CB RETURN AT NW CORNER GRETA STREET AND FIRST STREET

RECORD FROM: CITY OF EL CAJON

ELEVATION: 515.161 DATUM: NAVD 88

ENGINEER'S NAME - SNIPES-DYE ASSOCIATES
PHONE NO. (619) 697-9234

HWD RMB20032

6.0 Side Backfill

1. Inspect all geotextile, ensuring that no voids or damage exists; which will allow sediment into the StormTank® system.
2. Adjust the stone/soil interface geotextile along the side of the native soil to ensure the geotextile is taught to the native soil.
3. Once the geotextile is secured, begin to place the Side Backfill.
   a. a. Material should be a 3/4" (19 mm) angular stone meeting Appendix B – Acceptable Fill Material.
   b. b. Backfill sides "evenly" around the perimeter without exceeding single 12" (305 mm) lifts.
   c. Place material utilizing an excavator, dozer or conveyor boom.
   d. Utilize a plate vibrator to settle the stone and provide a uniform distribution.

Notes:

- Do not apply vehicular load to the modules during placement of side backfill. All material placement should occur with equipment located on the native soil surrounding the system.
- If damage occurs to the geotextile fabric or impermeable liner, repair the material in accordance with the geotextile/liner Manufacturer's recommendations

7.0 Top Backfill (Stone)

1. Begin to place the Top Backfill.
   a. Material should be a 3/4" (19 mm) angular stone meeting Appendix B – Acceptable Fill Material.
   b. Place material utilizing an excavator, dozer or conveyor boom (Tech Bulletin Stormtank Module 25 Series Construction Equipment) and use a walk-behind plate vibrator to settle the stone and provide an even distribution.

DO NOT DRIVE ON THE MODULES WITHOUT A MINIMUM 12" (305 mm) COVER.

2. Upon completion of Top Backfilling, wrap the system in geotextile fabric and/or liner per manufacturer's recommendations.
3. Install metallic tape around the perimeter of the system to mark the area for future utility detection.

Notes:

- If damage occurs to the geotextile fabric or impermeable liner, repair the material in accordance with the geotextile/liner Manufacturer's recommendations.

8.0 Suitable Compactable Fill

Following Top Backfill placement and geotextile fabric wrapping; complete the installation as noted below.

Vegetated Area

1. Place fill onto the geotextile.
   a. Maximum 12" (305 mm) lifts, compacted with a vibratory plate or walk behind roller to a minimum of 90% Standard Proctor Density.
   b. The minimum top cover/backfill to finished grade must not be less then that shown on Detail 5 Typical System Cross Section, and the maximum depth from final grade to the bottom of the lowest module should not exceed that shown on Detail 5.
2. Finish to the surface and complete with vegetative cover.

Impervious Area

1. Place fill onto the geotextile.
   a. Maximum 12" (305 mm) lifts, compacted with a vibratory plate or walk behind roller to a minimum of 90% Standard Proctor Density.
   b. The minimum top cover/backfill to finished grade must not be less then that shown on Detail 5 Typical System Cross Section, and the maximum depth from final grade to the bottom of the lowest module should not exceed that shown on Detail 5.
2. Finish to the surface and complete with asphalt, concrete, etc.

Notes:

- A vibratory roller may only be utilized after a minimum 24" (610 mm) of compacted material has been installed or for the installation of the asphalt wearing course.
- If damage occurs to the geotextile fabric, repair the material in accordance with the geotextile Manufacturer's recommendations.
- For most recent installation guidelines visit: http://www.brentwoodindustries.com/resources/

9.0 Inspection and Maintenance

If the following inspections and maintenance procedures are not followed as specified below then the end-user is responsible for the performance of the modules. These Maintenance procedure must be performed after a heavy rainfall, flooding or any incident that will vary the flow of water drastically.

Inspection

1. Inspect all observation ports, inflow and outflow connection and the discharge area
2. Identify and log any sediment and debris accumulation, system backup, or discharge rate changes.
3. If there is a sufficient need for a cleanout, contact a local cleaning company for assistance.

Cleaning:

1. If a pretreatment device is installed, follow manufacturer recommendations.
2. Using vacuum pump truck, evacuate debris from the inflow and outflow points.
3. Flush the system with clean water, forcing debris from the system.
4. Repeat steps 2 and 3 until no debris is evident

STORMTANK Expert Results™

TECH BULLETIN

Revision 1 02/09/21

StormTank® Module 20 Series Construction Equipment

Background

To provide clarity on construction equipment that can travel over a StormTank Module system during construction, the below table has been created. This table is not all inclusive and evaluation by the contractor on a case by case equipment may be necessary before proceeding.

Cover Depth over Module	Wheel Load (Vehides and Equipment)		Maximum Tracked Equipment		Roller Loads
	Maximum (Vehicle)	Maximum (Equipment)	Track Width	Maximum Weight (including material)	Maximum Drum Weight
6 in.	Not Permitted	Not Permitted	N/A	LGP Equipment (< 5 psi) Only	To Be Evaluated on a Case by Case Basis
12 in.	5,000 lbs.	7,500 lbs.	N/A	LGP Equipment (< 10 psi) Only	To Be Evaluated on a Case by Case Basis
18 in.	8,500 lbs.	12,000 lbs.	12 in. 18 in. 24 in. 36 in.	To Be Evaluated on a Case by Case Basis	To Be Evaluated on a Case by Case Basis
24 in.	13,000 lbs.	16,000 lbs.	12 in. 18 in. 24 in. 36 in.	To Be Evaluated on a Case by Case Basis	To Be Evaluated on a Case by Case Basis

1. Vehicle has a tire contact area of 10"x10"
2. Equipment has a tire contact area of 10"x20" (duel wheel trucks like dump trucks)
3. Cover depth is based on angular material, utilization of other materials impacts load rating
4. Dumping directly over the system is prohibited, excluding asphalt into a paver unit
5. Consideration must be given for rutting into cover material when utilizing table
6. Excavation equipment cannot operate (excavate) from over the system
7. Material is prohibited from being stockpiled over a system
8. For specialty equipment (material handles, cranes, units with outriggers, etc.) contact a StormTank Rep. before utilization over the system

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Project Number: OP2021-0490

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Drawn by: PE | Checked By: JF

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THIS LAYOUT DRAWING WAS PREPARED TO SUPPORT THE ENGINEER OF RECORD FOR THE PROPOSED SYSTEM. IT IS THE RESPONSIBILITY OF THE ENGINEER OF RECORD TO REVIEW THE INFORMATION AND ENSURE THAT THE LAYOUT AND DESIGN IS IN FULL COMPLIANCE WITH ALL APPLICABLE LAWS AND REGULATIONS AND THAT THE STORMTANK SYSTEM HAS BEEN DESIGNED IN ACCORDANCE WITH BRENTWOOD'S REQUIREMENTS. LAYFIELD DOES NOT REVIEW OR APPROVE PLANS, SIZING OR DESIGNS.

Sheet: **09 OF 09**

ANSI B Size Page (Horizontal)

RECORD PLAN

BY: _____ DATE: _____

ENGINEER OF WORK
Snipes-Dye associates
civil engineers and land surveyors
8348 CENTER DRIVE, STE. G, LA MESA, CA 91942
TELEPHONE (619) 697-9234 FAX (619) 460-2033

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EXPIRES 06-30-25

REGISTERED PROFESSIONAL ENGINEER · WILLIAM A. SNIPES · No. 50477 · Exp. 06-30-25 · CIVIL · STATE OF CALIFORNIA

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BENCH MARK

DESCRIPTION: STANDARD BENCHMARK # 91

LOCATION: TOP OF CURB, N END CB RETURN AT NW CORNER GRETA STREET AND FIRST STREET

RECORD FROM: CITY OF EL CAJON

ELEVATION: 515.161 DATUM: NAVD 88

PRIVATE CONTRACT

SHEET 23 | COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS | 27 SHEETS

POST-CONSTRUCTION BMP DETAILS FOR:

BRADLEY APARTMENT COMPLEX

CALIFORNIA COORDINATE INDEX 238-1785

APPROVED: FOR WILLIAM P. MORGAN COUNTY ENGINEER

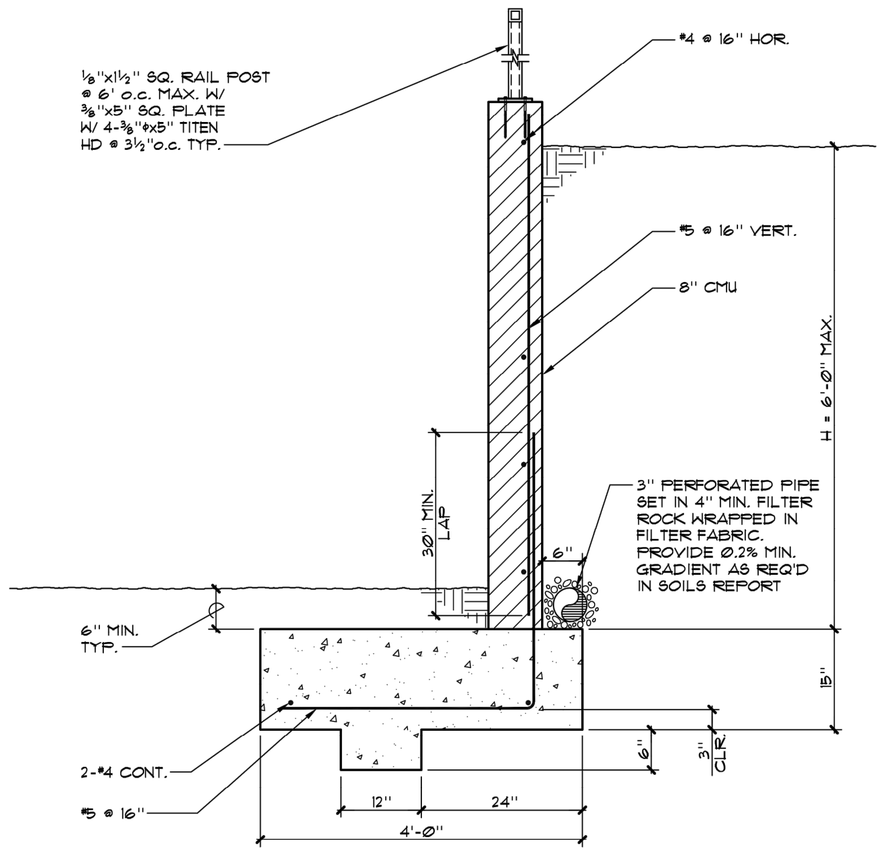
BY: _____ DATE

ENGINEER OF WORK
WILLIAM A. SNIPES R.C.E. 50477

PDS2019-LDGRMJ-30236

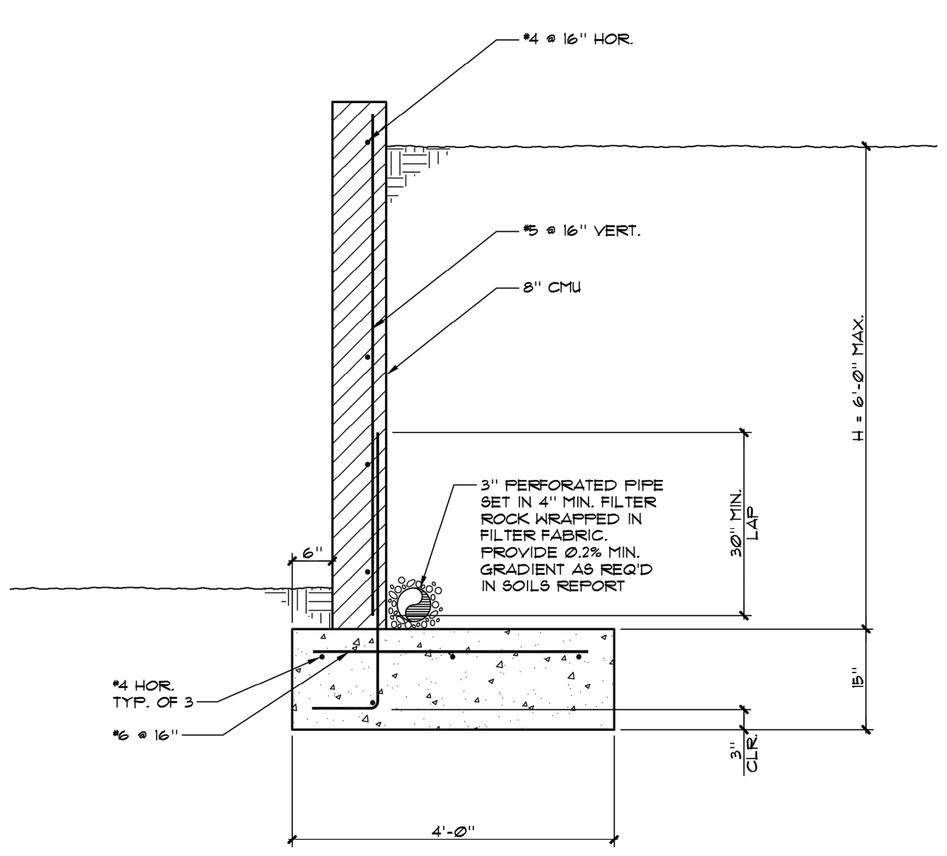
ENGINEER'S NAME - SNIPES-DYE ASSOCIATES
PHONE NO. (619) 697-9234

HWD RMB20032



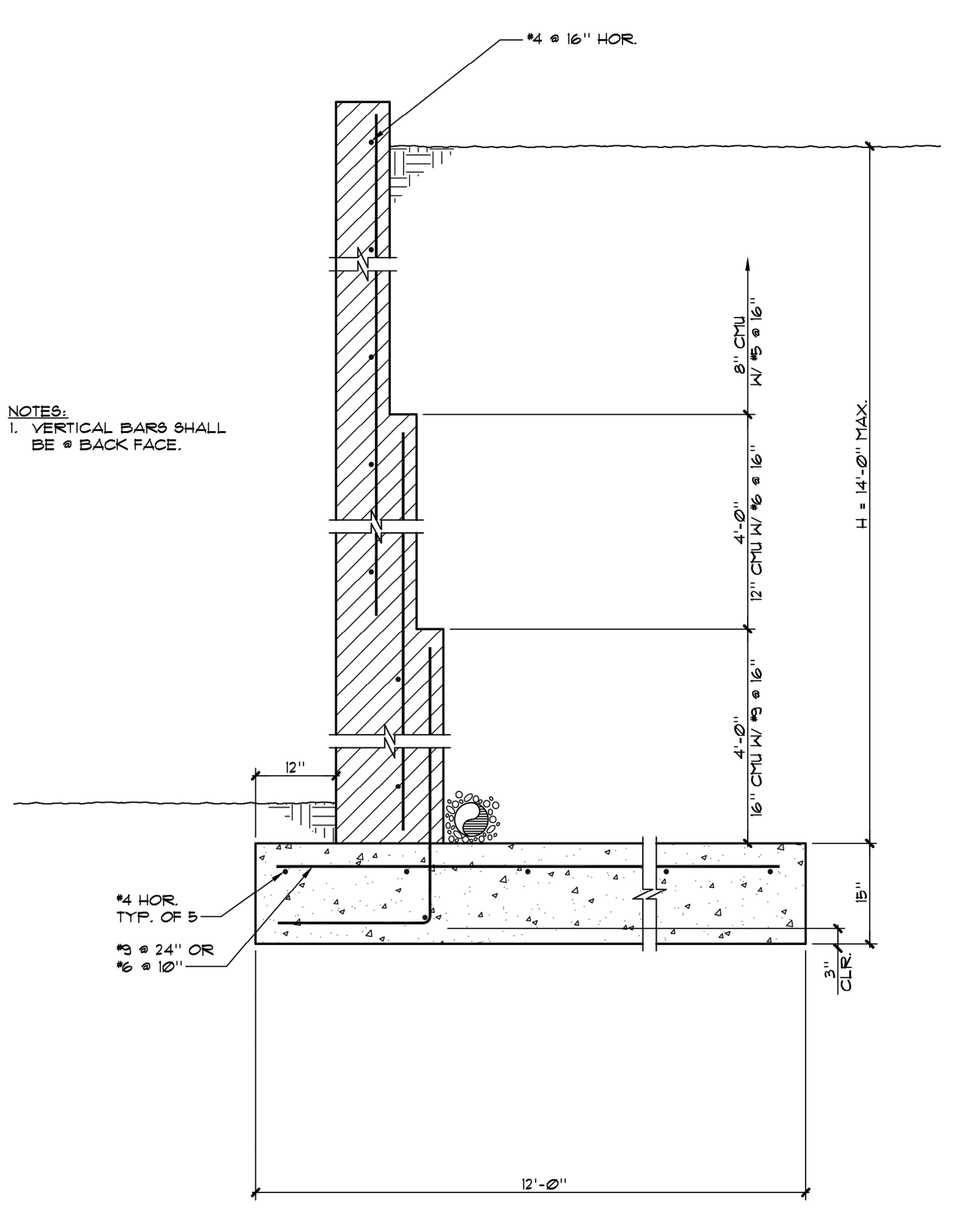
H = 6'-Ø"

SITE RETAINING WALL @ CUT SIDE



H = 6'-Ø"

SITE RETAINING WALL @ FILL SIDE



H = 14'-Ø"

SITE RETAINING WALL @ FILL SIDE

H = 8'-Ø" & 11'-Ø"

SITE RETAINING WALL @ CUT SIDE

1

¾"=1'-Ø"

H = 8'-Ø" & 11'-Ø"

SITE RETAINING WALL @ FILL SIDE

2

¾"=1'-Ø"

DECLARATION OF RESPONSIBLE CHARGE

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 A REVIEW ONLY AND DOES NOT RELIEVE ME, AS ENGINEER OF WORK, OF MY RESPONSIBILITIES FOR PROJECT DESIGN.

MARTIN STRUCTURAL CONSULTING, INC.
547 E. 6TH AVE.
ESCONDIDO, CA 92025
(760) 745-6012

BY: Tod Martin DATE: 1/20/20
NAME, R.C.E.
EXPIRES

REGISTERED PROFESSIONAL ENGINEER TOD R. MARTIN S 4096 EXP. 9/22 STRUCTURAL STATE OF CALIFORNIA

MARTIN STRUCTURAL CONSULTING, INC.
547 E. 6TH AVE., ESCONDIDO, CA 92025 (760) 445-3453

COUNTY APPROVED CHANGES			
No.	Description	Approved by	Date

BENCH MARK

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RECORD FROM: CITY OF EL CAJON

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PRIVATE CONTRACT

SHEET 24	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	27 SHEETS

RETAINING WALL PLAN FOR:

BRADLEY APARTMENT COMPLEX

CALIFORNIA COORDINATE INDEX 238-1785

APPROVED: FOR WILLIAM P. MORGAN COUNTY ENGINEER

BY:

DATE

ENGINEER OF WORK
TOD MARTIN
NAME R.C.E.

PDS2019-LDGRMJ-30236

HWD RMB20032

ENGINEER'S NAME – MARTIN STRUCTURAL CONSULTING, INC.
PHONE NO. (760) 445-3453

GENERAL NOTES

1. ALL CONSTRUCTION, INCLUDING MATERIAL AND WORKMANSHIP, SHALL CONFORM TO THE PROVISIONS OF THE 2022 EDITION OF THE "CALIFORNIA BUILDING CODE", AND STANDARDS REFERENCED THEREIN.
2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS AND SITE CONDITIONS BEFORE STARTING WORK. THE ARCHITECT SHALL IMMEDIATELY BE NOTIFIED IN WRITING, OF ANY DISCREPANCIES.
3. ALL OMISSIONS AND/OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF, AND A SOLUTION GIVEN BY, THE ENGINEER BEFORE PROCEEDING WITH ANY WORK SO INVOLVED.
4. IF A SPECIFIC DETAIL IS NOT SHOWN FOR ANY PART OF THE WORK, THE CONSTRUCTION SHALL BE THE SAME AS FOR SIMILAR WORK.
5. WORKING DIMENSIONS SHALL NOT BE SCALED FROM PLANS, SECTIONS OR DETAILS ON THESE STRUCTURAL DRAWINGS.

FOUNDATIONS AND SOILS

1. AN EXPLORATION OF THE SOILS UNDERLYING THE SITE OF THIS PROJECT WAS MADE BY: SOIL TESTERS INC. AND IS DESCRIBED IN A REPORT DATED: 6/27/19 WITH ADDENDUMS DATED 1/3/20 AND 3/21/22 WHICH IS ON FILE WITH THE ARCHITECT. THE CONTRACTOR SHOULD BECOME FAMILIAR WITH THE INFORMATION CONTAINED THEREIN, PRIOR TO COMMENCING ANY WORK.
2. BEFORE COMMENCING ANY EARTHWORK, THE CONTRACTOR SHALL VERIFY LOCATIONS OF ALL UNDERGROUND UTILITIES, VALVE PITS OR VAULTS AND SHALL NOT PERFORM ANY WORK THAT WILL DAMAGE OR INTERFERE WITH THE SERVICE OF SAME.
3. FOOTING EXCAVATIONS SHALL BE NEAT AND TRUE TO LINE, WITH ALL LOOSE MATERIAL AND STANDING WATER REMOVED BEFORE FOOTING CONCRETE IS PLACED.
4. EARTH FORMS MAY BE USED FOR FOOTINGS ONLY WHERE THE SOIL IS FIRM AND STABLE AND THE CONCRETE WILL NOT BE EXPOSED.
5. SOIL COMPACTION AND SITE PREPARATION SHALL BE IN ACCORDANCE WITH THE SOILS REPORT. ALL SOILS SITE WORK SHALL BE DONE UNDER THE DIRECT SUPERVISION OF THE SOILS ENGINEER.
6. PRIOR TO THE CONTRACTOR REQUESTING A BUILDING DEPARTMENT FOUNDATION INSPECTION, THE SOILS ENGINEER SHALL ADVISE THE BUILDING OFFICIAL IN WRITING THAT:
   A. THE BUILDING PAD WAS PREPARED IN ACCORDANCE WITH THE SOILS REPORT.
   B. THE UTILITY TRENCHES HAVE BEEN PROPERLY BACKFILLED AND COMPACTED.
   C. THE FOUNDATION EXCAVATIONS, THE SOILS EXPANSIVE CHARACTERISTICS AND BEARING CAPACITY CONFORM TO THE SOILS REPORT.
7. FOUNDATIONS SUPPORTING WOOD SHALL EXTEND AT LEAST 8" ABOVE THE ADJACENT FINISH GRADE PROVIDE 18" CLEARANCE UNDER WOOD JOISTS AND 12" CLEARANCE UNDER WOOD GIRDERS.
8. SOILS INSPECTIONS BY THE SOILS ENGINEER OF RECORD SHALL BE PERFORMED TO:
   1. VERIFY SOIL CONDITIONS ARE SUBSTANTIALLY IN CONFORMANCE WITH THE SOIL INVESTIGATION REPORT.
   2. VERIFY THAT FOUNDATION EXCAVATIONS EXTEND TO PROPER DEPTH AND BEARING STRATA.
   3. PROVIDE SOIL COMPACTION TEST RESULTS, DEPTH OF FILL, RELATIVE DENSITY, BEARING VALUES.
9. ALLOWABLE SOIL BEARING PRESSURE SHALL BE 2000 PSF PER SOILS REPORT.

REINFORCED CONCRETE

1. THE MINIMUM 28-DAY CYLINDER COMPRESSIVE STRENGTHS SHALL BE 2500 PSI FOR ALL CONCRETE. WATER TO CEMENTITIOUS MATERIALS RATIO SHALL BE 0.5 MAX.
2. PORTLAND CEMENT SHALL CONFORM TO ASTM C150, TYPE I OR II.
3. AGGREGATES FOR NORMAL WEIGHT CONCRETE SHALL CONFORM TO ASTM C33.
4. ADMIXTURES SHALL CONFORM TO ASTM A494 AND SHALL NOT BE CONSIDERED TO REDUCE THE SPECIFIED MINIMUM CEMENT CONTENT.
5. READY-MIX CONCRETE SHALL BE MIXED AND DELIVERED IN ACCORDANCE WITH ASTM C94.
6. ALL VERTICAL SURFACES OF CONCRETE ABOVE FINISHED GRADE SHALL BE FORMED.
7. TYPICAL EMBEDMENT OF 5/8" DIAMETER ANCHOR BOLTS SHALL BE 7".
8. TYPICAL ANCHOR BOLTS FOR HOLDOWNS SHALL BE TIED IN PLACE PRIOR TO FOUNDATION INSPECTIONS.
9. THIS DESIGN ASSUMES THE SOILS TO HAVE NEGLIGIBLE SULFATE CONTENT. IF SULFATE CONTENT IS BELIEVED TO BE MODERATE OR WORSE, THE ENGINEER SHALL BE CONTACTED IMMEDIATELY FOR REVISED CONCRETE SPECIFICATIONS.

REINFORCING STEEL

1. BAR REINFORCEMENT SHALL CONFORM TO GRADE 60 OF ASTM A615, INCLUDING SUPPLEMENT S1. ALL REINFORCEMENT TO BE WELDED SHALL CONFORM TO ASTM A706.
2. DETAILS OF REINFORCEMENT SHALL BE IN ACCORDANCE WITH CHAPTER 7 OF THE AMERICAN CONCRETE INSTITUTE (ACI) 318, U.O.N.
3. BAR SUPPORTS SHALL BE PROVIDED IN ACCORDANCE WITH THE PROVISIONS OF "BAR SUPPORT SPECIFICATIONS" AS CONTAINED IN THE OF THE "MANUAL OF STANDARD PRACTICE" BY THE CONCRETE REINFORCING STEEL INSTITUTE (CRSI).
4. REINFORCING STEEL DETAILING, BENDING AND PLACING SHALL BE IN ACCORDANCE WITH THE CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
5. ALL REINFORCEMENT SHALL BE SECURELY TIED IN PLACE BEFORE PLACING CONCRETE OR GROUT.
6. WELDING OF CROSSING BARS AND TACK WELDING OF REINFORCEMENT SHALL NOT BE PERMITTED.

CONCRETE BLOCK/UNIT MASONRY

1. ALL CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90, TYPE I, MEDIUM WEIGHT, COMPRESSIVE STRENGTH OF UNITS SHALL BE AT LEAST 1900 PSI. DESIGN f'm = 1,500 PSI. SINGLE OR DOUBLE OPEN END UNITS SHALL BE USED ON ALL SOLID GROUTED WALLS.
2. MORTAR SHALL BE TYPE "S" PORTLAND CEMENT/LIME OR MORTAR CEMENT, CONFORMING TO IBC TABLE NO. 2103.8 AND ATTAINING A MINIMUM COMPRESSIVE STRENGTH OF 1800 PSI PRIOR TO BACKFILLING BEHIND WALLS. PLASTIC AND MASONRY CEMENTS ARE NOT ACCEPTABLE.
3. GROUT SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI PRIOR TO BACKFILLING BEHIND WALLS AND BE IN CONFORMANCE WITH IBC SECTION 2103.12 AND SHALL CONTAIN A WATER REDUCING ADMIXTURE.
4. ALL REINFORCEMENT SHALL CONFORM TO GRADE 60 OF ASTM A615, INCLUDING SUPPLEMENT S1.
5. VERTICAL REINFORCEMENT SHALL BE TIED OR OTHERWISE FIXED IN POSITION AT THE TOP AND BOTTOM AND AT INTERMEDIATE LOCATIONS.
6. VERTICAL REINFORCEMENT IN WALLS, PILASTERS, ETC., SHALL BE DOWELED TO THE FOOTINGS WITH DOWELS THE SAME SIZE AND SPACING AS THE VERTICAL REINFORCEMENT.
7. ELECTRICAL CONDUIT SHALL NOT BE PLACED IN THE SAME CELL AS REINFORCEMENT UNLESS APPROVED BY THE ENGINEER.
8. OVERHANGING MORTAR AND MORTAR DROPPINGS AND ALL DEBRIS SHALL BE REMOVED FROM ALL CELLS TO RECEIVE GROUT.
9. PROVIDE INSPECTION AND CLEAN-OUT HOLES AT THE BASES OF VERTICAL CELLS HAVING GROUT LIFTS WHICH ARE MORE THAN 4'-0" IN HEIGHT.
10. SOLID GROUT ALL MASONRY CELLS.
11. WHEN GROUTING IS STOPPED FOR ONE HOUR OR MORE, HORIZONTAL CONSTRUCTION JOINTS SHALL BE FORMED BY STOPPING THE POUR OF GROUT 1-1/2" BELOW THE TOP OF THE UPPERMOST UNIT.
12. GROUT SHALL BE CONSOLIDATED IN LIFTS WITH A MECHANICAL VIBRATOR.

SPECIAL INSPECTION

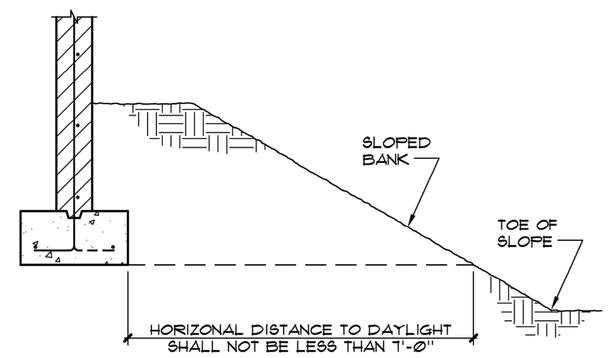
STATEMENT OF SPECIAL INSPECTION:
SPECIAL INSPECTION SHALL BE PROVIDED FOR CMU AND SOILS IN ACCORDANCE WITH THE FOLLOWING TABLE:

TYPE OF INSPECTION	INSPECTION TASK	FREQUENCY OF INSPECTION
STRUCTURAL MASONRY	1. AT THE START OF LAYING UNITS INSPECTOR SHALL CHECK PROPORTIONS OF SITE PREPARED MORTAR, CONSTRUCTION OF MORTAR JOINTS, AND LOCATION OF REINFORCEMENT	PERIODIC
	2. PRIOR TO GROUTING THE INSPECTOR SHALL CHECK SIZE AND LOCATION OF MASONRY, TYPE, SIZE, GRADE AND LOCATION OF REINFORCEMENT AND ANCHORS, GROUT SPACE IS CLEAN AND CONSTRUCTION OF MORTAR JOINTS.	PERIODIC
	3. DURING GROUTING THE INSPECTOR SHALL VERIFY PROPER PLACEMENT OF GROUT.	CONTINUOUS
SOILS	1. VERIFY MATERIALS BELOW FOOTINGS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	PERIODIC
	2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	PERIODIC

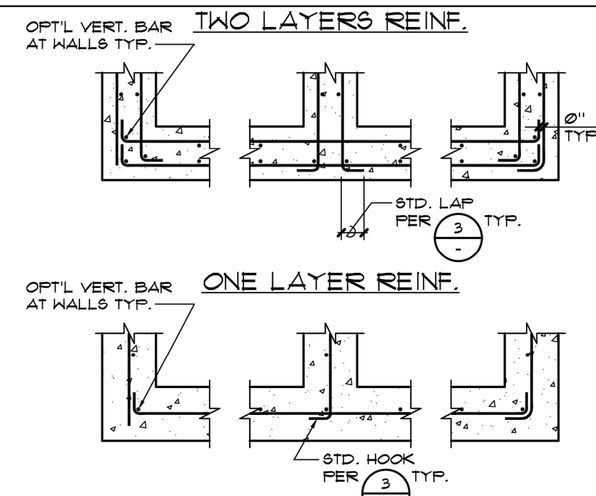
A. THE SPECIAL INSPECTIONS LISTED ARE IN ADDITION TO THE STANDARD CITY INSPECTIONS, AS AMENDED. SPECIAL INSPECTION IS NOT A SUBSTITUTE FOR INSPECTION BY A CITY INSPECTOR.
B. CONTINUOUS INSPECTION IS ALWAYS REQUIRED DURING THE PERFORMANCE OF THE WORK UNLESS OTHERWISE SPECIFIED. WHEN WORK IN MORE THAN ONE CATEGORY OF WORK REQUIRING SPECIAL INSPECTION IS TO BE PERFORMED SIMULTANEOUSLY, OR THE GEOGRAPHIC LOCATION OF THE WORK IS SUCH THAT IT CANNOT BE CONTINUOUSLY OBSERVED IN ACCORDANCE WITH THE PROVISIONS OF IBC CHAPTER 17, IT IS THE AGENT'S RESPONSIBILITY TO EMPLOY A SUFFICIENT NUMBER OF INSPECTORS TO ASSURE THAT ALL THE WORK IS INSPECTED IN ACCORDANCE WITH THOSE PROVISIONS.
C. THE SPECIAL INSPECTORS MUST BE CERTIFIED BY THE CITY OF RECORD DEVELOPMENT SERVICES DIVISION TO PERFORM THE TYPE OF INSPECTION SPECIFIED.
D. PERIODIC SPECIAL INSPECTION SHALL BE PERFORMED BY EITHER THE REGISTERED DESIGN PROFESSIONAL OF RECORD OR A REGISTERED SPECIAL INSPECTOR.
E. SOIL ENGINEER OF RECORD SHALL SUBMIT A FINAL COMPACTION REPORT TO BE SUBMITTED TO THE BUILDING INSPECTOR PRIOR TO FOUNDATION INSPECTION.
F. A PROPERTY OWNER'S FINAL REPORT OF WORK REQUIRING SPECIAL INSPECTION MUST BE COMPLETED BY THE PROPERTY OWNER, PROPERTY OWNERS AGENT OF RECORD, ARCHITECT OF RECORD, OR ENGINEER OF RECORD AND SUBMITTED TO THE INSPECTION SERVICES DIVISION.

EXCEPTIONS:
1. SOILS INSPECTIONS BY THE SOILS ENGINEER OF RECORD.
2. SMOKE CONTROL SYSTEM, BY THE MECHANICAL ENGINEER OF RECORD.
3. WHEN WAIVED BY THE BUILDING OFFICIAL.

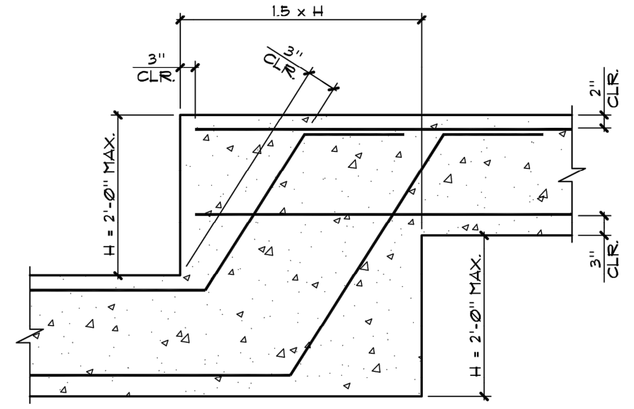
G. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE SPECIAL INSPECTOR OR INSPECTION AGENCY AT LEAST ONE WORKING DAY PRIOR TO PERFORMING ANY WORK THAT REQUIRES SPECIAL INSPECTION.
H. WORK REQUIRING SPECIAL INSPECTION THAT IS INSTALLED OR COVERED WITHOUT THE APPROVAL OF THE CITY INSPECTOR IS SUBJECT TO REMOVAL OR EXPOSURE AT NO COST TO THIS JURISDICTION.
I. A CERTIFICATE OF SATISFACTORY COMPLETION OF WORK REQUIRING SPECIAL INSPECTION MUST BE COMPLETED AND SUBMITTED TO THE INSPECTION SERVICES DIVISION.
J. AN APPLICATION FOR OFF-SITE FABRICATION MUST BE SUBMITTED TO THE FIELD INSPECTION DIVISION FOR APPROVAL PRIOR TO FABRICATION. SEE BUILDING NEWSLETTER 17-6 FOR OFF-SITE FABRICATION REQUIREMENTS.
K. A CERTIFICATE OF COMPLIANCE FOR OFF-SITE FABRICATION MUST BE COMPLETED AND SUBMITTED TO THE FIELD INSPECTION DIVISION PRIOR TO ERECTION OF PRE-FABRICATED COMPONENTS.
L. THE SPECIAL INSPECTOR MUST BE CERTIFIED BY THE CITY OF RECORD, DEVELOPMENT SERVICES, IN THE CATEGORY OF WORK REQUIRED TO HAVE SPECIAL INSPECTION.
M. NOTICE TO THE APPLICANT/OWNER/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 THE CITY OF SAN DIEGO FOR SPECIAL INSPECTIONS, STRUCTURAL OBSERVATIONS, CONSTRUCTION MATERIALS TESTING AND OFF-SITE FABRICATION OF BUILDING COMPONENTS, CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS AND, AS REQUIRED BY THE CALIFORNIA CONSTRUCTION CODES.
N. 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 ACKNOWLEDGE AND ARE AWARE OF, THE REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS. YOU AGREE TO COMPLY WITH THE REQUIREMENTS OF THE CITY OF SAN DIEGO FOR SPECIAL INSPECTIONS, STRUCTURAL OBSERVATIONS, CONSTRUCTION MATERIALS TESTING AND OFF-SITE FABRICATION OF BUILDING COMPONENTS, CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS AND, AS REQUIRED BY THE CALIFORNIA CONSTRUCTION CODES.
O. PERIODIC SPECIAL INSPECTION IS REQUIRED FOR NAILING, BOLTING, ANCHORING AND OTHER FASTENING OF COMPONENTS WITHIN THE MAIN WINDFORCE-RESIST SYSTEM, INCLUDING WOOD SHEAR WALLS, WOOD DIAPHRAGMS, DRAG STRUTS, BRACES AND HOLD-DOWNS. (NOT REQUIRED STRUCTURALLY WHERE NAIL SPACING IS GREATER THAN 4"o.c.)



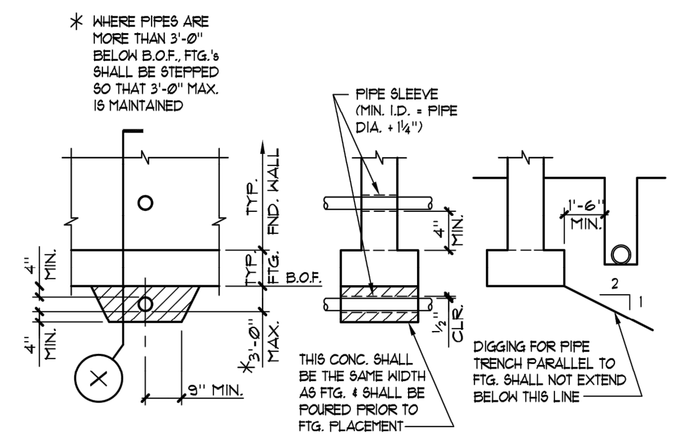
FOUNDATION ADJACENT TO BANK (4)
3/4"=1'-0"
4/CS1=DAYLIGHT2



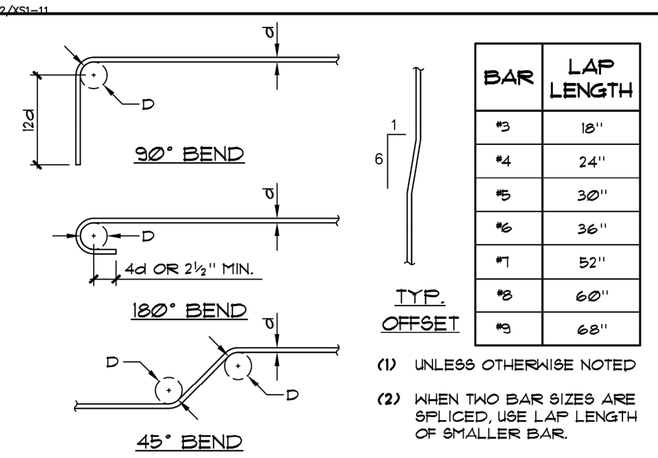
REINF. @ CONC. WALL & FOOTING INTERSECTIONS (1)
3/4"=1'-0"
1/CS1=8



WALL FOOTING STEPS (5)
3/4"=1'-0"
4/CS1=STEP



1"=1'-0" (2)
2/CS1=11



BAR	LAP LENGTH
#3	18"
#4	24"
#5	30"
#6	36"
#7	52"
#8	60"
#9	68"

(1) UNLESS OTHERWISE NOTED
(2) WHEN TWO BAR SIZES ARE SPLICED, USE LAP LENGTH OF SMALLER BAR.

NOTE:
D = 6d FOR #3 THRU #8
D = 8d FOR #9 THRU #10 & #11

TYP. REINFORCING BENDS / LAPS (3)
1"=1'-0"
2/CS1=12

DECLARATION OF RESPONSIBLE CHARGE

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 A REVIEW ONLY AND DOES NOT RELIEVE ME, AS ENGINEER OF WORK, OF MY RESPONSIBILITIES FOR PROJECT DESIGN.

MARTIN STRUCTURAL CONSULTING, INC.
547 E. 6TH AVE.
ESCONDIDO, CA 92025
(760) 745-6012

BY: Tod Martin DATE: 1/20/20
NAME, R.C.E.
EXPIRES

REGISTERED PROFESSIONAL ENGINEER — TOD D. MARTIN — S 4096 — EXP. 9/22 — STRUCTURAL — STATE OF CALIFORNIA

MARTIN STRUCTURAL CONSULTING, INC.
547 E. 6TH AVE., ESCONDIDO, CA 92025 (760) 445-3453

COUNTY APPROVED CHANGES			
No.	Description	Approved by	Date

BENCH MARK
DESCRIPTION: STANDARD BENCHMARK # 91
LOCATION: TOP OF CURB, N END CB RETURN AT NW CORNER GRETA STREET AND FIRST STREET
RECORD FROM: CITY OF EL CAJON
ELEVATION: 515.161 DATUM: NAVD 88

PRIVATE CONTRACT

SHEET		SHEETS
25	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	27

RETAINING WALL PLAN FOR:

BRADLEY APARTMENT COMPLEX

CALIFORNIA COORDINATE INDEX 238-1785

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

ENGINEER OF WORK
TOD MARTIN
NAME R.C.E.

PDS2019-LDGRMJ-30236

HWD RMB20032

ENGINEER'S NAME - MARTIN STRUCTURAL CONSULTING, INC.
PHONE NO.(760) 445-3453

ENGINEER'S NAME - SNIPES-DYE ASSOCIATES
PHONE NO. (619) 697-9234

COUNTY APPROVED CHANGES			
No.	Description	Approved by	Date

BENCH MARK	
DESCRIPTION: STANDARD BENCHMARK # 91	
LOCATION: TOP OF CURB, N END CB RETURN AT NW CORNER GRETA STREET AND FIRST STREET	
RECORD FROM: CITY OF EL CAJON	
ELEVATION: 515.161	DATUM: NAVD 88

DATE	
APPROVED FOR WILLIAM P. MORGAN COUNTY ENGINEER	
BY:	ENGINEER OF WORK
WILLIAM A. SNIPES R.C.E. 50477	WILLIAM A. SNIPES R.C.E. 50477

PDS2019-LDGRMJ-30236

WALL PLAN / PROFILE FOR:

BRADLEY APARTMENT COMPLEX

CALIFORNIA COORDINATE INDEX 238-1785

SHEET	COUNTY OF SAN DIEGO	SHEETS
26	DEPARTMENT OF PUBLIC WORKS	27

PRIVATE CONTRACT

RECORD PLAN

BY: _____ DATE: _____

ENGINEER OF WORK

Snipes-Dye associates
civil engineers and land surveyors
8348 CENTER DRIVE, STE. G, LA MESA, CA 91942
TELEPHONE (619) 697-9234 FAX (619) 460-2033

WILLIAM A. SNIPES R.C.E. 50477
EXPIRES 06-30-25

REGISTERED PROFESSIONAL ENGINEER · WILLIAM A. SNIPES · No. 50477 · Exp. 06-30-25 · STATE OF CALIFORNIA · CIVIL

SCALE: 1"=20'

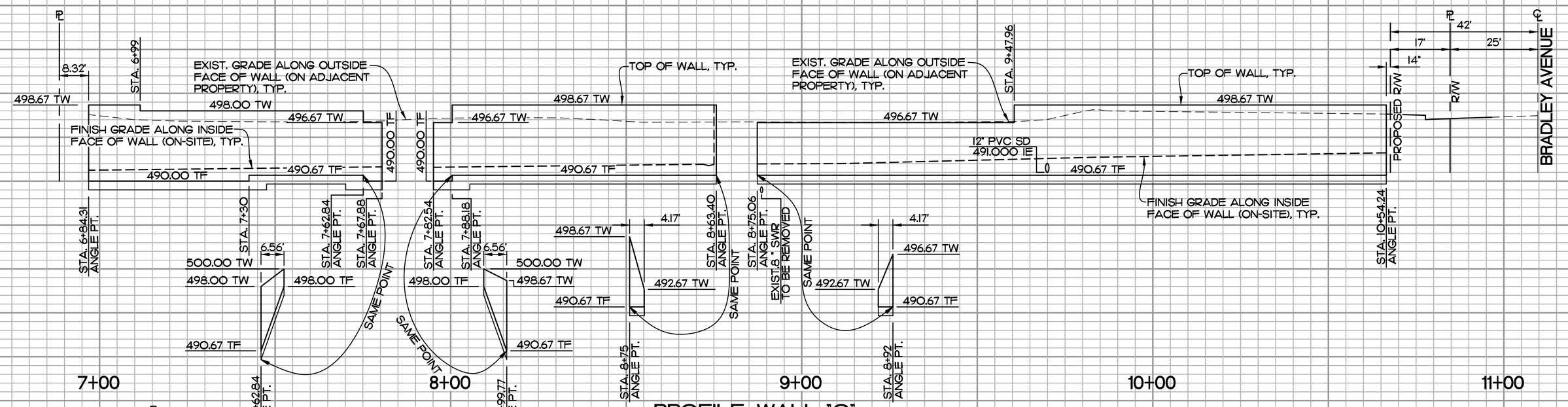
WALL "B"

WALL "A"

SEE WALL "B" PROFILE
FINISH GRADE ALONG INSIDE FACE OF WALL (ON-SITE)
EXIST. GRADE ALONG INSIDE FACE OF WALL (ON ADJACENT PROPERTY)
STA 3+67.37 ANGLE PT.
STA 6+84.91 ANGLE PT.
STA 6+29.04 ANGLE PT.
STA 6+04.86 ANGLE PT.
STA 4+05.25 ANGLE PT.
STA 3+95.82 ANGLE PT.
STA 3+67.37 ANGLE PT.
STA 0+00 R/W BEGIN RET. WALL
STA 13+60.83 END WALL
BRADLEY AVE.
6' SD
12' SD
SEE WALL "A" PROFILE
FINISH GRADE ALONG INSIDE FACE OF WALL (ON-SITE)
EXIST. GRADE ALONG INSIDE FACE OF WALL (ON ADJACENT PROPERTY)
STA 4+05.25 ANGLE PT.
STA 3+67.37 ANGLE PT.
STA 0+00 R/W BEGIN RET. WALL
STA 13+60.83 END WALL
BRADLEY AVENUE
6' SD
12' SD

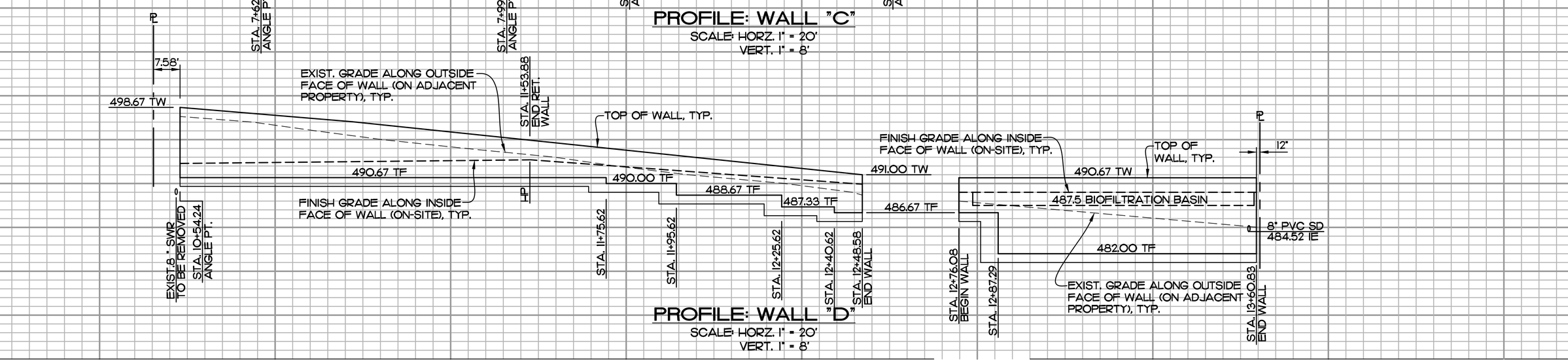
PROFILE: WALL "B"
SCALE: HOR. 1" = 20'
VERT. 1" = 8'

PROFILE: WALL "A"
SCALE: HOR. 1" = 20'
VERT. 1" = 8'



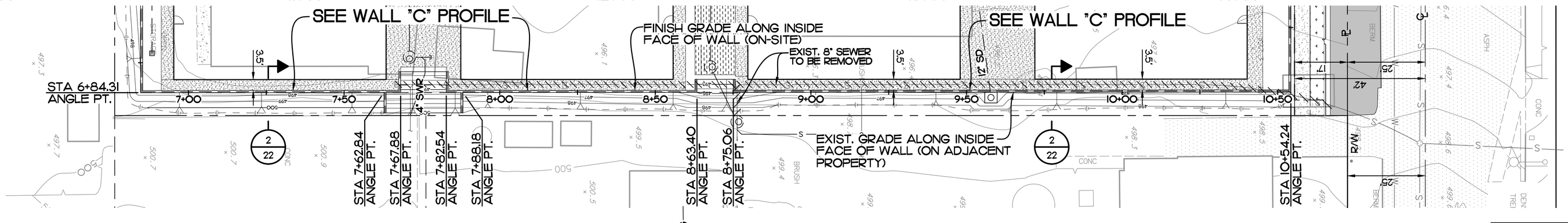
PROFILE: WALL "C"

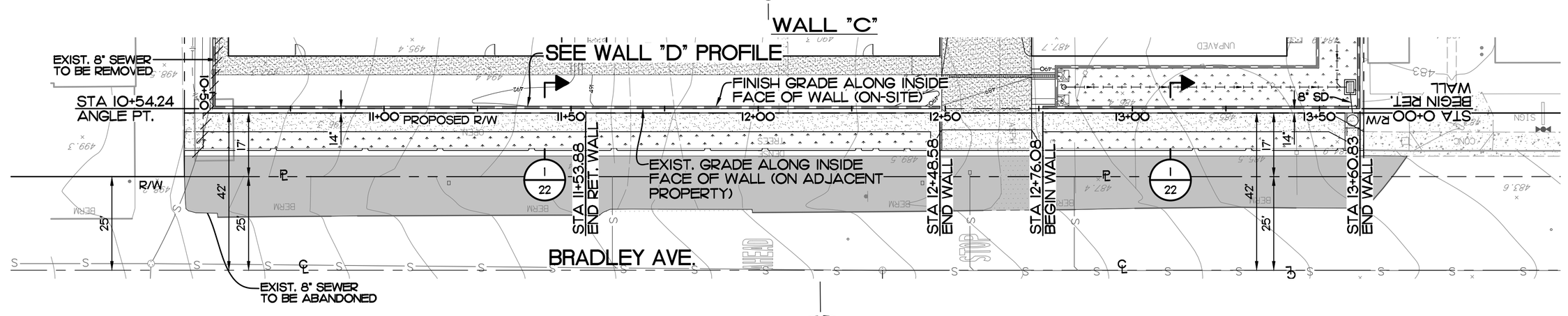
SCALE: HORZ. 1" = 20'
VERT. 1" = 8'



PROFILE: WALL "D"

SCALE: HORZ. 1" = 20'
VERT. 1" = 8'





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

COUNTY APPROVED CHANGES			
No.	Description	Approved by	Date

BENCH MARK

DESCRIPTION: STANDARD BENCHMARK # 91
LOCATION: TOP OF CURB, N END CB RETURN AT NW CORNER GRETA STREET AND FIRST STREET
RECORD FROM: CITY OF EL CAJON
ELEVATION: 515.161 DATUM: NAVD 88

RECORD PLAN

BY: _____ DATE: _____

ENGINEER OF WORK
Snipes-Dye associates
civil engineers and land surveyors
8348 CENTER DRIVE, STE. G, LA MESA, CA 91942
TELEPHONE (619) 697-9234 FAX (619) 460-2033
WILLIAM A. SNIPES R.C.E. 50477
EXPIRES 06-30-25

REGISTERED PROFESSIONAL ENGINEER • WILLIAM A. SNIPES • No. 50477 • Exp. 06-30-25 • CIVIL • STATE OF CALIFORNIA

PRIVATE CONTRACT

SHEET		
27	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	27 SHEETS

WALL PLAN / PROFILE FOR:

BRADLEY APARTMENT COMPLEX

CALIFORNIA COORDINATE INDEX 238-1785

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

ENGINEER OF WORK
WILLIAM A. SNIPES R.C.E. 50477

PDS2019-LDGRMJ-30236

ENGINEER'S NAME - SNIPES-DYE ASSOCIATES
PHONE NO. (619) 697-9234

IMPROVEMENT PLANS FOR
BRADLEY AVENUE WIDENING
SOUTH SIDE, BETWEEN MOLLISON AVENUE AND NORTH FIRST STREET

GENERAL NOTES

1. A PERMIT SHALL BE OBTAINED FROM THE COUNTY DEPARTMENT OF PUBLIC WORKS FOR ANY WORK WITHIN THE STREET RIGHT-OF-WAY.
2. THE STRUCTURAL SECTION SHALL BE IN ACCORDANCE WITH SAN DIEGO COUNTY STANDARDS AND AS APPROVED BY THE MATERIALS LABORATORY.
3. APPROVAL OF THESE IMPROVEMENT PLANS AS SHOWN DOES NOT CONSTITUTE APPROVAL OF ANY CONSTRUCTION OUTSIDE THE PROJECT BOUNDARY.
4. ALL UNDERGROUND UTILITIES WITHIN THE STREET RIGHT-OF-WAY SHALL BE CONSTRUCTED, CONNECTED AND TESTED PRIOR TO CONSTRUCTION OF DIKE, CURB, CROSS GUTTER AND PAVING.
5. THE EXISTENCE AND LOCATION OF EXISTING UNDERGROUND FACILITIES SHOWN ON THESE PLANS WERE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO OTHER EXISTING FACILITIES EXCEPT AS SHOWN ON THESE PLANS. HOWEVER, THE CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT ANY EXISTING FACILITY SHOWN HEREON AND ANY OTHER WHICH IS NOT OF RECORD OR NOT SHOWN ON THESE PLANS.
6. LOCATION AND ELEVATION OF IMPROVEMENTS TO BE MET BY WORK TO BE DONE SHALL BE CONFIRMED BY FIELD MEASUREMENTS PRIOR TO CONSTRUCTION OF NEW WORK. CONTRACTOR WILL MAKE EXPLORATORY EXCAVATIONS AND LOCATE EXISTING UNDERGROUND FACILITIES SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT REVISIONS TO PLANS IF REVISIONS ARE NECESSARY BECAUSE OF ACTUAL LOCATION OF EXISTING FACILITIES.
7. THE CONTRACTOR SHALL NOTIFY THE SAN DIEGO GAS & ELECTRIC COMPANY PRIOR TO STARTING WORK NEAR COMPANY FACILITIES AND SHALL COORDINATE HIS/HER WORK WITH COMPANY REPRESENTATIVES.

   NOTICE: ALL ELECTRICAL AND GAS SERVICES WITHIN THIS PROJECT ARE "UNDERGROUND INSTALLATIONS" FOR LOCATION OF ELECTRICAL CABLES AND GAS PIPING AND APPURTENANCES CONTACT THE SAN DIEGO GAS & ELECTRIC COMPANY.
   TELEPHONE: 1-800-422-4133
8. THE CONTRACTOR SHALL NOTIFY AT&T TELEPHONE COMPANY, PRIOR TO STARTING WORK NEAR COMPANY FACILITIES AND SHALL COORDINATE HIS/HER WORK WITH COMPANY REPRESENTATIVES.

   NOTICE: ALL TELEPHONE SERVICES WITHIN THIS PROJECT BOUNDARY ARE "UNDERGROUND INSTALLATIONS". FOR LOCATION OF CABLES AND APPURTENANCES CONTACT AT&T.
   TELEPHONE: 1-800-422-4133
9. THE CONTRACTOR SHALL NOTIFY HELIX WATER DISTRICT PRIOR TO STARTING WORK NEAR COMPANY FACILITIES AND SHALL COORDINATE HIS/HER WORK WITH DISTRICT REPRESENTATIVES.

   NOTICE: ALL WATER SERVICES WITHIN THIS PROJECT BOUNDARY ARE "UNDERGROUND INSTALLATIONS". FOR LOCATION OF PIPES AND APPURTENANCES CONTACT HELIX WATER DISTRICT.
   TELEPHONE: (619) 446-0585
10. IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER TO CONTACT THE UTILITY AGENCIES, ADVISE THEM OF THE PROPOSED IMPROVEMENTS, AND BEAR THE COST OF RELOCATIONS, IF NEEDED.
11. ALL TELEVISION SERVICES WITHIN THIS PROJECT ARE "UNDERGROUND INSTALLATIONS" FOR LOCATION OF CABLES AND APPURTENANCES CONTACT AT&T COMPANY AT 1-800-422-4133.
12. POWER SOURCES AND RUNS SERVING STREET LIGHTS SHALL BE SHOWN ON THE "RECORD PLAN" IMPROVEMENT DRAWINGS. ALL POWER SOURCES SHALL BE LOCATED WITHIN THE DEDICATED RIGHT-OF-WAY, OR WITHIN EASEMENT DEDICATED TO THE COUNTY OF SAN DIEGO.
13. NO PAVING SHALL BE DONE UNTIL EXISTING POWER POLES TO BE RELOCATED ARE RELOCATED OUTSIDE THE AREAS TO BE PAVED.
14. PRIVATE ROAD IMPROVEMENTS SHOWN HEREON ARE FOR INFORMATION ONLY. COUNTY OFFICIALS SIGNATURE HEREON DOES NOT CONSTITUTE APPROVAL OR RESPONSIBILITY OF ANY KIND FOR THE DESIGN OR CONSTRUCTION OF THESE PRIVATE IMPROVEMENTS. (IF APPLICABLE)
15. ALL SIGNS SHALL BE MADE WITH ALUMINUM SIGN PANELS WITH TYPE IV OR BETTER (AT LEAST HIGH INTENSITY PRISMATIC) RETROREFLECTIVE SHEETING IN CONFORMANCE WITH SECTION 82, "SIGNS AND MARKINGS" OF THE MOST CURRENT CALTRANS STANDARD SPECIFICATIONS WITH THE EXCEPTION OF SECTION 82-2.02A, PART 1.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPLACEMENT OF ANY STRIPING, PAVEMENT MARKERS, OR LEGENDS OBLITERATED BY THE CONSTRUCTION OF THIS PROJECT.
17. ALL NEW STRIPING AND SANDBLASTING OF REDUNDANT STRIPING TO BE DONE BY CONTRACTOR.
18. ALL CUT AND FILL SLOPES THREE FEET (3') HIGH CREATED BY GRADING FOR STREET AND DRIVEWAYS SHALL BE HYDROSEEDED WITH SAN DIEGO COUNTY APPROVED HYDROSEED MIXTURE. HYDROSEEDED SLOPES SHALL BE IRRIGATED BY WATER TRUCK UNTIL THE MIXTURE GERMINATES AND 70% GROWTH IS ESTABLISHED.
19. ASPHALT CONCRETE SURFACING MATERIAL SHALL BE HAND-RAKED AND COMPACTED TO FORM SMOOTH TAPERED CONNECTIONS ALONG ALL EDGES INCLUDING THOSE EDGES ADJACENT TO SOIL. THE EDGES OF ASPHALT CONCRETE SHALL BE HAND-RAKED AT 45 DEGREES OR FLATTER, SO AS TO PROVIDE A SMOOTH TRANSITION NEXT TO EXISTING SOIL, INCLUDING THOSE AREAS SCHEDULED FOR SHOULDER BACKING. THE ABOVE SHALL BE DONE TO THE SATISFACTION OF THE DIRECTOR OF PUBLIC WORKS.
20. CONTRACTOR SHALL APPLY FOR A TRAFFIC CONTROL PERMIT EIGHT WEEKS PRIOR TO COMMENCEMENT OF WORK. NO WORK SHALL COMMENCE UNTIL ISSUANCE OF SAID PERMIT. FOR INFORMATION CALL (858) 694-3863. THE TRAFFIC CONTROL PERMIT SHALL REQUIRE SPECIFICATIONS FOR THE INFORMATIONAL SIGNS.
21. STREET IMPROVEMENTS AND DRAINAGE STRUCTURES SHALL BE CONSTRUCTED ACCORDING TO THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION AND THE COUNTY OF SAN DIEGO SPECIAL PROVISIONS AND SPECIFICATIONS FOR THE IMPROVEMENT OF NEW STREETS.
22. FINAL ACCEPTANCE OF THE TO-BE PUBLICLY MAINTAINED STORM DRAIN LINES WILL BE SUBJECT TO INTERNAL CLOSED CIRCUIT TELEVISION (CCTV) INSPECTION BY A CCTV CONTRACTOR. THE PERMITTEE/CONTRACTOR WILL BE RESPONSIBLE TO SCHEDULE AND PAY FOR THE COST OF INSPECTION. ONCE CCTV INSPECTION IS COMPLETE, IT SHALL BE SUBMITTED TO DPW INSPECTOR FOR REVIEW AND FINAL APPROVAL. CCTV INSPECTION SHALL MEET THE REQUIREMENTS SET FORTH IN DLI-LD-14.

SPECIAL NOTES

1. ONSITE DRAINAGE FACILITIES WILL BE MAINTAINED BY THE OWNER.
2. PROPERTY OWNER IS AWARE OF THE COUNTY WATER CONSERVATION IN LANDSCAPING ORDINANCE AND WILL PROCESS LANDSCAPE AND IRRIGATION PLANS IN ACCORDANCE WITH ORDINANCE NO. 10032 DURING BUILDING PERMIT PHASE.
3. ALL IMPORTED FILL TO BE OBTAINED FROM A LEGAL SITE.
4. THE PROPERTY OWNER IS AWARE OF THE COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH POLICIES AND WILL OBTAIN DEH APPROVAL DURING BUILDING PERMIT PHASE.

MONUMENTATION GENERAL NOTE

"THE CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE AND PROTECT ALL SURVEY CONTROL MONUMENTS, WHETHER SHOWN ON THESE PLANS OR NOT, WITHIN THE PROJECT AREA. ALL SURVEY MONUMENTS, WHETHER FOR HORIZONTAL OR VERTICAL CONTROL, THAT WILL OR COULD BE DISTURBED OR REMOVED BY THE CONTRACTOR, OR HIS EMPLOYEES, AGENTS, SUBCONTRACTORS, CONSULTANT OR LICENSEES, SHALL BE LOCATED PRIOR TO BEING DISTURBED OR REMOVED AND REPLACED OR RESET, IN ACCORDANCE WITH THE CALIFORNIA BUSINESS & PROFESSIONS CODE SECTION 8771(B), AT THE CONTRACTOR'S SOLE EXPENSE, UNDER THE SUPERVISION OF A LICENSED LAND SURVEYOR OR REGISTERED CIVIL ENGINEER AUTHORIZED TO PRACTICE LAND SURVEYING IN THE STATE OF CALIFORNIA. IN ADDITION, A RECORD OF SURVEY OR CORNER RECORD, AS APPLICABLE, SHALL BE FILED AND/OR RECORDED, IN ACCORDANCE WITH THE PROVISIONS OF SAID CODE."

REFERENCE DRAWINGS

DESCRIPTION	DRAWING NUMBER	AGENCY
WATER MAIN	W.O. 7386	HELIX WATER DISTRICT
SEWER MAIN	A-192, NS-912	COUNTY OF SAN DIEGO SANITATION DISTRICT
ROAD IMPROVEMENTS	CG 2849	COUNTY OF SAN DIEGO

PROJECT INFORMATION

TOTAL NUMBER OF BUILDINGS = 10
TOTAL NUMBER OF DWELLING UNITS = 60

SHEET INDEX

LEGAL DESCRIPTION

APN = 388-331-04, 05, & 06

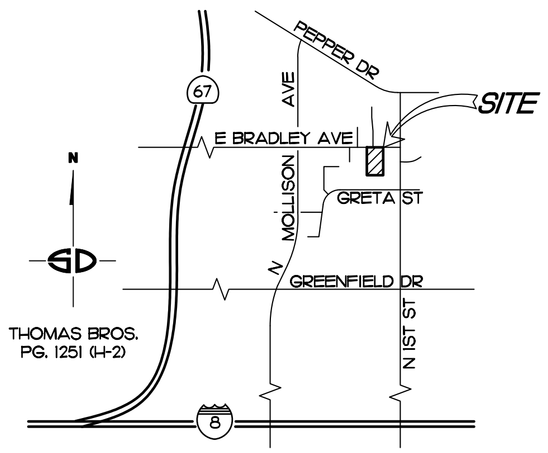
THE EASTERLY 100 FEET OF THE WESTERLY 445 FEET OF THE WEST 6 ACRES, COMMENCING AT A POINT 11 CHAINS WEST AND 24 RODS NORTH OF THE SOUTHEAST CORNER OF SECTION 35, TOWNSHIP 15 SOUTH, RANGE 1 WEST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF SAN DIEGO, THENCE 80 RODS, THENCE NORTH 24 RODS, THENCE WEST 80 RODS, THENCE SOUTH 24 RODS TO THE POINT OF COMMENCEMENT, SAID PROPERTY BEING ALSO KNOWN AS LOT 12 OF SOMERMONT PLACE, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 661.

TOGETHER WITH:

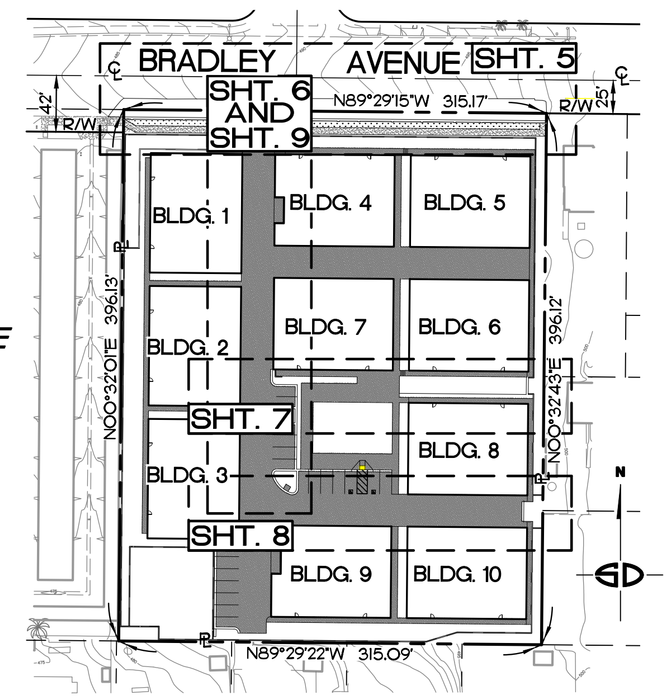
THE EASTERLY 100 FEET OF THE WESTERLY 545 FEET OF THE FOLLOWING DESCRIBED PROPERTY: COMMENCING AT A POINT 11 CHAINS WEST AND 24 RODS NORTH OF THE SOUTHEAST CORNER OF SECTION 35, TOWNSHIP 15 SOUTH, RANGE 1 WEST, SAN BERNARDINO BASE AND MERIDIAN, THENCE 80 RODS, THENCE NORTH 24 RODS, THENCE WEST 80 RODS, THENCE SOUTH 24 RODS TO THE POINT OF COMMENCEMENT, SAID PROPERTY BEING ALSO KNOWN AS LOT 12 OF SOMERMONT PLACE, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 661.

ALSO TOGETHER WITH:

ALL THE WESTERLY 6 ACRES, EXCEPTING THE WESTERLY 545 FEET THEREOF OF THE FOLLOWING DESCRIBED PROPERTY: COMMENCING AT A POINT 11 CHAINS WEST AND 24 RODS NORTH OF THE SOUTHEAST CORNER OF SECTION 35, TOWNSHIP 15 SOUTH, RANGE 1 WEST, SAN BERNARDINO BASE AND MERIDIAN, THENCE 80 RODS, THENCE NORTH 24 RODS, THENCE WEST 80 RODS, THENCE SOUTH 24 RODS TO THE POINT OF COMMENCEMENT, SAID PROPERTY BEING ALSO KNOWN AS LOT 12 OF SOMERMONT PLACE, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 661.



VICINITY MAP
NO SCALE



KEY MAP
SCALE: 1"=80'

OWNER'S CERTIFICATE

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

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

BY: _____ DATE: _____
PHILIP CHODUR, PRESIDENT

ASSESSOR'S PARCEL NO. 388-331-04, 05 & 06
1065 EAST BRADLEY, LLC
7626 EL CAJON BLVD.
LA MESA, CA 91942
PHONE: (619) 823-3402

DECLARATION OF RESPONSIBLE CHARGE

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 AND HELIX WATER DISTRICT ARE CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME, AS ENGINEER OF WORK, OF MY RESPONSIBILITIES FOR PROJECT DESIGN.

SNIPES-DYE ASSOCIATES
8348 CENTER DRIVE, SUITE G
LA MESA, CA 91942-2910
PHONE: (619) 697-9234

REGISTERED PROFESSIONAL ENGINEER — WILLIAM A. SNIPES — No. 50477 — Exp. 06-30-25 — CIVIL — STATE OF CALIFORNIA

BY: _____ DATE: _____
WILLIAM A. SNIPES, R.C.E. 50477
EXPIRES 06-30-25

FOR WORK PROPOSED WITHIN THE COUNTY RIGHT-OF-WAY, AN ENCROACHMENT PERMIT IS REQUIRED

HELIX WATER DISTRICT

RMB20032

_____ _____
ACCEPTED BY TIM ROSS DATE
EXPIRES ONE YEAR AFTER SIGNATURE DATE

DIGALERT 811

WORK TO BE DONE

IMPROVEMENTS CONSIST OF THE FOLLOWING WORK TO BE DONE IN ACCORDANCE WITH THE PLANS, THE CURRENT SAN DIEGO COUNTY ENGINEERING DEPARTMENT STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS FOR IMPROVEMENT OF SUBDIVISION STREETS, INCLUDING THE STANDARD REFERENCED DRAWINGS. STANDARD SPECIFICATIONS:

1. CALTRANS STANDARD PLANS AND STANDARD SPECIFICATIONS (2018).
2. CA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (CA MUTCD, 2014).
3. SAN DIEGO COUNTY DESIGN STANDARDS (OCTOBER 2012).
4. SAN DIEGO AREA REGIONAL STANDARD DRAWINGS (CURRENT EDITION).
5. HELIX WATER DISTRICT & WATER AGENCY STANDARDS (WAS).
6. COUNTY OF SAN DIEGO STREET LIGHTING SPECIFICATIONS (REV. JANUARY 2020).
7. GREEN STREETS STANDARD DRAWINGS COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS (REV. MARCH 2021).

LEGEND

IMPROVEMENT	STANDARD DWGS.	SYMBOL	QTY.
EXISTING CONTOUR		490	
EXISTING SPOT ELEVATION		× 489.6	
EXISTING CONCRETE SURFACE			
EXISTING ASPHALT SURFACE			
EXISTING WATER LINE		W	
EXISTING SEWER LINE		S	
EXISTING OVERHEAD UTILITIES		OH	
EXISTING GAS LINE		G	
PROPERTY BOUNDARY			
PROPOSED CONTOUR		490	
PROPOSED SPOT ELEVATION		492.47 TC 491.97	
PROPOSED CONCRETE SIDEWALK	R.S.D. G-7		
PROPOSED A.C. PAVEMENT	(SEE GENERAL NOTE NO. 2) & DETAIL 1, SH-T. 4		
PROPOSED TRENCH RESURFACING	DETAIL 1, SH-T. 3		
PROPOSED PVT. 6" CONCRETE CURB	R.S.D. G-01		
PROPOSED PVT. 6" CONCRETE CURB/GUTTER	R.S.D. G-02, TYPE G		
PROPOSED 24' CONC. DRIVEWAY	R.S.D. G-14B	R/W	
PROPOSED PUBLIC 8" PVC SDR-35 SEWER MAIN	R.S.D. SP-01, SP-02		
PROPOSED PUBLIC SEWER MANHOLE	R.S.D. SM-01, SM-03, SM-04, SM-05, M-03A & W.A.S. SM-09		
PROPOSED ABANDONMENT OF EXIST. 8" SEWER MAIN	DETAIL SH-T. 5	E S	
PROPOSED REMOVAL OF EXIST. 8" SEWER MAIN			
PROPOSED ABANDONMENT OF EXISTING - 3/4" WATER SERVICE BY H.W.D.	W.A.S. WS-08	W	3 EA.
PIPE ENCASEMENT	W.A.S. WP-08		
PROPOSED 8" PVC C900 (CL-305) WATER		1	298 LF.
PROPOSED 6" FIRE HYDRANT W/ CHECK VALVE (2-2 1/2" & 1-4" PORTS)	W.A.S. WF-02	6"	1 EA.
PROPOSED 6" FIRE SERVICE	W.A.S. WP-02, WF-05, WT-01	6" FSRP	1 EA.
PROPOSED 2" WATER SERVICE	W.A.S. WP-02 WS-02, WR-01, WS-03, WC-17	2" W RP	1 EA.
PROPOSED 1" IRRIGATION SERVICE	W.A.S. WP-02 WS-01, WR-01, WS-03, WC-17	1" W RP	1 EA.
PROPOSED CONCRETE THRUST BLOCK	W.A.S. WT-01		1 EA.
PROPOSED 8" TEE W/ 2-8" GATE VALVES BY H.W.D.		8"	1 EA.
PROPOSED PVT. TREE WELL (L.I.D.)			
PROPOSED CURB CUT W/ SPLASH PAD			
PROPOSED STREET LIGHT (GENERAL ELECTRIC (GE) 98 WATT 4000K EVOLVE SCALABLE LED ERLH-01I-B3-40-A-GRAY WITH SUN TECH ELL (EXTRA LONG LIFE SERIES) PEC FOR ROADWAYS WITH WIDTH GREATER THAN 40-FEET WIDE	R.S.D. E-01, E-02		
PROPOSED PVT. CURB OUTLET	R.S.D. D-25, TYPE A		
SIGN	R.S.D. M-45		
CONTINUOUS BARRICADE	R.S.D. M-09		
DIRECTION OF DRAINAGE			

STORMWATER STRUCTURAL POLLUTANT CONTROL AND AND HYDRO-MODIFICATION CONTROL BMP'S

DESCRIPTION / TYPE	SHEET	BMP ID NO.	MAINTENANCE CATEGORY	MAINTENANCE AGREEMENT RECORDED DOCUMENT NO.
TREE WELLS	4, 11-13	#4 - #9	-	-

* BMP'S APPROVED AS PART OF STORMWATER QUALITY MANAGEMENT PLAN (SWQMP) DATED _____ ON FILE WITH DPW. ANY CHANGES TO THE ABOVE BMP'S WILL REQUIRE SWQMP REVISION AND PLAN CHANGE APPROVALS.

** SEE GRADING PLAN PDS2019-LDGRMJ-30236 (SHEETS 10 & 13) FOR ALL PROJECT BMP'S.

NOTE

CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL 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 DESIGN PROFESSIONAL. — California Council of Civil Engineers & Land Surveyors

UNAUTHORIZED CHANGES & USES: THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, OR UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THESE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS. — California Council of Civil Engineers & Land Surveyors

PDS ENVIRONMENTAL REVIEW

APPROVED FOR COMPLIANCE WITH ENVIRONMENTAL REVIEW

APPROVED BY: _____

DATE: _____

SD COUNTY SANITATION DISTRICT

WINTER GARDENS SERVICE AREA

REVIEWD BY: _____

DATE: _____
"VALID TWO YEARS FROM DATE"

APPLICANT

1065 EAST BRADLEY, LLC.
ATTN: PHILIP CHODUR
7626 EL CAJON BLVD.
LA MESA, CA 91942
(619) 823-3402

ASSESSOR'S PARCEL NUMBER

388-331-04
388-331-05
388-331-06

SITE ADDRESS

1065 E. BRADLEY AVENUE
EL CAJON, 92021

FIRE AGENCY

SAN MIGUEL FIRE PROTECTION DISTRICT

APPROVED BY: _____

DATE: _____

RECORD PLAN

BY: _____

DATE: _____

ENGINEER OF WORK

Snipes-Dye associates
civil engineers and land surveyors
8348 CENTER DRIVE, STE. G, LA MESA, CA 91942
TELEPHONE (619) 697-9234 FAX (619) 460-2033

COUNTY APPROVED CHANGES

No.	Description	Approved by	Date

PERMITS

WDID NO. 9 C37
GRADING PLAN NO. PDS2019-LDGRMJ-30236
CERTIFICATE OF COMPLIANCE NO. PDS2020-CC-20-011
CENTERLINE REVIEW NO. PDS2021-LDREFL-00469
LANDSCAPE PLAN NO. PDS2020-LP-20-088

BENCH MARK

DESCRIPTION: STANDARD BENCHMARK # 91
LOCATION: TOP OF CURB, N END CB RETURN AT NW CORNER GRETA STREET AND FIRST STREET
RECORD FROM: CITY OF EL CAJON
ELEVATION: 515.161 DATUM: NAVD 88

PRIVATE CONTRACT

SHEET 1 | COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS | 13 SHEETS

IMPROVEMENT TITLE / NOTES FOR:
BRADLEY AVENUE WIDENING
SOUTH SIDE, MOLLISON AVENUE AND NORTH FIRST STREET
CALIFORNIA COORDINATE INDEX 238-1785

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

ENGINEER OF WORK
WILLIAM A. SNIPES R.C.E. 50477

PDS2019-LDPIIP-60071

HWD RMB20032
DPW 2022-WWSWCP-00074

1065 E. BRADLEY AVENUE
RMB20032
ENGINEER'S NAME - SNIPES-DYE ASSOCIATES
PHONE NO. (619) 697-9234

SEWER NOTES

UNLESS OTHERWISE INDICATED HEREIN, ALL WORK SHALL BE DONE IN ACCORDANCE WITH:

A. THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC) LATEST APPROVED EDITION.

B. THE REGIONAL SUPPLEMENTAL AMENDMENTS TO THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS' CONSTRUCTION.

C. THE SAN DIEGO REGIONAL STANDARD DRAWINGS (SDRSD), LATEST APPROVED EDITION.

AND THE FOLLOWING SPECIAL PROVISIONS:

1. TRENCH WIDTH SHALL BE PER SDRSD NO. SP-02, FOR PIPE UP TO 15 INCHES, UNLESS OTHERWISE NOTED. FOR PIPE 15 INCHES AND OVER, TRENCH WIDTH SHALL BE PER SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 306-3.
2. PIPE AND BEDDING CONDITIONS INCLUDING FILTER FABRIC WRAP "BURRITO WRAP" WITH 12 INCH OF OVERLAP, SHALL BE PER SDRSD SP-02, FOR PIPE UP TO 18 INCHES. FOR PIPE 18 INCHES AND ABOVE, REFER TO SSPWC SECTION 306-1.2.13. WHENEVER THE EXCAVATED MATERIAL IS NOT SUITABLE FOR BACKFILL, THE CONTRACTOR SHALL REMOVE THIS MATERIAL AND ARRANGE FOR AND FURNISH SUITABLE IMPORTED BACKFILL MATERIAL WHICH IS CAPABLE OF ATTAINING THE REQUIRED RELATIVE DENSITY. IMPORTED BACKFILL MATERIAL, OR OTHER BACKFILL MATERIAL SHALL BE APPROVED BY THE ENGINEER, AND PER SECTION 306-1.3.5 OF THE "GREENBOOK" STANDARD SPECIFICATIONS.
3. PVC PIPE BEDDING FROM BOTTOM OF PIPE 12 INCHES MINIMUM ABOVE THE PIPE SHALL BE 3/4-INCH CRUSHED ROCK. FILTER FABRIC "BURRITO WRAP" IS REQUIRED WHERE CRUSHED ROCK ENVELOPE IS USED.
4. AFTER COMPLETION OF PIPE LAYING, ALL MAIN LINE SEWERS, SERVICE LATERALS AND STRUCTURES SHALL BE TESTED IN THE PRESENCE OF THE INSPECTOR. AIR PRESSURE TEST, PER SSPWC SECTION 306-7.8.2.4, AND MANDREL TEST, PER SECTION 306-7.8.3.2 SHALL BE USED UNLESS OTHERWISE DIRECTED BY THE COUNTY INSPECTOR.

   FINAL ACCEPTANCE OF SEWER LINES WILL BE SUBJECT TO INTERNAL CLOSED CIRCUIT TELEVISION (CCTV) INSPECTION. IT WILL BE THE PERMITTEE'S RESPONSIBILITY TO PAY FOR THE COST OF THIS WORK.

   A. CCTV INSPECTION PROCEDURES:

      1. VIDEO INSPECTION SHALL SHOW WITH HIGH RESOLUTION OPERATIONAL AND STRUCTURAL DEFECTS E.G., INFLOWS, SAGS, OFFSET JOINTS, CRACKS, ROUGHNESS, "FINS" OR FOLDS IN THE PIPELINES, COMPLETE WITH AUDIO COMMENTARY AND INSPECTION LOG.

      2. THE SANITATION DISTRICT ENGINEER AND COUNTY INSPECTOR SHALL BE NOTIFIED A MINIMUM OF TWO WORKING DAYS IN ADVANCE OF VIDEO INSPECTING.

      3. VIDEO INSPECTION SHALL BE PERFORMED ONE PIPE REACH (E.G., MANHOLE TO MANHOLE) AT A TIME.

      4. THE CONTRACTOR SHALL VIDEO INSPECT THE PIPELINE WITH MAXIMUM FLOW DIVERTED (IF REQUIRED) FROM THE PIPELINE. THE PIPE REACH BEING INSPECTED SHALL BE ISOLATED FROM THE REMAINDER OF THE PIPELINES WITH THE UPSTREAM SEWAGE FLOW BYPASSED (IF REQUIRED). IN THE EVENT THAT THE EXISTING FLOW IS INTERFERING WITH THE VIDEO OPERATION, A BYPASS SHALL BE PERFORMED BY THE CONTRACTOR TO LOWER THE FLOW VOLUME SUFFICIENTLY TO ALLOW FOR A CLEAR VIDEO PICTURE. SUFFICIENT WATER SHALL BE SUPPLIED TO THE ISOLATED SECTION TO CAUSE DRAINAGE REACHING THE DOWNSTREAM MANHOLE PRIOR TO VIDEO INSPECTING. IF EXISTING FLOWS ARE HIGH, PRE-CONSTRUCTION VIDEO INSPECTION CAN BE DONE WITH PARTIAL FLOW. DEPTH OF THE FLOW SHALL NOT EXCEED:

         1. PIPES 6" - 10" - 20% OF THE PIPE DIAMETER.

         2. PIPES 12" - 24" - 25% OF THE PIPE DIAMETER.

         3. PIPES 27" AND UP - 30% OF THE PIPE DIAMETER.

      5. THE CAMERA SHALL BE MOVED THROUGH THE PIPELINE IN A DOWNSTREAM DIRECTION AT A UNIFORM RATE BY MEANS OF POWER CABLE WINCHES OR SELF PROPELLED TRACTORS AT EACH MANHOLE, STOPPING AND ROTATING THE CAMERA HEAD AT EACH LATERAL CONNECTION, DEFECT, OR BOTH TO ALLOW FOR ADEQUATE EVALUATION. THE CONTRACTOR SHALL STOP WHEN NECESSARY TO ENSURE PROPER DOCUMENTATION OF THE PIPE CONDITION, BUT IN NO CASE SHALL THE CAMERA BE PULLED AT A SPEED GREATER THAN 30' PER MINUTE. A CLEAR PICTURE SHALL BE PROVIDED LOOKING INTO EACH SERVICE CONNECTION. BOTH PRE AND POST VIDEO INSPECTION SHALL BE SUBMITTED TO THE ENGINEER.

      6. MEASUREMENT FOR LOCATION OF DEFECTS SHALL BE ABOVE GROUND BY MEANS OF A MEASURING DEVICE. FOOTAGES SHOWN IN THE DIGITAL FILES SHALL COINCIDE WITH HORIZONTAL LENGTHS FROM STATIONING AS SHOWN ON THE PLANS. FOOTAGE MEASUREMENTS SHALL BEGIN AT THE CENTERLINE OF THE UPSTREAM MANHOLE OR STORM DRAIN ACCESS POINT, UNLESS PERMISSION IS GIVEN BY THE ENGINEER TO DO OTHERWISE.

      7. THE CONTRACTOR SHALL CLEAN THE SEWER MAINS PRIOR TO VIDEO INSPECTING AS NECESSARY TO ADEQUATELY PERFORM THE VIDEO RECORDING OPERATIONS. IF THE CAMERA WILL NOT PASS THROUGH THE ENTIRE PIPELINE SECTION, THE CONTRACTOR SHALL RESET THE EQUIPMENT AT THE DOWNSTREAM MANHOLE AND ATTEMPT TO INSPECT THE SECTION OF PIPE FROM THE OPPOSITE DIRECTION. IF THE CAMERA FAILS TO PASS THROUGH THE ENTIRE SECTION, IT SHALL BE ASSUMED THAT AN OBSTRUCTION EXISTS. EFFORTS TO VIDEO RECORD THAT SECTION OF PIPE SHALL BE TEMPORARILY SUSPENDED AND THE CONTRACTOR SHALL NOTIFY THE ENGINEER. UPON REMOVAL OF THE OBSTRUCTION, THE CONTRACTOR SHALL COMPLETE THE INSPECTION.

      8. IF AN OBSTRUCTION IS ENCOUNTERED DURING THE POST-CONSTRUCTION VIDEO INSPECTION, THE CONTRACTOR SHALL REMOVE THE OBSTRUCTION BY EXCAVATION, REPAIR, OR OTHER MEANS APPROVED BY THE ENGINEER AT THE CONTRACTOR'S EXPENSE, IN ORDER THAT VIDEO INSPECTION MAY CONTINUE.

      9. THE SYSTEM USED TO MOVE THE CAMERA THROUGH THE PIPE SHALL NOT OBSTRUCT THE CAMERA'S VIEW. THE CONTRACTOR SHALL CALIBRATE THE MEASURING DEVICE EACH DAY WITH A KNOWN DISTANCE TO THE SATISFACTION OF THE ENGINEER PRIOR TO STARTING THE INSPECTION AND VIDEO RECORDING PROCESS.

      10. THE CONTRACTOR SHALL OBTAIN THE ENGINEER'S APPROVAL FOR ANY ADDITIONAL POINT REPAIRS.

   B. TOLERANCES ENCOUNTERED FOLLOWING INSPECTION SHALL BE ADDRESSED AS FOLLOWS:

      1. FOR NEW UNDERGROUND SEWER INSTALLATION, THE MAXIMUM OPERATIONAL TOLERANCE FOR SAG SHALL BE 1/2". WHEN VIDEO RECORDED INSPECTION IS USED TO CHECK FOR SAG, A CALIBRATED 1/4" DIAMETER STEEL BAR/"SAG GAGE" OR APPROVED EQUAL DEVICE, MOUNTED IN FRONT OF THE CAMERA, SHALL BE USED TO MEASURE THE DEPTH OF THE SAG.

      2. IF THE ENGINEER DETERMINES THAT THE DEFICIENCIES OR SAGS ARE NON-REPAIRABLE IN PLACE, THE AFFECTED PORTION(S) SHALL BE RECONSTRUCTED.

5. THE CONSTRUCTION OF PCC SEWER MANHOLE PER SDRSD SM-01 OR SM-02 POURED-IN-PLACE MAINTENANCE HOLE BASES SHALL BE A MONOLITHIC POUR FINISHED COMPLETED AT TIME OF POUR. EACH NEW MAINTENANCE HOLE SHALL BE VACUUM TESTED PRIOR TO BACK FILLING. THE TEST SHALL BE CONDUCTED IMMEDIATELY AFTER PLACEMENT OF PRE-CAST UNITS WITH POLYMER MORTAR/BUTYL SEALANT. ALL PIPES IN THE MAINTENANCE HOLE SHALL BE SECURELY PLUGGED. THE TEST HEAD SHALL BE PLACED AT THE INSIDE OF THE TOP PRE-CAST UNIT PRIOR TO THE INSTALLATION OF THE GRADE RING, AND THE SEAL INFLATED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

   A VACUUM OF 10 IN HG SHALL BE DRAWN AND THE VACUUM PUMP SHUT OFF. WITH THE VALVE CLOSED, THE TIME SHALL BE MEASURED FOR THE VACUUM TO DROP TO 9 IN HG. THE MAINTENANCE HOLE SHALL PASS IF THE TIME IS GREATER THAN 75 SECONDS FOR SDRSD SM-2 AND 60 SECONDS FOR SDRSD SM-1 MANHOLE. IF THE MAINTENANCE HOLE FAILS THE INITIAL TEST, NECESSARY REPAIRS SHALL BE MADE WITH NO SHRINK GROUT WHILE VACUUM IS STILL BEING DRAWN. RETESTING SHALL PROCEED UNTIL A SATISFACTORY TEST IS OBTAINED.

SEWER NOTES - CONTINUE

6. THE CONSTRUCTION OF 4-INCH SEWER LATERALS SHALL BE PER SDRSD SS-01 AND SS-02. SEWER LATERALS SHALL NOT DISCHARGE DIRECTLY INTO MAINTENANCE HOLES. A SEWER CLEANOUT SHALL BE INSTALLED APPROXIMATELY 2 FEET INSIDE THE PROPERTY LINE.
7. THE CONSTRUCTION OF CUT-OFF WALLS SHALL BE PER SDRSD NO. SP-07 ON ALL SEGMENTS HAVING A SLOPE OF 20% TO 50%. CONSTRUCTION OF SLOPE PROTECTION WALLS SHALL BE PER SP-05.
8. ALL SEWER MAINS AND LATERALS SHALL BE CONSTRUCTED WITH 48 INCHES MINIMUM COVER, PROVIDED THAT THE INVERT OF THE SEWER LATERAL AT THE PROPERTY LINE IS ABOVE THE SOFFIT LINE OF THE SEWER MAIN.
9. THE FINAL LOCATION AND ELEVATION OF SEWER MAIN AND SEWER LATERALS SHALL BE SHOWN ON ORIGINAL PLANS, PRIOR TO ACCEPTANCE FOR PUBLIC USE.
10. ALL DESIGN CHANGES OF SEWER MAINS SHALL BE APPROVED BY THE DISTRICT ENGINEER, IN WRITING, PRIOR TO ACCEPTANCE OF WORK.
11. FILL AREAS MUST BE COMPACTED TO 90% PRIOR TO PIPE INSTALLATION.
12. THE CONTRACTOR SHALL NOTIFY THE PRIVATE DEVELOPMENT CONSTRUCTION INSPECTION DEPARTMENT OR SAN DIEGO COUNTY SANITATION DISTRICT OFFICE 48 HOURS IN ADVANCE OF BEGINNING WORK TO ARRANGE FOR INSPECTION OF THE PROJECT.
13. THE CONTRACTOR SHALL PURCHASE A PERMIT FROM THE COUNTY DEPARTMENT OF PUBLIC WORKS FOR ANY EXCAVATION WITHIN EXISTING COUNTY RIGHTS-OF-WAY.
14. CONTRACT RECORD DRAWINGS MUST BE SUBMITTED PRIOR TO FINAL ACCEPTANCE OF THE WORK. THEY MUST REFLECT POST CONSTRUCTION VERIFICATION OF PIPE LENGTHS AND INVERT ELEVATIONS.
15. THE CONTRACTOR SHALL GUARANTEE ALL WORK FOR A PERIOD OF 1 YEAR AFTER THE DATE OF ACCEPTANCE OF THE WORK BY THE OWNER AND SHALL REPAIR OR REPLACE ANY OR ALL SUCH WORK TOGETHER WITH ANY OTHER WORK THAT MAY BE DISPLACED IN SO DOING, THAT MAY PROVE DEFECTIVE IN WORKMANSHIP AND/OR MATERIALS WITHIN THE 1-YEAR PERIOD FROM DATE OF ACCEPTANCE WITHOUT EXPENSE WHATSOEVER TO THE OWNER, ORDINARY WEAR AND TEAR, UNUSUAL ABUSE OR NEGLECT EXCEPTED.
16. THE CONTRACTOR SHALL FURNISH AND INSTALL, PER SPECIFICATIONS, THE APPROPRIATE BURIED UTILITY WARNING AND IDENTIFICATION TAPE ABOVE ALL PUBLIC SEWER LINES, INCLUDING SEWER LATERALS, LOCATED IN THE PUBLIC RIGHT-OF-WAY.
17. THE CONTRACTOR MUST CALL "DIG-ALERT" OF SOUTHERN CALIFORNIA TO HAVE UNDERGROUND SERVICE UTILITIES LOCATED PRIOR TO CONSTRUCTION. THE CALL WILL BE MADE AT LEAST 48 HOURS PRIOR TO ANY CONSTRUCTION. 1-800-422-4133.
18. AT ALL MANHOLES, THE MINIMUM FALL ACROSS MANHOLE SHALL BE 0.1 FEET, AT ANGLES LARGER THAN 45 DEGREES, ALLOW 0.2 FEET FALL.
19. JOINT SEALANT AND EXTERIOR WATER PROOFING (WHERE SPECIFIED)

    POLYMER MORTAR SHALL BE USED TO PRE-CAST COMPONENTS ON ALL MAINTENANCE HOLES TO CREATE WATERTIGHT JOINTS TO RESIST INFILTRATION. THE MORTAR SHALL BE MIXED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS, AND SHALL NOT EXCEED FIVE PARTS SAND TO ONE PART POLYMER. ACCEPTABLE JOINT SEALANT PRODUCT SHALL BE SKIDDER 31 AND 32 HI-MOD GEL MANUFACTURED SIKA CORPORATION, 490 EPOXY PUTTY AND 498 UNDERWATER EPOXY PUTTY MANUFACTURED BY ENGARD COATINGS, AND CS 102 BUTYL GASKETS (ROPE FORM) MANUFACTURED BY CONCRETE SEALANTS OR APPROVED EQUAL.

    THE CONCRETE OR THE OTHER SURFACES THAT ARE TO ADHERE TO POLYMER MORTAR SHALL BE FREE FROM DUST, LOOSE AGGREGATES, OIL, GREASE OR OTHER CONTAMINANTS.

    ON ALL MAINTENANCE HOLES, CONTRACTOR SHALL APPLY WATERPROOFING AGENT CONSISTING OF A DAMP PROOF AND WATERPROOF COATING ON ALL EXTERIOR SURFACES. THE COATING SHALL BE COAT MASTERS CM7007, OR APPROVED EQUAL. THE COATING SHALL BE APPLIED IN NO LESS THAN TWO COATS TO ACHIEVE A TOTAL DRY THICKNESS OF 25 MIL MINIMUM. THE EXTERIOR COATINGS SHALL BE APPLIED PRIOR TO DELIVERY TO THE JOBSITE. IN ADDITION, A BITUMASTIC BAND 6 INCHES WIDE SHALL BE APPLIED AT ALL JOINTS ON EXTERIOR OF SUCH MAINTENANCE HOLES THAT SHALL BE WATERPROOFED. FULL COMPENSATION FOR THE WATERPROOFING OF MANHOLES SHALL BE AWARDED.

    WHEN COMPLETED, ALL MAINTENANCE HOLES SHALL BE WATERTIGHT WITH ZERO INFILTRATION OF GROUNDWATER.
20. EPOXY LINING COATING (WHERE SPECIFIED).

    SM-01 OR SM-02 CONSTRUCTED MAINTENANCE HOLES AS IDENTIFIED ON EACH PROPOSED SEWER MAIN PROFILE:

    THE ENTIRE INTERIOR OF THE SEWER MAINTENANCE HOLES INCLUDING THE MAINTENANCE HOLE BOTTOM SHALL BE LINE WITH EPOXY. THE EPOXY PRODUCT SHALL BE RAVEN 405 MANUFACTURED BY RAVEN LINING SYSTEMS OR APPROVED EQUAL.

    THE PRIMER MATERIAL SHALL BE 100% SOLIDS, MOISTURE TOLERANT EPOXY CAPABLE OF SPRAY APPLICATION TO 5 MIL THICKNESS ON ONE CONTINUOUS COAT.

    THE LINING MATERIAL SHALL BE 100% SOLID, HIGH BUILD EPOXY CABLE SPRAY APPLICATION TO 125 MILS THICKNESS IN ONE CONTINUOUS COAT. THE MATERIAL SHALL MEET THE REQUIREMENT OF THE SSPWC SECTION 210-2.3.3, (CHEMICAL RESISTANCE TEST", AND THE SSPWC SECTION 500-2.4.10, "APPLICABLE STANDARDS".

    ONLY WORKERS TRAINED BY, AND QUALIFIED AS INSTALLERS BY THE MANUFACTURER, SHALL BE USED ON THIS WORK. CONTRACTOR SHALL PROVIDE MANUFACTURER'S CERTIFICATIONS.

    THE EPOXY LINING SHALL BE CONTINUOUS WITHOUT SEAMS, UNIFORM IN COLOR, FULLY CURED, AND FREE OF PIN-HOLES, SURFACE IMPERFECTIONS, AND BLISTERS. THE LINING MUST COMPLETELY BOND TO THE CONCRETE. THE COLOR SHALL BE LIGHT BLUE.

    TESTING OF MAINTENANCE HOLE
    THE CURED EPOXY LINING SHALL BE SPARK TESTED FOR PIN-HOLES AT 15,000 VOLTS MINIMUM. ALL PIN-HOLES SHALL BE REPAIRED AS SPECIFIED IN SECTION 500-2.4.9, " REPAIR METHODS" OF THE SSPWC (GREENBOOK).
21. LOCKING MAINTENANCE HOLE COVERS (WHERE OCCUR PER PLAN) SHALL BE A M-04 LOCKING DEVICE MAINTENANCE HOLE FRAME & COVER.
22. PROPOSED PRIVATE SEWER COLLECTION FACILITIES AND LATERALS SHALL BE REVIEWED, PERMITTED AND INSPECTED BY THE PLANNING & DEVELOPMENT SERVICES (PDS) BUILDING PERMIT DIVISION. PDS BUILDING PERMIT NO. PDS2020-CMASPC-0000.

SEWER MAIN AND LATERAL CONSTRUCTION NOTES

1. THE APPLICANT/OWNER PROPOSING TO CONNECT TO SAN DIEGO COUNTY SANITATION DISTRICT (DISTRICT) SEWER SYSTEM SHALL OBTAIN A RESIDENTIAL WASTEWATER DISCHARGE PERMIT FROM THE DEPARTMENT OF PUBLIC WORKS. THE APPLICANT/OWNER SHALL MAKE A WRITTEN APPLICATION TO WASTEWATER MANAGEMENT THROUGH DEPARTMENT OF PLANNING AND DEVELOPMENT SERVICES (BUILDING PERMIT COUNTER). FOR INFORMATION, CONTACT THE WASTEWATER COUNTER AT 858-495-5717.
2. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO ENSURE THAT NO PRIVATE RESIDENCES ARE SUBJECT TO A SEWAGE BACKUP OR SPILL DURING SEWER LATERAL CONNECTION.
3. THE CONTRACTOR SHALL BE LIABLE FOR ALL CLEANUP, DAMAGES, AND RESULTANT FINES IN THE EVENT OF A SEWAGE SPILL.
4. THE ONSITE SEWER LATERAL AND CLEANOUT AT THE PROPERTY LINE IS TO BE APPROVED, PERMITTED, AND INSPECTED BY THE DEPARTMENT OF PLANNING AND DEVELOPMENT SERVICES BUILDING DIVISION. THE CLEANOUT SHALL BE INSTALLED APPROXIMATELY 2 FEET INSIDE THE PROPERTY LINE.
5. THE LETTER "S" SHALL BE STAMPED IN THE CURB AT PVT. SEWER MAIN LOCATIONS. THE LETTER "S" SHALL BE STAMPED IN THE GUTTER WHEN THERE IS NO TYPE "G" CURB.

STRIPING NOTES

THERMOPLASTIC TRAFFIC STRIPES, THERMOPLASTIC PAVEMENT MARKINGS, AND PAVEMENT MARKERS.

CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPLACEMENT OF ALL THE TRAFFIC STRIPES, PAVEMENT MARKINGS, AND PAVEMENT MARKERS OBLITERATED BY THE CONSTRUCTION OF THIS PROJECT. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONFLICTING AND REDUNDANT TRAFFIC STRIPES, PAVEMENT MARKINGS, AND PAVEMENT MARKERS IN THIS PROJECT. CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL NEW TRAFFIC STRIPES, PAVEMENT MARKINGS, AND PAVEMENT MARKERS FOR THIS PROJECT.

INSTALLATION OF THE THERMOPLASTIC TRAFFIC STRIPES AND THERMOPLASTIC PAVEMENT MARKINGS SHALL CONFORM TO SECTION 84-1, "GENERAL" AND 84-2, "TRAFFIC STRIPES AND PAVEMENT MARKINGS", OF THE MOST CURRENT CALTRANS STANDARD SPECIFICATIONS AND THE FOLLOWING:

CONTROL OF THE ALIGNMENT AND LAYOUT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SUBJECT TO APPROVAL BY THE ENGINEER. TRAFFIC STRIPES SHALL BE REMOVED BY SANDBLASTING/GRINDING AND THEN SAND SEALED. CONTRACTOR TO PROVIDE AND INSTALL PAVEMENT MARKERS.

SECTION 84-2.02, "MATERIALS", OF THE STANDARD SPECIFICATIONS IS AMENDED TO READ:

THERMOPLASTIC MATERIAL SHALL BE FREE OF LEAD AND CHROMIUM, AND SHALL CONFIRM TO THE REQUIREMENT IN STATE SPECIFICATION PTH-02SPRAY, PTH-02-HYDRO, OR PTH-02ALKYD.

FOR EACH BATCH OF THERMOPLASTIC MATERIAL FOR TRAFFIC STRIPES AND PAVEMENT MARKINGS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER:

1. CERTIFICATE OF COMPLIANCE UNDER SECTION 6-2.03C, "CERTIFICATES OF COMPLIANCE," OF THE STANDARD SPECIFICATIONS
2. DEPARTMENT'S MATERIALS ENGINEERING AND TESTING SERVICES NOTIFICATION LETTER STATING THAT THE MATERIAL IS APPROVED FOR USE
3. MATERIAL SAFETY DATA SHEET

GLASS BEADS MAYBE APPLIED BY HAND ON THERMOPLASTIC PAVEMENT MARKINGS.

THERMOPLASTIC TRAFFIC STRIPES AND PAVEMENT MARKINGS SHALL BE FREE OF RUNS, BUBBLES, CRATERS, DRAG MARKS, STRETCH MARKS, AND DEBRIS.

THE SURFACE OF THE THERMOPLASTIC MATERIAL UPON APPLICATION SHALL PROVIDE A MINIMUM SKID RESISTANCE VALUE OF 60 BPN WHEN TESTED ACCORDING TO ASTM E 303. DOCUMENTATION DETAILING MANUFACTURER'S MINIMUM SKID RESISTANCE FOR PERFORMED THERMOPLASTIC MATERIAL SHALL BE PROVIDED TO THE ENGINEER PRIOR TO COMMENCEMENT OF TRAFFIC STRIPES AND PAVEMENT MARKING OPERATIONS.

PAVEMENT MARKER SHALL CONFORM TO SECTION 81-3, "PAVEMENT MARKERS," OF THE MOST CURRENT CALTRANS STANDARD SPECIFICATIONS, AND THE FOLLOWING PROVISIONS:

PAVEMENT MARKER HEIGHT SHALL BE 0.70-INCH MINIMUM. "LOW PROFILE" TYPE MARKERS WILL NOT BE ACCEPTABLE.

SIGN NOTES

ALL SIGNS SHALL BE MADE WITH ALUMINUM SIGN PANELS WITH TYPE IV OR BETTER (AT LEAST HIGH INTENSITY PRISMATIC) RETROREFLECTIVE SHEETING IN CONFORMANCE WITH SECTION 82, "SIGNS AND MARKINGS" OF THE MOST CURRENT CALTRANS STANDARD SPECIFICATIONS WITH THE EXCEPTION OF SECTION 82-2.02A, PART 1.

UNLESS SPECIFICALLY NOTED ON THE PLAN, ALL SIGNS SHALL BE MOUNTED SO THAT THE BOTTOM OF THE SIGN IS 7' ABOVE THE SURROUNDING GROUND SURFACE. ROADSIDE SIGNS SHALL NOT HANG OVER THE ROADWAY. SIGN PLACEMENT SHALL COMPLY WITH RSI OF THE MOST CURRENT CALTRANS STANDARD PLANS.

SIGN POSTS SHALL BE 4" X 4" TREATED WOOD PER SECTION 82-3, "ROADSIDE SIGNS" OF THE MOST CURRENT CALTRANS STANDARD SPECIFICATIONS. SIGN POSTS SHALL BE PLACED SO THAT THEY COMPLY WITH ADA (FACILITY ACCESSIBILITY) REQUIREMENTS. SIGN POST SHALL BE PLACED IN COMPACTED NATIVE SOIL PER R25 OF THE MOST CURRENT CALTRANS STANDARD PLANS. IT IS PREFERRED THAT SIGNS BE INSTALLED BEHIND SIDEWALKS, BUT IF SIGN POSTS ARE TO BE INSTALLED ON CONCRETE SIDEWALKS, THEN A 1" X 1" SQUARE, 1/2-INCH DEEP JOINT OR SAWCUT SHALL BE PLACED AROUND THE SIGN POST IN THE SIDEWALK. SIGNS SHALL BE MOUNTED ON SIGN POSTS USING SIGN PANEL FASTENING HARDWARE PER R25 OF THE MOST CURRENT CALTRANS STANDARD PLANS, SECTION 82-3, "ROADSIDE SIGNS" OF THE MOST CURRENT CALTRANS STANDARD SPECIFICATIONS, AND AS SPECIFIED BY THE SIGN FILM MANUFACTURER.

SIGNS TO BE INSTALLED ON COUNTY OF SAN DIEGO - MAINTAINED STEET LIGHT POLES, TRAFFIC SIGNAL POLES, AND FLASHERS SHALL BE INSTALLED AS APPROVED BY THE RESIDENT ENGINEER PER THE PLAN OR WITH APPROVED STAINLESS STEEL BAND CLAMPS OR OTHER APPROVED HARDWARE THAT IS APPROPRIATE FOR THE WIND LOADING.

STREET NAME SIGNS SHALL BE INSTALLED PER THE MOST CURRENT COUNTY OF SAN DIEGO DESIGN STANDARD DRAWINGS DS-13A THROUGH DS-13G.

THE RESIDENT ENGINEER SHALL APPROVE ALL SIGN INSTALLATION LOCATIONS PRIOR TO THE CONTRACTOR INSTALLING THE SIGNS. ALL TRAFFIC SIGNS SHALL BE READILY VISIBLE TO ALL MOTORISTS DRIVING AT THE PREVAILING SPEED AS WELL AS ALL OTHER ROAD USERS (BICYCLIST, EQUESTRIANS, AND PEDESTRIANS). IF THE VISIBILITY OF THE TRAFFIC SIGN IS BLOCKED, THEN THE CONTRACTOR WITH THE RESIDENT ENGINEER'S APPROVAL SHALL EITHER RELOCATE THE SIGN OR REMOVE THE OBSTRUCTIONS (SUCH AS VEGETATION, ROCKS, PRIVATE SIGNS, AND MINOR EMBANKMENTS THROUGH MINOR GRADING) THAT BLOCK THE VISIBILITY OF THE SIGN.

RECORD PLAN

BY: _____ DATE: _____

ENGINEER OF WORK

Snipes-Dye associates
civil engineers and land surveyors
8348 CENTER DRIVE, STE. G, LA MESA, CA 91942
TELEPHONE (619) 697-9234 FAX (619) 460-2033

WILLIAM A. SNIPES R.C.E. 50477
EXPIRES 06-30-25

REGISTERED PROFESSIONAL ENGINEER · WILLIAM A. SNIPES · No. 50477 · Exp. 06-30-25 · CIVIL · STATE OF CALIFORNIA

COUNTY APPROVED CHANGES

No.	Description	Approved by	Date

BENCH MARK

DESCRIPTION: STANDARD BENCHMARK # 91

LOCATION: TOP OF CURB, N END CB RETURN AT NW CORNER GRETA STREET AND FIRST STREET

RECORD FROM: CITY OF EL CAJON

ELEVATION: 515.161 DATUM: NAVD 88

PRIVATE CONTRACT

SHEET	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	SHEETS
2		13

NOTES FOR:

BRADLEY AVENUE WIDENING
SOUTH SIDE, BETWEEN MOLLISON AVENUE AND NORTH FIRST STREET
CALIFORNIA COORDINATE INDEX 238-1785

APPROVED: FOR WILLIAM P. MORGAN COUNTY ENGINEER

BY: _____ DATE

ENGINEER OF WORK
WILLIAM A. SNIPES R.C.E. 50477

PDS2019-LDPIIP-60071

ENGINEER'S NAME - SNIPES-DYE ASSOCIATES
PHONE NO. (619) 697-9234

HWD RMB20032
DPW 2022-WWSWCP-00074

HELIX WATER DISTRICT NOTES

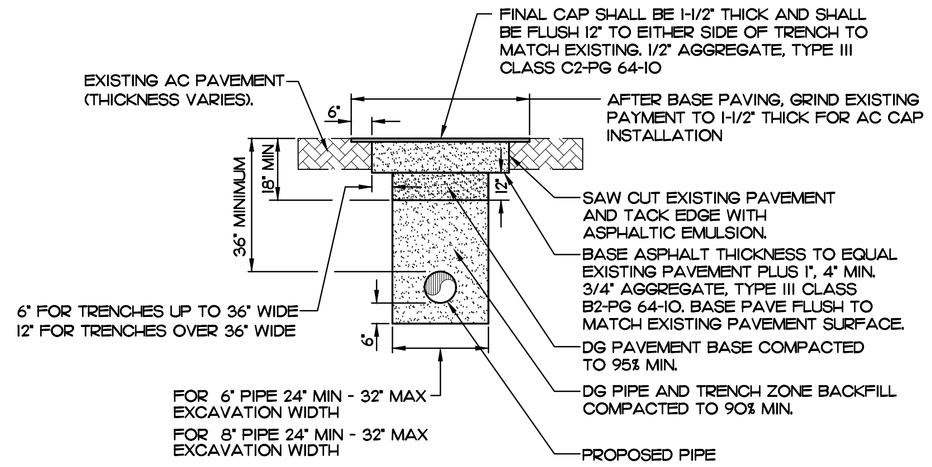
(NOTES FOR PORTION OF WORK WITHIN COUNTY RIGHT-OF-WAY)

1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT HELIX WATER DISTRICT 48 HOURS PRIOR TO COMMENCING WORK AT (619) 596-3860 AND UNDERGROUND SERVICE ALERT FOR LOCATION OF EXISTING WATER FACILITIES AT 1-800-422-4133.
2. CONTRACTOR TO PROTECT ALL EXISTING HELIX WATER DISTRICT FACILITIES AND SHALL BE RESPONSIBLE FOR ANY DAMAGE TO HELIX WATER DISTRICT FACILITIES AS A RESULT OF HIS/HER OPERATION, AND SHALL IMMEDIATELY CALL THE HELIX WATER DISTRICT WHO WILL REPAIR ANY DAMAGE AND WILL BILL THE DEVELOPER FOR THE COST INCURRED. CONTRACTOR TO PROVIDE CONTINUOUS WATER SERVICE TO ALL WATER ACCOUNTS SHOWN OR NOT SHOWN ON THESE PLANS DURING ALL PHASES OF CONSTRUCTION.
3. APPROVAL/REVIEW OF PLANS BY HELIX WATER DISTRICT DOES NOT CONSTITUTE RESPONSIBILITY FOR ACCURACY OF INFORMATION NOR LOCATIONS OF ANY EXISTING UTILITIES.
4. DEVELOPER SHALL BE RESPONSIBLE FOR THE COST OF RELOCATING ANY WATER LATERALS, FIRE HYDRANTS OR FACILITIES THAT FALL WITHIN DRIVEWAYS OR OTHERWISE CONFLICT WITH ANY PROPOSED FACILITIES OR IMPROVEMENTS.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR RELOCATION OR ADJUSTMENT OF ANY NEW OR EXISTING WATER SERVICE APPURTENANCES, MANHOLES, GATE VALVE COVERS, OR METER BOXES TO NEW FINISH GRADE.
6. ALL UNDERGROUND UTILITIES AND LATERALS SHALL BE INSTALLED BEFORE CONSTRUCTION OF CURBS, CONCRETE CROSS GUTTERS, SIDEWALK OR SURFACING OF STREETS.
7. DEVELOPER AGREES THAT IF THEY, THEIR EMPLOYEES, AGENTS, OR ANY INDEPENDENT CONTRACTORS OR SUBCONTRACTORS SHOULD USE WATER OTHER THAN THROUGH AN AUTHORIZED WATER METER, DEVELOPER SHALL PAY A CHARGE, DETERMINED BY HELIX WATER DISTRICT, PER OCCURRENCE FOR SAID USE. SAID PAYMENT MAY BE DEDUCTED FROM ANY DEPOSIT DEVELOPER HAS WITH HELIX WATER DISTRICT.
8. NO PERSON, OTHER THAN AN EMPLOYEE OR AGENT OF THE HELIX WATER DISTRICT, SHALL HAVE A RIGHT TO OPERATE ANY PART OF A HELIX WATER DISTRICT WATER DISTRIBUTION SYSTEM AND FIRE HYDRANTS. ANY PERSON WHO TAMPERS OR INTERFERES WITH ANY PART OR COMPONENT OF SAID SYSTEM, OR CAUSES OR PERMITS ANY ACT OF TAMPERING OR INTERFERING WITH THE SYSTEM, SHALL BE LIABLE FOR ANY INJURY OR DAMAGE CAUSED THEREBY OR RESULTING THERE FROM. A CHARGE, DETERMINED BY HELIX WATER DISTRICT, PER OCCURRENCE WILL BE IMPOSED ON ANY PERSON OR COMPANY WHO OPERATES ANY PART OF THE HELIX WATER DISTRICT WATER SYSTEM WITHOUT PROPER AUTHORIZATION.
9. FOR WORK OVER EXISTING WATER FACILITIES, HEAVY EQUIPMENT (ABOVE H20 LOADING) SHALL NOT BE USED WHEN COVER OVER THE WATER MAIN IS LESS THAN THREE (3) FEET THROUGH ALL PHASES OF CONSTRUCTION, INCLUDING THE REMOVAL AND/OR INSTALLATION OF PAVEMENT SECTIONS, WITHOUT THE WRITTEN APPROVAL OF HELIX WATER DISTRICT.
10. DEVELOPER/CONTRACTOR SHALL INSTALL ONLY HIGH EFFICIENCY APPLIANCES, USE ONLY HIGH EFFICIENCY TECHNOLOGIES AND LANDSCAPE USING LOW WATER USE PLANTS.
DEVELOPER/CONTRACTOR SHALL COORDINATE THE INSTALLATION OF WATER EFFICIENT APPLIANCES, TECHNOLOGIES AND LANDSCAPING WITH HELIX WATER DISTRICT REPRESENTATIVE. PLEASE CONTACT MICHELLE CURTIS AT (619) 667-6261 FOR INSPECTION AND COORDINATION.
11. CONTRACTOR IS TO COORDINATE THE LOCATION OF ANY PROPOSED FIRE PROTECTION FACILITIES WITH THE FIRE DEPARTMENT OF JURISDICTION, PRIOR TO INSTALLATION OF THE FACILITIES.
12. COMMERCIAL AND MULTIPLE DWELLING PROPERTIES WITH MORE THAN 5,000 SQUARE FEET OF IRRIGATED LANDSCAPE MUST HAVE A SEPARATE WATER METER FOR LANDSCAPE PURPOSES.
13. ANY EXISTING WATER SERVICES SERVING THE PROPERTY THAT WILL NOT BE USED SHALL BE ABANDONED BY THE DISTRICT AT THE OWNER'S EXPENSE.
14. ANY FINISHED SURFACE IMPROVEMENT OTHER THAN ASPHALT ABOVE THE PIPELINE OR UNDERGROUND FACILITIES, WILL REQUIRE AN ENCROACHMENT REMOVAL AGREEMENT. PERMEABLE FINISHED SERVICE IMPROVEMENTS ARE PROHIBITED WITHIN HELIX WATER DISTRICT WATER MAIN EASEMENT.
15. TRENCH REPAIR IS TO BE BY HELIX WATER DISTRICT TRENCH DETAIL OR THE CITY OR COUNTY TRENCH REPAIR DETAIL, WHICHEVER IS MORE STRINGENT.
BY CALIFORNIA CODE OF REGULATIONS, TITLE 22, CHAPTER 16, CALIFORNIA WATER WORKS STANDARDS.
16. BACKFLOW PREVENTION WILL BE REQUIRED ON WATER METERS SERVING COMMERCIAL PROPERTIES, PROPERTIES WITH FIRE SPRINKLER SYSTEMS AND/OR ON LANDSCAPE IRRIGATION WATER METERS. CONTACT THE DISTRICT'S CROSS-CONNECTION CONTROL COORDINATOR AT 619 667-6224. SUBMIT CUT SHEETS OF THE PROPOSED BACKFLOW PREVENTION DEVICES FOR APPROVAL.
17. RESIDENTIAL DWELLINGS WITH FIRE PROTECTION SYSTEMS SHALL HAVE A TESTABLE BACKFLOW PREVENTION ASSEMBLY (BPA) OR A PASSIVE PURGE SYSTEM INSTALLED FOR SYSTEM PROTECTION. COORDINATE APPROVAL OF THE BPA WITH THE DISTRICT'S CROSS CONNECTION CONTROL COORDINATOR AT 619-667-6224.
18. ALL WATER SERVICE LATERALS, FIRE SERVICE LATERALS, FIRE HYDRANT LATERALS, BLOW-OFF LATERALS AND WATER MAINS THAT CROSS ANY BIO-RETENTION SWALE, MUST BE WITHIN A HARDENED SURFACE (CONCRETE).
19. HELIX WATER DISTRICT WILL ABANDON EXISTING 3/4" WATER SERVICES APPROXIMATELY EIGHT (8) WEEKS AFTER RECEIPT OF ESTIMATED COST.
20. HELIX WATER DISTRICT WILL INSTALL THE PROPOSED 6" FIRE SERVICE APPROXIMATELY EIGHT (8) WEEKS AFTER RECEIPT OF ESTIMATED COST. CONTRACTOR TO INSTALL BACKFLOW PREVENTION DEVICE.
21. ROOF DRAINS OR DOWNSPOUTS FROM HOMES OR BUILDINGS ARE PROHIBITED FROM DISCHARGING WATER IN OR NEAR WATER METER BOXES.

HELIX WATER DISTRICT NOTES

(NOTES WATER MAIN EXTENSION)

22. CONSTRUCTION OF PUBLIC IMPROVEMENTS SHALL NOT START UNTIL HELIX WATER DISTRICT AND THE DEVELOPER HAVE EXECUTED THE CONSTRUCTION AGREEMENT AND A PRE-CONSTRUCTION MEETING HAS BEEN HELD IN ACCORDANCE WITH WAS SPECIFICATION 01000.
23. THE HELIX WATER DISTRICT SHALL RECEIVE A CONSTRUCTION SCHEDULE FROM THE CONTRACTOR PRIOR TO START OF CONSTRUCTION IN ACCORDANCE WITH WAS SPECIFICATION 01000. WORK DONE WITHOUT HELIX WATER DISTRICT INSPECTION SHALL BE SUBJECT TO REMOVAL.
24. THE CONTRACTOR SHALL POTHOLE ALL TIE-IN AND POTENTIAL CONFLICT LOCATIONS BEFORE PIPE INSTALLATION IN ACCORDANCE WITH WAS SPECIFICATIONS 01000 AND 15000. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF HELIX WATER DISTRICT'S ENGINEERING DEPARTMENT PRIOR TO PROCEEDING.
25. THE CONTRACTOR SHALL BE FINANCIALLY RESPONSIBLE FOR RELOCATION OR ADJUSTMENT OF ANY NEW OR EXISTING WATER SERVICE APPURTENANCES, MANHOLES, GATE VALVE COVERS, OR METER BOXES TO NEW FINISH GRADE BY DISTRICT FORCES.
26. THE CONTRACTOR SHALL KEEP AND MAINTAIN A SIGNED SET OF IMPROVEMENT PLANS ON-SITE PER WAS SPECIFICATION 01000. THE CONTRACTOR'S SUPERINTENDENT IS REQUIRED TO UPDATE SAID PLANS WITH "AS-BUILT" INFORMATION ON A DAILY BASIS AS WORK IS PERFORMED. FAILURE TO MAINTAIN FIELD AS-BUILTS ARE GROUNDS FOR JOB SHUTDOWN OR NO INSPECTION BY THE DISTRICT UNTIL AS-BUILTS ARE CURRENT.
27. CONSTRUCTION OF WATER FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH WAS SPECIFICATIONS, DRAWINGS AND APPROVED MATERIALS LIST. ALL CONTRACTORS WORKING ON WATER PROJECTS WILL BE REQUIRED TO HAVE A CURRENT COPY OF THE WAS. THIS DOCUMENT MAY BE DOWNLOADED AT WWW.SDWAS.ORG.
28. THRUST BLOCK AREAS ARE BASED ON SOIL BEARING VALUES LISTED IN WAS DRAWING WT-01. SHOULD FIELD CONDITIONS INDICATE A LESSER SOIL BEARING CAPACITY THAN LISTED, THE SOILS ENGINEER OR CONTRACTOR SHALL NOTIFY HELIX WATER DISTRICT'S ENGINEERING DEPARTMENT BY WRITTEN DOCUMENTATION, PRIOR TO THE INSTALLATION OF THRUST BLOCKS.
29. WATER LINES AND APPURTENANCES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THESE PLANS AND THE CURRENT WATER AGENCIES STANDARDS (WAS).
30. DEVELOPER SHALL PAY A CHARGE PER OCCURRENCE PER HELIX WATER DISTRICT'S RULES AND REGULATIONS IF THEY, THEIR EMPLOYEES, AGENTS, OR ANY INDEPENDENT CONTRACTORS OR SUBCONTRACTORS USE WATER OTHER THAN THROUGH AUTHORIZED WATER METER OR CONSTRUCTION METER. DEVELOPER SHALL PAY A CHARGE PER OCCURRENCE FOR SAID USE. SAID PAYMENT MAY BE DEDUCTED FROM ANY DEPOSIT DEVELOPER HAS WITH HELIX WATER DISTRICT.
31. HELIX WATER DISTRICT WILL BE RESPONSIBLE TO MAKE SERVICE LATERAL AND PIPELINE WET TAPS AND CUT IN TEES AND CROSSES TO 'LIVE' SYSTEMS IN ACCORDANCE WITH WAS SPECIFICATION 15000. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PHASES OF WORK NOT PERFORMED BY HELIX WATER DISTRICT, PROVIDED ALL THE MATERIALS, HAND AND MACHINE EXCAVATION, REMOVAL OF END CAPS AND THRUST BLOCKS, INSTALL THRUST/ANCHOR BLOCKS, MAKE CONNECTION TO EXISTING STUB OR NEW PIPELINE, INSTALL GATE WELL CASING, PAINT, AND WRAP FITTINGS, BACKFILL AND COMPACT TRENCH AREA, MAKE NECESSARY PAVING REPAIRS, AND ALL OTHER WORK TO COMPLETE INSTALLATION.
32. UNLESS SHOWN ON THESE PLANS, PRIVATE WATER LINES AND OTHER PRIVATE UTILITIES (PROPOSED OR EXISTING) SHALL NOT RUN PARALLEL WITHIN A WATER LINE EASEMENT. PERPENDICULAR CROSSINGS ONLY SHALL BE PLACED IN A CASING AND SHALL BE SHOWN ON RECORD DRAWINGS. THE CASING SHALL BE CENTERED ON THE PUBLIC WATER LINE 5' ON BOTH SIDES, AND ENCASED IN CONCRETE (RED COLORED CONCRETE FOR ELECTRICAL CONDUITS) THE FULL LENGTH OF THE CASING. CONTRACTOR SHALL MAINTAIN A MINIMUM 12-INCH VERTICAL SEPARATION BETWEEN THE WATER MAIN AND ALL OTHER UTILITIES AT THE CROSSINGS. IN ADDITION, PRIVATE UTILITIES INSTALLED AFTER THE WATER FACILITIES THAT CROSS OR OTHERWISE DISTURB THE WATER FACILITY'S TRENCH LINE INCLUDING WATER MAINS, SERVICES AND APPURTENANCES, SHALL BE BACKFILLED WITH THE MATERIAL AS APPROVED PER WAS.
33. THE CONTRACT SHALL INSTALL ANODES AT EACH WATER SERVICE LOCATION IN ACCORDANCE WITH WAS SPECIFICATION 13110 AND DRAWING WC-17. WHERE METER BOXES CANNOT BE INSTALLED PERPENDICULAR TO THE MAIN, TRACER WIRE SHALL BE INSTALLED FROM THE MAIN TO THE METER BOX, AS DIRECTED BY THE DISTRICT INSPECTOR.
34. WHERE FIRE HYDRANTS AND WATER APPURTENANCES ARE INSTALLED AT THE TOE OF A SLOPE, RETAINING WALLS SHALL BE INSTALLED (WAS DRAWING WM-03), AS DIRECTED BY DISTRICT INSPECTOR.
35. CONTRACTOR IS TO COORDINATE THE APPROVAL OF THE LOCATION (AFTER STAKING) OF THE PROPOSED FIRE PROTECTION FACILITIES WITH THE FIRE DEPARTMENT OF JURISDICTION, PRIOR TO INSTALLATION OF THE FACILITIES.
36. FINAL STREET SUB-GRADE SHALL BE ESTABLISHED PRIOR TO THE EXCAVATION OF PIPELINE TRENCHES, AND MINIMUM COVER OVER ABOVE PIPE SHALL BE 24-INCHES FIR HYDROTESTING PER WAS SECTION 02223.
37. COMMERCIAL/INDUSTRIAL PROPERTIES AND MULTIPLE DWELLING PROPERTIES WITH MORE THAN 5,000 SQUARE FEET OF IRRIGATED LANDSCAPE MUST HAVE A SEPARATE WATER METER FOR LANDSCAPE PURPOSES. THE POLICY DOES NOT APPLY TO SINGLE-FAMILY RESIDENTIAL CONNECTIONS OR CONNECTIONS USED TO SUPPLY WATER FOR COMMERCIAL PRODUCTION OF AGRICULTURAL CROPS OR LIVESTOCK. IRRIGATION METERS ARE SUBJECT TO ALL DISTRICT REQUIREMENTS AND FEES, UNLESS OTHERWISE APPROVED BY THE DISTRICT.
38. ALL EXISTING AND APPROVE WATER AND FIRE SERVICES SHALL BE REQUIRED TO INSTALL AN APPROVED BACKFLOW PREVENTION ASSEMBLY (BPA). ANY EXISTING WATER SERVICE SERVING THE PROPERTY THAT WILL NOT BE USED SHALL BE ABANDONED BY THE DISTRICT AT THE OWNER'S EXPENSE. COORDINATE APPROVAL OF THE BPA WITH THE DISTRICT'S CROSS CONNECTION CONTROL COORDINATOR AT 619-667-6224. ALL NEW RESIDENTIAL DWELLINGS WITH FIRE PROTECTION SYSTEMS SHALL HAVE A TESTABLE BACKFLOW PREVENTION ASSEMBLY OR A PASSIVE PURGE SYSTEM INSTALLED FOR SYSTEM PROTECTION. IF PASSIVE PURGE IS SELECTED FOR BACKFLOW PREVENTION, BUILDING PLANS SHOWING THE PASSIVE SYSTEM SHALL BE SUBMITTED FOR REVIEW AND APPROVAL PRIOR TO IMPROVEMENT PLAN APPROVAL. THE WATER METER WILL NOT BE ACTIVATED UNTIL THE PASSIVE PURGE SYSTEM FOR EACH HOME HAS BEEN COMPLETED OR TEMPORARY BACKFLOW METER PROTECTION IS IN PLACE.
39. FOR NEW SEWER MAINS OR STORM DRAINS CROSSING BENEATH EXISTING WATER MAINS, CONTRACTOR SHALL PROTECT THE EXISTING MAIN PER WATER AGENCIES' STANDARD DRAWING WP-7 OR REPLACE THE EXISTING WATER MAIN WITH NEW PVC PIPE AT THE DISCRETION OF THE DISTRICT ENGINEER. PIPE REPLACEMENTS SHALL EXTEND A MINIMUM OF 2' BEYOND THE EDGE OF THE TRENCH WIDTH ON BOTH SIDES OF THE CROSSING. CONTRACTOR SHALL NOTIFY THE DISTRICT A MINIMUM OF 48 HOURS PRIOR TO CROSSING UNDER ANY EXISTING WATER MAIN AND SHALL COORDINATE THE INSPECTION OF ALL WORK RELATED TO THE PROTECTION OF EXISTING WATER FACILITIES WITH THE DISTRICT INSPECTOR.



1 - HELIX WATER DISTRICT TRENCH DETAIL
NO SCALE

ENGINEER OF WORK
Snipes-Dye associates
civil engineers and land surveyors
8348 CENTER DRIVE, STE. G, LA MESA, CA 91942
TELEPHONE (619) 697-9234 FAX (619) 460-2033

WILLIAM A. SNIPES R.C.E. 50477
EXPIRES 06-30-25

REGISTERED PROFESSIONAL ENGINEER · WILLIAM A. SNIPES · No. 50477 · Exp. 06-30-25 · CIVIL · STATE OF CALIFORNIA

RECORD PLAN

BY: _____ DATE: _____

COUNTY APPROVED CHANGES

No.	Description	Approved by	Date

BENCH MARK

DESCRIPTION: STANDARD BENCHMARK # 91
LOCATION: TOP OF CURB, N END CB RETURN AT NW CORNER GRETA STREET AND FIRST STREET
RECORD FROM: CITY OF EL CAJON
ELEVATION: 515.161 DATUM: NAVD 88

PRIVATE CONTRACT

SHEET 3 | COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS | 13 SHEETS

NOTES FOR:
BRADLEY AVENUE WIDENING
SOUTH SIDE, BETWEEN MOLLISON AVENUE AND NORTH FIRST STREET
CALIFORNIA COORDINATE INDEX 238-1785

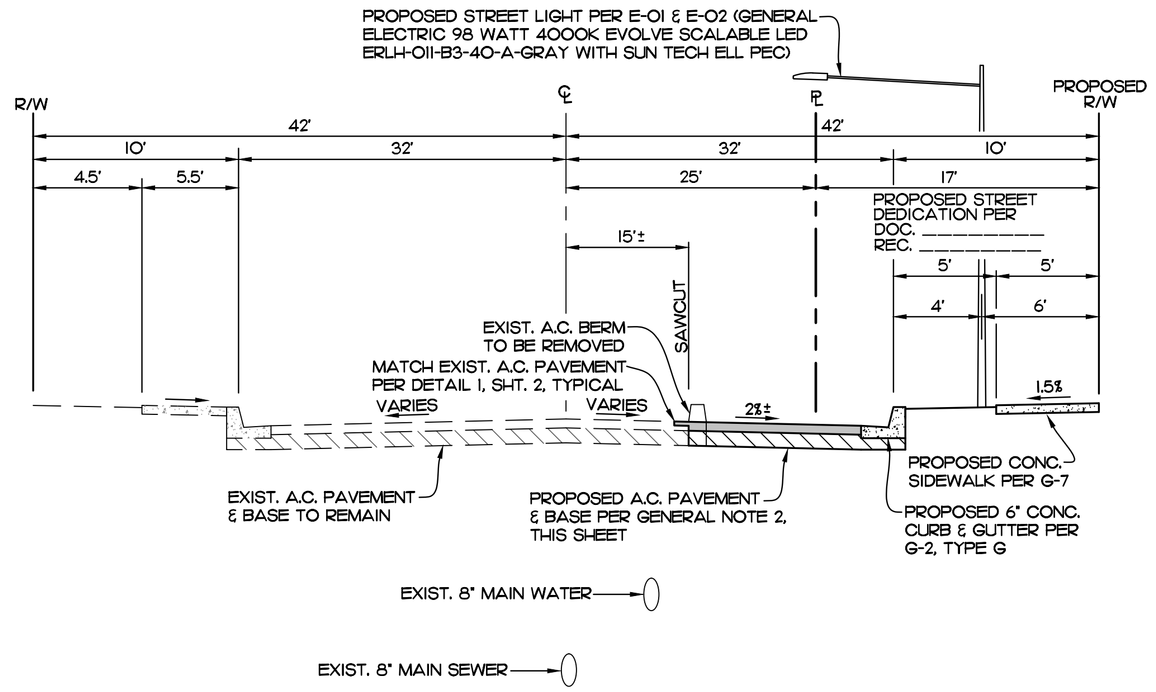
APPROVED: FOR WILLIAM P. MORGAN COUNTY ENGINEER
BY: _____ DATE

ENGINEER OF WORK
WILLIAM A. SNIPES R.C.E. 50477

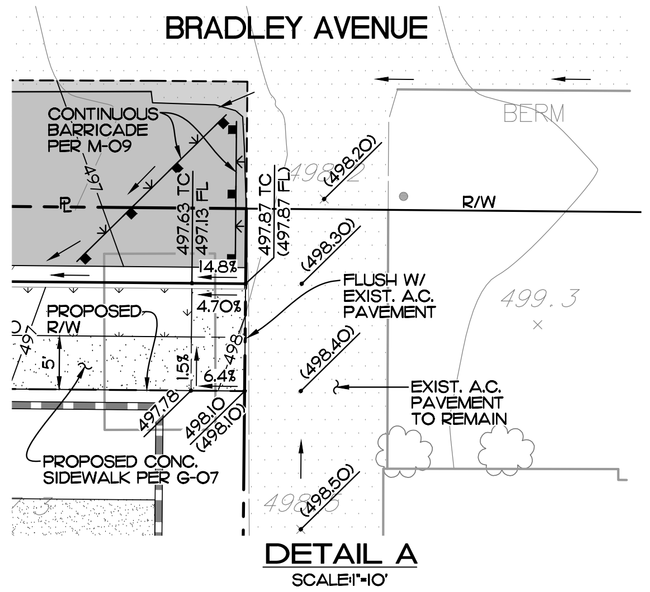
PDS2019-LDPIIP-60071

HWD RMB20032
DPW 2022-WWSWCP-00074

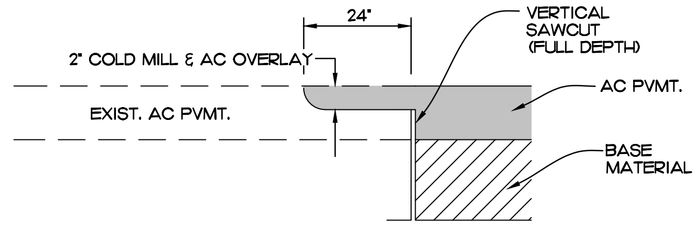
ENGINEER'S NAME - SNIPES-DYE ASSOCIATES
PHONE NO. (619) 697-9234



TYPICAL SECTION – BRADLEY AVENUE 2+50 TO 6+50
NO SCALE

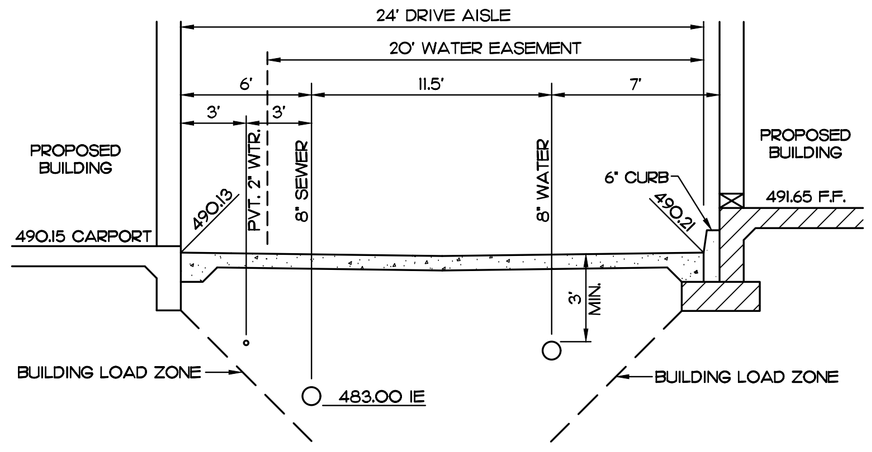


DETAIL A
SCALE:1"=10'

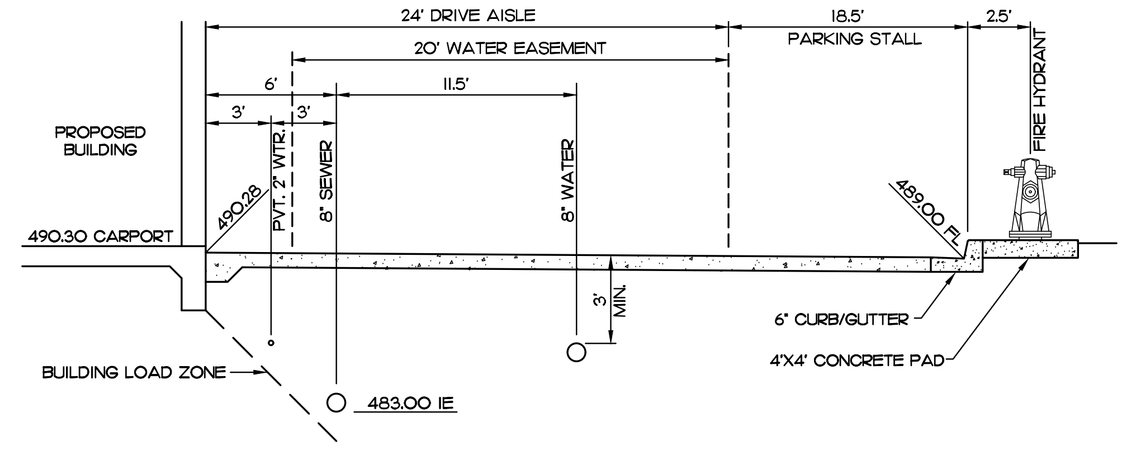


AC PAVEMENT MATCH
1 - DETAIL
NO SCALE

A - TYPICAL SECTION
NO SCALE



B - TYPICAL SECTION
NO SCALE



C - TYPICAL SECTION
NO SCALE

RECORD PLAN

BY:_____ DATE:_____

PRIVATE CONTRACT

SHEET 4	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	13 SHEETS

DETAILS / SECTIONS FOR:

BRADLEY AVENUE WIDENING
SOUTH SIDE, BETWEEN MOLLISON AVENUE AND NORTH FIRST STREET

CALIFORNIA COORDINATE INDEX 238-1785

ENGINEER OF WORK
Snipes-Dye associates
civil engineers and land surveyors
8348 CENTER DRIVE, STE. G, LA MESA, CA 91942
TELEPHONE (619) 697-9234 FAX (619) 460-2033

WILLIAM A. SNIPES R.C.E. 50477
EXPIRES 06-30-25

REGISTERED PROFESSIONAL ENGINEER • WILLIAM A. SNIPES • No. 50477 • Exp. 06-30-25 • CIVIL • STATE OF CALIFORNIA •

COUNTY APPROVED CHANGES

No.	Description	Approved by	Date

BENCH MARK

DESCRIPTION: STANDARD BENCHMARK # 91

LOCATION: TOP OF CURB, N END CB RETURN AT NW CORNER GRETA STREET AND FIRST STREET

RECORD FROM: CITY OF EL CAJON

ELEVATION: 515.161 DATUM: NAVD 88

APPROVED: FOR WILLIAM P. MORGAN
COUNTY ENGINEER

BY:

DATE

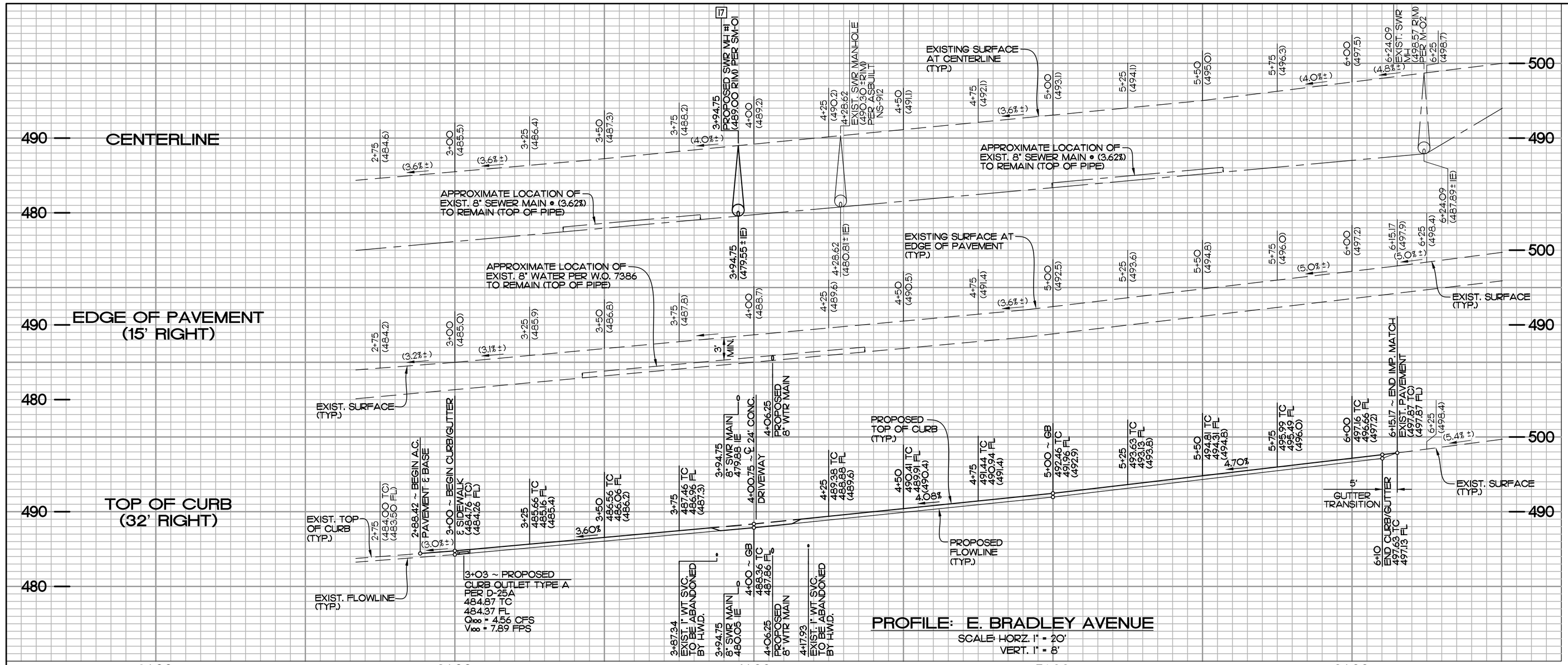
ENGINEER OF WORK

WILLIAM A. SNIPES R.C.E. 50477

PDS2019-LDPIIP-60071

ENGINEER'S NAME - SNIPES-DYE ASSOCIATES
PHONE NO. (619) 697-9234

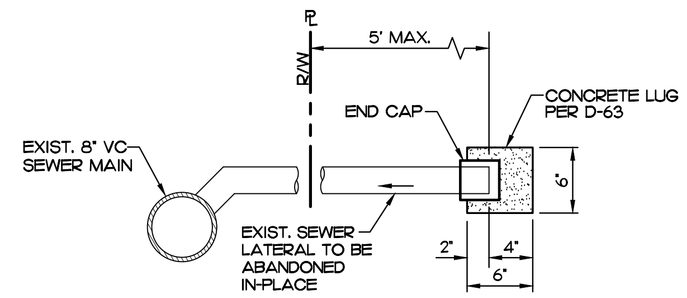
HWD RMB20032
DPW 2022-WWSWCP-00074



KEY NOTES

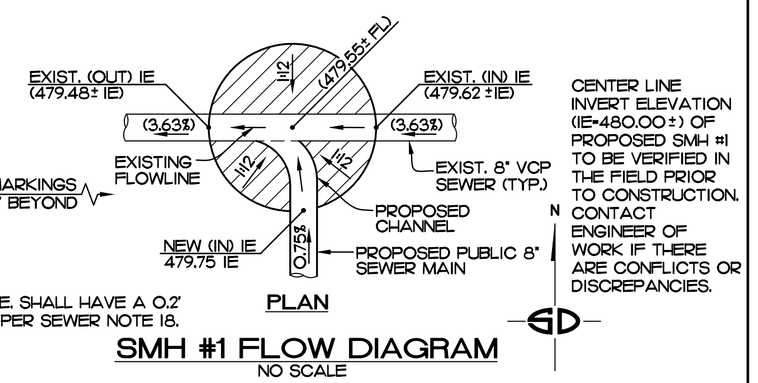
IMPROVEMENTS

1. EXIST. A.C. BERM TO REMAIN.
2. SAWCUT & MATCH EXIST. A.C. PAVEMENT PER DETAIL 1, SHT. 4, TYPICAL.
3. PROPOSED A.C. PAVEMENT & BASE. SEE GENERAL NOTE NO. 2 ON SHT. 1.
4. EXIST. A.C. BERM TO BE REMOVED, TYPICAL.
5. EXIST. BARRICADES TO BE REMOVED.
6. EXIST. WOOD FENCE TO BE REMOVED.
7. EXIST. SHED TO BE REMOVED.
8. EXIST. CONC. CURB/GUTTER & SIDEWALK TO REMAIN.
9. 6" CONC. CURB & GUTTER PER G-02, TYPE G. PAINT RED.
10. PROPOSED CONCRETE SIDEWALK PER G-07, G-09 & G-10.
11. EXIST. SEWER MANHOLE TO REMAIN.
12. EXIST. STREET LIGHT TO REMAIN.
13. CONTINUOUS BARRICADE PER M-09.
14. H.W.D. TRENCH REPAIR PER DETAIL 1, SHT. 3.
15. EXIST. SEWER MAIN TO BE ABANDONED PER DETAIL BELOW.
16. CONTRACTOR TO INSTALL PIPE ENCASEMENT FOR EXIST. WATER MAIN PER W.A.S. WP-08.
17. CONTRACTOR TO TO LOCATE EXIST. 8" SEWER MAIN & INSTALL SEWER MANHOLE #1 PER SM-01, AND EXTERIOR WATER PROOFING PER SEWER NOTE 19 ON SHEET 2. SEE CHANNEL FLOW DETAIL BELOW.
18. ABANDONED EXIST. SEWER MAIN PER DETAIL "B", THIS SHT.
19. EXIST. MAILBOX TO BE REMOVED.
20. 6" PVC SDR-35 SUBDRAIN PIPE @ 0.5% (TYP.)
21. 6" PEREFORATED PVC SDR-35 SUBDRAIN PIPE @ 0.5% (TYP.)
22. PROPOSED TREE WELLS TO BE MAINTAINED BY D.P.W.
23. PROPOSED PRIVATE D-25A CURB OUTLET. SEE EMRA.



DETAIL "B" – ABANDONED EXIST. SEWER MAIN

NO SCALE



CENTER LINE INVERT ELEVATION (IE=480.00 ±) OF PROPOSED SMH #1 TO BE VERIFIED IN THE FIELD PRIOR TO CONSTRUCTION. CONTACT ENGINEER OF WORK IF THERE ARE CONFLICTS OR DISCREPANCIES.

NEW I.E. SHALL HAVE A 0.2' DROP PER SEWER NOTE 18.

PLAN

SMH #1 FLOW DIAGRAM

NO SCALE

SEWER CONNECTION NOTES FOR NEW SEWER MANHOLE NO. 1 (PER SDRSD SM-01)

1. CONTRACTOR SHALL VERIFY INVERT ELEVATIONS PRIOR TO CONSTRUCTION OF PROPOSED SEWER MANHOLE. CONTRACTOR SHALL NOTIFY ENGINEER-OF-WORK OF ANY DIFFERENCES IN THE INVERT ELEVATIONS.
2. CONTRACTOR SHALL FURNISH A FLOW CONTAINMENT/CONTROL PLAN (CONNECTION POINTS OF EXISTING PIPE TO NEW PIPE) TO THE SAN DIEGO COUNTY SANITATION DISTRICT FOR REVIEW AND APPROVAL. CONTACT DAVID WILLIAMS AT (858) 694-2678.
3. STANDBY IS REQUIRED BY THE SAN DIEGO COUNTY SANITATION DISTRICT FIELD OFFICE. CONTACT THE DISTRICT FIELD OFFICE AT (619) 496-7110 FIVE (5) DAYS IN ADVANCE (TUESDAY - FRIDAY).
4. THE DEVELOPER IS RESPONSIBLE FOR ANY AND ALL SEWER SPILLS THAT MAY OCCUR AS A RESULT OF THE SEWER MAIN INSTALLATION AND/OR BY-PASS PUMPING, AND IS RESPONSIBLE FOR ANY FINES IMPOSED BY THE REGULATORY AGENCIES THAT OCCUR AS A RESULT OF THE SEWER SPILLS.

CURB DATA				
○	DELTA/BRG	RADIUS	LENGTH	REMARK
1	N 89°29'15"W	--	315.11'	6" CURB & GUTTER PER G-2

EASEMENTS

1. EXISTING COUNTY OF SAN DIEGO SEWER EASEMENT REC. OCTOBER 6, 1966 PER DOC. NO. 161743, O.R. TO BE QUITCLAIMED
2. 20' WATER EASEMENT TO HELIX WATER DISTRICT PER DOC. _____, REC. _____
3. 15' SEWER EASEMENT TO SAN DIEGO COUNTY SANITATION DISTRICT PER DOC. _____, REC. _____

CAUTION:
LOCATION OF EXISTING UTILITIES ON THIS PLAN ARE APPROXIMATE AND SHALL BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION.

ALL PROPOSED VEGETATION TO BE CONSTRUCTED/INSTALLED WITHIN TREE WELLS SHALL BE IN CONFORMANCE WITH APPROVED LANDSCAPE AND IRRIGATION PLANS NUMBER PDS2020-LP-20-088 AND SHALL BE INCLUDED IN PROJECT SWQMP.

N

20 10 0 20 40 60

SCALE: 1"=20'

FOR WORK ON-SITE, SEE GRADING PERMIT NO. PDS2019-LDGRMJ-30236

REFER TO GRADING PERMIT NO. PDS2019-LDGRMJ-30236 FOR STORMWATER STRUCTURAL POLLUTANT CONTROL BMP'S.

DEMO NOTE:
DEMOLITION OF ALL EXISTING ONSITE STRUCTURES, FACILITIES, VEGETATION AND OTHER MISCELLANEOUS ITEMS NOT COVERED ON THESE PLANS WILL BE REMOVED PER DEMOLITION PLAN PRIOR TO START OF CONSTRUCTION OF RIGHT-OF-WAY IMPROVEMENTS.

ENGINEER OF WORK
Snipes-Dye associates
civil engineers and land surveyors
8348 CENTER DRIVE, STE. G, LA MESA, CA 91942
TELEPHONE (619) 697-9234 FAX (619) 460-2033

WILLIAM A. SNIPES R.C.E. 50477
EXPIRES 06-30-25

REGISTERED PROFESSIONAL ENGINEER — WILLIAM A. SNIPES — No. 50477 — Exp. 06-30-25 — CIVIL — STATE OF CALIFORNIA

COUNTY APPROVED CHANGES			
No.	Description	Approved by	Date

BENCH MARK

DESCRIPTION: STANDARD BENCHMARK # 91

LOCATION: TOP OF CURB, N END CB RETURN AT NW CORNER GRETA STREET AND FIRST STREET

RECORD FROM: CITY OF EL CAJON

ELEVATION: 515.161 DATUM: NAVD 88

RECORD PLAN

BY: _____ DATE: _____

PRIVATE CONTRACT

SHEET	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	SHEETS
5		13

IMPROVEMENT PLAN / PROFILE FOR:

BRADLEY AVENUE WIDENING
SOUTH SIDE, BETWEEN MOLLISON AVENUE AND NORTH FIRST STREET

CALIFORNIA COORDINATE INDEX 238-1785

APPROVED: FOR WILLIAM P. MORGAN COUNTY ENGINEER

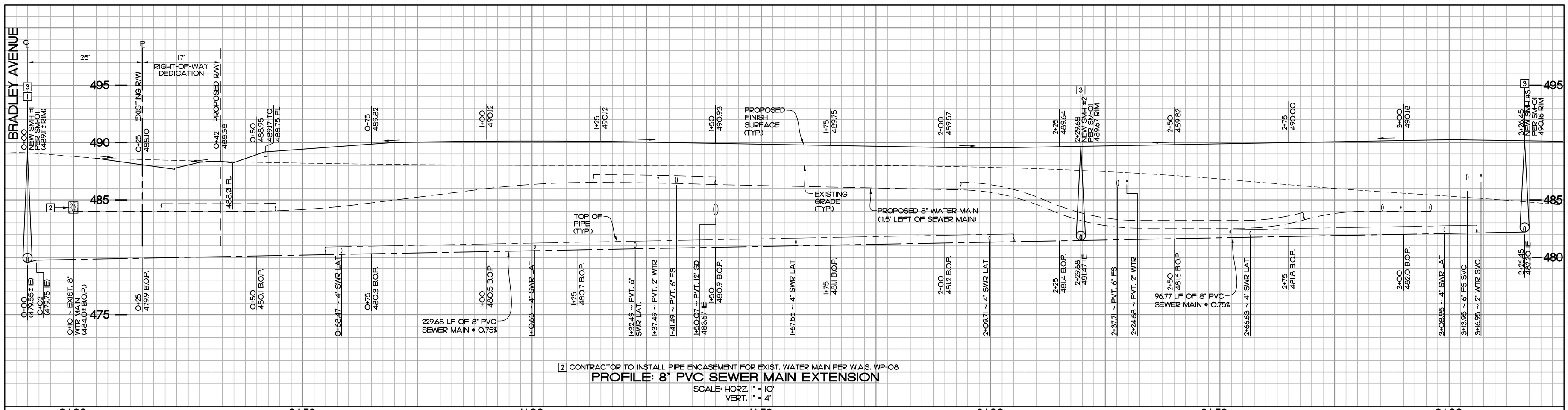
BY: _____ DATE

ENGINEER OF WORK
WILLIAM A. SNIPES R.C.E. 50477

PDS2019-LDPIIP-60071

ENGINEER'S NAME - SNIPES-DYE ASSOCIATES
PHONE NO. (619) 697-9234

HWD RMB20032
DPW 2022-WWSWCP-00074



EASEMENTS

1. 17' RIGHT-OF-WAY DEDICATION PER DOC. _____, REC. _____
2. 20' WATER EASEMENT TO HELIX WATER DISTRICT PER DOC. _____, REC. _____
3. 15' SEWER EASEMENT TO SAN DIEGO COUNTY SANITATION DISTRICT PER DOC. _____, REC. _____

KEY NOTES

1. CONTRACTOR TO TO LOCATE EXIST. 8" SEWER MAIN & INSTALL SEWER MANHOLE #1 PER SM-01.
2. CONTRACTOR TO INSTALL PIPE ENCASEMENT FOR EXIST. WATER MAIN PER W.A.S. WP-08.
3. EXTERIOR WATER PROOFING PER SEWER NOTE 19 ON SHEET 2.

FOR 8" WATER MAIN EXTENSION, SEE SHEET 9

FOR WORK ON-SITE, SEE GRADING AND PVT. UTILITY PERMIT NO. PDS2019-LDGRMJ-30236

PRIVATE SEWER LATERAL DATA TABLE

BLDG. NO	C/L STA. AT MAIN	IE AT MAIN	VERT DROP AT MAIN	LATERAL LENGTH	I.E. AT P.L./ ESMT.	LATERAL SLOPE (%)	F.G ELEV. AT ESMT.	COVER DEPTH AT ESMT.	BACKWATER VALVE REQUIRED	MATERIAL LAT SIZE
1	0+68.47	480.25	4.3'	4.0'	484.65	3.0	489.70	4.72'	-	4" PVC SDR-35
1	1+10.63	480.56	4.0'	4.0'	484.65	3.0	490.12	5.14'	-	4" PVC SDR-35
-	1+32.49	480.73	1.5'	-	-	-	-	-	-	6" PVC SDR-35
2	1+67.55	480.99	3.3'	4.0'	484.45	3.0	489.80	5.02'	-	4" PVC SDR-35
2	2.09.71	481.31	3.0'	4.0'	484.45	3.0	489.57	4.79'	-	4" PVC SDR-35
3	2+66.53	481.73	2.9'	4.0'	484.80	3.0	489.94	4.81'	-	4" PVC SDR-35
3	3+12.95	482.08	2.6'	4.0'	484.80	3.0	490.10	4.97'	-	4" PVC SDR-35

SEWER MAIN DATA TABLE

◇	DELTA/BRG	RADIUS	LENGTH	REMARK
1	N 00°30'45"E	--	229.68'	8" PVC SDR-35
2	N 00°30'45"E	--	96.77'	8" PVC SDR-35

N

10 5 0 10 20 30

SCALE: 1"=10'

CAUTION:

LOCATION OF EXISTING UTILITIES ON THIS PLAN ARE APPROXIMATE AND SHALL BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION.

RECORD PLAN

BY: _____ DATE: _____

COUNTY APPROVED CHANGES

No.	Description	Approved by	Date

BENCH MARK

DESCRIPTION: STANDARD BENCHMARK # 91

LOCATION: TOP OF CURB, N END CB RETURN AT NW CORNER GRETA STREET AND FIRST STREET

RECORD FROM: CITY OF EL CAJON

ELEVATION: 515.161 DATUM: NAVD 88

ENGINEER OF WORK

Snipes-Dye associates

civil engineers and land surveyors

8348 CENTER DRIVE, STE. G, LA MESA, CA 91942

TELEPHONE (619) 697-9234 FAX (619) 460-2033

WILLIAM A. SNIPES R.C.E. 50477 EXPIRES 06-30-25

REGISTERED PROFESSIONAL ENGINEER · WILLIAM A. SNIPES · No. 50477 · Exp. 06-30-25 · CIVIL · STATE OF CALIFORNIA

PRIVATE CONTRACT

SHEET	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	SHEETS
6		13

SEWER MAIN IMPROVEMENTS PLAN / PROFILE FOR:

8-INCH SEWER MAIN

CALIFORNIA COORDINATE INDEX 238-1785

APPROVED: FOR WILLIAM P. MORGAN COUNTY ENGINEER

BY: _____ DATE

ENGINEER OF WORK: WILLIAM A. SNIPES R.C.E. 50477

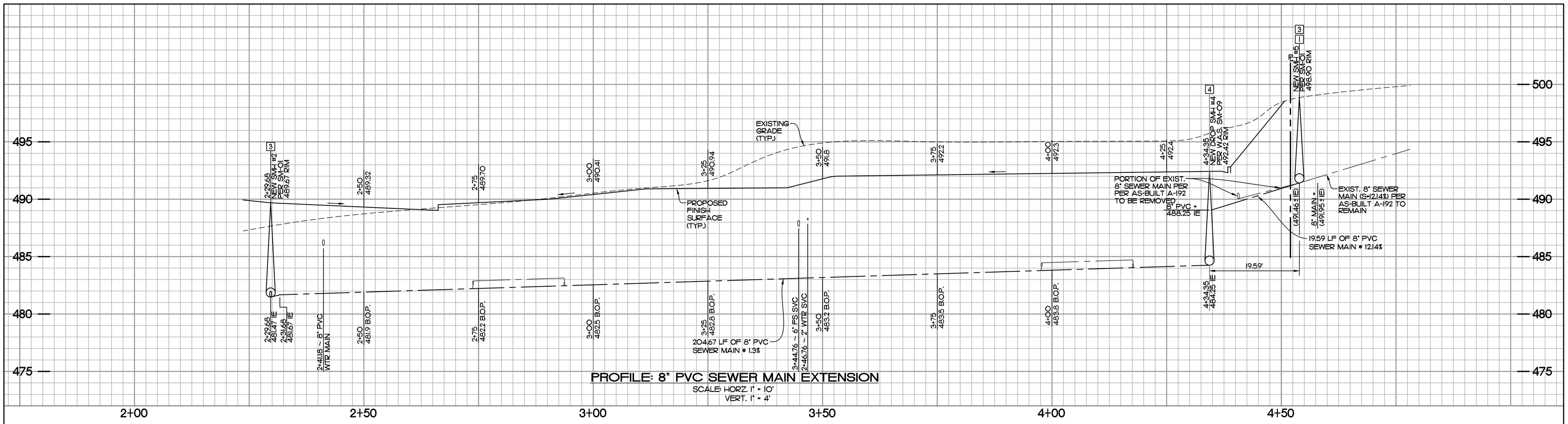
PDS2019-LDPIIP-60071

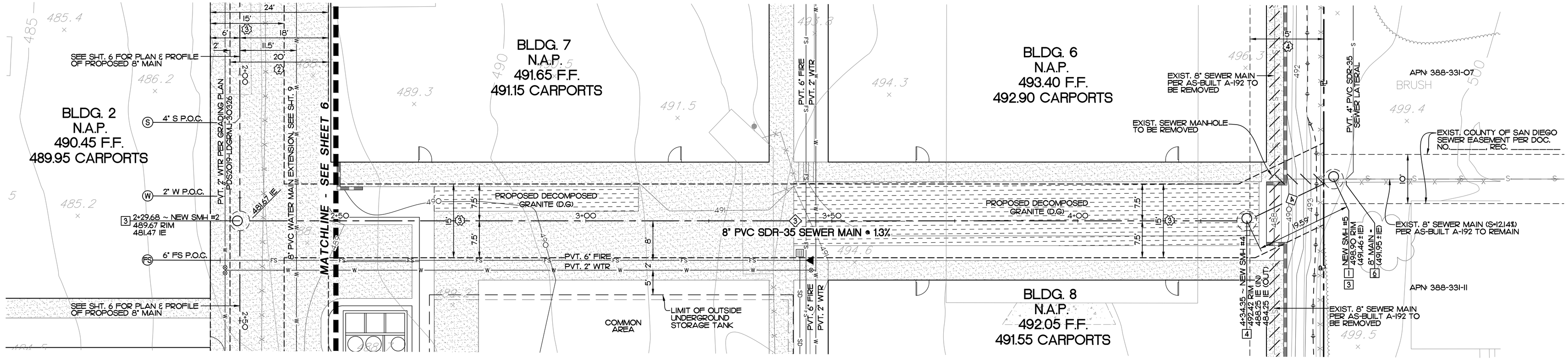
HWD RMB20032

DPW 2022-WWSWCP-00074

ENGINEER'S NAME - SNIPES-DYE ASSOCIATES

PHONE NO. (619) 697-9234





KEY NOTES

1. CONTRACTOR TO LOCATE EXIST. 8" SEWER MAIN & INSTALL SEWER MANHOLE #1 PER SM-01.
3. EXTERIOR WATER PROOFING PER SEWER NOTE 19 ON SHEET 2.
4. INSTALL SEWER DROP MANHOLE #4 PER W.A.S. SM-09.
6. CONTRACTOR TO LOCATE & CONNECT TO EXIST. 8" SEWER MAIN. CONTRACTOR TO COORDINATE CONSTRUCTION OF PVT. LATERAL WITH PROPERTY OWNER.

EASEMENTS

(2) 20' WATER EASEMENT TO HELIX WATER DISTRICT PER DOC. _____, REC. _____

(3) 15' SEWER EASEMENT TO SAN DIEGO COUNTY SANITATION DISTRICT PER DOC. _____, REC. _____

(4) EXISTING COUNTY OF SAN DIEGO SEWER EASEMENT REC. OCTOBER 6, 1966 PER DOC. NO. 161743, O.R. TO BE QUITCLAIMED

FOR 8" WATER MAIN EXTENSION, SEE SHEET 9

FOR WORK ON-SITE, SEE GRADING PERMIT NO. PDS2019-LDGRMJ-30236

FOR PVT. UTILITIES, REFER TO BLDG. PERMIT NO. PDS2020-CMASP-0000

SEWER MAIN DATA TABLE

◇	DELTA/BRG	RADIUS	LENGTH	REMARK
3	N 89°29'15"W	--	204.67'	8" PVC SDR-35
4	N 64°46'55"E	--	19.59'	8" PVC SDR-35

N

SCALE: 1"=10'

CAUTION:

LOCATION OF EXISTING UTILITIES ON THIS PLAN ARE APPROXIMATE AND SHALL BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION.

ENGINEER OF WORK

Snipes-Dye associates

civil engineers and land surveyors

8348 CENTER DRIVE, STE. G, LA MESA, CA 91942

TELEPHONE (619) 697-9234 FAX (619) 460-2033

WILLIAM A. SNIPES R.C.E. 50477
EXPIRES 06-30-25

REGISTERED PROFESSIONAL ENGINEER · WILLIAM A. SNIPES · No. 50477 · Exp. 06-30-25 · CIVIL · STATE OF CALIFORNIA

COUNTY APPROVED CHANGES

No.	Description	Approved by	Date

BENCH MARK

DESCRIPTION: STANDARD BENCHMARK # 91

LOCATION: TOP OF CURB, N END CB RETURN AT NW CORNER GRETA STREET AND FIRST STREET

RECORD FROM: CITY OF EL CAJON

ELEVATION: 515.161 DATUM: NAVD 88

RECORD PLAN

BY: _____ DATE: _____

PRIVATE CONTRACT

SHEET 7 | COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS | 13 SHEETS

SEWER MAIN IMPROVEMENTS PLAN / PROFILE FOR:

8-INCH SEWER MAIN

CALIFORNIA COORDINATE INDEX 238-1785

APPROVED: FOR WILLIAM P. MORGAN COUNTY ENGINEER

BY: _____ DATE

ENGINEER OF WORK

WILLIAM A. SNIPES R.C.E. 50477

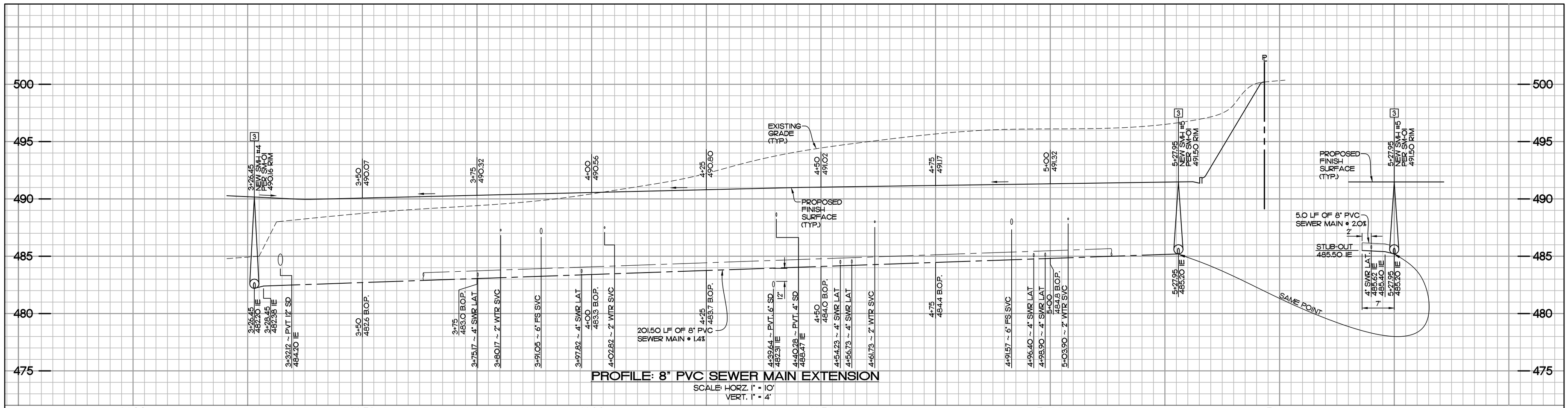
PDS2019-LDPIIP-60071

HWD RMB20032

DPW 2022-WWSWCP-00074

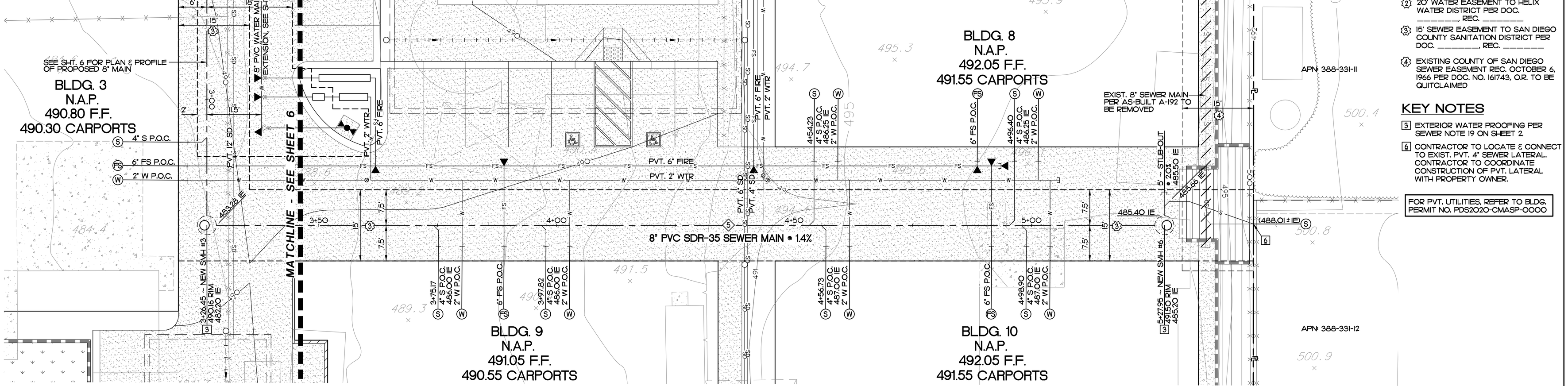
ENGINEER'S NAME - SNIPES-DYE ASSOCIATES

PHONE NO. (619) 697-9234



PROFILE: 8" PVC SEWER MAIN EXTENSION

SCALE: HORZ. 1" = 10'
VERT. 1" = 4'



EASEMENTS

(2) 20' WATER EASEMENT TO HELIX WATER DISTRICT PER DOC. _____, REC. _____

(3) 15' SEWER EASEMENT TO SAN DIEGO COUNTY SANITATION DISTRICT PER DOC. _____, REC. _____

(4) EXISTING COUNTY OF SAN DIEGO SEWER EASEMENT REC. OCTOBER 6, 1966 PER DOC. NO. 161743, O.R. TO BE QUITCLAIMED

KEY NOTES

[3] EXTERIOR WATER PROOFING PER SEWER NOTE 19 ON SHEET 2.

[6] CONTRACTOR TO LOCATE & CONNECT TO EXIST. PVT. 4" SEWER LATERAL. CONTRACTOR TO COORDINATE CONSTRUCTION OF PVT. LATERAL WITH PROPERTY OWNER.

FOR PVT. UTILITIES, REFER TO BLDG. PERMIT NO. PDS2020-CMASP-0000

PRIVATE SEWER LATERAL DATA TABLE

BLDG. NO	C/L STA. AT MAIN	IE AT MAIN	VERT DROP AT MAIN	LATERAL LENGTH	I.E. AT P.L./ ESMT.	LATERAL SLOPE (%)	F.G ELEV. AT ESMT.	COVER DEPTH AT ESMT.	BACKWATER VALVE REQUIRED	MATERIAL LAT SIZE
9	3+75.17	482.96	2.9'	4.5'	486.00	3.0	490.32	3.99'	-	4" PVC SDR-35
9	3+97.82	483.30	2.6'	4.5'	486.00	3.0	490.54	4.21'	-	4" PVC SDR-35
8	4+54.23	484.12	1.7'	13.5'	486.25	3.0	491.03	4.45'	-	4" PVC SDR-35
10	4+56.73	484.16	2.7'	4.5'	487.00	3.0	491.03	3.70'	-	4" PVC SDR-35
8	4+96.40	484.74	1.1'	13.5'	486.25	3.0	491.30	4.72'	-	4" PVC SDR-35
10	4+98.90	484.77	2.1'	4.5'	487.00	3.0	491.31	3.98'	-	4" PVC SDR-35

SEWER MAIN DATA TABLE

◇	DELTA/BRG	RADIUS	LENGTH	REMARK
5	N 89°29'15"W	--	201.50'	8" PVC SDR-35

FOR 8" WATER MAIN EXTENSION, SEE SHEET 9

FOR WORK ON-SITE, SEE GRADING NO. PDS2019-LDGRMJ-30236

N

SCALE: 1"=10'

CAUTION:

LOCATION OF EXISTING UTILITIES ON THIS PLAN ARE APPROXIMATE AND SHALL BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION.

ENGINEER OF WORK

Snipes-Dye associates
civil engineers and land surveyors
8348 CENTER DRIVE, STE. G, LA MESA, CA 91942
TELEPHONE (619) 697-9234 FAX (619) 460-2033

WILLIAM A. SNIPES R.C.E. 50477
EXPIRES 06-30-25

REGISTERED PROFESSIONAL ENGINEER · WILLIAM A. SNIPES · No. 50477 · Exp. 06-30-25 · CIVIL · STATE OF CALIFORNIA

COUNTY APPROVED CHANGES

No.	Description	Approved by	Date

RECORD PLAN

BY: _____ DATE: _____

BENCH MARK

DESCRIPTION: STANDARD BENCHMARK # 91

LOCATION: TOP OF CURB, N END CB RETURN AT NW CORNER GRETA STREET AND FIRST STREET

RECORD FROM: CITY OF EL CAJON

ELEVATION: 515.161 DATUM: NAVD 88

PRIVATE CONTRACT

SHEET 8 | COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS | 13 SHEETS

SEWER MAIN IMPROVEMENTS PLAN / PROFILE FOR:

8-INCH SEWER MAIN

CALIFORNIA COORDINATE INDEX 238-1785

APPROVED: FOR WILLIAM P. MORGAN COUNTY ENGINEER

BY: _____ DATE

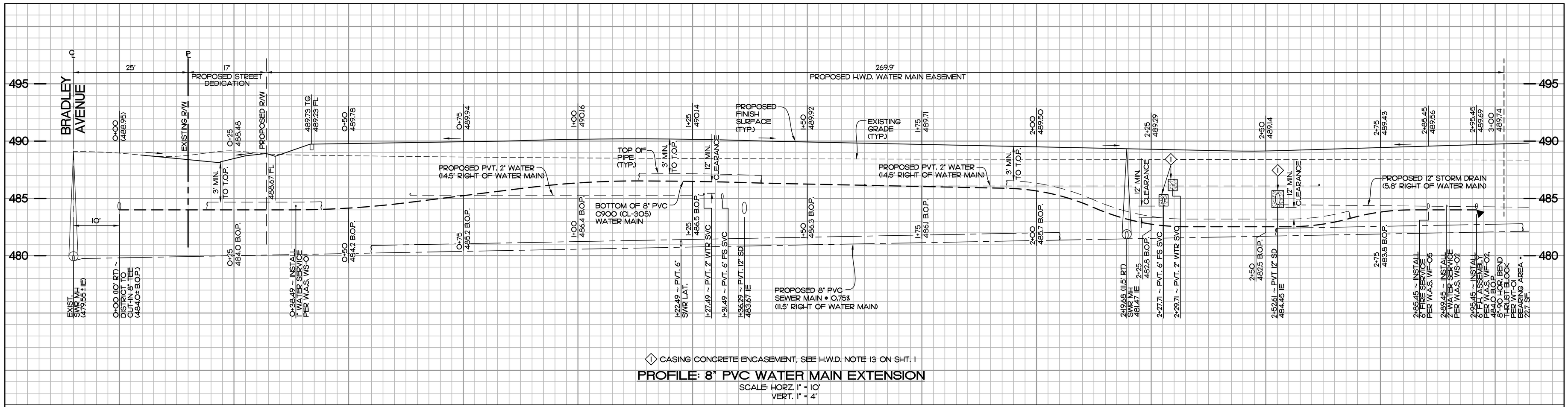
ENGINEER OF WORK

WILLIAM A. SNIPES R.C.E. 50477

PDS2019-LDPIIP-60071

HWD RMB20032
DPW 2022-WWSWCP-00074

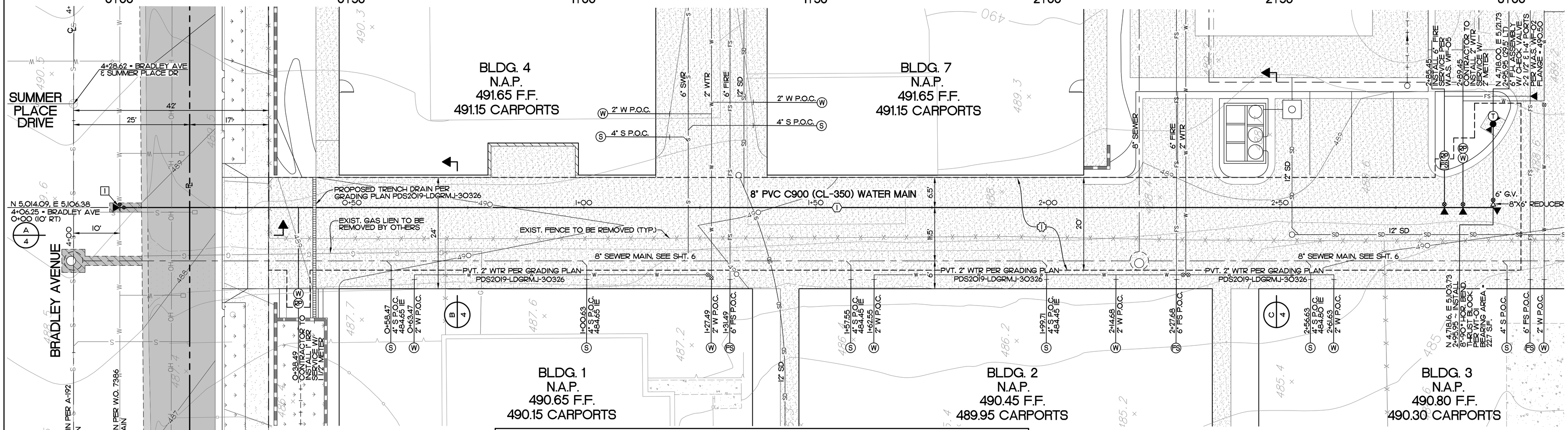
ENGINEER'S NAME - SNIPES-DYE ASSOCIATES
PHONE NO. (619) 697-9234



① CASING CONCRETE ENCASEMENT, SEE H.W.D. NOTE 13 ON SHT. 1

PROFILE: 8" PVC WATER MAIN EXTENSION

SCALE: HORZ. 1" = 10'
VERT. 1" = 4'



FOR WORK WITHIN COUNTY RIGHT-OF-WAY, SEE IMPROVEMENT PERMIT NO. PDS2019-LDPIIP-60071

FOR WORK ON-SITE, SEE GRADING PERMIT NO. PDS2019-LDGRMJ-30236

WATER MAIN EXTENSION DATA

	DELTA/BRG	RADIUS	LENGTH	REMARK
1	N 90°00'00"E	--	295.95'	8" PVC C900 (CL-305)

EASEMENT

① 20' WATER EASEMENT TO HELIX WATER DISTRICT PER DOC. _____, REC. _____

KEY NOTES

[1] DISTRICT TO CUT-IN 8" TEE AND 2-8" G.V., SET GATE WELLS, BACKFILL, COMPACT TRENCH AND MAKE TEMPORARY PAVEMENT REPAIRS. CONTRACTOR TO CONNECT TO 8" G.V. WITH 8" PVC, RESET GATE WELL, BACKFILL, COMPACT TRENCH AND PERMANENT PAVEMENT REPAIRS.

ENGINEER OF WORK
Snipes-Dye associates
civil engineers and land surveyors
8348 CENTER DRIVE, STE. G, LA MESA, CA 91942
TELEPHONE (619) 697-9234 FAX (619) 460-2033
WILLIAM A. SNIPES R.C.E. 50477
EXPIRES 06-30-25

REGISTERED PROFESSIONAL ENGINEER · WILLIAM A. SNIPES · No. 50477 · Exp. 06-30-25 · CIVIL · STATE OF CALIFORNIA

CAUTION:
LOCATION OF EXISTING UTILITIES ON THIS PLAN ARE APPROXIMATE AND SHALL BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION.

RECORD PLAN
BY: _____ DATE: _____

COUNTY APPROVED CHANGES

No.	Description	Approved by	Date

BENCH MARK
DESCRIPTION: STANDARD BENCHMARK # 91
LOCATION: TOP OF CURB, N END CB RETURN AT NW CORNER GRETA STREET AND FIRST STREET
RECORD FROM: CITY OF EL CAJON
ELEVATION: 515.161 DATUM: NAVD 88

PRIVATE CONTRACT

SHEET	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	SHEETS
9		13

PLAN / PROFILE FOR:
BRADLEY APARTMENT COMPLEX WATER MAIN EXTENSION
CALIFORNIA COORDINATE INDEX 238-1785

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

ENGINEER OF WORK
WILLIAM A. SNIPES R.C.E. 50477

PDS2019-LDPIIP-60071

HWD RMB20032
DPW 2022-WWSWCP-00074

ENGINEER'S NAME - SNIPES-DYE ASSOCIATES
PHONE NO. (619) 697-9234

STORM WATER MANAGEMENT NOTES

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

2. NO AREA BEING DISTURBED SHALL EXCEED 50 ACRES AT ANY GIVEN TIME WITHOUT DEMONSTRATING TO THE SAN DIEGO COUNTY D.P.W. DIRECTOR'S SATISFACTION THAT ADEQUATE EROSION AND SEDIMENT CONTROL CAN BE MAINTAINED. ANY DISTURB AREA THAT IS NOT ACTIVELY GRADED FOR 15 DAYS 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 MEASURE SHALL REMAIN INSTALLED MAINTAINED DURING ANY INACTIVE PERIOD.

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

4. A NOTICE OF INTENT (NOI) HAS BEEN, OR WILL BE FILED WITH THE STATE WATER RESOURCES CONTROL BOARD (SWRCB) AND THAT A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN OR WILL BE PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF CALIFORNIA GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY (PERMIT NO. CASOOOOO2) FOR ALL OPERATIONS ASSOCIATED WITH THESE PLANS. THE NOI NUMBER ASSIGNED BY SWRCB FOR THIS PROJECT IS _____. THE PERMITTEE SHALL KEEP A COPY OF THE SWPPP ON SITE AND AVAILABLE FOR REVIEW BY COUNTY.

EMERGENCY EROSION CONTROL MEASURES NOTES

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

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

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

4. AS SOON AS CUTS OR EMBANKMENTS ARE COMPLETED, BUT NOT LATER THAN OCTOBER 1, ALL CUT AND FILL SLOPES SHALL BE STABILIZED WITH A HYDROMULCH WITH BINDER MIXTURE OR AN EQUAL TREATMENT APPROVED BY THE COUNTY DEPARTMENT OF PUBLIC WORKS. BETWEEN OCTOBER 1, AND APRIL 15. APPROVED SLOPE PROTECTION MEASURES SHALL PROCEED IMMEDIATELY BEHIND THE EXPOSURE OF CUT SLOPES AND / OR THE CREATION OF EMBANKMENT SLOPES, INCLUDING LINEAR BMPS + 10' MIN. INTERVAL (SEE CGP). (IE WATTLES).

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

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

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

BFM'S AND SFM'S NOTES

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

1. APPLICATION RATES SHALL BE 3500 POUNDS PER ACRE MINIMUM FOR 2:1 OR SHALLOWER SLOPES AND 4000 POUNDS PER ACRE FOR SLOPES STEEPER THAN 2:1.
2. BFM SHALL BE APPLIED AT LEAST 24 HOURS BEFORE OR AFTER RAINFALL.
3. THE SITE MUST BE PROTECTED WITH BROW DITCHES AND / OR DIVERSION BERMS AT THE TOP OF SLOPES TO DIVERT FLOW FROM THE FACE OF THE SLOPE.
4. BFM SHALL BE APPLIED TO PROVIDE 100% COVERAGE (I.E. APPLICATION FROM MULTIPLE ANGLES).
5. FOR PERMANENT EROSION CONTROL PURPOSES, BFM MUST BE INSTALLED 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.

THE USE OF SFM'S IS SUBJECT TO THE FOLLOWING LIMITATIONS AND RESTRICTIONS.

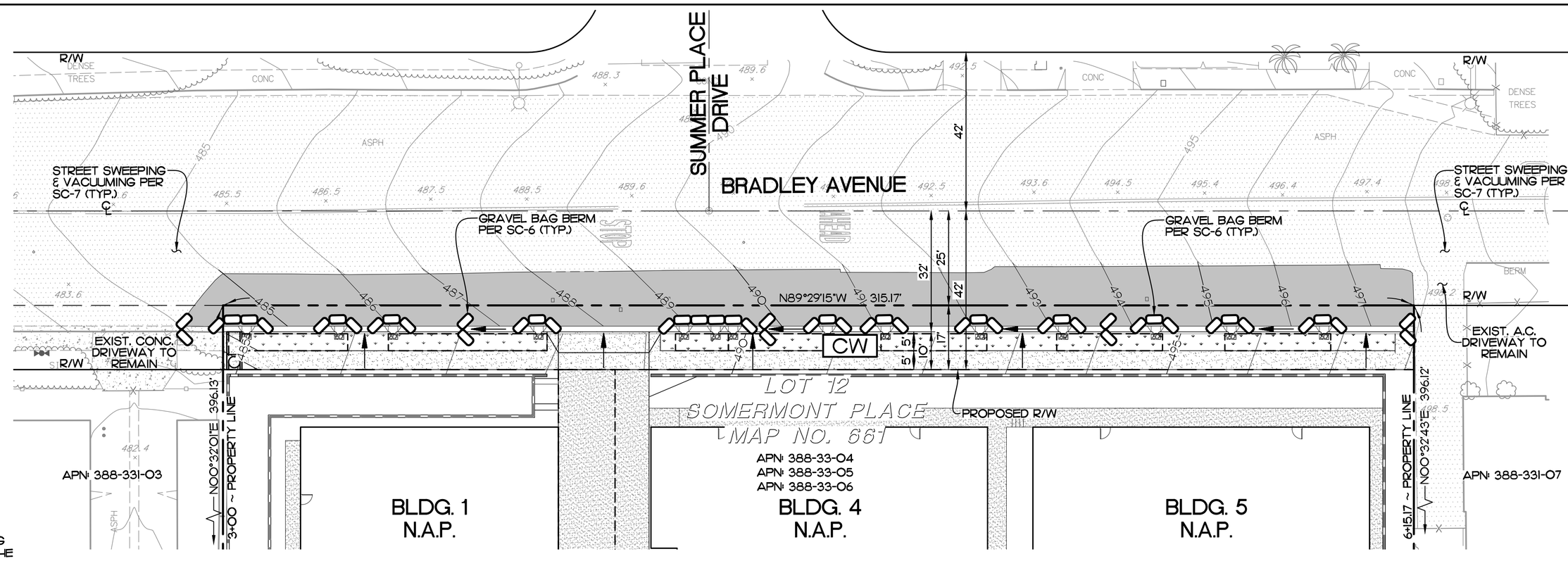
1. SFM MAY BE USED FOR TEMPORARY EROSION CONTROL FOR DISTURBED AREAS WITH A SLOPE RATIO OF 1 VERTICAL TO 2 HORIZONTAL OR SHALLOWER, INCLUDING PAD AND SEPTIC FIELD AREAS.
2. THE SFM SHALL BE APPLIED AT LEAST 24 HOURS BEFORE OR AFTER RAINFALL AND SHALL BE APPLIED TO PROVIDE 100% COVERAGE (I.E. APPLIED FROM MULTIPLE DIRECTIONS AND ANGLES.
3. THE APPLICATION AREA MUST BE PROTECTED BY BROW DITCHES AND OR DIVERSION BERMS AT TOP OF SLOPES TO DIVERT FLOW FROM THE SURFACE OF THE PROTECTED SLOPE.
4. FOR PERMANENT EROSION CONTROL PURPOSES, SFM MUST BE INSTALLED IN CONJUNCTION WITH SEEDED EROSION CONTROL VEGETATION OR HAND PLANTINGS. AS WITH ALL OTHER APPLICATIONS, SFM WILL NOT BE CONSIDERED PERMANENT UNTIL 70% VEGETATION ESTABLISHMENT.
5. COVERAGE AND CONCENTRATION FOR EACH AREA COVERED, THE MINIMUM APPLICATION VOLUME SHALL BE 10 GALLONS NON-TOXIC WATER-PERMEABLE SOIL-STABILIZING LIQUID EMULSION WITH 3,000 LBS OF HYDRAULIC MULCH. THE EMULSION MUST BE DESIGNED TO PROTECT SOIL, PREVENT EROSION, AND FLOCCULATE (CLUMP) SEDIMENT.
6. A LETTER FROM THE HYDROSEED CONTRACTOR CERTIFYING THE SFM WAS INSTALLED IN ACCORDANCE WITH APPROVED APPLICATION RATES, COVERAGE AND MANUFACTURER'S DILUTION RATIO SHALL BE SUBMITTED TO THE COUNTY INSPECTOR FOR APPROVAL.

BMP STENCIL PLACEMENT NOTES

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

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

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



LEGEND

THE FOLLOWING BMP'S ARE TO BE UTILIZED :		SYMBOL
1. SCHEDULING	SS-1	
2. GRAVEL BAG BERM	SC-6	
3. STREET SWEEPING & VACUUMING	SC-7	
4. WIND EROSION CONTROL	WE-1	
5. WATER CONSERVATION PRACTICES	NS-1	
6. PAVING AND GRINDING OPERATIONS	NS-3	
7. ILLICIT CONNECTION/ILLEGAL DISCHARGE DETECTION AND REPORTING	NS-6	
8. CONCRETE CURING	NS-12	
9. CONCRETE FINISH	NS-14	
10. CONCRETE WASTE MANAGEMENT	WM-8	CW
11. DIRECTION OF FLOW		

SILTATION AND SEDIMENT CONTROL MEASURES NOTES

1. THE SEDIMENT BASINS SHALL BE PROVIDED AT THE LOWER END OF EVERY DRAINAGE AREA PRODUCING SEDIMENT RUNOFF. THE BASINS SHALL BE MAINTAINED AND CLEANED TO DESIGN CONTOURS AFTER EVERY RUNOFF PRODUCING STORM. THE BASINS SHOULD BE SEMI-PERMANENT STRUCTURES THAT WOULD REMAIN UNTIL SOIL STABILIZING VEGETATION HAS BECOME WELL ESTABLISHED ON ALL ERODIBLE SLOPES.
2. SEDIMENTATION BASINS MAY NOT BE REMOVED OR MADE INOPERATIVE WITHOUT PRIOR APPROVAL OF THE COUNTY ENGINEER.
3. SEWER OR STORM DRAIN TRENCHES THAT ARE CUT THROUGH BASIN DIKES OR BASIN INLET DIKES SHALL BE PLUGGED WITH GRAVEL BAGS FROM TOP OF PIPE TO TOP OF DIKE.
4. ALL UTILITY TRENCHES SHALL BE BLOCKED AT THE PRESCRIBED INTERVALS WITH A DOUBLE ROW OF GRAVEL BAGS WITH A TOP ELEVATION LEVEL WITH, AND TWO GRAVEL BAGS BELOW THE GRADED SURFACE OF THE STREET. GRAVEL BAGS ARE TO BE PLACED WITH LAPPED COURSES. THE INTERVALS PRESCRIBED BETWEEN GRAVEL BAGS BLOCKING SHALL DEPEND ON THE SLOPE OF THE GROUND SURFACE, BUT NOT TO EXCEED THE FOLLOWING:

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

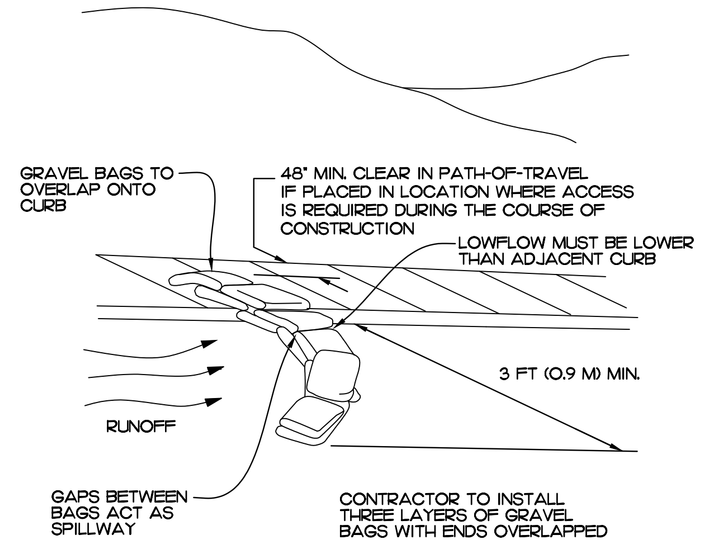
5. AFTER UTILITY TRENCHES ARE BACKFILLED AND COMPACTED, THE SURFACES OVER SUCH TRENCHES SHALL BE MOUNDED SLIGHTLY TO PREVENT CHANNELING OF WATER IN THE TRENCH AREA. CARE SHOULD BE EXERCISED TO PROVIDE FOR CROSS FLOW AT FREQUENT INTERVALS WHERE TRENCHES ARE NOT ON THE CENTERLINE OF A CROWNED STREET.
6. ALL BUILDING PADS SHOULD BE SLOPED TOWARDS THE DRIVEWAYS AND VELOCITY CHECK DAMS PROVIDED AT THE BASE OF ALL DRIVEWAYS DRAINING INTO THE STREET.
7. PROVIDE VELOCITY CHECK DAMS IN ALL UNPAVED GRADED CHANNELS AT THE INTERVALS INDICATED BELOW:

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

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

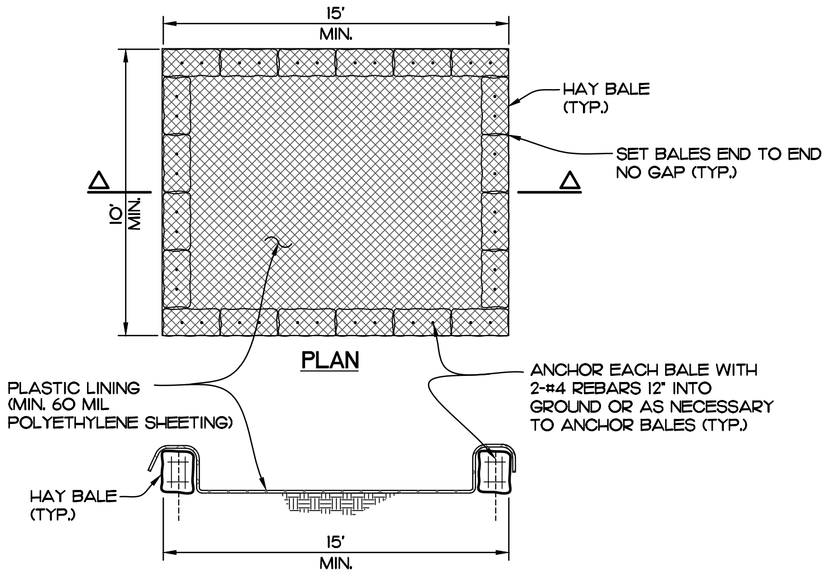
GRADE OF THE STREET	INTERVAL	NUMBER OF BAGS HIGH
LESS THAN 2%	AS REQUIRED 200 FEET MAX.	1
2% TO 4%	100 FEET	1
4% TO 6%	50 FEET	1
6% TO 10%	50 FEET	2
OVER 10%	25 FEET	2

9. PROVIDE A GRAVEL BAG SILT BASIN OR TRAP BY EVERY STORM DRAIN INLET TO PREVENT SEDIMENT FROM ENTERING DRAIN SYSTEM.
10. GRAVEL BAGS AND FILL MATERIAL SHALL BE STOCKPILED AT INTERVALS, READY FOR USE WHEN REQUIRED.
11. ALL EROSION CONTROL DEVICES WITHIN THE DEVELOPMENT SHOULD BE MAINTAINED DURING AND AFTER EVERY RUNOFF PRODUCING STORM, IF POSSIBLE, MAINTENANCE CREWS WOULD BE REQUIRED TO HAVE ACCESS TO ALL AREAS.
12. PROVIDE ROCK RIPRAP ON CURVES AND STEEP DROPS IN ALL EROSION PRONE DRAINAGE CHANNELS DOWNSTREAM FROM THE DEVELOPMENT. THIS PROTECTION WOULD REDUCE EROSION CAUSED BY THE INCREASED FLOWS THAT MAY BE ANTICIPATED FROM DENUDED SLOPES, OR FROM IMPERVIOUS SURFACES.
13. ANY PROPOSED ALTERNATE CONTROL MEASURES MUST BE APPROVED IN ADVANCE BY ALL RESPONSIBLE AGENCIES: I.E., COUNTY ENGINEER, DEPARTMENT OF ENVIRONMENTAL HEALTH, FLOOD CONTROL, OFFICE OF ENVIRONMENTAL MANAGEMENT, ETC.



DETAIL - GRAVEL BAG BERM

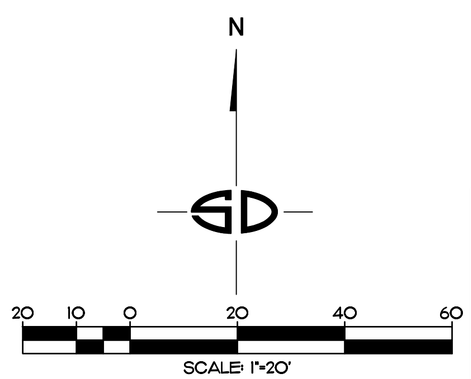
NO SCALE



TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE MAINTAINED TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM FREEBOARD OF 8". MAINTAINING TEMPORARY CONCRETE WASHOUT FACILITIES SHALL INCLUDE REMOVING AND DISPOSING OF HARDENED CONCRETE AND RETURNING THE FACILITIES TO A FUNCTIONAL CONDITION. HARDENED CONCRETE MATERIALS SHALL BE REMOVED AND PROPERLY DISPOSED OF.

TEMPORARY CONCRETE WASHOUT (ABOVE GRADE)

NO SCALE



SCALE: 1"=20'

ENGINEER OF WORK

Snipes-Dye associates

civil engineers and land surveyors

8348 CENTER DRIVE, STE. G, LA MESA, CA 91942

TELEPHONE (619) 697-9234 FAX (619) 460-2033

WILLIAM A. SNIPES R.C.E. 50477

EXPIRES 06-30-25

REGISTERED PROFESSIONAL ENGINEER · WILLIAM A. SNIPES · No. 50477 · Exp. 06-30-25 · CIVIL · STATE OF CALIFORNIA

COUNTY APPROVED CHANGES			
No.	Description	Approved by	Date

BENCH MARK

DESCRIPTION: STANDARD BENCHMARK # 91

LOCATION: TOP OF CURB, N END CB RETURN AT NW CORNER GRETA STREET AND FIRST STREET

RECORD FROM: CITY OF EL CAJON

ELEVATION: 515.161 DATUM: NAVD 88

PRIVATE CONTRACT

SHEET 10 | COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS | 13 SHEETS

EROSION CONTROL & CONSTRUCTION BMP PLAN FOR:

BRADLEY AVENUE WIDENING

SOUTH SIDE, BETWEEN MOLLISON AVENUE AND NORTH FIRST STREET

CALIFORNIA COORDINATE INDEX 238-1785

APPROVED: FOR WILLIAM P. MORGAN COUNTY ENGINEER

BY: _____ DATE

ENGINEER OF WORK

WILLIAM A. SNIPES R.C.E. 50477

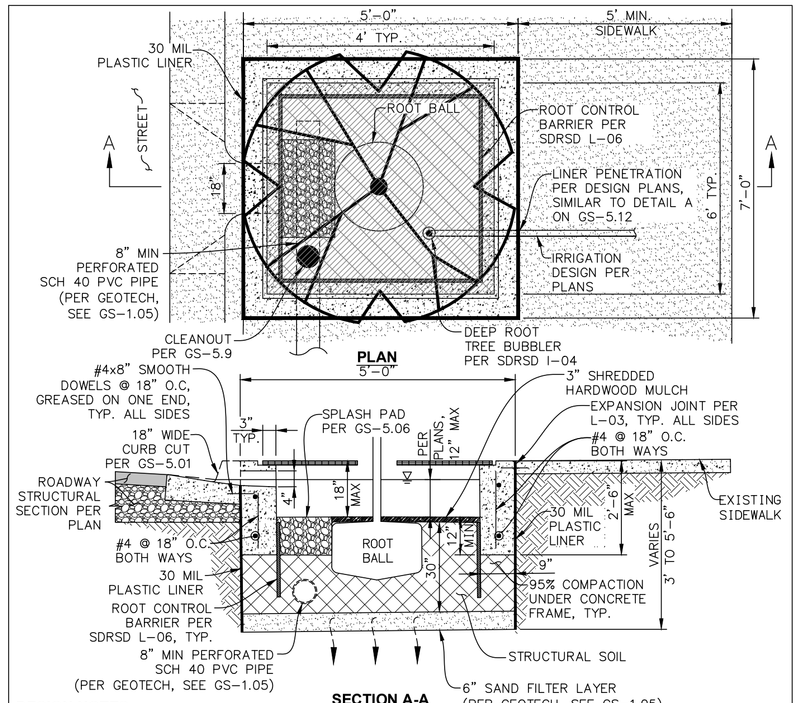
PDS2019-LDPIIP-60071

ENGINEER'S NAME - SNIPES-DYE ASSOCIATES

PHONE NO. (619) 697-9234

HWD RMB20032

DPW 2022-WWSWCP-00074



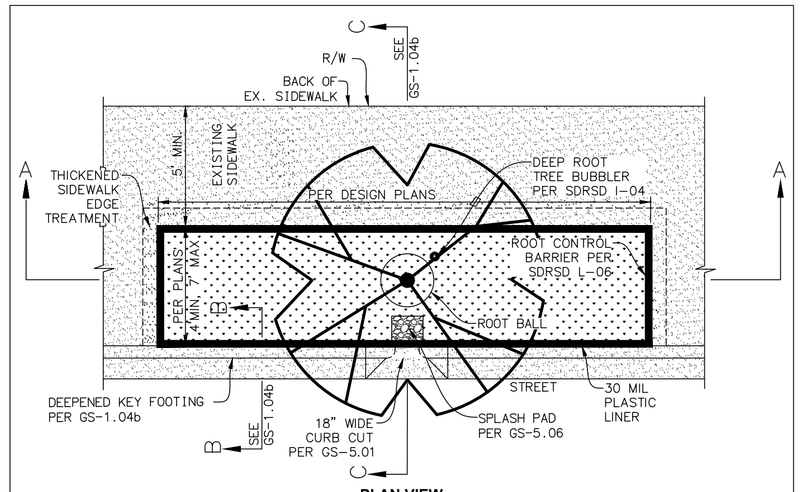
DESIGN NOTES:

1. STREET IMPROVEMENTS AND DRAINAGE STRUCTURES SHALL BE CONSTRUCTED ACCORDING TO THE LATEST SAN DIEGO REGIONAL STANDARD DRAWINGS AND CALTRANS STANDARD PLANS.
2. CONCRETE SHALL BE 520-C-2500 UNLESS OTHERWISE SPECIFIED.
3. SEE SDRSD DWG I-01 THROUGH L-06 FOR LANDSCAPING DETAILS NOT SPECIFIED HEREIN. (TREE GRATE PER SDRSD L-04).
4. MINIMUM OPEN TREE PLANTING SPACE DIMENSION 4'x6'.
5. PROVIDE 30 MIL PLASTIC LINER WHERE CONCRETE WILL BE POURED ON TOP OF STRUCTURAL SOIL.
6. SEAL PLASTIC LINER TO ADJACENT IMPROVEMENTS AND EDGE RESTRAINTS PER GS-5.15.
7. WHEN SAND FILTER LAYER IS OMITTED, PROVIDE GEOTEXTILE BENEATH THE STRUCTURAL SOIL LAYER PER PROJECT-SPECIFIC GEOTECHNICAL RECOMMENDATIONS.
8. PROPOSED SIDEWALK LOCATIONS & INTENDED ADA ROUTES PER PROJECT-SPECIFIC DESIGN PLANS.
9. FOR TREE WELL SUBSURFACE DRAINAGE TYPES, SEE DWG GS-1.05.
10. ALL STRUCTURAL SOILS ARE COMPACTED TO 95% RELATIVE COMPACTION.

DRAWING NOT TO SCALE

DRAWN BY: NMB	CHECKED BY: KBK	SAN DIEGO COUNTY DESIGN STANDARD	REVISIONS	APPROVED	DATE
RECOMMENDED BY: CHARLES MOHRLOCK, P.E.			ORIGINAL		10-01-2019
APPROVED BY COUNTY ENGINEER		TREE WELL GENERAL DESIGN GUIDANCE	REVISED		03-08-2021
DATE:					
WILLIAM P. MORGAN, P.E. R.C.E. NO. 49452, EXP 9/30/2022			DRAWING NUMBER		GS-1.00

1 DETAIL NO SCALE



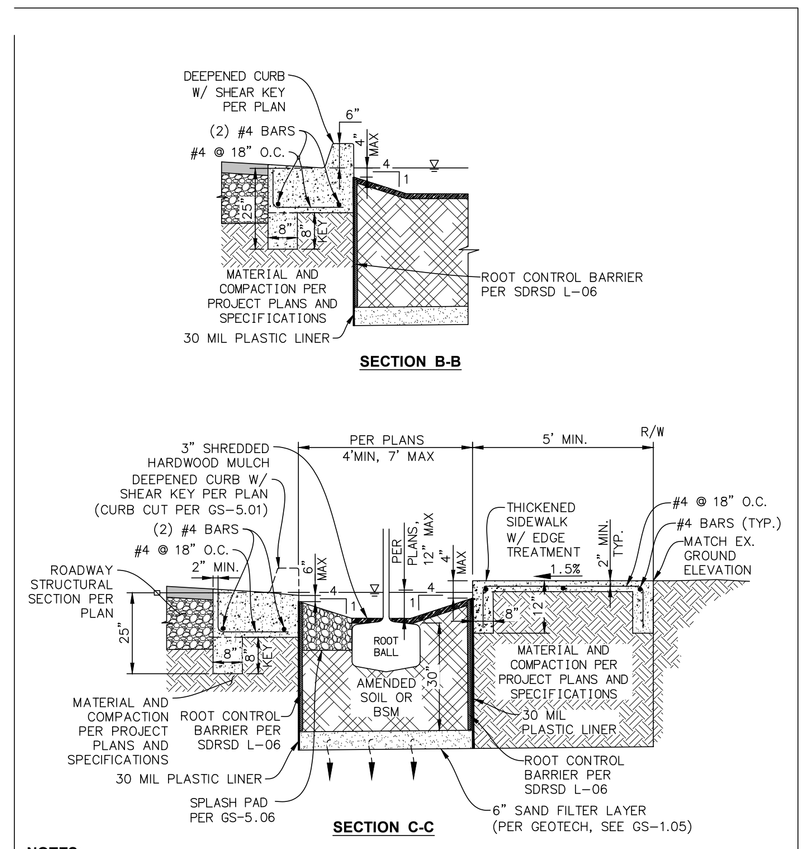
NOTES:

1. REFER TO GS-1.00 FOR ALL DETAILS NOT SHOWN HERE.
2. TREE SIZE & TYPE PER DESIGN PLANS.
3. PARALLEL STREET PARKING PROHIBITED WITH THIS BMP.

DRAWING NOT TO SCALE

DRAWN BY: NMB	CHECKED BY: KBK	SAN DIEGO COUNTY DESIGN STANDARD	REVISIONS	APPROVED	DATE
RECOMMENDED BY: CHARLES MOHRLOCK, P.E.			ORIGINAL		10-01-2019
APPROVED BY COUNTY ENGINEER		TREE WELL WITHOUT STRUCTURAL SOIL	REVISED		03-08-2021
DATE:					
WILLIAM P. MORGAN, P.E. R.C.E. NO. 49452, EXP 9/30/2022			DRAWING NUMBER		GS-1.04a

2 DETAIL NO SCALE



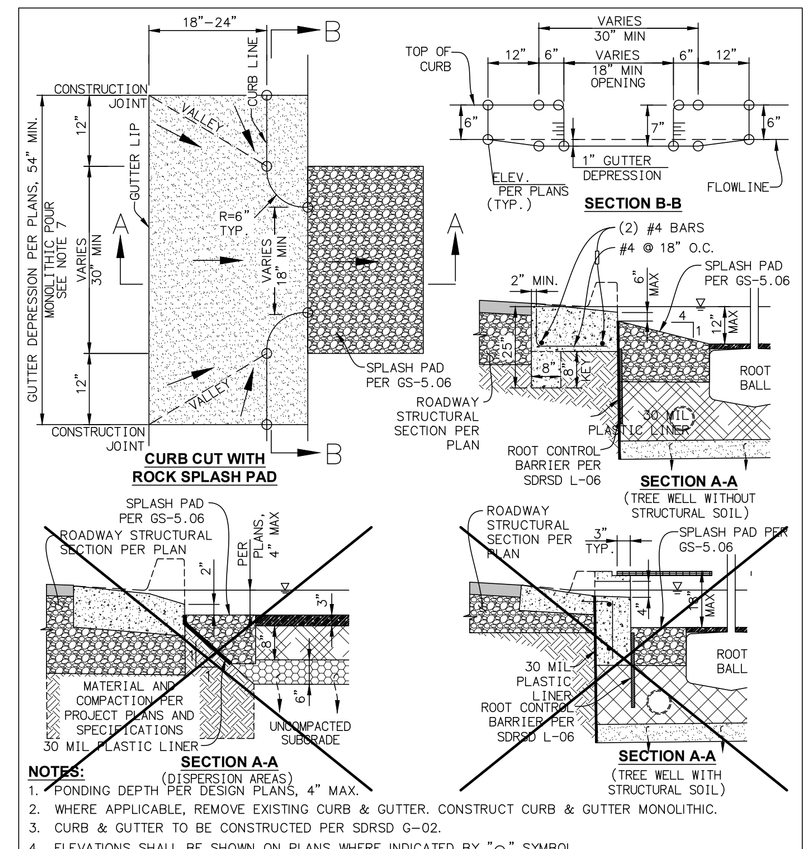
NOTES:

1. REFER TO GS-1.04a FOR ALL DETAILS NOT SHOWN HERE.
2. TREE SIZE & TYPE PER DESIGN PLANS.
3. AS AN ALTERNATIVE TO THE DEEPENED SHEAR KEY/CUTOFF WALL, CONCRETE CHECK DAMS (DETAIL 5.14) AT 12' MAX INTERVALS MAY BE SUBSTITUTED.
4. PARALLEL STREET PARKING PROHIBITED WITH THIS BMP.

DRAWING NOT TO SCALE

DRAWN BY: NMB	CHECKED BY: KBK	SAN DIEGO COUNTY DESIGN STANDARD	REVISIONS	APPROVED	DATE
RECOMMENDED BY: CHARLES MOHRLOCK, P.E.			ORIGINAL		10-01-2019
APPROVED BY COUNTY ENGINEER		TREE WELL WITHOUT STRUCTURAL SOIL	REVISED		03-08-2021
DATE:					
WILLIAM P. MORGAN, P.E. R.C.E. NO. 49452, EXP 9/30/2022			DRAWING NUMBER		GS-1.04b

3 DETAIL NO SCALE



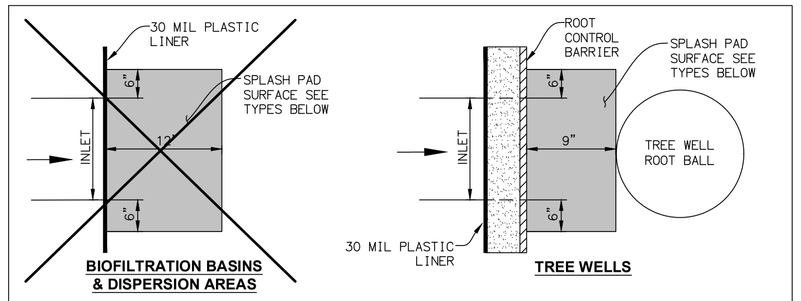
NOTES:

1. PONDING DEPTH PER DESIGN PLANS, 4" MAX.
2. WHERE APPLICABLE, REMOVE EXISTING CURB & GUTTER. CONSTRUCT CURB & GUTTER MONOLITHIC.
3. CURB & GUTTER TO BE CONSTRUCTED PER SDRSD G-02.
4. ELEVATIONS SHALL BE SHOWN ON PLANS WHERE INDICATED BY "○" SYMBOL.
5. SEAL PLASTIC LINER TO ADJACENT IMPROVEMENTS AND EDGE RESTRAINTS PER GS-5.15.
6. CONCRETE SHALL BE 520-C-2500 UNLESS OTHERWISE SPECIFIED.
7. GUTTER TRANSITION LENGTH PER DESIGN PLANS; AN ADDITIONAL 2.5-FT CURB TRANSITION LENGTH IS RECOMMENDED FOR EVERY 1" OF ADDITIONAL GUTTER DEPRESSION.
8. PARALLEL STREET PARKING PROHIBITED FOR BMP'S WITH TREE WELL WITHOUT STRUCTURAL SOIL AND DISPERSION AREAS.

DRAWING NOT TO SCALE

DRAWN BY: NMB	CHECKED BY: KBK	SAN DIEGO COUNTY DESIGN STANDARD	REVISIONS	APPROVED	DATE
RECOMMENDED BY: CHARLES MOHRLOCK, P.E.			ORIGINAL		10-01-2019
APPROVED BY COUNTY ENGINEER		TREE WELL & DISPERSION AREA CURB CUTS	REVISED		03-08-2021
DATE:					
WILLIAM P. MORGAN, P.E. R.C.E. NO. 49452, EXP 9/30/2022			DRAWING NUMBER		GS-5.01

4 DETAIL NO SCALE



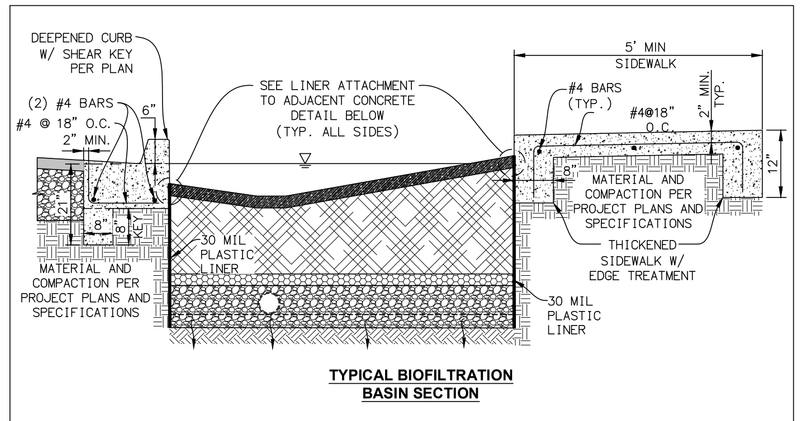
NOTES:

1. REGARDING TYPE 1 SPLASH PADS, THE STONE SHALL REQUIRE AN EPOXY/GROUT BINDING TO AVOID WASHOUT PER THE PROJECT-SPECIFIC DESIGN PLANS AND SPECIFICATIONS
2. CONCRETE SHALL BE 520-C-2500 UNLESS OTHERWISE SPECIFIED.

DRAWING NOT TO SCALE

DRAWN BY: NMB	CHECKED BY: KBK	SAN DIEGO COUNTY DESIGN STANDARD	REVISIONS	APPROVED	DATE
RECOMMENDED BY: CHARLES MOHRLOCK, P.E.			ORIGINAL		10-01-2019
APPROVED BY COUNTY ENGINEER		SPLASH PAD	REVISED		03-08-2021
DATE:					
WILLIAM P. MORGAN, P.E. R.C.E. NO. 49452, EXP 9/30/2022			DRAWING NUMBER		GS-5.06

5 DETAIL NO SCALE



NOTES:

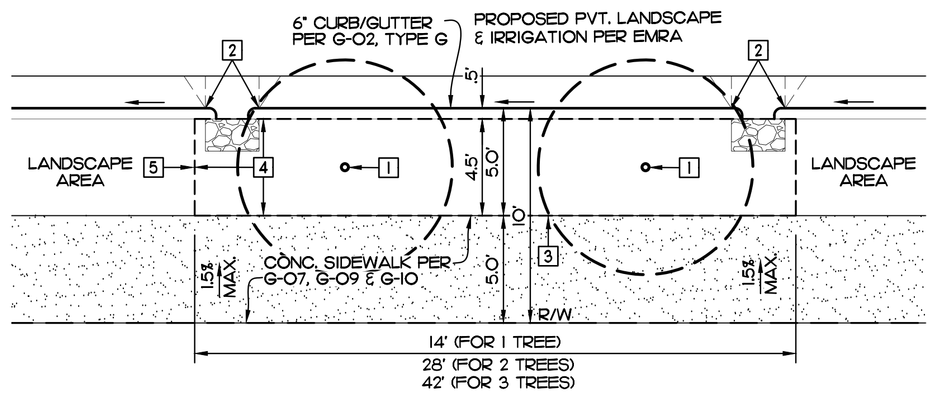
1. ON CLEAN CONCRETE SURFACE, ADHERE LINER TO CONCRETE WITH SILICONE SEALANT OR EQUIVALENT PER MANUFACTURER RECOMMENDATIONS TO TOP ¾" OF LINER.
2. SECURE LINER TO CONCRETE WITH 2" ALUMINUM OR STAINLESS STEEL FLAT BAR AS DIRECTED PER PLAN.
3. AS AN ALTERNATIVE, HIT ANCHORS CAN BE SUBSTITUTED WITH STAINLESS STEEL ANCHORS AT 24" O.C. OR POWDER ACTUATED FASTENERS AT 12" O.C.
4. TRIM EXCESS LINER TO BE FLUSH WITH SURFACE ELEVATION.
5. CONTRACTOR MEANS AND METHODS SHOULD AVOID/MINIMIZE WRINKLES TO THE LINER.
6. PARALLEL STREET PARKING PROHIBITED WITH THIS BMP.

DRAWING NOT TO SCALE

DRAWN BY: NMB	CHECKED BY: KBK	SAN DIEGO COUNTY DESIGN STANDARD	REVISIONS	APPROVED	DATE
RECOMMENDED BY: CHARLES MOHRLOCK, P.E.			ORIGINAL		10-01-2019
APPROVED BY COUNTY ENGINEER		IMPERMEABLE LINER FASTENING DETAIL	REVISED		03-08-2021
DATE:					
WILLIAM P. MORGAN, P.E. R.C.E. NO. 49452, EXP 9/30/2022			DRAWING NUMBER		GS-5.15

6 DETAIL NO SCALE

BRADLEY AVENUE



PVT. TREE WELL (SD-A) - ENLARGED TYPICAL DETAIL

SCALE: 1"=5'

KEY NOTES

1. PLANT 10-FT. DIA. MATURE CANOPY TREE (CALIFORNIA MOUNTAIN LILAC-CEANOTHUS 'RAY HARTMAN') PER LANDSCAPE PLANS NO. PDS2020-LP-20-088.
2. 18" CURB CUT W/ SLASH PAD PER DETAILS 4 & 5 (GS-5.01 & GS-5.06).
3. TREE WELL WITHOUT STRUCTURAL SOIL PER DETAILS 1 & 2 (GS-1.00 & GS-1.04A).
4. LIMITS OF AMENDED SOIL OR BIORETENTION SOIL MEDIA (BSM) SOIL PER DETAIL 3 (GS-1.04B).
5. SIDEWALK SIDE EDGE TREATMENT PER DETAIL 6 (GS-5.15).

ALL PROPOSED VEGETATION TO BE CONSTRUCTED/INSTALLED WITHIN TREE WELLS SHALL BE IN CONFORMANCE WITH APPROVED LANDSCAPE AND IRRIGATION PLANS NUMBER PDS2020-LP-20-088 AND SHALL BE INCLUDED IN PROJECT SWQMP.

REFER TO GRADING PERMIT NO. PDS2019-LDGRMJ-30236 FOR STORMWATER STRUCTURAL POLLUTANT CONTROL.

RECORD PLAN
BY: _____ DATE: _____
WILLIAM A. SNIPES R.C.E. 50477 EXP. 06-30-25

ENGINEER OF WORK

Snipes-Dye associates
civil engineers and land surveyors
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WILLIAM A. SNIPES R.C.E. 50477
EXPIRES 06-30-25

REGISTERED PROFESSIONAL ENGINEER · WILLIAM A. SNIPES · No. 50477 · Exp. 06-30-25 · CIVIL · STATE OF CALIFORNIA

COUNTY APPROVED CHANGES			
No.	Description	Approved by	Date

BENCH MARK

DESCRIPTION: STANDARD BENCHMARK # 91
LOCATION: TOP OF CURB, N END CB RETURN AT NW CORNER GRETA STREET AND FIRST STREET
RECORD FROM: CITY OF EL CAJON
ELEVATION: 515.161 DATUM: NAVD 88

PRIVATE CONTRACT

SHEET 11	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	13 SHEETS

BMP ENLARGED PLAN & DETAILS FOR:

BRADLEY AVENUE WIDENING
SOUTH SIDE, BETWEEN MOLLISON AVENUE AND NORTH FIRST STREET
CALIFORNIA COORDINATE INDEX 238-1785

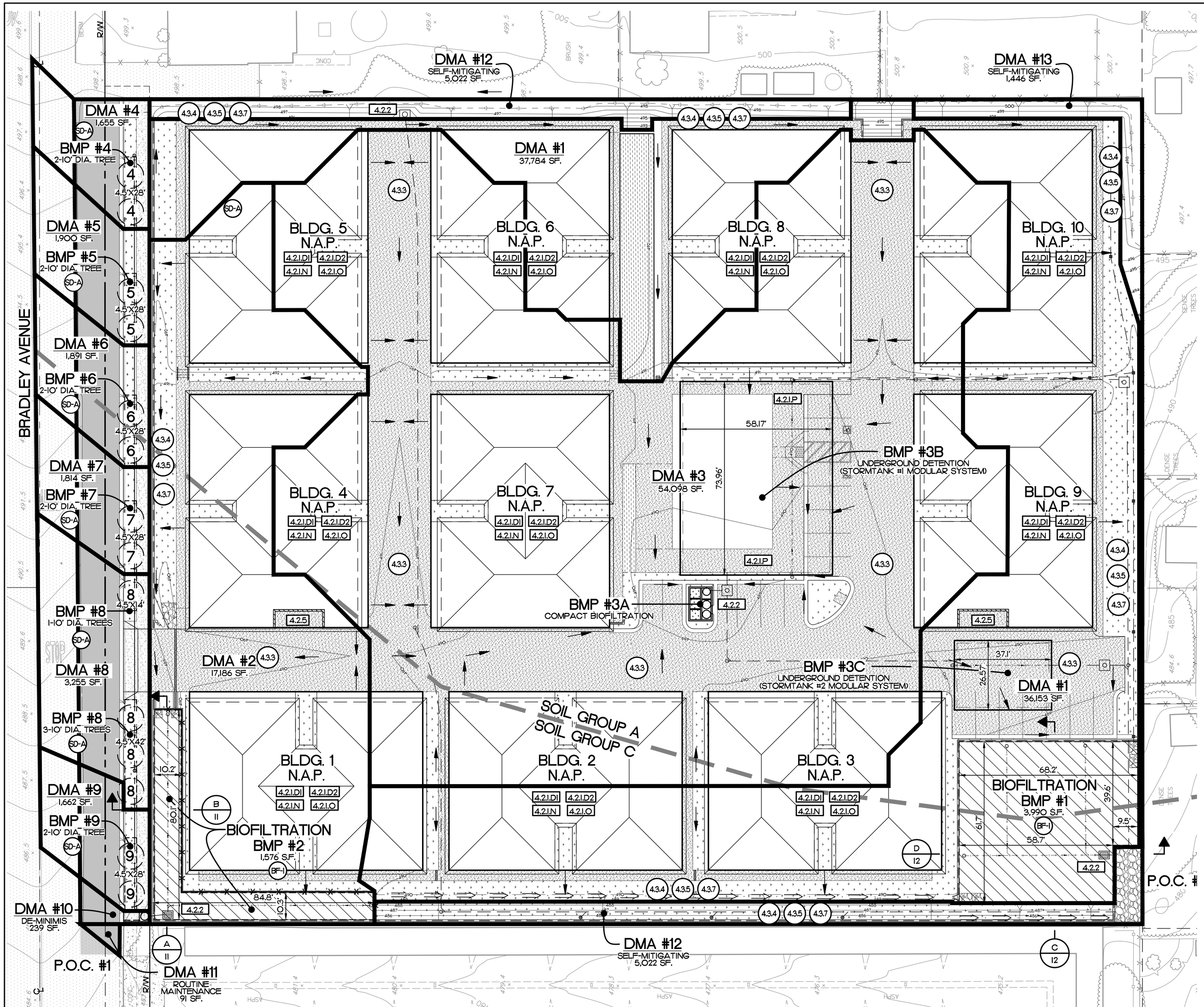
APPROVED: FOR WILLIAM P. MORGAN COUNTY ENGINEER
BY: _____ DATE

ENGINEER OF WORK
_____ WILLIAM A. SNIPES R.C.E. 50477

PDS2019-LDPIIP-60071

ENGINEER'S NAME - SNIPES-DYE ASSOCIATES
PHONE NO. (619) 697-9234

HWD RMB20032
DPW 2022-WWSWCP-00074



PROJECT PERMANENT BMP'S

1. SOURCE CONTROL BMP'S:

- 4.2.1 PREVENT ILLICIT DISHCARGES INTO THE MS4.
- 4.2.2 MARK ALL INLETS WITH THE WORDS "NO DUMPING - DRAINS TO OCEAN" OR SIMILAR LANGUAGE. SEE STENCIL TEMPLATE ON THIS SHEET.
- 4.2.5 PROTECT TRASH STORAGE AREAS FROM RAINFALL, RUN-ON, RUNOFF, AND WIND DISPERSAL. TRASH ENCLOSURES WITH CONCRETE SLAB, SCREENED WALLS, AND DUMPSTERS WITH LIDS.
- 4.2.1.D1 NEED FOR FUTURE INDOOR AND STRUCTURAL PEST CONTROL.
- 4.2.1.D2 LANDSCAPE / OUTDOOR PESTICIDE USE. MAINTAIN LANDSCAPING USING MINIMUM OR NO PESTICIDES.
- 4.2.1.N AIR CONDITIONING CONDENSATE DRAIN LINES SHALL DISCHARGE INTO LANDSCAPE AREAS AND MAY NOT DISCHARGE TO THE STORM DRAIN SYSTEM.
- 4.2.1.O AVOID ROOFING, GUTTERS, AND TRIM MADE OF COPPER OR OTHER UNPROTECTED METALS THAT MAY LEACH INTO RUNOFF.
- 4.2.1.P PLAZAS, SIDEWALKS & PARKING LOTS MUST BE SWEPT REGULARLY.

2. SITE DESIGN BMP'S:

- SD-A TREES PLANTED PER COUNTY OF SAN DIEGO BMP DESIGN MANUAL (SEPT. 2020) BMP FACT SHEET SD-A, FOR THE INTERCEPTION OF RAINFALL AND RUNOFF.
- 4.3.3 MINIMIZE IMPERVIOUS AREA: PROPOSED MULTI-STORY BUILDING TO REDUCE SIZE OF FOOTPRINT.
- 4.3.4 MINIMIZE SOIL COMPACTION.
- 4.3.5 IMPERVIOUS AREA DISPERSION: DRAIN ROOFTOPS TO ADJACENT LANDSCAPE AREAS.
- 4.3.7 LANDSCAPING WITH NATIVE OR DROUGHT TOLERANT SPECIES.

3. STRUCTURAL BMP'S:

- BF-1 BIOFILTRATION BASIN

SELF-MITIGATING DMAs NOTES

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

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

BMP STENCIL PLACEMENT NOTES

A) THE PROPOSED CURB INLETS SHALL HAVE A STENCIL OR TILE PLACED WITH PROHIBITIVE LANGUAGE "NO DUMPING THIS DRAINS TO OCEAN AND/OR GRAPHICAL ICONS TO DISCOURAGE ILLEGAL DUMPING.

B) 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.

LEGEND

- DMA BOUNDARY
- DIRECTION OF FLOW
- PERVIOUS AREA (LANDSCAPE)
- IMPERVIOUS AREA (CONCRETE)
- IMPERVIOUS AREA (ASPHALT)
- PERVIOUS AREA (D.G.)
- IMPERVIOUS AREA (ROOF TOP)
- DMA I.D. — DMA #1
- BIOFILTRATION BASIN (BF-1)
- UNDERGROUND DETENTION (STORMTANK SYSTEM)
- BIOFILTRATION BASIN (MODULAR WETLANDS SYSTEM)
- STORM DRAIN CLEANOUT
- PVC SDR-35 STORM DRAIN PIPE
- DRAINAGE DITCH
- TREE WELL (SD-A) — 4
- AMENDED SOIL LIMITS

NOTES

1. SITE IS LOCATED WITHIN LAKE WOHLFORD RAIN GAUGE BASIN.
2. UNDERLYING HYDROLOGIC SOIL GROUPS A & C.
3. SITE IS RELATIVELY FLAT.
4. GROUNDWATER DEPTH IS UNKNOWN.
5. BASED ON WMAA MAPS CRITICAL COARSE SEDIMENT YIELD AREAS (CCSYAS) WERE NOT IDENTIFIED WITHIN PROJECT FOOTPRINT OR UPSTREAM AREAS DRAINING THROUGH THE PROJECT FOOTPRINT.
6. PROPOSED STRUCTURAL AND SIGNIFICANT SITE DESIGN BMP'S FOR POLLUTANT CONTROL CONSIST OF THE FOLLOWING: 2 BIOFILTRATION BASINS (BF-1), 6 TREE WELLS (SD-A), AND 2 PROPRIETARY BIOFILTRATION BASIN (MODULAR WETLANDS SYSTEM).
7. COUNTY OF SAN DIEGO'S 85TH PERCENTILE ISOPLUVIAL MAP WAS UTILIZED FOR SIZING STRUCTURAL BMPS TO COMPLY WITH TREATMENT CONTROL REQUIREMENTS P_{85TH} = 0.49 INCH.

TREE WELL NOTE

FOR TREE WELL CONSTRUCTION DETAILS AND SPECIFICATIONS REFER TO COUNTY OF SAN DIEGO IMPROVEMENT PLANS FOR BRADLEY AVENUE WIDENING DRAWING NO. PDS2019-LDPIIP-60071.

HYDROMODIFICATION MANAGEMENT EXEMPTION

THIS PROJECT IS EXEMPT FROM HYDROMODIFICATION MANAGEMENT REQUIREMENTS SINCE IT WILL DISCHARGE RUNOFF DIRECTLY TO FORESTER CREEK WHICH IS AN AREA IDENTIFIED IN THE WATERSHED MANAGEMENT AREA ANALYSIS (WMAA). THE WMAA HAS SHOWN THAT FUTURE INCREASES IN IMPERVIOUS AREAS WITHIN THE WATERSHED ARE NOT EXPECTED TO INCREASE THE EROSION POTENTIAL IN FORESTER CREEK.

SEE POST-CONSTRUCTION BMP FACILITY SUMMARY TABLE AND DRAINAGE MANAGEMENT AREAS TABLE ON SHEET 11

N

SCALE: 1"=20'

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civil engineers and land surveyors
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TELEPHONE (619) 697-9234 FAX (619) 460-2033
WILLIAM A. SNIPES R.C.E. 50477
EXPIRES '06-30-25

REGISTERED PROFESSIONAL ENGINEER · WILLIAM A. SNIPES · No. 50477 · Exp. 06-30-25 · CIVIL · STATE OF CALIFORNIA

RECORD PLAN

BY: _____ DATE: _____

COUNTY APPROVED CHANGES

No.	Description	Approved by	Date

BENCH MARK

DESCRIPTION: STANDARD BENCHMARK # 91

LOCATION: TOP OF CURB, N END CB RETURN AT NW CORNER GRETA STREET AND FIRST STREET

RECORD FROM: CITY OF EL CAJON

ELEVATION: 515.161 DATUM: NAVD 88

PRIVATE CONTRACT

SHEET	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	SHEETS
12		13

DMA EXHIBIT / BMP PLAN FOR:

BRADLEY AVENUE WIDENING
SOUTH SIDE, BETWEEN MOLLISON AVENUE AND NORTH FIRST STREET

CALIFORNIA COORDINATE INDEX 238-1785

ENGINEER OF WORK
WILLIAM A. SNIPES R.C.E. 50477

PDS2019-LDPIIP-60071

ENGINEER'S NAME - SNIPES-DYE ASSOCIATES
PHONE NO. (619) 697-9234

FOR REFERENCE ONLY
DPW 2022-WWSWCP-00074

POST-CONSTRUCTION BMP FACILITY SUMMARY TABLE

BMP ID	BMP TYPE	APPROX. DIMENSIONS	PLAN AREA (SF)	PONDING SURFACE DEPTH (IN.)	MEDIA THICKNESS (IN.)	MULCH LAYER (IN.)	ASTM 3.3 WASHED SAND (IN.)	AGGREGATE STORAGE LAYER ABOVE UNDERDRAIN, INCL. 3" ASTM NO. 8 STONE (IN.)	AGGREGATE STORAGE LAYER BELOW UNDERDRAIN (IN.)	TOTAL FACILITY DEPTH INCL. 1'-2" FREEBOARD (FT)
BMP #1	BIOFILTRATION BASIN (BF-1)	40' W X 58' L	3,990	6	18	3	3	12	3	4.92
BMP #2	BIOFILTRATION BASIN (BF-1)	10' W X 158' L	1,576	6	18	3	3	12	3	4.92

BMP ID	BMP TYPE	REQUIRED TREATMENT (CFS)	PROVIDED TREATMENT (CFS)	MODULAR WETLANDS SYSTEM MODEL
BMP #3A	COMPACT BIOFILTRATION (BF-3)	0.318	0.375	MWS-L-8-12-4'-11"-C-HC

BMP ID	BMP TYPE	APPROX. DIMENSIONS	REQUIRED VOLUME (CF)	PROPOSED BMP VOLUME (CF)
BMP #3B	CISTERN BMP (STORMTANK MODULES)	56.5' W X 72' L X 3' D	12,870	12,871

BMP ID	BMP TYPE	# OF TREES	CANOPY DIA. OF TREE (FT.)	TREATMENT VOLUME PROVIDED (CF)	AMENDED SOIL LIMITS FOOTPRINT	DEPTH (INCL. 3" MULCH LAYER & 6" SAND AT BOTTOM - FOR SOIL TYPE C)	NOTES
BMP #4	TREE WELLS (SD-A)	2	10	80	4.5' x 28'	2'-9"	FOR TREE WELL CONSTRUCTION SPECIFICATIONS & DETAILS REFER TO COUNTY IMPROVEMENT PLANS NO. PDS2019-LDPIIP-60071 AND LANDSCAPE PLANS NO. PDS2020-LP-20-088.
BMP #5	TREE WELLS (SD-A)	2	10	80	4.5' x 28'	2'-9"	FOR TREE WELL CONSTRUCTION SPECIFICATIONS & DETAILS REFER TO COUNTY IMPROVEMENT PLANS NO. PDS2019-LDPIIP-60071 AND LANDSCAPE PLANS NO. PDS2020-LP-20-088.
BMP #6	TREE WELLS (SD-A)	2	10	80	4.5' x 28'	3'-3"	FOR TREE WELL CONSTRUCTION SPECIFICATIONS & DETAILS REFER TO COUNTY IMPROVEMENT PLANS NO. PDS2019-LDPIIP-60071 AND LANDSCAPE PLANS NO. PDS2020-LP-20-088.
BMP #7	TREE WELLS (SD-A)	2	10	80	4.5' x 28'	3'-3"	FOR TREE WELL CONSTRUCTION SPECIFICATIONS & DETAILS REFER TO COUNTY IMPROVEMENT PLANS NO. PDS2019-LDPIIP-60071 AND LANDSCAPE PLANS NO. PDS2020-LP-20-088.
BMP #8	TREE WELLS (SD-A)	4	10	160	4.5' X 56'	3'-3"	FOR TREE WELL CONSTRUCTION SPECIFICATIONS & DETAILS REFER TO COUNTY IMPROVEMENT PLANS NO. PDS2019-LDPIIP-60071 AND LANDSCAPE PLANS NO. PDS2020-LP-20-088.
BMP #9	TREE WELLS (SD-A)	2	10	80	4.5' x 28'	3'-3"	FOR TREE WELL CONSTRUCTION SPECIFICATIONS & DETAILS REFER TO COUNTY IMPROVEMENT PLANS NO. PDS2019-LDPIIP-60071 AND LANDSCAPE PLANS NO. PDS2020-LP-20-088.

DRAINAGE MANAGEMENT AREAS - BRADLEY APARTMENTS

DESCRIPTION	TRIBUTARY TO BMP	BMP TYPE	BMP SURFACE AREA (SF)	SOIL TYPE	DEPTH TO GROUNDWATER	PRE-PROJECT SLOPE	IMPERVIOUS DMAs			PERVIOUS DMAs		TOTAL DMA AREA	TOTAL DISTURBED AREA
							POST-PROJECT SURFACE TYPE IMPERVIOUS	POST-PROJECT SURFACE AREA IMPERVIOUS (SF)	OFF-SITE SURFACE AREA	POST-PROJECT SURFACE TYPE PERVIOUS	POST-PROJECT SURFACE AREA PERVIOUS (SF)		
DMA #1	BMP #1	BIOFILTRATION BASIN (BF-1)	3,990	A & C	> 20 FEET	FLAT (0%-5%)	ROOFTOPS & CONCRETE PAVEMENT	29,991	-	LANDSCAPING	6,162		
DMA #2	BMP #2	BIOFILTRATION BASIN (BF-1)	1,576	A & C	> 20 FEET	FLAT (0%-5%)	ROOFTOPS & CONCRETE PAVEMENT	14,080	-	LANDSCAPING	3,106		
DMA #3	BMP #3A/3B	COMPACT BIOFILTRATION (BF-1) W/ CISTERN (HU-1)	N/A	A & C	> 20 FEET	FLAT (0%-5%)	ROOFTOPS & CONCRETE PAVEMENT	50,901	-	LANDSCAPING	3,197		
DMA #4	BMP #4	TREE WELL (SD-A)	126	A	> 20 FEET	FLAT (0%-5%)	AC PAVEMENT	1,059	520	LANDSCAPING	76		
DMA #5	BMP #5	TREE WELL (SD-A)	126	A	> 20 FEET	FLAT (0%-5%)	AC PAVEMENT	1,080	744	LANDSCAPING	76		
DMA #6	BMP #6	TREE WELL (SD-A)	126	A & C	> 20 FEET	FLAT (0%-5%)	AC PAVEMENT	1,133	716	LANDSCAPING	42		
DMA #7	BMP #7	TREE WELL (SD-A)	126	C	> 20 FEET	FLAT (0%-5%)	AC PAVEMENT	1,049	693	LANDSCAPING	72		
DMA #8	BMP #8	TREE WELL (SD-A)	252	C	> 20 FEET	FLAT (0%-5%)	AC PAVEMENT	1,954	1,299	LANDSCAPING	2		
DMA #9	BMP #9	TREE WELL (SD-A)	126	C	> 20 FEET	FLAT (0%-5%)	AC PAVEMENT	991	613	LANDSCAPING	58		
DMA #10	DE-MINIMIS	DE-MINIMIS	N/A	C	> 20 FEET	FLAT (0%-5%)	AC/CONC. PAVEMENT	239	-	LANDSCAPING	0		
DMA #11	EXEMPT	ROUTINE MAINTENANCE ACTIVITIES	N/A	C	> 20 FEET	FLAT (0%-5%)	AC PAVEMENT	91	-	LANDSCAPING	0		
DMA #12	SELF-MITIGATING	SELF-MITIGATING	N/A	C	> 20 FEET	FLAT (0%-5%)	N/A	0	-	LANDSCAPING	5,022		
DMA #13	SELF-MITIGATING	SELF-MITIGATING	N/A	C	> 20 FEET	FLAT (0%-5%)	N/A	0	-	LANDSCAPING	1,446		
TOTAL AREA (SF)			4,782					102,568	4,585		20,925	132,860	128,275

RECORD PLAN

BY: _____ DATE: _____

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EXPIRES 06-30-25

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COUNTY APPROVED CHANGES			
No.	Description	Approved by	Date

BENCH MARK

DESCRIPTION: STANDARD BENCHMARK # 91

LOCATION: TOP OF CURB, N END CB RETURN AT NW CORNER GRETA STREET AND FIRST STREET

RECORD FROM: CITY OF EL CAJON

ELEVATION: 515.161 DATUM: NAVD 88

PRIVATE CONTRACT

SHEET 13	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	13 SHEETS

DMA EXHIBIT / BMP PLAN FOR:

BRADLEY AVENUE WIDENING
SOUTH SIDE, BETWEEN MOLLISON AVENUE AND NORTH FIRST STREET

CALIFORNIA COORDINATE INDEX 238-1785

ENGINEER OF WORK
WILLIAM A. SNIPES R.C.E. 50477

PDS2019-LDPIIP-60071

ENGINEER'S NAME - SNIPES-DYE ASSOCIATES
PHONE NO. (619) 697-9234

FOR REFERENCE ONLY
DPW 2022-WWSWCP-00074

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.1 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.1 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.

Potential source of runoff pollutants	*Permanent source control BMPs*	*Operational source control BMPs*
Storm drain inlets	Mark all inlets with the words "No Dumping! Flows to Creek" or similar.	Maintain and periodically repaint or replace inlet markings.
Need for future indoor & structural pest control	Note building design features that discourage entry of pests.	Provide Integrated Pest Management information to owners, lessees, and operators.
Landscape / Outdoor Pesticide Use	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. ▪ Consider using pest-resistant plants, especially adjacent to hardscape.	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 www.casqa.org/resources/bmp-handbooks/municipal-bmp-handbook. Provide IPM information to new owners, lessees, and operators.

Fire Sprinkler Test Water	Fire sprinkler test water will be plumbed to the sanitary sewer.	See the note in Fact Sheet SC-41, "Building and Grounds Maintenance," in the CASQA Storm Water Quality Handbooks at www.casqa.org/resources/bmp-handbooks/municipal-bmp-handboo
Sidewalks and Parking Lots		Sidewalks and parking lots shall be swept regularly to prevent the accumulation of litter and debris. Debris from pressure washing shall be collected to preve3nt entry into the storm drain system. Washwater containing any cleaning agent or degreaser shall be collected and discharged to the sanitary sewer and not discharged to a storm drain.

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**	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 www.casqa.org/resources/bmp-handbooks/municipal-bmp-handbook. ❑ 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**	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.	☒ 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 www.casqa.org/resources/bmp handbooks/municipal-bmp-handbook.- ❑ 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 www.casqa.org/resources/bmp-handbooks/municipal-bmp-handbook.
☐ **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 www.casqa.org/resources/bmp-handbooks/municipal-bmp-handbook.

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 www.cabmphandbooks.com.
❑ **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 www.casqa.org/resources/bmp-handbooks/municipal-bmp-handbook.

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 www.casqa.org/resources/bmp-handbooks/municipal-bmp-handbook

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[18] 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 www.cabmphandbooks.com.

[18] 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**	**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 www.casqa.org/resources/bmp-handbooks/municipal-bmp-handbook.

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 www.casqa.org/resources/bm
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.

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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.

NOT APPLICABLE

5.0 General Requirements

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

  ☒ **Yes**

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

    Title: Drainage Study: Bradley Apartment Complex

    Prepared By: Snipes-Dye Associates

    Date: 7/23/2020, Revised 11/14/2023

  - 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.

HYDROLOGY REPORT
FOR
BRADLEY APARTMENT COMPLEX

The following hydrology and hydraulic calculations are prepared for the development of a 60-unit apartment complex project located on 1065-1069 East Bradley Avenue between N. 1st Street and N. Mollison Avenue in El Cajon, California. The subject site is known as Assessor's Parcel Numbers 388-331-04, 05 & 06, consisting of roughly 2.87 acres gross. The scope of work consists of the construction of the apartment complex, and the associated street improvements within the public right-of-way. The area of analysis for the drainage study is approximately 4.89 acres including the street improvements area and offsite surrounding areas upstream of the site.

PRE-DEVELOPMENT CONDITION: The existing site topography consists of a relatively flat to gently sloping site which houses a few commercial office buildings, an auto body shop garage and yard, sheds, and trailers surrounded predominantly by pervious dirt areas. The drainage analysis consists of two main drainage basins A and B. Drainage Basin A consists mainly of surface flows from the residential properties east of the subject site and the southerly three-quarters of the site travelling in a general southwest direction and discharging near the southwest corner of the site where the flow eventually makes its way onto the existing curb and gutter system on East Bradley Avenue. The 100-year peak discharge for Basin A is approximately 8.63 cfs. Drainage Basin B consists of surface flows from the residential properties east of the subject site and the northerly portion of the site travelling in a general west direction mainly along East Bradley Avenue. The 100-year peak discharge rate for Basin B is about 4.08 cfs. The total pre-development 100-year peak flow for the area of drainage analysis is 12.71 cfs.

The following table is a summary of the 100-year peak discharges for the pre-development condition:

PRE-DEVELOPMENT 100-YR., 6-HR. STORM EVENT SUMMARY							
DRAINAGE BASIN		TIME OF CONCENTRATION "Tc" (MINUTES)	INTENSITY I (INCES/HR.)	NRCS HYDROLOGIC SOIL TYPE	RUNOFF FACTOR "C" (DECIMAL)	AREA A (ACRES)	DISCHARGE Q_{100} (CFS)
MAJOR	SUB-AREA ⬡						
A	A1	2.35	6.85	A	0.90	0.02	0.12
	A2	3.24	6.85	A	0.90	0.06	0.37
	A3	4.93	6.85	A	0.54	1.36	5.03
	A4	8.12	5.01	A & C	0.39	2.35	4.59
BASIN A SUMMARY		8.12	5.01	--	0.45	3.79	8.63
B	B1	1.85	6.85	A	0.90	0.02	0.12
	B2	2.77	6.85	A	0.67	0.37	1.70
	B3	4.06	6.85	A & C	0.47	0.70	2.25
BASIN B SUMMARY		4.06	6.85	--	0.55	1.09	4.08

POST-DEVELOPMENT CONDITION: The proposed development of the site will include the construction of a 60-unit apartment complex with a landscape common area, parking stalls, and a concrete paved driveway. The drainage patterns due to the development of the site will be similar to those in the current condition with the two major drainage basins A and B, being divided into sub-areas A1-A13 and B1-B7, respectively (as shown in attached Post-Development Drainage Map). Sub-areas A1 through A3 consist of runoff from the easterly neighboring properties and portions of North 1st Street that will flow into a new private standard type F catch basin just within the eastern edge of the site, where runoff will be directed into a proposed private 12" PVC storm drain system on the project site, bypassing the site and discharging at the southwest corner of the site onto a proposed rock rip-rap energy dissipator. The 100-year peak discharge for these sub-areas were calculated to be 5.61 cfs. Sub-area A4 consists of a proposed landscaped slope that runs parallel to the westerly property boundary, where runoff will enter the bypass system via a series of 6" atrium grates. The 100-year peak discharge for sub-area A4 was determined to be 0.14 cfs. Sub-areas A5 and A6 consist of surface flows from the majority of site (the central half of the site) that will be directed towards to a curb inlet type proprietary biofiltration system (Modular Wetlands System) for storm water quality treatment and then routed into an underground storage system (StormTank Modular System) for detention of the 100-year peak flows. The 100-yr. peak discharge draining into the curb inlet system is approximately of 7.31 cfs. The Modular Wetland System will gravity flow into a standard clean out with two outlets. One outlet will gravity flow into underground detention tank (Tank #1) for the 85th percentile storm events. The second outlet is gravity flow through a standpipe within the clean out which will divert all the Q100 flows to the second underground detention tank (Tank #2). Tank #2 will provide some detention, therefore reducing the discharge to 4.25 cfs. Sub-areas A7 through A12 comprised of the areas mainly along the east, south, and west of the site (approximately one-third of the project site) consist of surface flows that are directed into a proposed biofiltration basin located near the southwest corner of the site via concrete ditches. The 100-year peak discharge for these sub-areas was calculated to be approximately 2.61 cfs. The proposed biofiltration basin aside from providing storm water quality treatment, will also provide detention of the 100-year peak discharge. The peak discharge after mitigation will be 0.69 cfs and it will discharge onto the proposed rock rip-rap energy dissipator, confluencing with the discharges from sub-areas A1 through A6, and A13. Therefore, the total peak 100-year discharge for drainage basin A will be 7.13 cfs, which represents a 1.50 cfs reduction from the pre-developed condition. The runoff from drainage basin A will eventually be directed onto East Bradley Avenue approximately 100 feet west of the site through an existing pump system located on the neighboring mini-storage facility property as shown on County of San Diego drawing L0783 (a copy of the as-built drawing has been enclosed in the Drainage Maps section of this report).

Drainage Basin B consists of surface flows from the residential properties east of the subject site (sub-areas B1 through B3) travelling in a general west direction mainly along East Bradley Avenue and the northerly portion of the site (sub-areas B4 through B7) that eventually discharges onto East Bradley Avenue. The 100-year peak discharge from sub-areas B1 through B3 is approximately 3.58 cfs near the northwest corner of

the site along East Bradley Avenue. Runoff from sub-areas B4 through B7 will surface flow in a general westerly direction into a proposed biofiltration basin located on the northwest corner of the site. The 100-year peak discharge tributary to the proposed biofiltration basin was determined to be 1.78 cfs. The proposed biofiltration basin was designed to provide storm water treatment as well as detention of the peak 100-year flow. The total mitigated 100-yr. peak discharge for sub-areas B4 through B7 after detention was determined to be 0.61 cfs. The mitigated runoff will outlet through a proposed curb outlet and confluence with the runoff from sub-areas B1 through B3 on East Bradley Avenue for a total 100-year peak discharge for drainage basin B of 3.79 cfs, which represents a decrease of 0.29 cfs from the current condition.
The following tables are the complete breakdown and summary of the 100-year peak discharges for the post-development condition:

POST-DEVELOPMENT 100-YR., 6-HR. STORM EVENT SUMMARY

DRAINAGE BASIN		TIME OF CONCENTRATION "Tc" (MINUTES)	INTENSITY "I" (INCES/HR.)	NRCS HYDROLOGIC SOIL TYPE	RUNOFF FACTOR "C" (DECIMAL)	AREA "A" (ACRES)	DISCHARGE Q100 (CFS)	MITIGATED DISCHARGE Q100 (CFS)
MAJOR	SUB-AREA ⬡							
A	A1	2.35	6.85	A	0.90	0.02	0.12	0.12
	A2	3.24	6.85	A	0.90	0.06	0.37	0.37
	A3	4.94	6.85	A	0.53	1.41	5.61	5.61
	A4	5.12	6.74	C	0.30	0.07	0.14	0.14
	A5	2.95	6.85	A	0.87	0.11	0.66	0.66
	A6	5.00	6.85	A & C	0.86	1.13	7.31	0.16
	A7	6.49	5.79	A	0.59	0.03	0.10	0.10
	A8	9.23	4.61	A	0.59	0.04	0.11	0.11
	A9	12.61	3.77	A	0.90	0.03	0.26	0.26
	A10	13.58	3.60	A	0.77	0.17	0.47	0.47
	A11	16.24	3.21	A & C	0.90	0.03	0.72	0.72
	A12	17.19	3.09	A & C	0.68	0.64	2.04	1.79
	A13	9.22	4.62	A & C	0.50	0.03	0.08	0.08
BASIN A SUMMARY		5.27	3.09	--	0.70	3.76	13.66	7.13
B	B1	1.85	6.85	A	0.90	0.02	0.12	0.12
	B2	2.77	6.85	A	0.67	0.37	1.70	1.70
	B3	3.78	6.85	A & C	0.83	0.31	1.76	1.76
	B4	3.72	6.85	A	0.72	0.05	0.25	0.25
	B5	5.12	6.74	A & C	0.74	0.14	0.70	0.70
	B6	5.17	6.70	C	0.87	0.12	0.70	0.70
	B7	6.55	5.76	C	0.55	0.12	0.38	0.38
BASIN B SUMMARY		3.78	5.74	--	0.74	1.13	4.79	3.79

100-YEAR, 6-HOUR STORM EVENT SUMMARY

	PRE-DEVELOPMENT						POST-DEVELOPMENT						
	TIME OF CONC. "Tc" (MINUTES)	INTENSITY I (INCHES/HR)	NRCS HYDROLOGIC SOIL TYPE	RUNOFF FACTOR "C" (DECIMAL)	AREA A (ACRES)	DISCHARGE Q100 (CFS)	TIME OF CONC. "Tc" (MINUTES)	INTENSITY I (INCHES/HR)	NRCS HYDROLOGIC SOIL TYPE	RUNOFF FACTOR "C" (DECIMAL)	AREA A (ACRES)	DISCHARGE Q100 (CFS)	MITIGATED DISCHARGE QMIT (CFS)
BASIN A	8.12	5.01	A & C	0.45	3.79	8.63	5.27	3.09	A & C	0.70	3.76	13.7	7.13
BASIN B	4.06	6.85	A & C	0.55	1.09	4.08	3.78	5.74	A & C	0.74	1.13	4.79	3.79

CONCLUSION:

1. The proposed discharge of surface drainage is generally consistent with the existing drainage patterns of the site. Site drainage is directed and discharged in an appropriate manner downstream of the site.

2. The proposed development of this project will not have a significant impact to the downstream drainage facilities and/or any downstream streams or rivers in a manner which would result in substantial erosion or siltation, since there will be a reduction in the post-development runoff from each basin in the current condition.

3. The site is not located within a 100-year flood hazard area or within the influence of flooding as a result of the failure of a levee or dam, therefore the proposed development will not expose people or structures to a significant risk of loss, injury or death.

4. The proposed development will not increase the volume or velocity of surface flows to the detriment of downstream landowners and facilities.

NOT APPLICABLE

5.1 Description of Existing Site Condition

Provide the requested information below for the project site in its existing condition.

a. Current Site Status

Select all that apply to any portion of the site.

- ☒ Existing development
- ☐ Previously graded but not built out
- ☐ Agricultural or other non-impervious use
- ☐ Vacant, undeveloped/natural
- ☐ Demolition completed without new construction

b. Existing Land Cover

Provide the area (in acres or square feet) within all applicable categories of land cover below. The total area should equal that of the entire project site.

	Area *(acres or ft²)*
☐ Vegetative Cover	Click here to enter text.
☒ Non-Vegetated Pervious Areas	
☒ Impervious Areas	

c. Underlying Soil

Select all soil groups that are present on the site.

NRCS Hydrologic Soil Group(s)			
Type A	Type B	Type C	Type D
☒	☐	☒	☐

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)*	
12	5,022	0	0	PDS2019-LDGRMJ-30236, Sheet 10
13	1,446	0	0	PDS2019-LDGRMJ-30236, Sheet 10

- "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 fully 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 for every DMA listed.

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

Natural and Landscaped Areas

☒ 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.

Incidental Impervious Areas (if applicable; see above)

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 not 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 #***
10	239	PDS2019-LDGRMJ-30263, Sheet 10

- "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)**	
4	1,655	☐	☒	PDS2019-LDGRMJ-30263, Sheet 10
5	1,900	☐	☒	PDS2019-LDGRMJ-30263, Sheet 10
6	1,891	☐	☒	PDS2019-LDGRMJ-30263, Sheet 10
7	1,814	☐	☒	PDS2019-LDGRMJ-30263, Sheet 10
8	3,255	☐	☒	PDS2019-LDGRMJ-30263, Sheet 10
9	1,662	☐	☒	PDS2019-LDGRMJ-30263, Sheet 10
		☐	☐	
		☐	☐	
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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 fully 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)**
4	BMP #4
5	BMP #5
6	BMP #6
7	BMP #7
8 & 9	BMP #8 & BMP #9

- 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

BMP #4 THRU BMP #9

STREET TREE WELLS
PER SD-A

SSD-BMP Automated Worksheet I-1: Step 1. Calculation of Design Capture Volume (V1.0)

Category	#	Description	*i*	*ii*	*iii*	*iv*	*v*	*vi*	Units
Standard Drainage Basin Inputs	1	Drainage Basin ID or Name	DMA #4	DMA #5	DMA #6	DMA #7	DMA #8	DMA #9	unitless
	2	85th Percentile 24-hr Storm Depth	0.49	0.49	0.49	0.49	0.49	0.49	inches
	3	Is Hydromodification Control Applicable?	No	No	No	No	No	No	yes/no
	4	Impervious Surfaces Not Directed to Dispersion Area (C=0.90)	1,579	1,824	1,849	1,742	3,253	1,604	sq-ft
	5	Semi-Pervious Surfaces Not Serving as Dispersion Area (C=0.30)							sq-ft
	6	Engineered Pervious Surfaces Not Serving as Dispersion Area (C=0.10)							sq-ft
	7	Natural Type A Soil Not Serving as Dispersion Area (C=0.10)	76	76	42				sq-ft
	8	Natural Type B Soil Not Serving as Dispersion Area (C=0.14)							sq-ft
	9	Natural Type C Soil Not Serving as Dispersion Area (C=0.23)			0	72	2	58	sq-ft
	10	Natural Type D Soil Not Serving as Dispersion Area (C=0.30)							sq-ft
SSD-BMPs Proposed	11	Does Tributary Incorporate Dispersion and/or Rain Barrels?							yes/no
	12	Does Tributary Incorporate Tree Wells?	Yes	Yes	Yes	Yes	Yes	Yes	yes/no
Dispersion Area & Rain Barrel Inputs (Optional)	13	Impervious Surfaces **Directed to Dispersion Area** per SD-B (Ci=0.90)							sq-ft
	14	Semi-Pervious Surfaces **Serving as Dispersion Area** per SD-B (Ci=0.30)							sq-ft
	15	Engineered Pervious Surfaces **Serving as Dispersion Area** per SD-B (Ci=0.10)							sq-ft
	16	Natural Type A Soil **Serving as Dispersion Area** per SD-B (Ci=0.10)							sq-ft
	17	Natural Type B Soil **Serving as Dispersion Area** per SD-B (Ci=0.14)							sq-ft
	18	Natural Type C Soil **Serving as Dispersion Area** per SD-B (Ci=0.23)							sq-ft
	19	Natural Type D Soil **Serving as Dispersion Area** per SD-B (Ci=0.30)							sq-ft
	20	Number of Rain Barrels Proposed per SD-E							#
	21	Average Rain Barrel Size							gal
Initial Runoff Factor Calculation	22	Total Tributary Area	1,655	1,900	1,891	1,814	3,255	1,662	sq-ft
	23	Initial Runoff Factor for Standard Drainage Areas	0.86	0.87	0.88	0.87	0.90	0.88	unitless
	24	Initial Runoff Factor for Dispersed & Dispersion Areas	0.00	0.00	0.00	0.00	0.00	0.00	unitless
	25	Initial Weighted Runoff Factor	0.86	0.87	0.88	0.87	0.90	0.88	unitless
	26	Initial Design Capture Volume	58	67	68	64	120	60	cubic-feet
Dispersion Area Adjustment & Rain Barrel Adjustment	27	Total Impervious Area Dispersed to Pervious Surface	0	0	0	0	0	0	sq-ft
	28	Total Pervious Dispersion Area	0	0	0	0	0	0	sq-ft
	29	Ratio of Dispersed Impervious Area to Pervious Dispersion Area for DCV Reduction	n/a	n/a	n/a	n/a	n/a	n/a	ratio
	30	Adjustment Factor for Dispersed & Dispersion Areas	1.00	1.00	1.00	1.00	1.00	1.00	ratio
	31	Runoff Factor After Dispersion Techniques	0.86	0.87	0.88	0.87	0.90	0.88	unitless
	32	Design Capture Volume After Dispersion Techniques	58	67	68	64	120	60	cubic-feet
	33	Total Rain Barrel Volume Reduction	0	0	0	0	0	0	cubic-feet
Results	34	Final Adjusted Runoff Factor	0.86	0.87	0.88	0.87	0.90	0.88	unitless
	35	Final Effective Tributary Area	1,423	1,653	1,664	1,578	2,930	1,463	sq-ft
	36	Initial Design Capture Volume Retained by Dispersion Area and Rain Barrel(s)	0	0	0	0	0	0	cubic-feet
	37	Remaining Design Capture Volume Tributary to Tree Well(s)	58	67	68	64	120	60	cubic-feet

No Warning Messages

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

Category	#	Description	*i*	*ii*	*iii*	*iv*	*v*	*vi*	Units
Standard Tree Well Inputs	1	Drainage Basin ID or Name	DMA #4	DMA #5	DMA #6	DMA #7	DMA #8	DMA #9	unitless
	2	Design Capture Volume Tributary to BMP	58	67	68	64	120	60	cubic-feet
	3	Is Hydromodification Control Applicable?	No	No	No	No	No	No	yes/no
	4	Predominant NRCS Soil Type Within Tree Well(s) Location	A	A	C	C	C	C	unitless
	5	Select a Tree Species for the Tree Well(s) Consistent with SD-A Tree Palette Table Note: Numbers shown in list are Tree Species Mature Canopy Diameters	10' - California Mountain Lilac	10' - California Mountain Lilac	10' - California Mountain Lilac	10' - California Mountain Lilac	10' - California Mountain Lilac	10' - California Mountain Lilac	unitless
	6	Tree Well(s) Soil Depth (Installation Depth) Must be 30, 36, 42, or 48 Inches; Select from Standard Depths**	30	30	30	30	30	30	inches
	7	Number of Identical* Tree Wells Proposed for this DMA	2	2	2	2	4	2	trees
	8	Proposed Width of Tree Well(s) Soil Installation for One (1) Tree	4.5	4.5	4.5	4.5	4.5	4.5	feet
	9	Proposed Length of Tree Well(s) Soil Installation for One (1) Tree	14.0	14.0	14.0	14.0	14.0	14.0	feet
Tree Data	10	Botanical Name of Tree Species	Ceanothus 'Ray Hartman'	Ceanothus 'Ray Hartman'	Ceanothus 'Ray Hartman'	Ceanothus 'Ray Hartman'	Ceanothus 'Ray Hartman'	Ceanothus 'Ray Hartman'	unitless
	11	Tree Species Mature Height per SD-A	30	30	30	30	30	30	feet
	12	Tree Species Mature Canopy Diameter per SD-A	10	10	10	10	10	10	feet
	13	Minimum Soil Volume Required In Tree Well (2 Cubic Feet Per Square Foot of Mature Tree Canopy Projection Area)	157	157	157	157	157	157	cubic-feet
	14	Credit Volume Per Tree	40	40	40	40	40	40	cubic-feet
Tree Well Sizing Calculations	15	DCV Multiplier To Meet Flow Control Requirements	n/a	n/a	n/a	n/a	n/a	n/a	unitless
	16	Required Retention Volume (RRV) To Meet Flow Control Requirements	n/a	n/a	n/a	n/a	n/a	n/a	cubic-feet
	17	Number of Trees Required	2	2	2	2	3	2	trees
	18	Total Area of Tree Well Soil Required for Each Tree	63	63	63	63	63	63	sq-ft
	19	Approximate Required Width of Tree Well Soil Area for Each Tree	8	8	8	8	8	8	feet
	20	Approximate Required Length of Tree Well Soil Area for Each Tree	8	8	8	8	8	8	feet
	21	Number of Trees Proposed for this DMA	2	2	2	2	4	2	trees
	22	Total Area of Tree Well Soil Proposed for Each Tree	63	63	63	63	63	63	sq-ft
	23	Minimum Spacing Between Multiple Trees To Meet Soil Area Requirements (when applicable)***	14.0	14.0	14.0	14.0	14.0	14.0	feet
Results	24	Are Tree Well Soil Installation Requirements Met?	Yes	Yes	Yes	Yes	Yes	Yes	yes/no
	25	Is Remaining DCV Requirement Fully Satisfied by Tree Well(s)?	Yes	Yes	Yes	Yes	Yes	Yes	yes/no
	26	Is Hydromodification Control Requirement Satisfied by Tree Well(s)?	n/a	n/a	n/a	n/a	n/a	n/a	yes/no

No Warning Messages

Notes:

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

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

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

7.0 General Requirements

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

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

7.1 Engineer of Work Certification for Structural BMPs

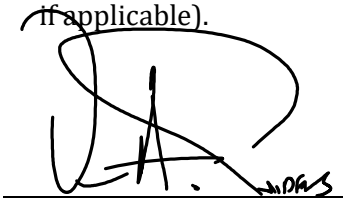
Project Name Bradley Apartment Complex
Permit Application Number PDS2019-LDGRMJ-30236 & PDS2019-LDPIIP-60071

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).



RCE 50477, Exp. 6-30-2025
Engineer of Work's Signature, PE Number & Expiration Date

William A. Snipes
Print Name

Snipes-Dye Associates
Company

7/11/2023
Date

Engineer's Seal:

7.2 Structural BMP Strategy

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

Describe the general strategy for structural BMP implementation at the project site. For pollutant control BMPs, your description must address the key points outlined in Section 5.1 of the BMP Design Manual, and the type of BMPs selected. For projects requiring hydromodification flow control BMPs, indicate whether pollutant control and flow control BMPs are integrated or separate.

STEP 1/1A:

Evaluated DMAs for site. DMAs #1 thru #9 were determined to be tributary to BMPs #1 thru #9, respectively. DMA #10 was determined to be a de-minimis area. DMA #11 is not subject and exempt from meeting storm water requirements since it consists of an area of routine maintenance. DMA #12 was determined to be self-mitigating since it consists of landscape areas that will not generate significant pollutants and will drain directly offsite without being treated by a structural BMP. Project was determined to be subject to hydromodification management requirements. The runoff from this site will be conveyed by the public storm drain system into Forester Creek. Please note the two inlets denoted in the HMP Exhibits

STEP 1B:

Design Capture Volume (DCV) was determined for DMAs #1 and #2 using Worksheet B.1 and for DMAs #4 thru #9 using SSD-BMP Worksheet I-1. DMA #3 pollutant control flow rate was calculated based on capturing and treating 1.5 times the DCV not reliably retained in accordance with the requirements in Appendix F.1.2 of County of San Diego BMP Design Manual.

STEP 2:

Based on total DCV for site structural and significant site design BMPs for this site were determined to be Biofiltration Basin (BF-1), Proprietary Biofiltration (BF-3), and Tree Wells (SD-A).

STEP 3A/3B:

Determination of infiltration feasibility using Form I-8 "Categorization of Infiltration Feasibility Condition". Infiltration was determined to be infeasible to the proximity of existing structures adjacent and immediately downstream of the project site.

STEP 3C:

Selected Biofiltration for DMA #1 & #2, Proprietary Biofiltration for DMA #3, and Tree Wells for DMAs #4 thru #9. Computed sizing requirements for all selected BMPs.

STEP 4:

All structural and significant site design BMPs were designed to meet pollutant control requirements.

NOTE: There is a second underground tank downstream of the Modular Wetland System. This tank serves as bypass for the 100-year storm event.

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

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

			Structural BMP Type							
BMP ID #	**DMA #**	**DMA Area (ft²)**	Harvest and Use	Infiltration	Unlined Biofiltration	Lined Biofiltration	Flow-thru treatment	Hydromodification Management [1]	Other	**Permit # and Sheet #**
1	1	40,143	☐	☐	☐	☒	☐	☐	☐	PDS2019-LDGRMJ-30236, Sheet 10
2	2	18,762	☐	☐	☐	☒	☐	☐	☐	PDS2019-LDGRMJ-30236, Sheet 10
3A	3	54,098	☐	☐	☐	☒	☐	☐	☒	PDS2019-LDGRMJ-30236, Sheet 10
3B	3	54,098	☐	☐	☐	☐	☐	☒	☐	PDS2019-LDGRMJ-30236, Sheet 10
3C	3	54,098	☐	☐	☐	☐	☐	☐	☒	PDS2019-LDGRMJ-30236, Sheet 10
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			☐	☐	☐	☐	☐	☐	☐	

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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 #	1	**Permit # and Sheet #**	PDS2019-LDGRMJ-30236, Sheet 10

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	Snipes Dye Associates, Contact: William A. Snipes, PE 8348 Center Street, Suite G, La Mesa, CA 619-697-9234

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 #	2	**Permit # and Sheet #**	PDS2019-LDGRMJ-30236, Sheet 10

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	Snipes Dye Associates, Contact: William A. Snipes, PE 8348 Center Street, Suite G, La Mesa, CA 619-697-9234

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 #	3A	**Permit # and Sheet #**	PDS2019-LDGRMJ-30236, Sheet 10

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	Snipes Dye Associates, Contact: William A. Snipes, PE 8348 Center Street, Suite G, La Mesa, CA 619-697-9234

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)

Modular Wetlands System

[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 # 3B	**Permit # and Sheet #** PDS2019-LDGRMJ-30236, Sheet 10

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)
Storage for Hydromodification Requirements.

BMP Verification (See BMPDM Section 8.3)

Provide name and contact information for the party responsible to sign BMP verification forms	Snipes Dye Associates, Contact: William A. Snipes, PE 8348 Center Street, Suite G, La Mesa, CA 619-697-9234

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 ☐ Other (describe):	☒ Property Owner		☐ County
Maintenance of BMP into perpetuity	☐ HOA ☐ Other (describe):	☒ Property Owner		☐ County

Discussion (As needed; Continue on subsequent pages as necessary)
Detention Tank downstream of modular wetland system.

[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 #	3C	**Permit # and Sheet #**	PDS2019-LDGRMJ-30236, Sheet 10

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)
Bypass for Q100.

BMP Verification (See BMPDM Section 8.3)

Provide name and contact information for the party responsible to sign BMP verification forms	Snipes Dye Associates, Contact: William A. Snipes, PE 8348 Center Street, Suite G, La Mesa, CA 619-697-9234

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 ☐ Other (describe):	☒ Property Owner		☐ County
Maintenance of BMP into perpetuity	☐ HOA ☐ Other (describe):	☒ Property Owner		☐ County

Discussion (As needed; Continue on subsequent pages as necessary)
Underground modular storage system (StormTank) will be used for detention of the 100-year, 6-hour storm event peak discharges.

[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

BMPs #1, 2, AND 3A/3B
BIOFILTRATION BASIN
PER BF-1 (2)

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

Category	#	Description	*i*	*ii*	*iii*	Units
Standard Drainage Basin Inputs	1	Drainage Basin ID or Name	DMA #1	DMA #2	DMA #3	unitless
	2	85th Percentile 24-hr Storm Depth	0.49	0.49	0.49	inches
	3	Impervious Surfaces Not Directed to Dispersion Area (C=0.90)	29,991	14,080	50,901	sq-ft
	4	Semi-Pervious Surfaces Not Serving as Dispersion Area (C=0.30)				sq-ft
	5	Engineered Pervious Surfaces Not Serving as Dispersion Area (C=0.10)				sq-ft
	6	Natural Type A Soil Not Serving as Dispersion Area (C=0.10)	6,304	1,316	2,989	sq-ft
	7	Natural Type B Soil Not Serving as Dispersion Area (C=0.14)				sq-ft
	8	Natural Type C Soil Not Serving as Dispersion Area (C=0.23)	1,524	1,790	208	sq-ft
	9	Natural Type D Soil Not Serving as Dispersion Area (C=0.30)	6			sq-ft
Dispersion Area, Tree Well & Rain Barrel Inputs (Optional)	10	Does Tributary Incorporate Dispersion, Tree Wells, and/or Rain Barrels?	No	No	No	yes/no
	11	Impervious Surfaces **Directed to Dispersion Area** per SD-B (Ci=0.90)				sq-ft
	12	Semi-Pervious Surfaces **Serving as Dispersion Area** per SD-B (Ci=0.30)				sq-ft
	13	Engineered Pervious Surfaces **Serving as Dispersion Area** per SD-B (Ci=0.10)				sq-ft
	14	Natural Type A Soil **Serving as Dispersion Area** per SD-B (Ci=0.10)				sq-ft
	15	Natural Type B Soil **Serving as Dispersion Area** per SD-B (Ci=0.14)				sq-ft
	16	Natural Type C Soil **Serving as Dispersion Area** per SD-B (Ci=0.23)				sq-ft
	17	Natural Type D Soil **Serving as Dispersion Area** per SD-B (Ci=0.30)				sq-ft
	18	Number of Tree Wells Proposed per SD-A				#
	19	Average Mature Tree Canopy Diameter				ft
	20	Number of Rain Barrels Proposed per SD-E				#
	21	Average Rain Barrel Size				gal
Initial Runoff Factor Calculation	22	Total Tributary Area	37,825	17,186	54,098	sq-ft
	23	Initial Runoff Factor for Standard Drainage Areas	0.74	0.77	0.85	unitless
	24	Initial Runoff Factor for Dispersed & Dispersion Areas	0.00	0.00	0.00	unitless
	25	Initial Weighted Runoff Factor	0.74	0.77	0.85	unitless
	26	Initial Design Capture Volume	1,143	540	1,878	cubic-feet
Dispersion Area Adjustments	27	Total Impervious Area Dispersed to Pervious Surface	0	0	0	sq-ft
	28	Total Pervious Dispersion Area	0	0	0	sq-ft
	29	Ratio of Dispersed Impervious Area to Pervious Dispersion Area	n/a	n/a	n/a	ratio
	30	Adjustment Factor for Dispersed & Dispersion Areas	1.00	1.00	1.00	ratio
	31	Runoff Factor After Dispersion Techniques	0.74	0.77	0.85	unitless
	32	Design Capture Volume After Dispersion Techniques	1,143	540	1,878	cubic-feet
Tree & Barrel Adjustments	33	Total Tree Well Volume Reduction	0	0	0	cubic-feet
	34	Total Rain Barrel Volume Reduction	0	0	0	cubic-feet
Results	35	Final Adjusted Runoff Factor	0.74	0.77	0.85	unitless
	36	Final Effective Tributary Area	27,991	13,233	45,983	sq-ft
	37	Initial Design Capture Volume Retained by Site Design Elements	0	0	0	cubic-feet
	38	Final Design Capture Volume Tributary to BMP	1,143	540	1,878	cubic-feet

No Warning Messages

DMA #3 retention requirements satisfied through downstream underground storage facility #1 from Modular Wetland System. Additionally, there is an underground storage facility #2 that receives overflow of the Modular Wetland System from the 100-year storm.

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

Category	#	Description	*i*	*ii*	*iii*	Units
Basic Analysis	1	Drainage Basin ID or Name	DMA #1	DMA #2	DMA #3	unitless
	2	85th Percentile Rainfall Depth	0.49	0.49	0.49	inches
	3	Predominant NRCS Soil Type Within BMP Location	A	A	A	unitless
	4	Is proposed BMP location Restricted or Unrestricted for Infiltration Activities?	Restricted	Restricted	Restricted	unitless
	5	Nature of Restriction	n/a	n/a	n/a	unitless
	6	Do Minimum Retention Requirements Apply to this Project?	Yes	Yes	Yes	yes/no
	7	Are Habitable Structures Greater than 9 Stories Proposed?	No	No	No	yes/no
Advanced Analysis	8	Has Geotechnical Engineer Performed an Infiltration Analysis?	No	No	No	yes/no
	9	Design Infiltration Rate Recommended by Geotechnical Engineer				in/hr
Result	10	Design Infiltration Rate Used To Determine Retention Requirements	0.000	0.000	0.000	in/hr
	11	Percent of Average Annual Runoff that Must be Retained within DMA	4.5%	4.5%	4.5%	percentage
	12	Fraction of DCV Requiring Retention	0.02	0.02	0.02	ratio
	13	Required Retention Volume	23	11	38	cubic-feet

No Warning Messages

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

Category	#	Description	*i*	*ii*	*iii*	Units
BMP Inputs	1	Drainage Basin ID or Name	DMA #1	DMA #2	DMA #3	sq-ft
	2	Design Infiltration Rate Recommended	0.000	0.000	0.000	in/hr
	3	Design Capture Volume Tributary to BMP	1,143	540	1,878	cubic-feet
	4	Is BMP Vegetated or Unvegetated?	Vegetated	Vegetated	Vegetated	unitless
	5	Is BMP Impermeably Lined or Unlined?	Lined	Lined	Lined	unitless
	6	Does BMP Have an Underdrain?	Underdrain	Underdrain	Underdrain	unitless
	7	Does BMP Utilize Standard or Specialized Media?	Standard	Standard	Standard	unitless
	8	Provided Surface Area	3,990	1,576	4,042	sq-ft
	9	Provided Surface Ponding Depth	6	6	6	inches
	10	Provided Soil Media Thickness	18	18	60	inches
	11	Provided Gravel Thickness (Total Thickness)	18	18	0	inches
	12	Underdrain Offset	3	3	3	inches
	13	Diameter of Underdrain or Hydromod Orifice (Select Smallest)	0.70	0.50	0.81	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	cubic-feet
	19	Ponding Pore Space Available for Retention	0.00	0.00	0.00	unitless
	20	Soil Media Pore Space Available for Retention	0.05	0.05	0.05	unitless
	21	Gravel Pore Space Available for Retention (Above Underdrain)	0.00	0.00	0.00	unitless
	22	Gravel Pore Space Available for Retention (Below Underdrain)	0.40	0.40	0.40	unitless
	23	Effective Retention Depth	2.10	2.10	4.20	inches
	24	Fraction of DCV Retained (Independent of Drawdown Time)	0.61	0.51	0.75	ratio
	25	Calculated Retention Storage Drawdown Time	120	120	120	hours
	26	Efficacy of Retention Processes	0.54	0.47	0.62	ratio
	27	Volume Retained by BMP (Considering Drawdown Time)	617	254	1,171	cubic-feet
	28	Design Capture Volume Remaining for Biofiltration	526	286	707	cubic-feet
Biofiltration Calculations	29	Max Hydromod Flow Rate through Underdrain	0.0231	0.0118	0.0396	cfs
	30	Max Soil Filtration Rate Allowed by Underdrain Orifice	0.25	0.32	0.42	in/hr
	31	Soil Media Filtration Rate per Specifications	5.00	5.00	5.00	in/hr
	32	Soil Media Filtration Rate to be used for Sizing	0.25	0.32	0.42	in/hr
	33	Depth Biofiltered Over 6 Hour Storm	1.50	1.94	2.54	inches
	34	Ponding Pore Space Available for Biofiltration	1.00	1.00	1.00	unitless
	35	Soil Media Pore Space Available for Biofiltration	0.20	0.20	0.20	unitless
	36	Gravel Pore Space Available for Biofiltration (Above Underdrain)	0.40	0.40	0.40	unitless
	37	Effective Depth of Biofiltration Storage	15.60	15.60	16.80	inches
	38	Drawdown Time for Surface Ponding	24	19	14	hours
	39	Drawdown Time for Effective Biofiltration Depth	62	48	40	hours
	40	Total Depth Biofiltered	17.10	17.54	19.34	inches
	41	Option 1 - Biofilter 1.50 DCV: Target Volume	789	429	1,061	cubic-feet
	42	Option 1 - Provided Biofiltration Volume	789	429	1,061	cubic-feet
	43	Option 2 - Store 0.75 DCV: Target Volume	394	215	530	cubic-feet
	44	Option 2 - Provided Storage Volume	394	215	530	cubic-feet
	45	Portion of Biofiltration Performance Standard Satisfied	1.00	1.00	1.00	ratio
Result	46	Do Site Design Elements and BMPs Satisfy Annual Retention Requirements?	Yes	Yes	Yes	yes/no
	47	Overall Portion of Performance Standard Satisfied (BMP Efficacy Factor)	1.00	1.00	1.00	ratio
	48	**Deficit of Effectively Treated Stormwater**	**0**	**0**	**0**	cubic-feet

No Warning Messages

Please see next sheet for flow based calculations pertaining to the Proprietary MWS

BMP #3A

PROPRIETARY BIOFILTRATION
PER BF-3

Flow-Based Treatment BMP Sizing Worksheet

Site Information			
Project Name:	Bradley Apartment Complex	**Drainage Watershed**	San Diego River (907.13)
Project Applicant:	G8 Development, Inc.	**Rain: Gauge:**	Oceanside
Jurisdiction:	County of San Diego	**Total Project Area**	2.94
Assessor's Parcel Number :	388-331-04, -05, & 06	**Low Flow Threshold:**	0.1Q2

Areas Draining to BMPs[1]							Required Treatment[2] Q_{WQ} = I_{WQ} x ΣCA x 1.5			Provided Treatment by Recommended Modular Wetland System[3]		
		IMPERVIOUS DMAs			PERVIOUS DMAs							
BMP ID	**BMP Type**	**Post Project Surface Type - Impervious**	**Post Project Surface - Impervious Area "A" (sf)**	**Runoff Factor "C" (from Table B.1-1)**	**Post Project Surface Type - Pervious**	**Post Project Surface - Pervious Area "A" (sf)**	**Runoff Factor (from Table B.1-1)**	**ΣCA**	**I_{WQ} (in/hr)**	**Q_{WQ} (cfs)**	**Q_{MWS} (cfs/unit)**	**Recommended Modular Wetland System Model No.**	**Number of MWS Units Required**
BMP 2A	Biofiltration	Rooftops/Pavement	50,936	0.9	Landscaping	3,197	0.1	46,162	0.2	0.318	0.375	MWS-L-8-12-4'-11"-C-HC	1

NOTES:

1 - Runoff factors were obtained from *"County of San Diego BMP Design Manual" (Effective Sept. 15, 2020), Appendix B* .

2 - Flow-based biofiltration BMP sizing methodology was utilized per Appendix F.2.2 of the *"County of San Diego BMP Design Manual" (Effective Sept. 15, 2020)* to meet the pollutant treatment performance standard.

3 - Refer to Modular Wetlands™ Treatment Flow Sizing Table at *http://www.biocleanenvironmental.com/stormwater-products/mws-linear/*

Underground Detention Facility #1 is downstream of Modular Wetland System (12,871 CF) designed to meet retention requirements. There is an Underground Detention Facility #2 that will receive Q100 and any additional flows.

WASHINGTON STATE DEPARTMENT OF ECOLOGY

November 2022

GENERAL USE LEVEL DESIGNATION FOR BASIC (TSS) ENHANCED AND PHOSPHORUS TREATMENT

For

Contech Engineered Solutions, LLC (Contech) Modular Wetlands Linear

Ecology's Decision

Based on Modular Wetland Systems, Inc, application submissions, including the Technical Evaluation Report, dated April 1, 2014, Ecology hereby issues the following use level designation:

1. General Use Level Designation (GULD) for the Modular Wetlands Linear Stormwater Treatment System for Basic, Phosphorus, and Enhanced treatment
    - Sized at a hydraulic loading rate of:
        - 1 gallon per minute (gpm) per square foot (sq ft) of Wetland Cell Surface Area
        - Prefilter box (approved at either 22 inches or 33 inches tall)
            - 3.0 gpm/sq ft of prefilter box surface area for moderate pollutant loading rates (low to medium density residential basins).
            - 2.1 gpm/sq ft of prefilter box surface area for high pollutant loading rates (commercial and industrial basins).
2. Ecology approves the Modular Wetlands Linear Stormwater Treatment System units for Basic, Phosphorus, and Enhanced treatment at the hydraulic loading rate listed above. Designers shall calculate the water quality design flow rates using the following procedures:
    - Western Washington: For treatment installed upstream of detention or retention, the water quality design flow rate is the peak 15-minute water quality treatment design flow rate as calculated using the latest version of the Western Washington Hydrology Model or other Ecology- approved continuous runoff model.

- Eastern Washington: For treatment installed upstream of detention or retention, the water quality design flow rate is the peak 15-minute water quality treatment design flow rate as calculated using one of the three methods described in Chapter 2.7.6 of the Stormwater Management Manual for Eastern Washington (SWMMEW) or local manual.
- Entire State: For treatment installed downstream of detention, the water quality treatment design flow rate is the full 2-year release rate of the detention facility.

3. These use level designations have no expiration date but may be amended or revoked by Ecology, and are subject to the conditions specified below.

Ecology's Conditions of Use

Applicants shall comply with the following conditions:

1) Design, assemble, install, operate, and maintain the Modular Wetlands Linear Stormwater Treatment System units, in accordance with Contech's. applicable manuals and documents and the Ecology Decision.
2) Each site plan must undergo Contech review and approval before site installation. This ensures that site grading and slope are appropriate for use of a Modular Wetlands Linear Stormwater Treatment System unit.
3) Modular Wetlands Linear Stormwater Treatment System media shall conform to the specifications submitted to and approved by Ecology.
4) The applicant tested the Modular Wetlands Linear Stormwater Treatment System with an external bypass weir. This weir limited the depth of water flowing through the media, and therefore the active treatment area, to below the root zone of the plants. This GULD applies to Modular Wetlands Linear Stormwater Treatment Systems whether plants are included in the final product or not.
5) Maintenance: The required maintenance interval for stormwater treatment devices is often dependent upon the degree of pollutant loading from a particular drainage basin. Therefore, Ecology does not endorse or recommend a "one size fits all" maintenance cycle for a particular model/size of stormwater treatment technology.
    - Typically, Contech designs Modular Wetland systems for a target prefilter media life of 6 to 12 months.
    - Indications of the need for maintenance include effluent flow decreasing to below the design flow rate or decrease in treatment below required levels.
    - Owners/operators must inspect Modular Wetland systems for a minimum of twelve months from the start of post-construction operation to determine site-specific maintenance schedules and requirements. You must conduct inspections monthly during the wet season, and every other month during the dry season (According to the SWMMWW, the wet season in western Washington is October 1 to April 30. According to the SWMMEW, the wet

season in eastern Washington is October 1 to June 30). After the first year of operation, owners/operators must conduct inspections based on the findings during the first year of inspections.

- Conduct inspections by qualified personnel, follow manufacturer's guidelines, and use methods capable of determining either a decrease in treated effluent flowrate and/or a decrease in pollutant removal ability.
- When inspections are performed, the following findings typically serve as maintenance triggers:
    - Standing water remains in the vault between rain events, or
    - Bypass occurs during storms smaller than the design storm.
    - If excessive floatables (trash and debris) are present (but no standing water or excessive sedimentation), perform a minor maintenance consisting of gross solids removal, not prefilter media replacement.
    - Additional data collection will be used to create a correlation between pretreatment chamber sediment depth and pre-filter clogging (see *Issues to be Addressed by the Company* section below)

6) Discharges from the Modular Wetlands Linear Stormwater Treatment System units shall not cause or contribute to water quality standards violations in receiving waters.

Applicant:	Contech Engineered Solutions, LLC
Applicant's Address:	11815 NE Glenn Widing Dr. Portland, OR 97220

Application Documents:

Original Application for Conditional Use Level Designation, Modular Wetland System, Linear Stormwater Filtration System Modular Wetland Systems, Inc., January 2011

Quality Assurance Project Plan: Modular Wetland System – Linear Treatment System Performance Monitoring Project, draft, January 2011

Revised Application for Conditional Use Level Designation, Modular Wetland System, Linear Stormwater Filtration System Modular Wetland Systems, Inc., May 2011

Memorandum: Modular Wetland System-Linear GULD Application Supplementary Data, April 2014

Technical Evaluation Report: Modular Wetland System Stormwater Treatment System Performance Monitoring, April 2014

Applicant's Use Level Request:

- General Use Level Designation as a Basic, Enhanced, and Phosphorus treatment device in accordance with Ecology's Guidance for Evaluating Emerging Stormwater Treatment Technologies Technology Assessment Protocol – Ecology (TAPE) January 2011 Revision.

Applicant's Performance Claims:

- The Modular Wetlands Linear is capable of removing a minimum of 80-percent of TSS from stormwater with influent concentrations between 100 and 200 mg/L.
- The Modular Wetlands Linear is capable of removing a minimum of 50-percent of total phosphorus from stormwater with influent concentrations between 0.1 and 0.5 mg/L.
- The Modular Wetlands Linear is capable of removing a minimum 30-percent of dissolved copper from stormwater with influent concentrations between 0.005 and 0.020 mg/L.
- The Modular Wetlands Linear is capable of removing a minimum 60-percent of dissolved zinc from stormwater with influent concentrations between 0.02 and 0.30 mg/L.

Ecology's Recommendations:

- Contech has shown Ecology, through laboratory and field-testing, that the Modular Wetlands Linear Stormwater Treatment System filter system is capable of attaining Ecology's Basic, Phosphorus, and Enhanced treatment goals.

Findings of Fact:

<u>Laboratory Testing</u>

The Modular Wetlands Linear Stormwater Treatment System has the:

- Capability to remove 99 percent of total suspended solids (using Sil-Co-Sil 106) in a quarter-scale model with influent concentrations of 270 mg/L.
- Capability to remove 91 percent of total suspended solids (using Sil-Co-Sil 106) in laboratory conditions with influent concentrations of 84.6 mg/L at a flow rate of 3.0 gpm per square foot of media.
- Capability to remove 93 percent of dissolved Copper in a quarter-scale model with influent concentrations of 0.757 mg/L.
- Capability to remove 79 percent of dissolved Copper in laboratory conditions with influent concentrations of 0.567 mg/L at a flow rate of 3.0 gpm per square foot of media.

- Capability to remove 80.5-percent of dissolved Zinc in a quarter-scale model with influent concentrations of 0.95 mg/L at a flow rate of 3.0 gpm per square foot of media.
- Capability to remove 78-percent of dissolved Zinc in laboratory conditions with influent concentrations of 0.75 mg/L at a flow rate of 3.0 gpm per square foot of media.

Field Testing

- Modular Wetland Systems, Inc. conducted monitoring of an MWS-Linear (Model # MWS-L-4-13) from April 2012 through May 2013, at a transportation maintenance facility in Portland, Oregon. The manufacturer collected flow-weighted composite samples of the system's influent and effluent during 28 separate storm events. The system treated approximately 75 percent of the runoff from 53.5 inches of rainfall during the monitoring period. The applicant sized the system at 1 gpm/sq ft. (wetland media) and 3gpm/sq ft. (prefilter).
- Influent TSS concentrations for qualifying sampled storm events ranged from 20 to 339 mg/L. Average TSS removal for influent concentrations greater than 100 mg/L (n=7) averaged 85 percent. For influent concentrations in the range of 20-100 mg/L (n=18), the upper 95 percent confidence interval about the mean effluent concentration was 12.8 mg/L.
- Total phosphorus removal for 17 events with influent TP concentrations in the range of 0.1 to 0.5 mg/L averaged 65 percent. A bootstrap estimate of the lower 95 percent confidence limit (LCL95) of the mean total phosphorus reduction was 58 percent.
- The lower 95 percent confidence limit of the mean percent removal was 60.5 percent for dissolved zinc for influent concentrations in the range of 0.02 to 0.3 mg/L (n=11). The lower 95 percent confidence limit of the mean percent removal was 32.5 percent for dissolved copper for influent concentrations in the range of 0.005 to 0.02 mg/L (n=14) at flow rates up to 28 gpm (design flow rate 41 gpm). Laboratory test data augmented the data set, showing dissolved copper removal at the design flow rate of 41 gpm (93 percent reduction in influent dissolved copper of 0.757 mg/L).

Issues to be addressed by the Company:

1. Contech should collect maintenance and inspection data for the first year on all installations in the Northwest in order to assess standard maintenance requirements for various land uses in the region. Contech should use these data to establish required maintenance cycles.
2. Contech should collect pre-treatment chamber sediment depth data for the first year of operation for all installations in the Northwest. Contech will use these data to create a correlation between sediment depth and pre-filter clogging.

Technology Description:

Download at https://www.conteches.com/modular-wetlands

Contact Information:

Applicant: Jeremiah Lehman
Contech Engineered Solutions, LLC
11815 NE Glenn Widing Dr.
Portland, OR 97220
Jeremiah.Lehman@ContechES.com

Applicant website: http://www.conteches.com

Ecology web link: http://www.ecy.wa.gov/programs/wg/stormwater/newtech/index.html

Ecology: Douglas C. Howie, P.E.
Department of Ecology
Water Quality Program
(360) 870-0983
douglas.howie@ecy.wa.gov

Revision History

Date	Revision
June 2011	Original use-level-designation document
September 2012	Revised dates for TER and expiration
January 2013	Modified Design Storm Description, added Revision Table, added maintenance discussion, modified format in accordance with Ecology standard
December 2013	Updated name of Applicant
April 2014	Approved GULD designation for Basic, Phosphorus, and Enhanced treatment
December 2015	Updated GULD to document the acceptance of MWS – Linear Modular Wetland installations with or without the inclusion of plants
July 2017	Revised Manufacturer Contact Information (name, address, and email)
December 2019	Revised Manufacturer Contact Address
July 2021	Added additional prefilter sized at 33 inches
August 2021	Changed “Prefilter” to “Prefilter box”
November 2022	Changed Contacts to Contech ES

7.5 Identification and Narrative of Receiving Water and Pollutants of Concern NOT APPLICABLE

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

A. General Description

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

B. Water Body Impairments and Priorities

List any 303(d) impaired water bodies[6] within the path of storm water from the project site to the Pacific Ocean (or bay, lagoon, lake or reservoir, as applicable), identify the pollutant(s)/stressor(s) causing impairment, and identify any TMDLs and/or Highest Priority Pollutants from the WQIP for the impaired water bodies:

303(d) Impaired Water Body	Pollutant(s)/Stressor(s)	TMDLs / WQIP Highest Priority Pollutant

C. Identification of Project Site Pollutants

Identify pollutants expected from the project site based on all proposed use(s) of the site (see BMP Design Manual Appendix B.6.

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

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

8.0 General Requirements

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

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

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

8.1 Flow Control Facility Design

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

Project was determined to be subject to HMP requirements. Please see hydromodification calculations located in this report.

BMP Sizing Spreadsheet V3.1			
Project Name:	Bradley Apartment Complex	Hydrologic Unit:	San Diego
Project Applicant:	G8 Development, Inc.	Rain Gauge:	Oceanside
Jurisdiction:	El Cajon	Total Project Area:	119,644
Parcel (APN):	388-331-04, 05, & 06	Low Flow Threshold:	0.1Q2
BMP Name:	BMP #1	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)
DMA #1	21,031	A	Flat	Roofs	1.0	0.15	3155
DMA #1	8,960	C	Flat	Roofs	1.0	0.075	672
DMA #1	4,638	A	Flat	Landscape	0.1	0.15	70
DMA #1	1,524	C	Flat	Landscape	0.1	0.075	11
						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	36,153					Minimum BMP Size	3908
						Proposed BMP Size*	3990

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

BMP Sizing Spreadsheet V3.1			
Project Name:	Bradley Apartment Complex	Hydrologic Unit:	San Diego
Project Applicant:	G8 Development, Inc.	Rain Gauge:	Oceanside
Jurisdiction:	El Cajon	Total Project Area:	119,644
Parcel (APN):	388-331-04, 05, & 06	Low Flow Threshold:	0.1Q2
BMP Name	BMP #1	BMP Type:	Biofiltration

DMA Name	Rain Gauge	Pre-developed Condition		Unit Runoff Ratio (cfs/ac)	DMA Area (ac)	Orifice Flow - $\%Q_2$ (cfs)	Orifice Area (in^2)
		Soil Type	Slope				
DMA #1	Oceanside	A	Flat	0.256	0.483	0.012	**0.18**
DMA #1	Oceanside	C	Flat	0.488	0.206	0.010	**0.14**
DMA #1	Oceanside	A	Flat	0.256	0.106	0.003	**0.04**
DMA #1	Oceanside	C	Flat	0.488	0.035	0.002	**0.02**

3.75	**0.027**	**0.38**	**0.70**
Max Orifice Head (feet)	**Max Tot. Allowable Orifice Flow (cfs)**	**Max Tot. Allowable Orifice Area (in^2)**	**Max Orifice Diameter (in)**

0.025	**0.027**	**0.38**	**0.700**
Average outflow during surface drawdown (cfs)	Max Orifice Outflow (cfs)	Actual Orifice Area (in^2)	Selected Orifice Diameter (in)

Drawdown (Hrs)	44.1

BMP Sizing Spreadsheet V3.1			
Project Name:	Bradley Apartment Complex	Hydrologic Unit:	San Diego
Project Applicant:	G8 Development, Inc.	Rain Gauge:	Oceanside
Jurisdiction:	El Cajon	Total Project Area:	119,644
Parcel (APN):	388-331-04, 05, & 06	Low Flow Threshold:	0.1Q2
BMP Name:	BMP #2	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)
DMA #2	5,149	A	Flat	Roofs	1.0	0.15	772
DMA #2	8,931	C	Flat	Roofs	1.0	0.075	670
DMA #2	1,316	A	Flat	Landscape	0.1	0.15	20
DMA #2	1,790	C	Flat	Landscape	0.1	0.075	13
						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	17,186					Minimum BMP Size	1475
						Proposed BMP Size*	1576

* Assumes standard configuration

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

Notes:

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

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

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

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

BMP Sizing Spreadsheet V3.1			
Project Name:	Bradley Apartment Complex	Hydrologic Unit:	San Diego
Project Applicant:	G8 Development, Inc.	Rain Gauge:	Oceanside
Jurisdiction:	El Cajon	Total Project Area:	119,644
Parcel (APN):	388-331-04, 05, & 06	Low Flow Threshold:	0.1Q2
BMP Name	BMP #2	BMP Type:	Biofiltration

DMA Name	Rain Gauge	Pre-developed Condition		Unit Runoff Ratio (cfs/ac)	DMA Area (ac)	Orifice Flow - $\%Q_2$ (cfs)	Orifice Area (in^2)
		Soil Type	Slope				
DMA #2	Oceanside	A	Flat	0.256	0.118	0.003	**0.04**
DMA #2	Oceanside	C	Flat	0.488	0.205	0.010	**0.14**
DMA #2	Oceanside	A	Flat	0.256	0.030	0.001	**0.01**
DMA #2	Oceanside	C	Flat	0.488	0.041	0.002	**0.03**

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

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

Drawdown (Hrs)	34.1

BMP Sizing Spreadsheet V3.1			
Project Name:	Bradley Apartment Complex	Hydrologic Unit:	San Diego
Project Applicant:	G8 Development, Inc.	Rain Gauge:	Oceanside
Jurisdiction:	El Cajon	Total Project Area:	119,644
Parcel (APN):	388-331-04, 05, & 06	Low Flow Threshold:	0.1Q2
BMP Name:	BMP #3B	BMP Type:	Cistern
BMP Native Soil Type:	N/A - Impervious Liner	BMP Infiltration Rate (in/hr):	NA

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]	Volume	Volume (CF)
DMA #3	47,190	A	Flat	Concrete	1.0	0.26	12269
DMA #3	3,711	C	Flat	Roofs	1.0	0.14	520
DMA #3	2,989	A	Flat	Landscape	0.1	0.26	78
DMA #3	208	C	Flat	Landscape	0.1	0.14	3
						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	54,098					Minimum BMP Size	12870
						Proposed BMP Size*	12871

* Assumes standard configuration

Standard Cistern Depth (Overflow Elevation)	3.5	ft
Provided Cistern Depth (Overflow Elevation)	3.0	ft
Minimum Required Cistern Footprint)	4290	CF

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.
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BMP Sizing Spreadsheet V3.1			
Project Name:	Bradley Apartment Complex	Hydrologic Unit:	San Diego
Project Applicant:	G8 Development, Inc.	Rain Gauge:	Oceanside
Jurisdiction:	El Cajon	Total Project Area:	119,644
Parcel (APN):	388-331-04, 05, & 06	Low Flow Threshold:	0.1Q2
BMP Name	BMP #3B	BMP Type:	Cistern

DMA Name	Rain Gauge	Pre-developed Condition		Unit Runoff Ratio (cfs/ac)	DMA Area (ac)	Orifice Flow - $\%Q_2$ (cfs)	Orifice Area (in^2)
		Soil Type	Slope				
DMA #3	Oceanside	A	Flat	0.256	1.083	0.028	**0.44**
DMA #3	Oceanside	C	Flat	0.488	0.085	0.004	**0.07**
DMA #3	Oceanside	A	Flat	0.256	0.069	0.002	**0.03**
DMA #3	Oceanside	C	Flat	0.488	0.005	0.000	**0.00**

3.00	**0.034**	**0.54**	**0.83**
Max Orifice Head (feet)	**Max Tot. Allowable Orifice Flow (cfs)**	**Max Tot. Allowable Orifice Area (in^2)**	**Max Orifice Diameter (in)**

Provide Hand Calc.	**0.033**	**0.52**	**0.813**
Average outflow during surface drawdown (cfs)	Max Orifice Outflow (cfs)	Actual Orifice Area (in^2)	Selected Orifice Diameter (in)

Drawdown (Hrs)	Provide Hand Calculation

Low Flow Orifice Discharge

1) $Q = C_d \times A \times (2gH)^{0.5}$ Orifice Discharge Equation

C_d = Orifice Coefficient = 0.60 (sharp, clean edge)

H = Water Head above orifice

g = Gravitational Acceleration = 32.2 ft/s^2

A = Area of the Orifice

BMP	Orifice Coefficient Cd	Orifice Diameter (inches)	Max. Orifice Area ($inch^2$)	Gravitational Acceleration ft/s^2	H (in)	H (ft)	Orifice Discharge Q (cfs)
Tank #1	0.6	0.81	0.52	32.2	36	3	0.030
Tank #2	0.6	12.0	113.04	32.2	21.24	1.77	5.029

See Drainage report for 100-year water surface elevation in tank.

Drawdown Time

3) $D = V / Q_{Orifice}$ Drawdown Time

BMP	Volume (cf)	$Q_{orifice}$ (cfs)	Drawdown Time (hours)	Conclusion
Tank #1	12871.0	0.03	119.9	> 96 hours - See Vector Control Plan
Tank #2	2592.0	5.03	0.1	< 96 hours - No Vector Control Required

8.2 Hydromodification Management Points of Compliance

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

POC name or #	Channel name or #	POC Description
POC #1	Forester Creek	North discharge point
POC #2	Forester Creek	South discharge point

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.

N/A

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.

Snipes-Dye associates

VECTOR CONTROL PLAN (VCP)

For

BRADLEY APARTMENT COMPLEX

1065 East Bradley Ave., El Cajon CA, 92021

County of San Diego

PDS2019-LDGRMJ-30236 / PDS2019-LDPIIP-60071

Applicant/Developer:
1065 East Bradley, LLC
7626 El Cajon Blvd.
La Mesa, CA 91942
(619) 823-3402
Contact: Philip Chodur

Prepared By:

Snipes-Dye Associates
civil engineers and land surveyors
8348 Center Drive, Suite G
La Mesa, CA 91942-2910
(619) 697-9234, Fax (619) 460-2033
EC5021

Dated: November 9, 2023

1.0 INTRODUCTION

1.1. Introduction

This vector control plan outlines the methods and measures implemented for Underground Detention Tank #1 designed to retain the discharge from the 85th percentile storm treated by the Modular Wetland System. The aim of this VCP is to mitigate health risks associated with vectors, particularly mosquitoes, that may breed in stagnant water within the underground detention tank.

1.2. Project Description

This project plans to construct apartment buildings with 60 dwelling units and the associated public improvements. There are two biofiltration basins, one modular wetland system, and two underground detention tanks. The site is subject to pollutant control and hydromodification requirements. The drawdown time of tank #1 is over 96 hours, creating a potential to breed vectors.

1.3. Environmental Setting (Existing Conditions)

The existing site topography consists of a relatively flat to gently sloping site which houses a few commercial office buildings, an auto body shop garage and yard, sheds, and trailers surrounded predominantly by pervious dirt areas. There are residential areas to the north, west, and south of the site and a commercial building to the east.

2.0 VECTOR MANAGEMENT

2.1 Management Practices

Regular Drainage: Ensure that the tank is designed to drain completely after each storm event, leaving no standing water. This can be achieved through a combination of gravity drainage and pumps.

Water Movement: Maintain water movement within the tank to discourage mosquitoes from laying eggs. Methods include the installation of agitators or aeration devices.

Physical Barriers: Use screens and filters over all inlets and outlets to prevent adult mosquitoes, rodents, and any other pests from entering the tank and laying eggs.

Chemical Control: Apply larvicides to the water, as needed, to kill mosquito larvae. This should be done in accordance with local regulations and environmental guidelines. The recommended larvicide should contain Bacillus thuringiensis subspecies israelensis (Bti) which can be found at garden or home stores. This bacterium is harmless to animals, humans, and other wildlife, but is effective at killing mosquito larvae.

Regular Maintenance: Conduct regular inspections and maintenance to ensure that all systems are functioning properly and that there are no areas of accumulation of organic matter which can serve as food for mosquito larvae. Ensure that all orifices are operating and free of clogs or blockages. This also includes flushing of catch basins and drains to prevent standing water. Daily or weekly inspections are required dependent upon the frequency of rain events.

Vegetation Management: Control vegetation around the tank area and modular wetland to reduce adult mosquito resting sites.

2.2 Education

Educate the maintenance staff and the local community about the importance of preventing vector breeding in stormwater systems. Reference this plan for guidance.

2.3 Risk Identification

The UST has a capacity of 12,871 CF and a designed drawdown period of over 96 hours, potentially allowing for vector breeding. The primary risk is the breeding of mosquito species capable of transmitting diseases such as West Nile Virus and Zika.

2.4 Regulatory Compliance

The plan adheres to the following regulations under the State of California Health and Safety Code Section 2060-2067. All activities will comply with the environmental protection guidelines stipulated by County of San Diego Department of Environmental Health.

3.0 LONG TERM MAINTENANCE

3.1 Preventive Measures

The UST design includes tight-fitting lids to prevent vector entry, sloped underdrain to minimize standing water, and regular applications of mosquito larvicide. Water within the tank will be treated with [insert approved larvicide] to deter larvae growth.

3.2 Routine Inspection and Maintenance

Inspection will occur on a [weekly/monthly] basis. Maintenance tasks include verifying the integrity of physical barriers, checking for sediment buildup, and ensuring the larvicide dispersal system functions optimally.

3.3 Physical and Biological Controls

All vents will be fitted with fine mesh screens. Should the standing water exceed 72 hours, a biological control agent, BTI, may be introduced under the supervision of a vector control specialist and/or in accordance with manufacturer recommendations.

3.4 Monitoring and Evaluation

Monitoring will involve regular larvae counts and adult vector trapping to assess population control effectiveness. Should vector thresholds be exceeded, immediate remedial action will be taken.

3.5 Emergency Response Plan

In case of a control failure, the plan includes immediate reapplication of larvicide, sealing of potential entry points, and, if necessary, draining the tank. DEH Vector Control Program staff will be responsible for emergency vector control measures.

3.6 Record-Keeping and Reporting

All inspections, maintenance, and larvicide applications will be recorded. Any significant rise in vector activity will be reported to a staff member of the DEH Vector Control Program within 24 hours.

4.0 SUMMARY OF MITIGATION MEASURES TO MINIMIZE VECTORS

The main method of minimizing vectors is the routine larvicide application per manufacturer's recommendation, mechanical agitation or aeration, and routine maintenance for debris build up. It is critical that there are no blockages and the low flow orifice downstream of the tank at the standard clean out should be regularly inspected on a weekly basis to ensure there are no clogs. Inspections are required every 24 hours during rain events.

5.0 REFERENCES

https://www.sandiegocounty.gov/content/sdc/deh/pests.html

County of San Diego BMP Design Manual – September 2020

6.0 LIST OF PERSONS AND ORGANIZATION CONTACTED

Engineer of Work: William A. Snipes, PE. 50477 (Snipes-Dye Associates)

Address: 8348 Center Drive, Suite G, La Mesa, CA 91942

Phone: 619-697-9234, x303

Email: bill@snipesdye.com

Plan Preparer: Nicholas E. Doungpanya, EIT (Snipes-Dye Associates)

Address: 8348 Center Drive, Suite G, La Mesa, CA 91942

Phone: 619-697-9234

Email: nick@snipesdye.com

OWNER AND APPLICANT CERTIFICATION

The measures identified herein are considered part of the proposed project design and will be carried out as part of project implementation. I understand the breeding of mosquitoes is unlawful under the State of California Health and Safety Code Section 2060-2067. I will permit the Vector Surveillance and Control program to place adult mosquito monitors and to enforce this document as needed.

by: _____
SIGNATURE

11/16/23
DATE

1065 E. Bradley, LLC
PROPERTY OWNER

APPENDICES

VECTOR CONTROL PLAN (VCP) INSPECTION FORM

FACILITY INFORMATION:

FACILITY NAME	
ADDRESS	
INSPECTION DATE	
TIME	
INSPECTOR NAME	
WEATHER CONDITIONS	

YES/NO	INSPECTION CHECKLIST	NOTES
	TANK INTEGRITY AND COVERAGE	
	Tank cover in place and sealed	
	No evidence of cover damage or tampering	
	Vent screens intact and free from holes	
	WATER TREATMENT	
	Larvicide levels checked and within operational range	
	Water clarity acceptable (no excessive turbidity)	
	Evidence of recent larvicide application	
	BREEDING SITE REDUCTION	
	Drainage area around tank free of puddles	
	No debris or vegetation encroaching on tank area	
	Inside tank walls free of algae or biofilm	
	PHYSICAL BARRIERS	
	Check for cracks or gaps in tank structure	
	Access points (manholes, etc.) sealed when not in use	
	Barrier integrity at inflow/outflow points	
	BIOLOGICAL CONTROL MEASURES	
	Presence of biological control agents (if applicable)	
	No unintended aquatic wildlife (e.g., fish, amphibians)	
	SURROUNDING AREA	
	Area within 20 feet of tank free of trash or organic waste	
	Vegetation management to prevent habitat formation	
	Adequate lighting to deter wildlife and rodents	
	MAINTENANCE AND SAFETY	
	Safety signage in good condition and visible	
	Maintenance tools accounted for and stored properly	
	Personal protective equipment available and used	
	VECTOR SURVEILLANCE	
	Records of vector monitoring (e.g., trap counts)	
	Increase in vector activity noted and action taken	
	Historical data reviewed for trend analysis	

YES/NO	INSPECTION CHECKLIST	NOTES
	EMERGENCY PROCEDURES	
	Staff trained on emergency response for vector outbreaks	
	Emergency contact list updated and accessible	
	RECORD KEEPING AND DOCUMENTATION	
	Previous inspection records reviewed	
	New inspection findings recorded	
	All necessary documentation completed and filed	

Comments and Observations: (Provide additional details on the findings and any corrective actions needed or taken.)

Corrective Actions Taken/Recommended: (Include timelines and responsible persons for any corrective actions.)

Inspector's Signature: _____ Date: _____

Supervisor's Review:

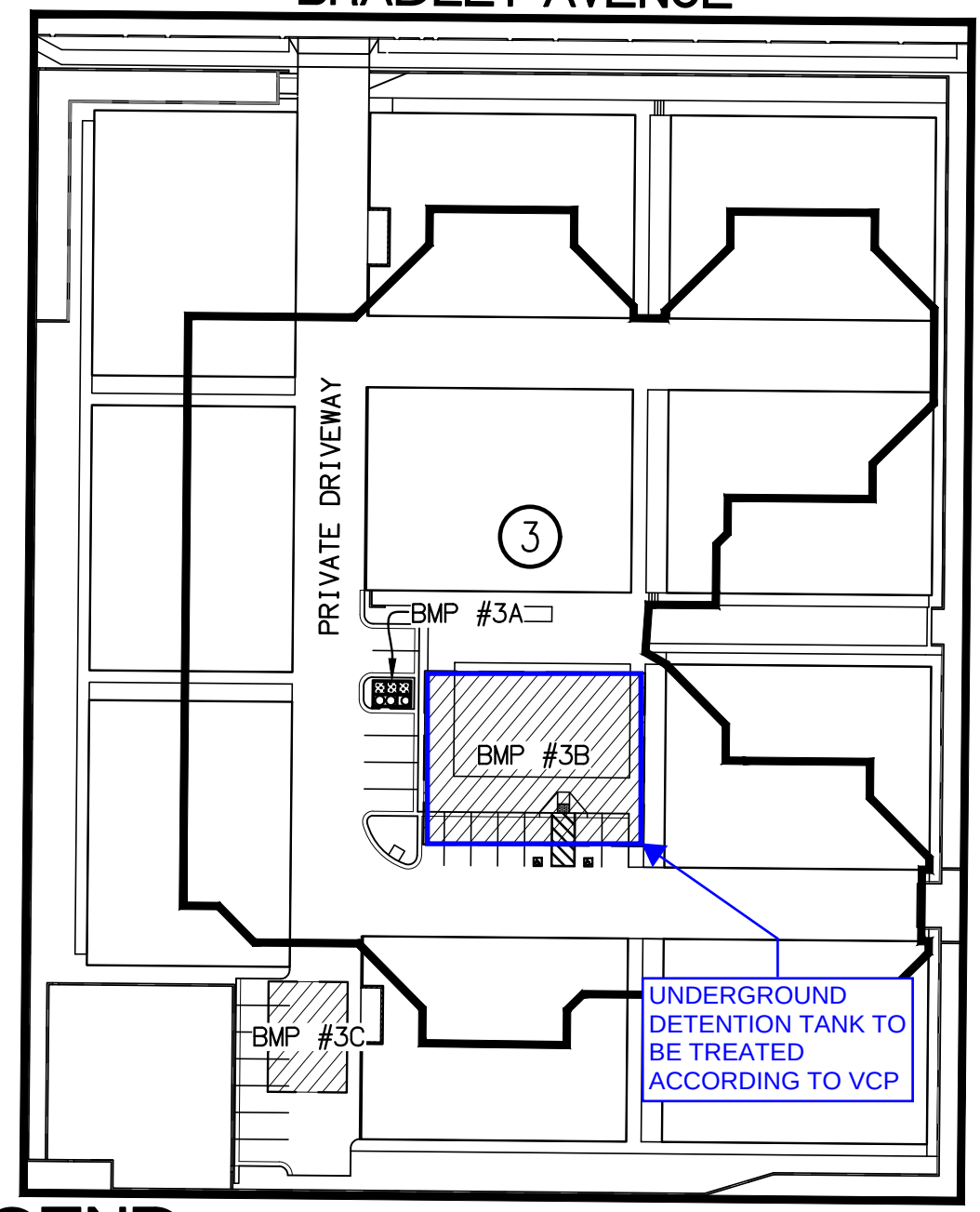
- Supervisor's Name: _____
- Signature: _____ Date: _____
- Follow-up Inspection Date (if needed): _____

Vector Control Program Contact Information:

Phone: (858) 694-2888

Email: vector@sdcounty.ca.gov

SITE MAP



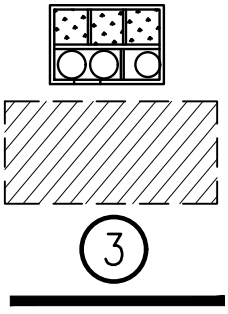
LEGEND

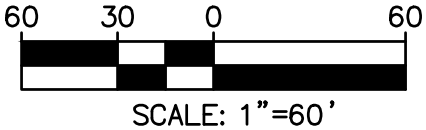
BMP # 3A - MODULAR WETLANDS SYSTEM (BF-3)

BMP # 3B - STORMTANK & BMP # 3C

DRAINAGE MANAGEMENT AREA (DMA)

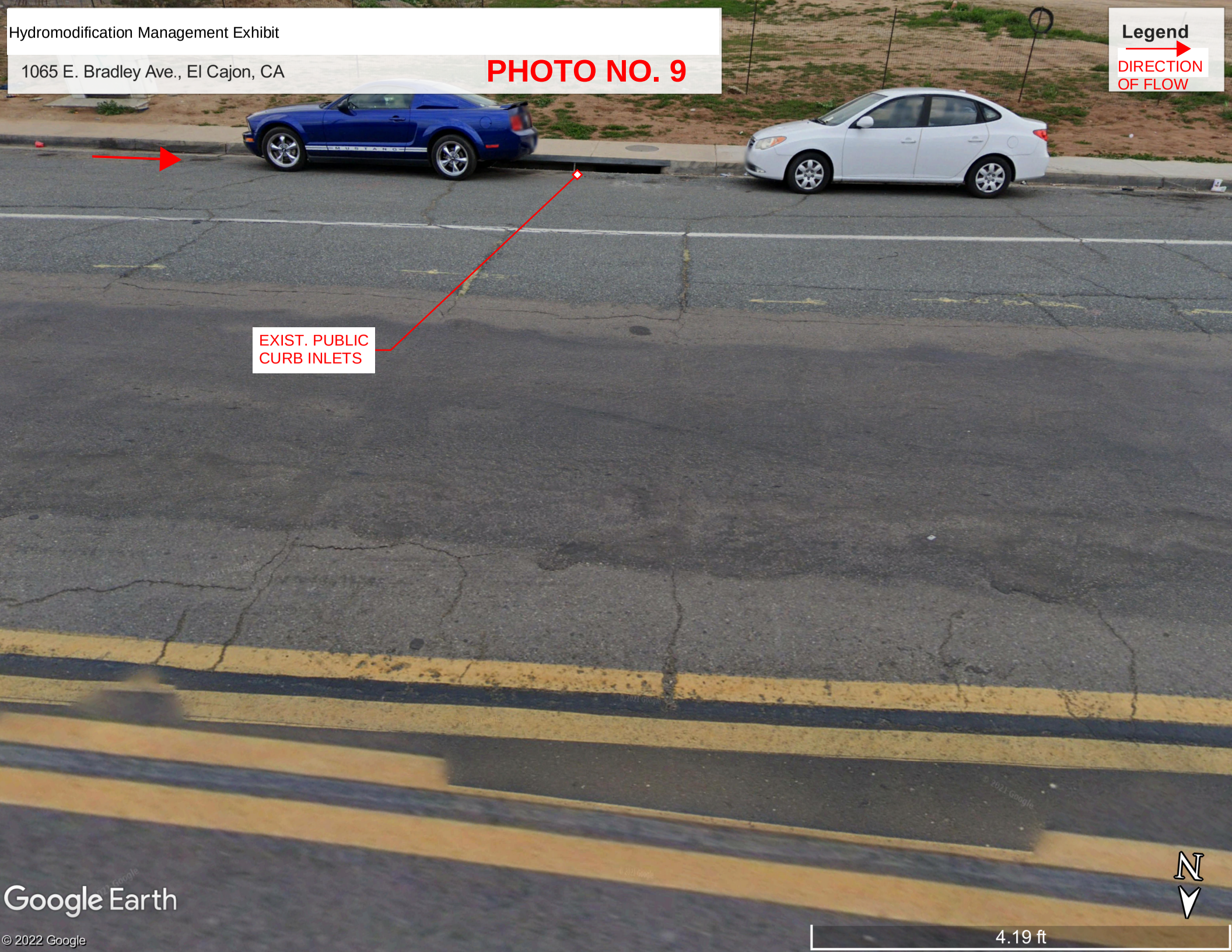
DMA BOUNDARY



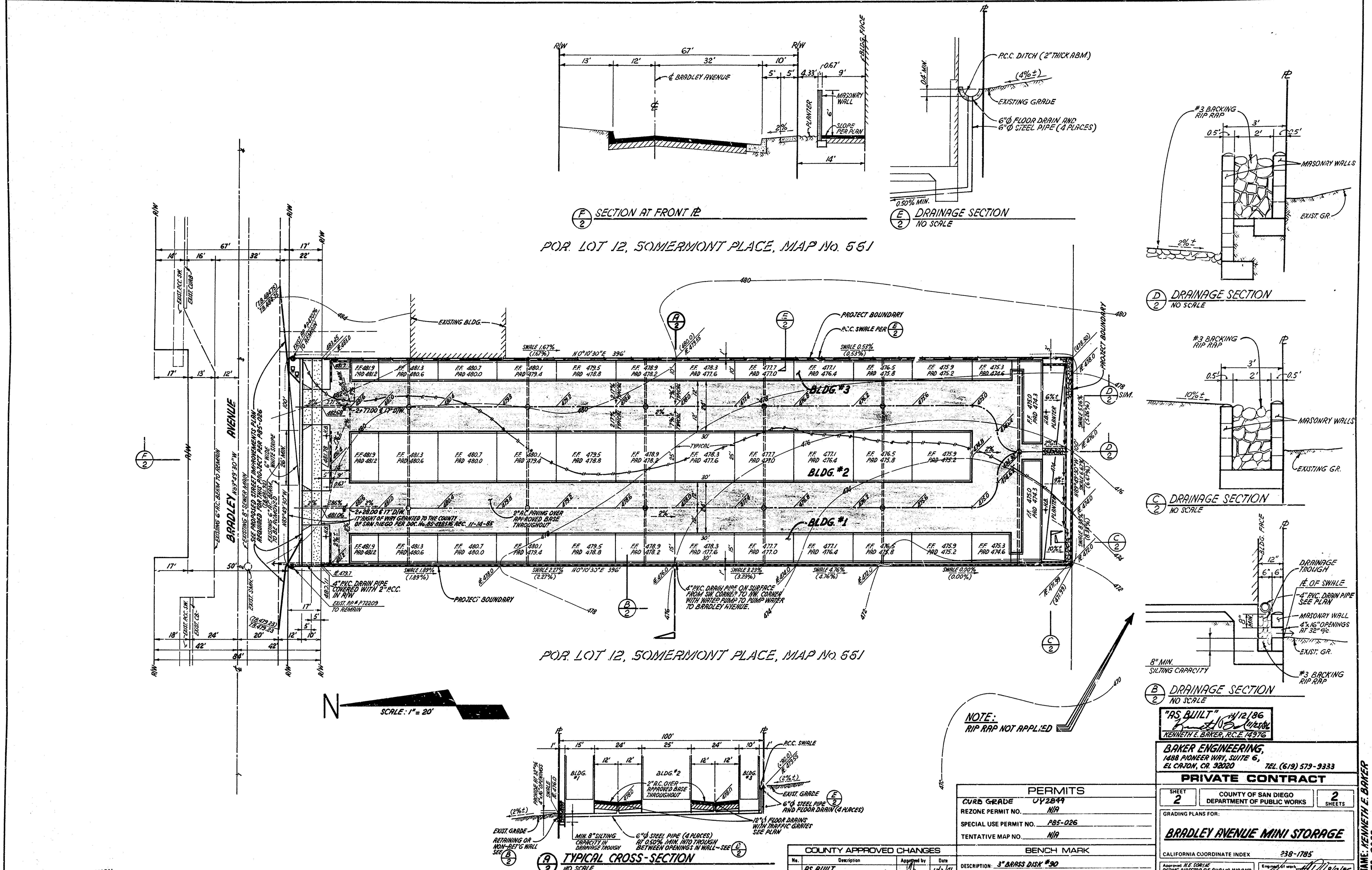


DATE: 11/17/2023

VECTOR CONTROL PLAN MAP
BRADLEY APARTMENT COMPLEX


Hydromodification Management Exhibit
1065 E. Bradley Ave., El Cajon, CA
PHOTO NO. 9
Legend
DIRECTION OF FLOW
EXIST. PUBLIC CURB INLETS
Google Earth
© 2022 Google
4.19 ft


Hydromodification Management Exhibit
1065 E. Bradley Ave., El Cajon, CA
Legend
DIRECTION OF FLOW
PROJECT SITE
E Bradley Ave
N 1st St
Kyle Pl
Literacy First Charter School Junior Academy
1065 E Bradley A
U-Haul Neighborhood Dealer
Staxup Storage - El Cajon
Buckeye Dr
Greta St
EXIST. 4" PVC DRAINAGE PIPE ON SURFACE WITH PUMP DISCHARGING FLOW FROM SW CORNER TO NW CORNER OF MINI STORAGE SITE ONTO BRADLEY AVENUE. REFER TO COUNTY OF SAN DIEGO GRADING PLAN L0783
Google Earth
200 ft
N



"AS BUILT" 11/12/86
KENNETH E. BAKER, R.C.E. 14976

BAKER ENGINEERING,
1488 PIONEER WAY, SUITE 6,
EL CAJON, CA. 92020 TEL. (619) 579-9333

PRIVATE CONTRACT

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

GRADING PLANS FOR:

BRADLEY AVENUE MINI STORAGE

CALIFORNIA COORDINATE INDEX 238-1785

Approved H.E. SORLIE, ACTING DIRECTOR OF PUBLIC WORKS
By C.R. [signature] 11/26/85 Date

Engineer of work [signature] KENNETH E. BAKER R.C.E. 14976 8/12/85

Grading Permit No. L0783

FILE NO.

PERMITS

CURB GRADE	UY2849
REZONE PERMIT NO.	N/A
SPECIAL USE PERMIT NO.	P85-026
TENTATIVE MAP NO.	N/A

BENCH MARK

DESCRIPTION: 3" BRASS DISK #90
LOCATION: TOP OF CURB IN FRONT OF 1013 BRADLEY AVENUE 5.50' WEST OF PP #JP 27845I
RECORD FROM: CITY OF EL CAJON ENGINEERING DEPT.
ELEVATION: 471.367 DATUM: U.S.C.&G.S. + 0.04

COUNTY APPROVED CHANGES

No.	Description	Approved by	Date
	AS BUILT	[signature]	12/3/86

PRECISION
DEC 15 1986
MICROFILMED

ENGINEER'S NAME: KENNETH E. BAKER
PHONE NO. 579-9333
1063 BRADLEY AVENUE

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)

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

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

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

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

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

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

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

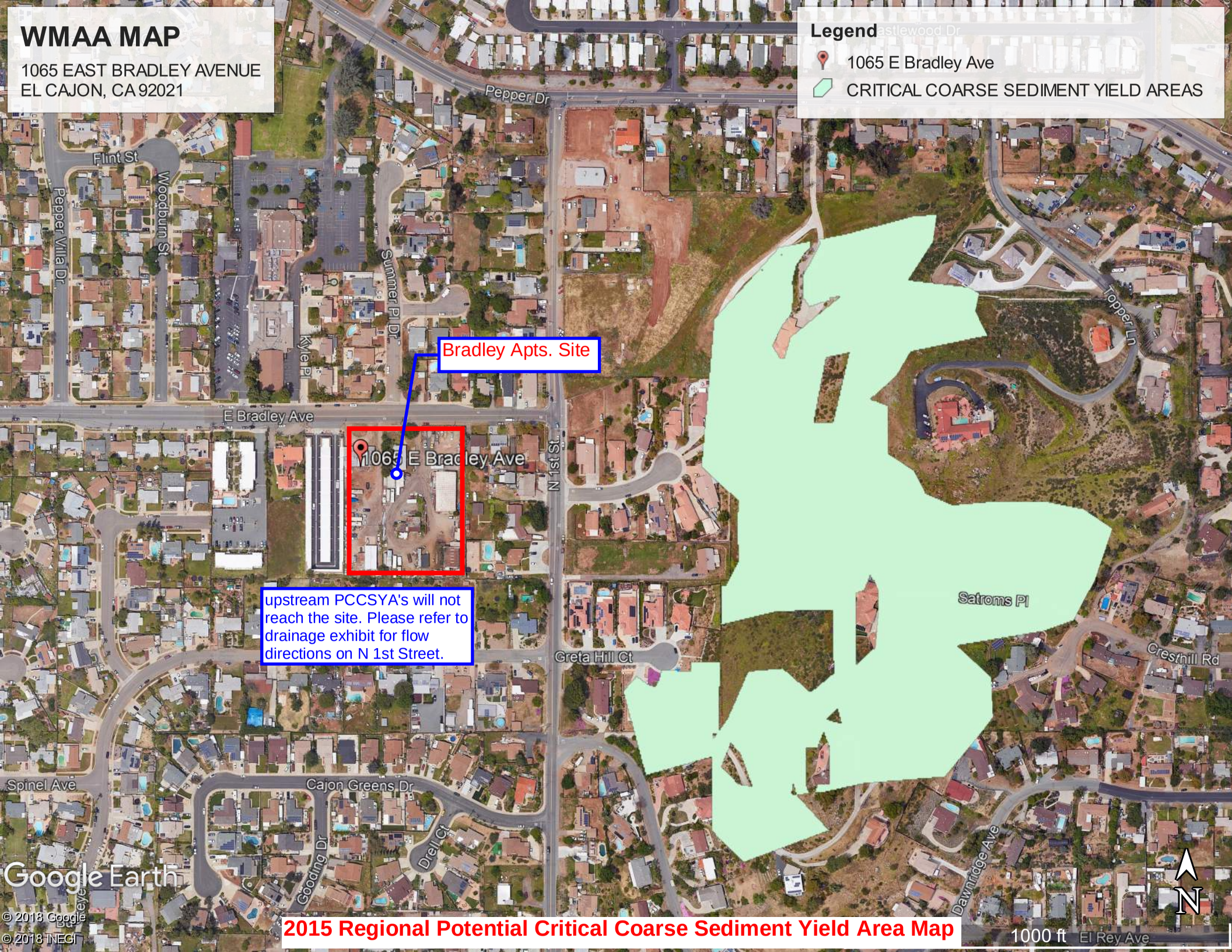
[3] Applicants may refine initial mapping results using options identified in BMPDM Appendix H.1.2.

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

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

SEE ATTACHED UPSTREAM OFFSITE PCCSYA MAP.

SEE DRAINAGE REPORT FOR STREET FLOW;
PCCYSA WILL NOT REACH SITE


WMAA MAP
1065 EAST BRADLEY AVENUE
EL CAJON, CA 92021
Legend
1065 E Bradley Ave
CRITICAL COARSE SEDIMENT YIELD AREAS
Bradley Apts. Site
1065 E Bradley Ave
upstream PCCSYA's will not reach the site. Please refer to drainage exhibit for flow directions on N 1st Street.
Pepper Dr
Flint St
Woodburn St
Pepper Villa Dr
Summer Pl Dr
Kyle Pl
E Bradley Ave
N 1st St
Topper Ln
Satroms Pl
Greta Hill Ct
Cresthill Rd
Spinel Ave
Cajon Greens Dr
Gooding Dr
Drell Ct
Dawnridge Ave
El Rey Ave
Google Earth
© 2018 Google
© 2018 INEGI
N
1000 ft
2015 Regional Potential Critical Coarse Sediment Yield Area Map

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.

[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.

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)

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.

PART 1 PROJECT INFORMATION

A. Project Summary Information	
Project Name	Bradley Apartment Complex
Record ID (e.g. grading/improvement plan number, building permit)	PDS2019-LDGRMJ-30236 / PDS2019-LDPIIP-60071
Project Address	1065 East Bradley Avenue, El Cajon, CA 92021
Assessor's Parcel Number(s) APN(s)	388-331-04, 05, & 06
Project Watershed (Hydrologic Unit, Area, and Subarea Name with Numeric Identifier)	San Diego River HU, Lower San Diego HA, El Cajon HSA (907.13)
B. Owner Information	
Name	Philip Chodur
Address	7626 El Cajon Blvd., La Mesa, CA 91942
Email Address	pchodur@sbcglobal.net
Phone Number	(619) 823-3402

COUNTY – OFFICIAL USE ONLY	
INTAKE ID#	
ACCEPTANCE ID#	

****THIS PAGE IS FOR PARTIAL VERIFICATIONS ONLY ****

If final grade release or granting of occupancy is being requested for only a portion of the Priority Development Project (PDP) please fill out the table below. Include ALL of the Structural BMPs and/or Significant Site Design BMPs for the entire project in the table. **Include a mark-up of the DMA map from the approved SWQMP with this Verification package that clearly shows which DMAs you are submitting for approval and which DMAs have already been accepted (if any).**

DMA #	APN or Lot #	BMP ID #	WPP Acceptance Date (If applicable)	WPP Acceptance ID# (If applicable, e.g. 20/21-001)

PART 2 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.
- 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.

DMA #	BMP Information			Maintenance Category (1, 2, 3, or 4)	Maintenance Agreement Recorded DOC #	Construction Plan Sheet #	Landscape Plan Sheet #	FOR DPW-WPP USE ONLY
	Quantity	Description/Type of Structural BMP	BMP ID #					
A. Structural BMPs (S-BMPs)								
1	1	Biofiltration per BF-1	BMP #1	1		PDS2019-LDGRMJ-30236, Sheet 12		
2	1	Biofiltration per BF-1	BMP #2	1		PDS2019-LDGRMJ-30236, Sheet 13		
3	1	Proprietary Biofiltration (BF-3)	BMP #3A	1		PDS2019-LDGRMJ-30236, Sheet 14		
3	1	Underground Storage Tank (StormTank)	BMP #3B	1		PDS2019-LDGRMJ-30236, Sheets 15-21		
3	1	Underground Storage Tank #2	BMP #3C	1		Same as Above		
Add rows as needed. Click into the last column in the row below this, then press TAB to add a new row.								

B. Significant Site Design BMPs (SSD-BMPs)								
4	1	Tree Well		**N/A**		PDS2019-LDPIIP-60071, Sheet 9		
5	1	Tree Well		**N/A**		PDS2019-LDPIIP-60071, Sheet 9		
6	1	Tree Well		**N/A**		PDS2019-LDPIIP-60071, Sheet 9		
7	1	Tree Well		**N/A**		PDS2019-LDPIIP-60071, Sheet 9		
8	1	Tree Well		**N/A**		PDS2019-LDPIIP-60071, Sheet 9		
9	1	Tree Well		**N/A**		PDS2019-LDPIIP-60071, Sheet 9		
Add rows as needed. Click into the last column in the row below this, then press TAB to add a new row.								

PART 3 REQUIRED ATTACHMENTS

For the permanent BMPs listed in Part 2, submit the following to the County inspector along with this Verification form as a package (check all that are attached):

☐ **PHOTOGRAPHS:** Final construction photos of every permanent BMP listed in Part 2 are required. Final photos must be recent and be labeled with the date and a BMP Identifier. Additional photographs illustrating proper construction of the BMPs are recommended to be included and may be requested by WPP prior to acceptance of this Verification (e.g. excavation depths, liners, hydromodification orifices, Biofiltration Soil Media (BSM), vegetation, mulch).

☐ **MAINTENANCE AGREEMENTS:** Copies of approved and recorded Storm Water Maintenance Agreements (SWMA), Category 1 Maintenance Notification Agreements (MN), or Encroachment Maintenance and Removal Agreements (EMRA) for all S-BMPs.

Note: Significant Site Design (SSD) BMPs and most Category 4 BMPs do not require recorded maintenance agreements.

☐ **CONSTRUCTION PLANS:** Submit electronic and/or 11" X 17" hard copies of the current approved Construction Plan sheets for the Record ID(s) listed on Page 1:

- ☐ Grading Plans
- ☐ Improvement Plans
- ☐ Precise Grading Plan
- ☐ Building Plan (Applicable BMP Sheets only)
- ☐ Other (Please specify) _____

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

- A BMP Table on Sheet 1, AND
- A plan detail cross-section of each verified as-built BMP, AND
- The location of each verified as-built BMP

☐ **LANDSCAPE PLANS**: If the PDP includes vegetated BMPs and has a Landscape Plan, submit the following:

- ☐ Final Landscape Plans
- ☐ Proof of Irrigation Installed (if applicable)

PART 4 PREPARER'S CERTIFICATION

By signing below, I certify that the BMP(s) listed in Part 2 of this Verification Form have been constructed and 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 must be certified by a licensed professional engineer.

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

Preparer's Name:	William A. Snipes
Email Address:	bill@snipesdye.com
Phone Number:	619-697-9234
Preparer's Signature:	
Date:	07/05/2023

[SEAL]

PROJECT RECORD ID: _____

COUNTY - OFFICIAL USE ONLY

County Inspector Approval:

***NOTE: The County approved SWQMP document and any Addendums or Revisions must be included with this BMP Installation Verification submittal package.**

- ☐ DPW Private Development Construction Inspection (PDCI)
- ☐ PDS Building
- ☐ DGS
- ☐ DPR

By signing below, the County Inspector concurs that every BMP listed in Part 2 of this BMP Installation Verification form has been installed per plan.

Inspector Name: _____

Inspector's Signature: _____ Date: _____

DPW Watershed Protection Program (WPP) Acceptance:

Date Received: _____

WPP Reviewer: _____

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

WPP Reviewer's Signature: _____ Date: _____

Enter Acceptance ID# on page 1.

NOTES:

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 Agreement for Category 1 Stormwater Structural BMPs**

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

CATEGORY 1 MAINTENANCE AGREEMENTS ARE RECORDED PRIOR TO OCCUPANCY.

☐ **Storm Water Facilities Maintenance Agreement (SWMA) (Category 2 BMPs)**

- Exhibit A: Legal Description of Property
- Exhibit B: BMP Maintenance Program (see below)
- Exhibit C: BMP Locations

CATEGORY 2 MAINTENANCE AGREEMENTS ARE RECORDED PRIOR TO PERMIT ISSUANCE.

Maintenance agreement templates and instructions are available on the County's website: www.sandiegocounty.gov/stormwater under the Development Resources tab, Submittal Templates.

b. Maintenance Plan Requirements

Maintenance plans should include the following:

☒ Specific **maintenance indicators and actions** for proposed structural BMP(s). These must be based on maintenance indicators presented in BMP Design Manual 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:
1065 East Bradley LLC
7626 El Cajon Blvd.
La Mesa, CA 91942
Attn: Philip Chodur
(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_____.

1065 East Bradley, LLC, the Owner(s) of the hereinafter described real property:

Address 1065-1069 East Bradley Avenue, El Cajon, CA Post Office Box _____ Zip Code 92021.

Assessor Parcel No.(s) 388-331-04, 388-331-05, and 388-331-06

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

PDS2019-LDGRMJ-30236, Sheet 10. BMP #1 - Biofiltration Basin (BF-1); BMP #2 - Biofiltration Basin (BF-1);

BMP #3A Modular Wetlands System; BMP #3B StormTank System. *Attach BMP sheets and details as Exhibit A.*

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

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

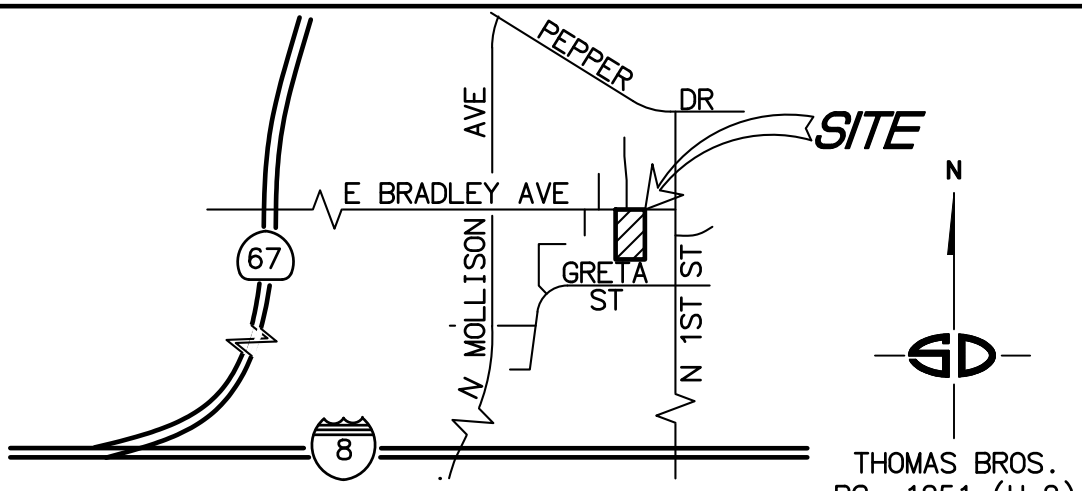
This Agreement shall run with the land. If the subject property is conveyed to any other person, firm, or corporation, the instrument that conveys title or any interest in or to said property, or any portion thereof, shall contain a provision transferring maintenance responsibility for Structural BMP(s)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

_____ _____

Owner Signature(s)

Philip Chodur, President _____

Print Owner Name(s) and Title



THOMAS BROS.
PG. 1251 (H-2)

VICINITY MAP

NO SCALE

LEGAL DESCRIPTION

THE EASTERLY 100 FEET OF THE WESTERLY 445 FEET OF THE WEST 6 ACRES: COMMENCING AT A POINT 11 CHAINS WEST AND 24 RODS NORTH OF THE SOUTHEAST CORNER OF SECTION 35, TOWNSHIP 15 SOUTH, RANGE 1 WEST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF SAN DIEGO, THENCE 80 RODS; THENCE NORTH 24 RODS; THENCE WEST 80 RODS; THENCE SOUTH 24 RODS TO THE POINT OF COMMENCEMENT, SAID PROPERTY BEING ALSO KNOWN AS LOT 12 OF SOMERMONT PLACE, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 661.

TOGETHER WITH:

THE EASTERLY 100 FEET OF THE WESTERLY 545 FEET OF THE FOLLOWING DESCRIBED PROPERTY: COMMENCING AT A POINT 11 CHAINS WEST AND 24 RODS NORTH OF THE SOUTHEAST CORNER OF SECTION 35, TOWNSHIP 15 SOUTH, RANGE 1 WEST, SAN BERNARDINO BASE AND MERIDIAN; THENCE 80 RODS; THENCE NORTH 24 RODS; THENCE WEST 80 RODS; THENCE SOUTH 24 RODS TO THE POINT OF COMMENCEMENT, SAID PROPERTY BEING ALSO KNOWN AS LOT 12 OF SOMERMONT PLACE, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 661.

ALSO TOGETHER WITH:

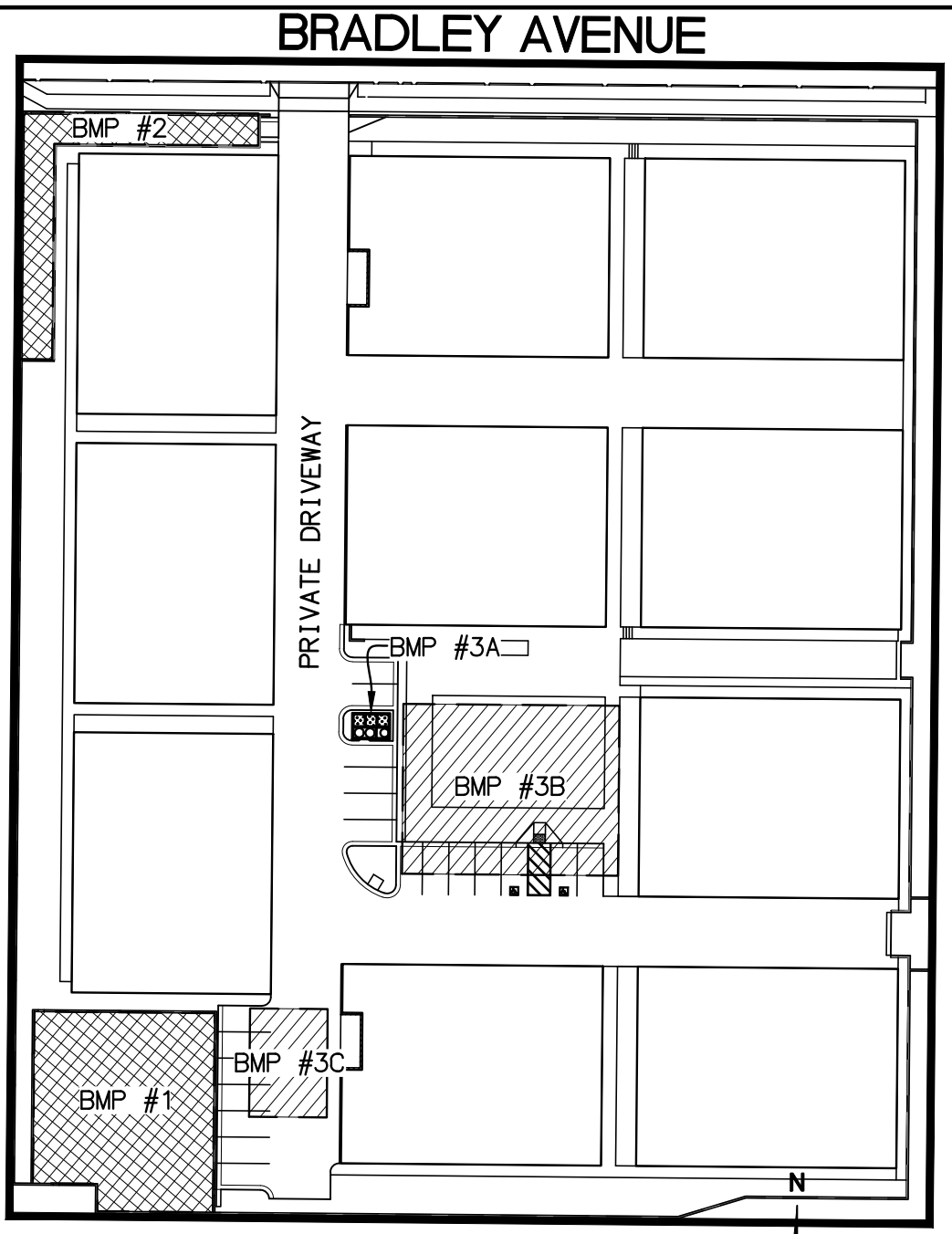
ALL THE WESTERLY 6 ACRES, EXCEPTING THE WESTERLY 545 FEET THEREOF OF THE FOLLOWING DESCRIBED PROPERTY; COMMENCING AT A POINT 11 CHAINS WEST AND 24 RODS NORTH OF THE SOUTHEAST CORNER OF SECTION 35, TOWNSHIP 15 SOUTH, RANGE 1 WEST, SAN BERNARDINO BASE AND MERIDIAN; THENCE 80 RODS; THENCE NORTH 24 RODS; THENCE WEST 80 RODS; THENCE SOUTH 24 RODS TO THE POINT OF COMMENCEMENT, SAID PROPERTY BEING ALSO KNOWN AS LOT 12 OF SOMERMONT PLACE, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 661.

REGISTERED PROFESSIONAL ENGINEER
WILLIAM A. SNIPES
No. 50477
Exp. 06-30-25
CIVIL
STATE OF CALIFORNIA

BY: _____
WILLIAM A. SNIPES
R.C.E. 50477 EXP. 06-30-25

DATE: 11/17/2023

VICINITY MAP - EXHIBIT A
BRADLEY APARTMENT COMPLEX
STORM WATER MAINTENANCE EXHIBIT



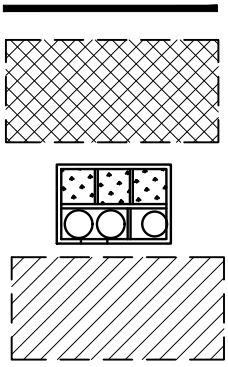
LEGEND

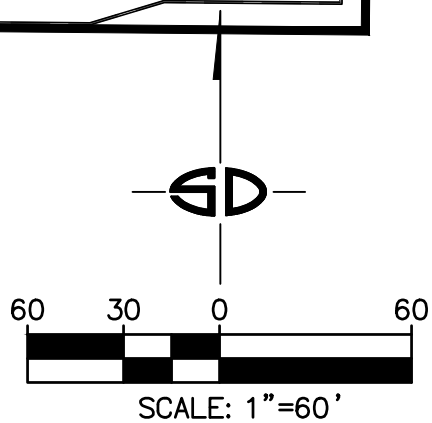
PROJECT BOUNDARY

BMP #1 - BIOFILTRATION
& BMP #2 BASIN (BF-1)

BMP # 3A - MODULAR WETLANDS
SYSTEM (BF-3)

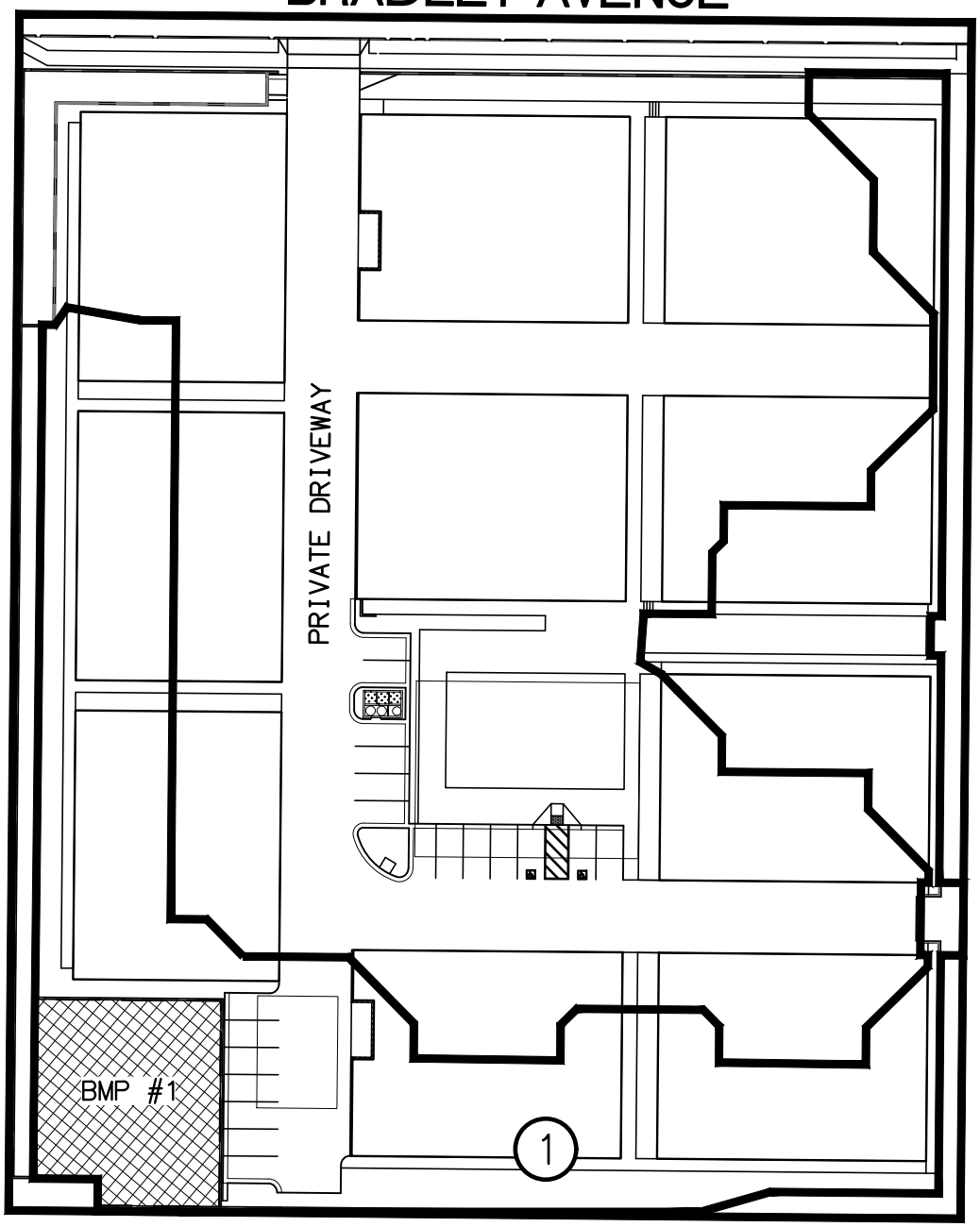
BMP # 3B - STORMTANK
& BMP # 3C





DATE: 11/17/2023

SITE MAP - EXHIBIT B
BRADLEY APARTMENT COMPLEX
STORM WATER MAINTENANCE EXHIBIT



LEGEND

BMP #1 - BIOFILTRATION BASIN (BF-1)

DRAINAGE MANAGEMENT AREA (DMA)

DMA BOUNDARY

N

SD

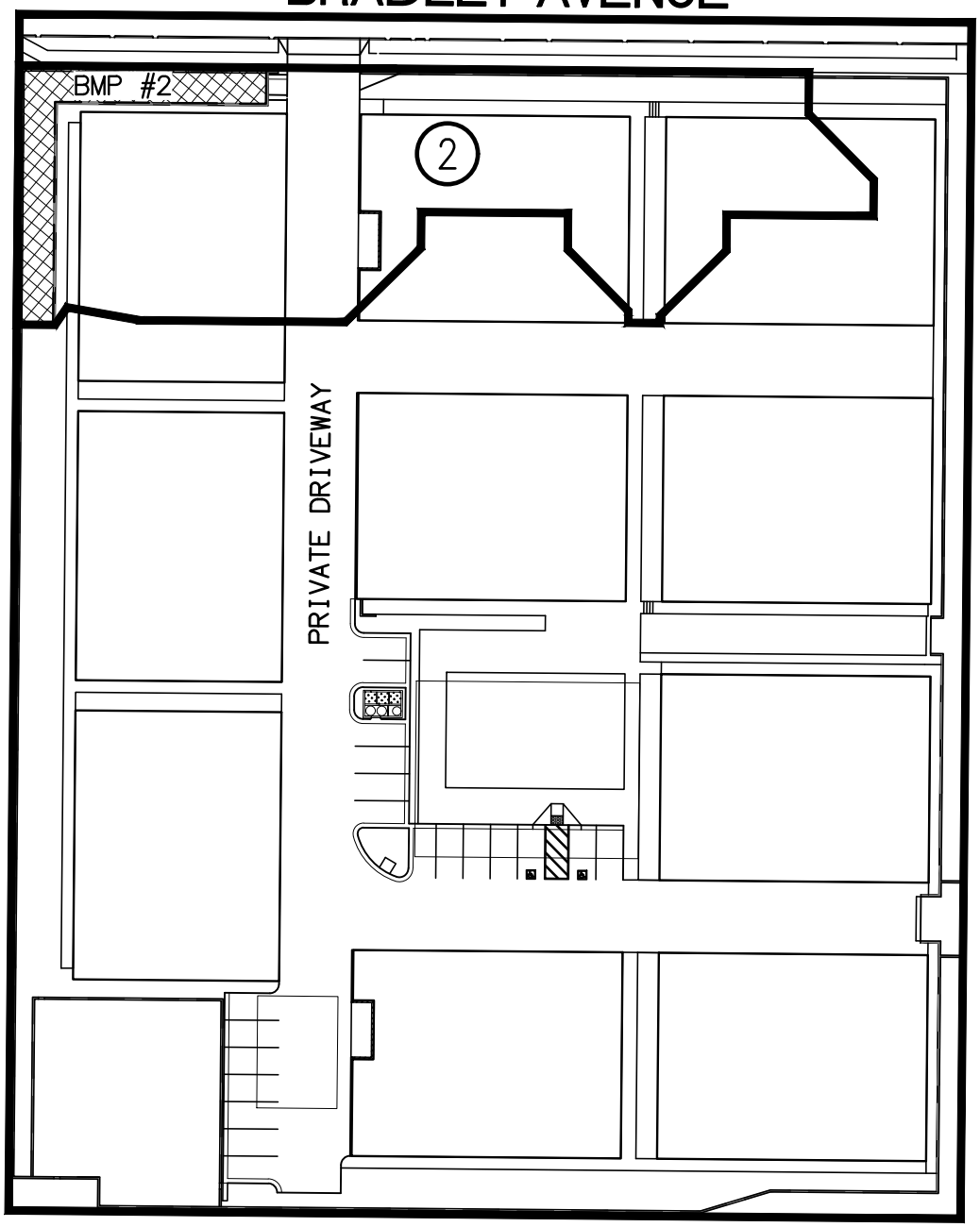
60 30 0 60

SCALE: 1"=60'

DATE: 11/17/2023

SHEET 3 OF 10

BMP MAP 1 - EXHIBIT B
BRADLEY APARTMENT COMPLEX
STORM WATER MAINTENANCE EXHIBIT



LEGEND

BMP #2 - BIOFILTRATION BASIN (BF-1)

DRAINAGE MANAGEMENT AREA (DMA)

DMA BOUNDARY

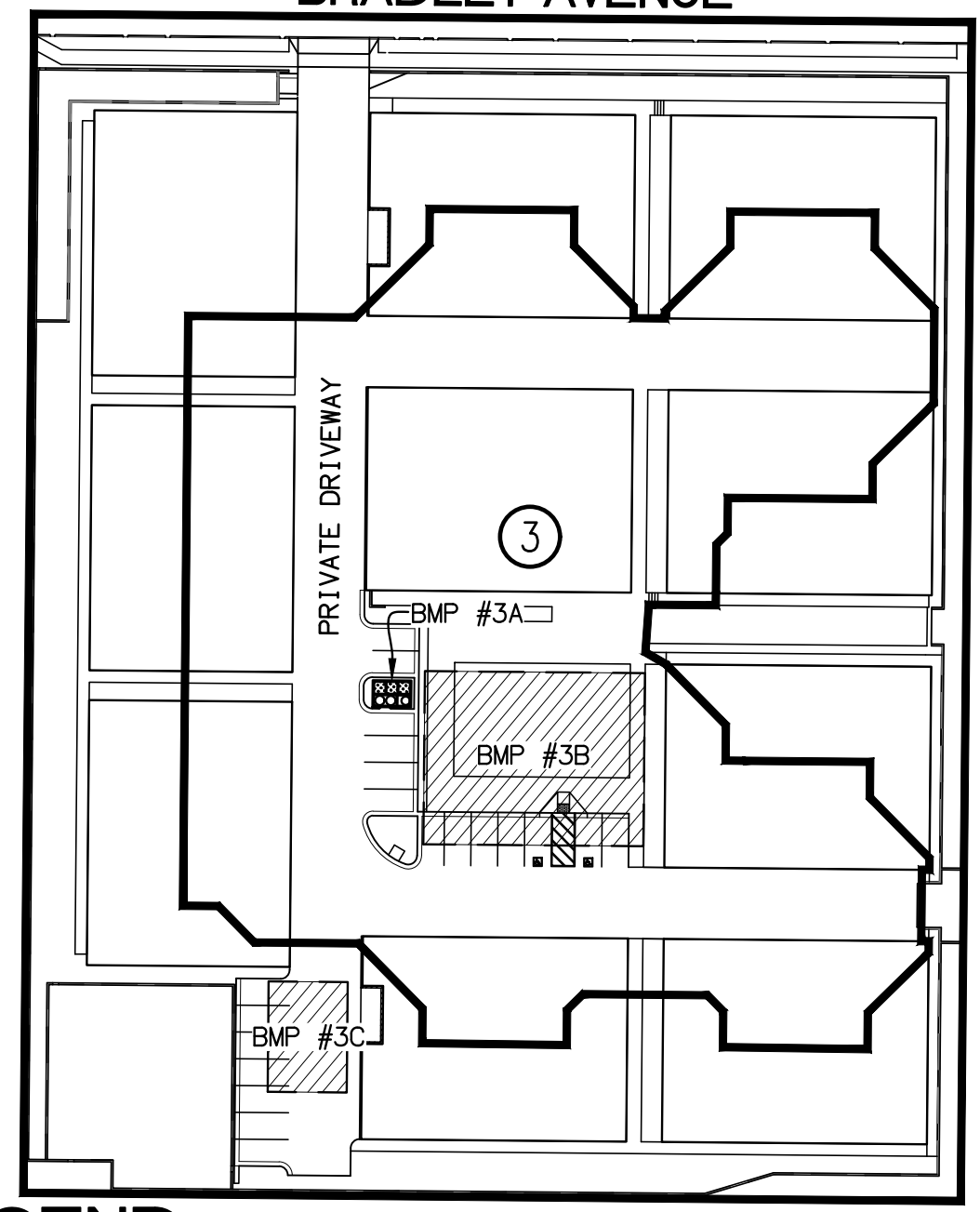
N

60 30 0 60

SCALE: 1"=60'

DATE: 11/17/2023

BMP MAP 2 - EXHIBIT B
BRADLEY APARTMENT COMPLEX
STORM WATER MAINTENANCE EXHIBIT



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LEGEND

BMP # 3A - MODULAR WETLANDS SYSTEM (BF-3)

BMP # 3B - STORMTANK & BMP # 3C

DRAINAGE MANAGEMENT AREA (DMA)

DMA BOUNDARY

60 30 0 60

SCALE: 1"=60'

DATE: 11/17/2023

BMP MAP 3 - EXHIBIT B
BRADLEY APARTMENT COMPLEX
STORM WATER MAINTENANCE EXHIBIT

BF-1
Biofiltration

SUMMARY OF STANDARD INSPECTION AND MAINTENANCE FOR BF-1 BIOFILTRATION		
THE PROPERTY OWNER IS RESPONSIBLE TO ENSURE INSPECTION, OPERATION AND MAINTENANCE OF PERMANENT BMPS ON THEIR PROPERTY UNLESS RESPONSIBILITY HAS BEEN FORMALLY TRANSFERRED TO AN AGENCY, COMMUNITY FACILITIES DISTRICT, HOMEOWNERS ASSOCIATION, PROPERTY OWNERS ASSOCIATION, OR OTHER SPECIAL DISTRICT. MAINTENANCE FREQUENCIES LISTED IN THIS TABLE ARE AVERAGE/TYPICAL FREQUENCIES. ACTUAL MAINTENANCE NEEDS ARE SITE-SPECIFIC, AND MAINTENANCE MAY BE REQUIRED MORE FREQUENTLY. MAINTENANCE MUST BE PERFORMED WHENEVER NEEDED, BASED ON MAINTENANCE INDICATORS PRESENTED IN THIS TABLE. THE BMP OWNER IS RESPONSIBLE FOR CONDUCTING REGULAR INSPECTIONS TO SEE WHEN MAINTENANCE IS NEEDED BASED ON THE MAINTENANCE INDICATORS. DURING THE FIRST YEAR OF OPERATION OF A STRUCTURAL BMP, INSPECTION IS RECOMMENDED AT LEAST ONCE PRIOR TO AUGUST 31 AND THEN MONTHLY FROM SEPTEMBER THROUGH MAY. INSPECTION DURING A STORM EVENT IS ALSO RECOMMENDED. AFTER THE INITIAL PERIOD OF FREQUENT INSPECTIONS, THE MINIMUM INSPECTION AND MAINTENANCE FREQUENCY CAN BE DETERMINED BASED ON THE RESULTS OF THE FIRST YEAR INSPECTIONS.		
THRESHOLD/INDICATOR	**MAINTENANCE ACTION**	**TYPICAL MAINTENANCE FREQUENCY**
ACCUMULATION OF SEDIMENT, LITTER, OR DEBRIS	REMOVE AND PROPERLY DISPOSE OF ACCUMULATED MATERIALS, WITHOUT DAMAGE TO THE VEGETATION OR COMPACTION OF THE MEDIA LAYER.	• INSPECT MONTHLY. IF THE BMP IS 25% FULL* OR MORE IN ONE MONTH, INCREASE INSPECTION FREQUENCY TO MONTHLY PLUS AFTER EVERY 0.1-INCH OR LARGER STORM EVENT. • REMOVE ANY ACCUMULATED MATERIALS FOUND AT EACH INSPECTION.
OBSTRUCTED INLET OR OUTLET STRUCTURE	CLEAR BLOCKAGE.	• INSPECT MONTHLY AND AFTER EVERY 0.5-INCH OR LARGER STORM EVENT. • REMOVE ANY ACCUMULATED MATERIALS FOUND AT EACH INSPECTION.
DAMAGE TO STRUCTURAL COMPONENTS SUCH AS WEIRS, INLET OR OUTLET	REPAIR OR REPLACE AS APPLICABLE	• INSPECT ANNUALLY. • MAINTENANCE WHEN NEEDED.
POOR VEGETATION ESTABLISHMENT	RE-SEED, RE-PLANT, OR RE-ESTABLISH VEGETATION PER ORIGINAL PLANS.	• INSPECT MONTHLY. • MAINTENANCE WHEN NEEDED.
DEAD OR DISEASED VEGETATION	REMOVE DEAD OR DISEASED VEGETATION, RE-SEED, RE-PLANT, OR RE-ESTABLISH VEGETATION PER ORIGINAL PLANS.	• INSPECT MONTHLY. • MAINTENANCE WHEN NEEDED.
OVERGROWN VEGETATION	MOW OR TRIM AS APPROPRIATE.	• INSPECT MONTHLY. • MAINTENANCE WHEN NEEDED.
2/3 OF MULCH HAS DECOMPOSED, OR MULCH HAS BEEN REMOVED	REMOVE DECOMPOSED FRACTION AND TOP OFF WITH FRESH MULCH TO A TOTAL DEPTH OF 3 INCHES.	• INSPECT MONTHLY. • REPLENISH MULCH ANNUALLY, OR MORE FREQUENTLY WHEN NEEDED BASED ON INSPECTION.

*"25% FULL" IS DEFINED AS ¼ OF THE DEPTH FROM THE DESIGN BOTTOM ELEVATION TO THE CREST OF THE OUTFLOW STRUCTURE (E.G., IF THE HEIGHT TO THE OUTFLOW OPENING IS 12 INCHES FROM THE BOTTOM ELEVATION, THEN THE MATERIALS MUST BE REMOVED WHEN THERE IS 3 INCHES OF ACCUMULATION – THIS SHOULD BE MARKED ON THE OUTFLOW STRUCTURE).

BF-1
Biofiltration

SUMMARY OF STANDARD INSPECTION AND MAINTENANCE FOR BF-1 BIOFILTRATION (CONTINUED FROM PREVIOUS PAGE)		
THRESHOLD/INDICATOR	**MAINTENANCE ACTION**	**TYPICAL MAINTENANCE FREQUENCY**
EROSION DUE TO CONCENTRATED IRRIGATION FLOW	REPAIR/RE-SEED/RE-PLANT ERODED AREAS AND ADJUST THE IRRIGATION SYSTEM.	• INSPECT MONTHLY. • MAINTENANCE WHEN NEEDED.
EROSION DUE TO CONCENTRATED STORM WATER RUNOFF FLOW	REPAIR/RE-SEED/RE-PLANT ERODED AREAS, AND MAKE APPROPRIATE CORRECTIVE MEASURES SUCH AS ADDING EROSION CONTROL BLANKETS, ADDING STONE AT FLOW ENTRY POINTS, OR MINOR RE-GRADING TO RESTORE PROPER DRAINAGE ACCORDING TO THE ORIGINAL PLAN. IF THE ISSUE IS NOT CORRECTED BY RESTORING THE BMP TO THE ORIGINAL PLAN AND GRADE, THE [CITY ENGINEER] SHALL BE CONTACTED PRIOR TO ANY ADDITIONAL REPAIRS OR RECONSTRUCTION.	• INSPECT AFTER EVERY 0.5-INCH OR LARGER STORM EVENT. IF EROSION DUE TO STORM WATER FLOW HAS BEEN OBSERVED, INCREASE INSPECTION FREQUENCY TO AFTER EVERY 0.1-INCH OR LARGER STORM EVENT. • MAINTENANCE WHEN NEEDED. IF THE ISSUE IS NOT CORRECTED BY RESTORING THE BMP TO THE ORIGINAL PLAN AND GRADE, THE [CITY ENGINEER] SHALL BE CONTACTED PRIOR TO ANY ADDITIONAL REPAIRS OR RECONSTRUCTION.
STANDING WATER IN BMP FOR LONGER FOLLOWING A STORM EVENT SURFACE PONDING LONGER THAN APPROXIMATELY 24 HOURS FOLLOWING A STORM EVENT MAY BE DETRIMENTAL TO VEGETATION HEALTH	MAKE APPROPRIATE CORRECTIVE MEASURES SUCH IRRIGATION SYSTEM, REMOVING OBSTRUCTIONS INVASIVE VEGETATION, CLEARING UNDERDRAINS, OR REPAIRING/REPLACING CLOGGED OR COMPACTED SOILS.	• INSPECT MONTHLY AND AFTER EVERY 0.5-INCH OR LARGER STORM EVENT. IF STANDING WATER IS OBSERVED, INCREASE INSPECTION FREQUENCY TO AFTER EVERY 0.1-INCH OR LARGER STORM EVENT. • MAINTENANCE WHEN NEEDED.
PRESENCE OF MOSQUITOS/LARVAE FOR IMAGES OF EGG RAFTS, LARVA, PUPA, AND MOSQUITOS, SEE HTTP://WWW.MOSQUITO.ORG/BIOLOGY	IF MOSQUITOS/LARVAE ARE OBSERVED: FIRST, REMOVE ANY STANDING WATER BY DISPERSING TO LANDSCAPING; SECOND, MAKE CORRECTIVE APPLICABLE TO RESTORE BMP DRAINAGE TO WATER. IF MOSQUITOS PERSIST FOLLOWING CORRECTIVE REMOVE STANDING WATER, OR IF THE BMP MEET THE 96-HOUR DRAWDOWN CRITERIA DUE TO RATES CONTROLLED BY AN ORIFICE UNDERDRAIN, THE [CITY ENGINEER] SHALL BE DETERMINE A SOLUTION. A DIFFERENT BMP TYPE, MANAGEMENT PLAN PREPARED WITH COUNTY OF SAN DIEGO DEPARTMENT OF HEALTH, MAY BE REQUIRED.	• INSPECT MONTHLY AND AFTER EVERY 0.5-INCH OR LARGER STORM EVENT. IF MOSQUITOS ARE OBSERVED, INCREASE INSPECTION FREQUENCY TO AFTER EVERY 0.1-INCH OR LARGER STORM EVENT. • MAINTENANCE WHEN NEEDED.
UNDERDRAIN CLOGGED	CLEAR BLOCKAGE.	• INSPECT IF STANDING WATER IS OBSERVED FOR LONGER THAN 24-96 HOURS FOLLOWING A STORM EVENT. • MAINTENANCE WHEN NEEDED.

DATE: 11/17/2023

BMP MAINTENANCE PROGRAM – EXHIBIT B
BRADLEY APARTMENT COMPLEX
STORM WATER MAINTENANCE EXHIBIT

MAINTENANCE GUIDELINES FOR MODULAR WETLAND SYSTEM - LINEAR		
THRESHOLD / INDICATOR	**MAINTENANCE PROCEDURES**	**AVERAGE MAINTENANCE INTERVAL**
Trash in Screening Device	1. *Remove grate or manhole cover to gain access to the screening device in the Pre-Treatment Chamber. Vault type units do not have screening device. Maintenance can be performed without entry.* 2. *Remove all pollutants collected by screening device. Removal can be done manually or with the use of a vacuum truck. The hose of the vacuum truck will not damage the screening device.* 3. *Screening device can easily be removed from the Pre-Treatment Chamber to gain access to separation chamber and media filters below. Replace grate or manhole cover when completed.*	*6 to 12 Months*
Sediment in Separation Chamber	1. *Perform maintenance procedures of screening device listed above before maintaining the separation chamber.* 2. *With pressure washer spray down pollutants accumulated on walls and cartridge filters.* 3. *Vacuum out Separation Chamber and remove all accumulated pollutants. Replace screening device, grate or manhole cover when completed.*	*12 to 24 Months*
Cartridge Filter Media Replacement	1. *Perform maintenance procedures on screening device and separation chamber before maintaining cartridge filters.* 2. *Enter separation chamber.* 3. *Unscrew the two bolts holding the lid on each cartridge filter and remove lid.* 4. *Remove each of 4 to 8 media cages holding the media in place.* 5. *Spray down the cartridge filter to remove any accumulated pollutants.* 6. *Vacuum out old media and accumulated pollutants.* 7. *Reinstall media cages and fill with new media from manufacturer or outside supplier. Manufacturer will provide specification of media and sources to purchase.* 8. *Replace the lid and tighten down bolts. Replace screening device, grate or manhole cover when completed.*	*12 to 24 Months*
Drain Down Filter Media Replacement	1. *Remove hatch or manhole cover over discharge chamber and enter chamber.* 2. *Unlock and lift drain down filter housing and remove old media block. Replace with new media block. Lower drain down filter housing and lock into place.* 3. *Exit chamber and replace hatch or manhole cover.*	*12 to 24 Months*
Trim Vegetation	1. *Mow or trim as appropriate.*	*6 to 12 Months*

DATE: 11/17/2023

BMP MAINTENANCE PROGRAM - EXHIBIT B
BRADLEY APARTMENT COMPLEX
STORM WATER MAINTENANCE EXHIBIT

HU-1
Cistern

SUMMARY OF STANDARD INSPECTION AND MAINTENANCE FOR HU-1 CISTERN		
The property owner is responsible to ensure inspection, operation and maintenance of permanent BMPs on their property unless responsibility has been formally transferred to an agency, community facilities district, homeowners association, property owners association, or other special district. Maintenance frequencies listed in this table are average/typical frequencies. Actual maintenance needs are site-specific, and maintenance may be required more frequently. Maintenance must be performed whenever needed, based on maintenance indicators presented in this table. The BMP owner is responsible for conducting regular inspections to see when maintenance is needed based on the maintenance indicators. During the first year of operation of a structural BMP, inspection is recommended at least once prior to August 31 and then monthly from September through May. Inspection during a storm event is also recommended. After the initial period of frequent inspections, the minimum inspection and maintenance frequency can be determined based on the results of the first year inspections.		
Threshold/Indicator	**Maintenance Action**	**Typical Inspection and Maintenance Frequency**
Accumulation of sediment, litter, or debris at the inlet	Remove and properly dispose of accumulated materials.	• Inspect monthly and after every 0.5-inch or larger storm event. • Remove any accumulated materials found at each inspection.
Outlet blocked	Clear blockage.	• Inspect monthly and after every 0.5-inch or larger storm event. • Remove any accumulated materials found at each inspection.
Accumulation of sediment, litter, or debris in the storage container	Remove and properly dispose of accumulated materials.	• Inspect monthly. If the BMP is 25% full* or more in one month, increase inspection frequency to monthly plus after every 0.1-inch or larger storm event. • Remove materials annually (minimum), or more frequently when BMP is 25% full* (or at manufacturer threshold if manufacturer threshold is less than 25% full*) in less than one year, or if accumulation blocks outlet
Standing water in storage container between storm events outside of normal use timeframe for the stored water. Normal use timeframe is 36 to 96 hours following a storm event depending on the purpose and design of the cistern.	Use the water as intended, or disperse to landscaping. Implement practices onsite to drain and use the stored water. Contact the [City Engineer] to determine a solution if onsite use cannot be reliably sustained.	• Inspect monthly and after every 0.5-inch or larger storm event. If standing water is observed, increase inspection frequency to after every 0.1-inch or larger storm event. • Maintenance when needed.

*"25% full" is defined as ¼ of the depth from the design bottom elevation to the crest of the outflow structure (e.g., if the height to the outflow opening is 12 inches from the bottom elevation, then the materials must be removed when there is 3 inches of accumulation – this should be marked on the outflow structure)

HU-1
Cistern

SUMMARY OF STANDARD INSPECTION AND MAINTENANCE FOR HU-1 CISTERN (Continued from previous page)		
Threshold/Indicator	**Maintenance Action**	**Typical Inspection and Maintenance Frequency**
Presence of mosquitos/larvae For images of egg rafts, larva, pupa, and adult mosquitos, see http://www.mosquito.org/biology	If mosquitos/larvae are observed: first, immediately remove any standing water by using the water as intended for irrigation or alternative grey water, or by dispersing to landscaping; second, check cistern outlet for blockage and clear blockage if applicable to restore drainage; third, install barriers such as screens that prevent mosquito access to the storage container.	• Inspect monthly and after every 0.5-inch or larger storm event. If mosquitos are observed, increase inspection frequency to after every 0.1-inch or larger storm event. • Maintenance when needed.
Leaks or other damage to ancillary parts including valves, piping, screens, level indicators, and other accessories	Repair or replace as applicable.	• Inspect twice per year. • Maintenance when needed.
Leaks or other damage to storage container	Repair or replace as applicable.	• Inspect twice per year. • Maintenance when needed.
Cistern leaning or unstable, damage to roof, supports, anchors, or foundation	Make repairs as appropriate to correct the problem and stabilize the system.	• Inspect twice per year. • Maintenance when needed.

References

American Mosquito Control Association.
http://www.mosquito.org/
California Storm Water Quality Association (CASQA). 2003. Municipal BMP Handbook.
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County of San Diego. 2014. Low Impact Development Handbook.
http://www.sandiegocounty.gov/content/sdc/dpw/watersheds/sumps/lid.html
San Diego County Copermittees. 2016. Model BMP Design Manual, Appendix E, Fact Sheet HU-1.
http://www.projectcleanwater.org/index.php?option=com content&view=article&id=250&itemid=220