County of San Diego
PRIORITY DEVELOPMENT PROJECT (PDP) SWQMP

SKYLINE RETIREMENT CENTER

CAMPO ROAD
LA MESA, CA 91941

ASSESSOR'S PARCEL NUMBER(S):
506-140-06 07
ENGINEER OF WORK:

BRUCE A. ROBERTSON R.C.E. 48529

PREPARED FOR:

SKYLINE CHURCH
11330 CAMPO ROAD
LA MESA, CA 91941
(619) 660-5000

PDP SWQMP PREPARED BY:

REC CONSULTANTS, INC.
2442 SECOND AVE
SAN DIEGO, CA 92101
(619) 232-9200

DATE OF SWQMP:
9/11/2017

PLANS PREPARED BY:
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SAN DIEGO, CA 92101
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SWQMP APPROVED BY:

APPROVAL DATE:

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Table of Contents

Attachments

Acronyms

ACP	Alternative Compliance Project
APN	Assessor's Parcel Number
BMP	Best Management Practice
BMP DM	Best Management Practice Design Manual
HMP	Hydromodification Management Plan
HSG	Hydrologic Soil Group
MS4	Municipal Separate Storm Sewer System
N/A	Not Applicable
NRCS	Natural Resources Conservation Service
PDCI	Private Development Construction Inspection Section
PDP	Priority Development Project
PDS	Planning and Development Services
PE	Professional Engineer
RPO	Resource Protection Ordinance
SC	Source Control
SD	Site Design
SDRWQCB	San Diego Regional Water Quality Control Board
SIC	Standard Industrial Classification
SWQMP	Storm Water Quality Management Plan
WMAA	Watershed Management Area Analysis
WPO	Watershed Protection Ordinance
WQIP	Water Quality Improvement Plan

PDP SWQMP Preparer's Certification Page

Project Name: Skyline Retirement Center
Permit Application Number:

PREPARER'S CERTIFICATION

I hereby declare that I am the Engineer in Responsible Charge of design of 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 storm water BMPs for this project, of my responsibilities for project design.

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

Bruce A. Robertson
Print Name

REC-Consultants, Inc.
Company

_____
Date

Engineer's Seal:

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Submittal Record

Use this Table to keep a record of submittals of this PDP SWQMP. Each time the PDP SWQMP is re-submitted, provide the date and status of the project. In column 4 summarize the changes that have been made or indicate if response to plancheck comments is included. When applicable, insert response to plancheck comments behind this page.

Preliminary Design / Planning / CEQA

Submittal Number	Date	Summary of Changes
1	09/12/2015	Initial Submittal
2	11/11/2016	1st Resubmittal
3	9/11/2017	2nd Resubmittal Report updated per comments
4		

Final Design

Submittal Number	Date	Summary of Changes
1		Initial Submittal
2		
3		
4		

Plan Changes

Submittal Number	Date	Summary of Changes
1		Initial Submittal
2		
3		
4		

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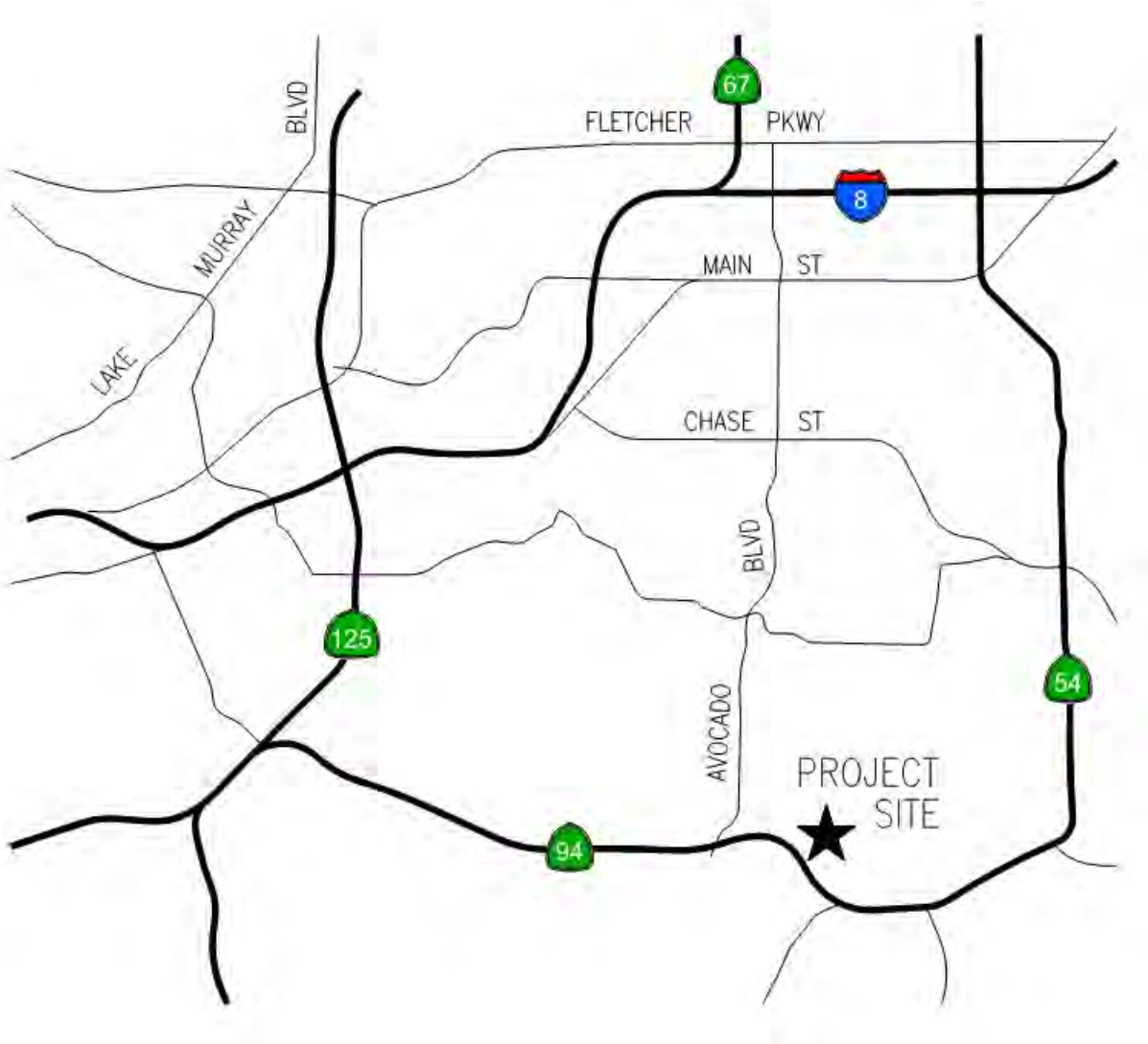
Project Vicinity Map

Project Name: Skyline Retirement Center
Record ID:



NOT TO SCALE

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Step 1: Project type determination (Standard or Priority Development Project)

Is the project part of another Priority Development Project (PDP)? ☐ Yes ☒ No If so, a PDP SWQMP is required. Go to Step 2.			
The project is (select one): ☒ New Development ☐ Redevelopment[1]			
The total proposed newly created or replaced impervious area is: 173,626 ft^2			
The total existing (pre-project) impervious area is: 3,283 ft^2			
The total area disturbed by the project is: 399,794 ft^2			
If the total area disturbed by the project is 1 acre (43,560 sq. ft.) or more OR the project is part of a larger common plan of development disturbing 1 acre or more, a Waste Discharger Identification (WDID) number must be obtained from the State Water Resources Control Board. WDID: _TBD__			
Is the project in any of the following categories, (a) through (f)?[2]			
Yes ☒	No ☐	(a)	New development projects that create 10,000 square feet or more of impervious surfaces[3] (collectively over the entire project site). This includes commercial, industrial, residential, mixed-use, and public development projects on public or private land.
Yes ☐	No ☒	(b)	Redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface (collectively over the entire project site on an existing site of 10,000 square feet or more of impervious surfaces). This includes commercial, industrial, residential, mixed-use, and public development projects on public or private land.
Yes ☐	No ☒	(c)	New and redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface (collectively over the entire project site), and support one or more of the following uses: (i) Restaurants. This category is defined as a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (Standard Industrial Classification (SIC) code 5812). (ii) Hillside development projects. This category includes development on any natural slope that is twenty-five percent or greater. (iii) Parking lots. This category is defined as a land area or facility for the temporary parking or storage of motor vehicles used personally, for business, or for commerce. (iv) Streets, roads, highways, freeways, and driveways. This category is defined as any paved impervious surface used for the transportation of automobiles, trucks, motorcycles, and other vehicles.

[1] Redevelopment is defined as: The creation and/or replacement of impervious surface on an already developed site. Examples include the expansion of a building footprint, road widening, the addition to or replacement of a structure, and creation or addition of impervious surfaces. Replacement of impervious surfaces includes any activity that is not part of a routine maintenance activity where impervious material(s) are removed, exposing underlying soil during construction. Redevelopment does not include routine maintenance activities, such as trenching and resurfacing associated with utility work; pavement grinding; resurfacing existing roadways; new sidewalks construction; pedestrian ramps; or bike lanes on existing roads; and routine replacement of damaged pavement, such as pothole repair.

[2] Applicants should note that any development project that will create and/or replace 10,000 square feet or more of impervious surface (collectively over the entire project site) is considered a new development.

[3] For solar energy farm projects, the area of the solar panels does not count toward the total impervious area of the site.

Project type determination (continued)

Yes ☐	No ☒	(d)	New or redevelopment projects that create and/or replace 2,500 square feet or more of impervious surface (collectively over the entire project site), and discharging directly to an Environmentally Sensitive Area (ESA). "Discharging directly to" includes flow that is conveyed overland a distance of 200 feet or less from the project to the ESA, or conveyed in a pipe or open channel any distance as an isolated flow from the project to the ESA (i.e. not commingled with flows from adjacent lands). *Note: ESAs are areas that include but are not limited to all Clean Water Act Section 303(d) impaired water bodies; areas designated as Areas of Special Biological Significance by the State Water Board and San Diego Water Board; State Water Quality Protected Areas; water bodies designated with the RARE beneficial use by the State Water Board and San Diego Water Board; and any other equivalent environmentally sensitive areas which have been identified by the Copermittees. See BMP Design Manual Section 1.4.2 for additional guidance.*
Yes ☐	No ☒	(e)	New development projects, or redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface, that support one or more of the following uses: (i) Automotive repair shops. This category is defined as a facility that is categorized in any one of the following SIC codes: 5013, 5014, 5541, 7532-7534, or 7536-7539. (ii) Retail gasoline outlets (RGOs). This category includes RGOs that meet the following criteria: (a) 5,000 square feet or more or (b) a projected Average Daily Traffic (ADT) of 100 or more vehicles per day.
Yes ☒	No ☐	(f)	New or redevelopment projects that result in the disturbance of one or more acres of land and are expected to generate pollutants post construction. *Note: See BMP Design Manual Section 1.4.2 for additional guidance.*

Does the project meet the definition of one or more of the Priority Development Project categories (a) through (f) listed above?

☐ No – the project is not a Priority Development Project (Standard Project).

☒ Yes – the project is a Priority Development Project (PDP).

Further guidance may be found in Chapter 1 and Table 1-2 of the BMP Design Manual.

The following is for **redevelopment PDPs only**:

The area of existing (pre-project) impervious area at the project site is: ft^2 (A)
The total proposed newly created or replaced impervious area is ft^2 (B)
Percent impervious surface created or replaced (B/A)*100: %
The percent impervious surface created or replaced is (select one based on the above calculation):

☐ less than or equal to fifty percent (50%) – **only newly created or replaced impervious areas are considered a PDP and subject to stormwater requirements**

OR

☐ greater than fifty percent (50%) – **the entire project site is considered a PDP and subject to stormwater requirements**

Step 1.1: Storm Water Quality Management Plan requirements

Step	Answer	Progression
Is the project a Standard Project, Priority Development Project (PDP), or exception to PDP definitions? To answer this item, complete Step 1 Project Type Determination Checklist on Pages 1 and 2, and see PDP exemption information below. For further guidance, see Section 1.4 of the BMP Design Manual *in its entirety*.	☐ Standard Project	Standard Project requirements apply, including Standard Project SWQMP. **Complete Standard Project SWQMP.**
	☒ PDP	Standard and PDP requirements apply, including PDP SWQMP. **Complete PDP SWQMP.**
	☐ PDP with ACP	If participating in offsite alternative compliance, **complete Step 6.3 and an ACP SWQMP.**
	☐ PDP Exemption	**Go to Step 1.2 below.**

Step 1.2: Exemption to PDP definitions

Is the project exempt from PDP definitions based on either of the following: ☐ Projects that are only new or retrofit paved sidewalks, bicycle lanes, or trails that meet the following criteria: (i) Designed and constructed to direct storm water runoff to adjacent vegetated areas, or other non-erodible permeable areas; OR (ii) Designed and constructed to be hydraulically disconnected from paved streets or roads [i.e., runoff from the new improvement does not drain directly onto paved streets or roads]; OR (iii) Designed and constructed with permeable pavements or surfaces in accordance with County of San Diego Guidance on Green Infrastructure;	If so: Standard Project requirements apply, AND any additional requirements specific to the type of project. County concurrence with the exemption is required. *Provide discussion and list any additional requirements below in this form.* **Complete Standard Project SWQMP**
☐ Projects that are only retrofitting or redeveloping existing paved alleys, streets or roads that are designed and constructed in accordance with the County of San Diego Guidance on Green Infrastructure.	**Complete Green Streets PDP Exempt SWQMP.**
Discussion / justification, and additional requirements for exceptions to PDP definitions, if applicable:	

Step 2: Construction Storm Water BMP Checklist

Minimum Required Standard Construction Storm Water BMPs		
If you answer "Yes" to any of the questions below, your project is subject to Table 1 on the following page (Minimum Required Standard Construction Stormwater BMPs). As noted in Table 1, please select at least the minimum number of required BMPs, or as many as are feasible for your project. If no BMP is selected, an explanation must be given in the box provided. The following questions are intended to aid in determining construction BMP requirements for your project. **Note: All selected BMPs below must be included on the BMP plan incorporated into the construction plan sets.**		
1. Will there be soil disturbing activities that will result in exposed soil areas? (This includes minor grading and trenching.) **Reference Table 1 Items A, B, D, and E** Note: Soil disturbances NOT considered significant include, but are not limited to, change in use, mechanical/electrical/plumbing activities, signs, temporary trailers, interior remodeling, and minor tenant improvement.	☒Yes	☐No
2. Will there be asphalt paving, including patching? **Reference Table 1 Items D and F**	☒Yes	☐No
3. Will there be slurries from mortar mixing, coring, or concrete saw cutting? **Reference Table 1 Items D and F**	☒Yes	☐No
4. Will there be solid wastes from concrete demolition and removal, wall construction, or form work? **Reference Table 1 Items D and F**	☒Yes	☐No
5. Will there be stockpiling (soil, compost, asphalt, concrete, solid waste) for over 24 hours? **Reference Table 1 Items D and F**	☒Yes	☐No
6. Will there be dewatering operations? **Reference Table 1 Items C and D**	☒Yes	☐No
7. Will there be temporary on-site storage of construction materials, including mortar mix, raw landscaping and soil stabilization materials, treated lumber, rebar, and plated metal fencing materials? **Reference Table 1 Items E and F**	☒Yes	☐No
8. Will trash or solid waste product be generated from this project? **Reference Table 1 Item F**	☒Yes	☐No
9. Will construction equipment be stored on site (e.g.: fuels, oils, trucks, etc.?) **Reference Table 1 Item F**	☒Yes	☐No
10. Will Portable Sanitary Services ("Porta-potty") be used on the site? **Reference Table 1 Item F**	☒Yes	☐No

Table 1. Construction Storm Water BMP Checklist

Minimum Required Best Management Practices (BMPs)	CALTRANS SW Handbook[4] Detail or County Std. Detail	✔ BMP Selected	Reference sheet No.'s where each selected BMP is shown on the plans. If no BMP is selected, an explanation must be provided.
A. Select Erosion Control Method for Disturbed Slopes (choose at least one for the appropriate season)			
Vegetation Stabilization Planting[5] (Summer)	SS-2, SS-4	☒	Site Plan & Preliminary Grading Plot Plan Sheet 1 and P1
Hydraulic Stabilization Hydroseeding[2] (Summer)	SS-4	☒	
Bonded Fiber Matrix or Stabilized Fiber Matrix[6] (Winter)	SS-3	☒	
Physical Stabilization Erosion Control Blanket[3] (Winter)	SS-7	☒	
B. Select erosion control method for disturbed flat areas (slope < 5%) (choose at least one)			
County Standard Lot Perimeter Protection Detail	PDS 659[7], SC-2	☒	Site Plan & Preliminary Grading Plot Plan Sheet 1 and P1
Will use erosion control measures from Item A on flat areas also	SS-3, 4, 7	☒	
County Standard Desilting Basin (must treat all site runoff)	PDS 660[8], SC-2	☒	
Mulch, straw, wood chips, soil application	SS-6, SS-8	☒	

4 State of California Department of Transportation (Caltrans). 2003. Storm Water Quality Handbooks, Construction Site Best Management Practices (BMPs) Manual. March. Available online at: http://www.dot.ca.gov/hq/construc/stormwater/manuals.htm.

5 If Vegetation Stabilization (Planting or Hydroseeding) is proposed for erosion control it may be installed between May 1st and August 15th. Slope irrigation is in place and needs to be operable for slopes >3 feet. Vegetation must be watered and established prior to October 1st. The owner must implement a contingency physical BMP by August 15th if vegetation establishment does not occur 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.

6 All slopes over three feet must have established vegetative cover prior to final permit approval.

7 County of San Diego, Planning & Development Services. 2012. Standard Lot Perimeter Protection Design System. Building Division. PDS 659. Available online at http://www.sandiegocounty.gov/pds/docs/pds659.pdf.

8 County of San Diego, Planning & Development Services. 2012. County Standard Desilting Basin for Disturbed Areas of 1 Acre or Less Building Division. PDS 659. Available online at http://www.sandiegocounty.gov/pds/docs/pds660.pdf.

Table 1. Construction Storm Water BMP Checklist (continued)

Minimum Required Best Management Practices (BMPs)	CALTRANS SW Handbook Detail or County Std. Detail	✔ BMP Selected	Reference sheet No.'s where each selected BMP is shown on the plans. If no BMP is selected, an explanation must be provided.
C. If runoff or dewatering operation is concentrated, velocity must be controlled using an energy dissipater			
Energy Dissipater Outlet Protection[9]	SS-10	☒	Site Plan & Preliminary Grading Plot Plan Sheet 1 and P1
D. Select sediment control method for all disturbed areas (choose at least one)			
Silt Fence	SC-1	☒	Site Plan & Preliminary Grading Plot Plan Sheet 1 and P1
Fiber Rolls (Straw Wattles)	SC-5	☒	
Gravel & Sand Bags	SC-6 & 8	☒	
Dewatering Filtration	NS-2	☒	
Storm Drain Inlet Protection	SC-10	☒	
Engineered Desilting Basin (sized for 10-year flow)	SC-2	☒	
E. Select method for preventing offsite tracking of sediment (choose at least one)			
Stabilized Construction Entrance	TC-1	☒	Site Plan & Preliminary Grading Plot Plan Sheet 1 and P1
Construction Road Stabilization	TC-2	☒	
Entrance/Exit Tire Wash	TC-3	☒	
Entrance/Exit Inspection & Cleaning Facility	TC-1	☒	
Street Sweeping and Vacuuming	SC-7	☒	
F. Select the general site management BMPs			
F.1 Materials Management			
Material Delivery & Storage	WM-1	☒	Site Plan & Preliminary Grading Plot Plan Sheet 1 and P1
Spill Prevention and Control	WM-4	☒	
F.2 Waste Management[10]			
Waste Management Concrete Waste Management	WM-8	☒	Site Plan & Preliminary Grading Plot Plan Sheet 1 and P1
Solid Waste Management	WM-5	☒	
Sanitary Waste Management	WM-9	☒	
Hazardous Waste Management	WM-6	☒	

Note: The Construction General Permit (Order No. 2009-0009-DWQ) also requires all projects not subject to the BMP Design Manual to comply with runoff reduction requirements through the implementation of post-construction BMPs as described in Section XIII of the order.

[9] Regional Standard Drawing D-40 – Rip Rap Energy Dissipater is also acceptable for velocity reduction.

[10] Not all projects will have every waste identified. The applicant is responsible for identifying wastes that will be onsite and applying the appropriate BMP. For example, if concrete will be used, BMP WM-8 must be selected.

Step 3: County of San Diego PDP SWQMP Site Information Checklist

Step 3.1: Description of Existing Site Condition

Project Watershed (Complete Hydrologic Unit, Area, and Subarea Name with Numeric Identifier)	Sweetwater Watershed (909) Middle Sweetwater Hydrologic Area(909.2) Jamacha Hydrologic Subarea (909.21)

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

- ☐ Existing development
- ☐ Previously graded but not built out
- ☐ Demolition completed without new construction
- ☐ Agricultural or other non-impervious use
- ☒ Vacant, undeveloped/natural

Description / Additional Information:
Project site is currently vacant.

Existing Land Cover Includes (select all that apply and provide each area on site):

- ☒ Vegetative Cover 9.40 Acres (409,619 Square Feet)
- ☐ Non-Vegetated Pervious Areas Acres (Square Feet)
- ☒ Impervious Areas 0.08 Acres (3,289 Square Feet)

Description / Additional Information:
Project site contains a brow ditch which collects runoff from the project site. Vegetation consists of lightly dense native shrub

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

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

Approximate Depth to Groundwater (GW) (or N/A if no infiltration is used):

- ☐ GW Depth < 5 feet
- ☐ 5 feet < GW Depth < 10 feet
- ☐ 10 feet < GW Depth < 20 feet
- ☒ GW Depth > 20 feet

Existing Natural Hydrologic Features (select all that apply):

- ☒ Watercourses
- ☐ Seeps
- ☐ Springs
- ☐ Wetlands
- ☐ None
- ☐ Other

Description / Additional Information:
There is an existing watercourse located along the northeastern project boundary.

Step 3.2: Description of Existing Site Drainage Patterns

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

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

Describe existing site drainage patterns:
In existing conditions, the Skyline Retirement Center project site is an undisturbed-lightly vegetated site.

Runoff from the existing site flows to one (1) of two (2) PODs. POD 1 is a manhole located downstream of the outlet of an existing brow ditch. The brow ditch conveys runoff from the POD 1 tributary area.

POD 2 is a junction structure located beneath the driveway entrance/exit to the adjacent Skyline Church. POD 2 receives runoff the existing natural drainage channel located adjacent to the southeastern project boundary. The runoff is conveyed to POD-2 via one of two existing culverts. There is no run-on from the adjacent parking lot located along the southwestern project boundary. The project site ultimately drains to the receiving Sweetwater Creek/Reservoir located approximately 1 mile east.

SUMMARY OF EXISTING CONDITIONS FLOWS

Discharge Location	Drainage Area (Ac)	100-Year Peak Flow (cfs)
POD-1	9.83	14.2
POD-2	1.72	2.9
TOTAL	**11.55**	**17.1**

Step 3.3: Description of Proposed Site Development

Project Description / Proposed Land Use and/or Activities:
The Skyline Retirement Center project proposes the construction of dwelling units, access road/parking lot, and landscaped/undisturbed areas.

List/describe proposed impervious features of the project (e.g., buildings, roadways, parking lots, courtyards, athletic courts, other impervious features):
The proposed impervious features of the Skyline Retirement Center project include dwelling units and access road/parking lot.

List/describe proposed pervious features of the project (e.g., landscape areas):
The proposed pervious features of the Skyline Retirement Center project are landscaping areas and undisturbed areas.

Does the project include grading and changes to site topography?
☒Yes
☐No

Description / Additional Information:
Proposed grading will result in runoff from tributary area to POD-1 to be conveyed to one (1) of three (3) proposed BMPs prior to being conveyed to POD-1. Tributary area to POD-2 will remain as in existing conditions.

Insert acreage or square feet for the different land cover types in the table below:

Change in Land Cover Type Summary			
Land Cover Type	Existing (acres)	Proposed (acres)	Percent Change
Vegetation	9.4	5.5	-41.6%
Pervious (non-vegetated)			
Impervious	0.08	3.99	4988%

Step 3.4: Description of Proposed Site Drainage Patterns

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

☒Yes

☐No

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

Describe proposed site drainage patterns:

The Skyline Retirement Center project proposes the construction of 232 dwelling units, access road/parking lot, and landscaped/undisturbed areas.

The tributary area draining to POD-1 includes both developed and undisturbed/bypass areas. Developed flow runoff is conveyed via street flow to one (1) of three (3) BMPs (BMPs 1-3), for both treatment and detention. Runoff from the bypass area is conveyed directly to POD-1 via a series of brow ditches and stormdrain thus bypassing treatment. Note that the total area tributary to POD-1 increased compared to existing conditions as a result of proposed offsite improvements, along the southern boundary, consisting of a sidewalk and DG path

Tributary area to POD-2 also increased compared to existing conditions. Land usage (i.e. undisturbed natural channel) remained as in existing conditions. The additional area resulted in a longer time of concentration (Tc) compared to existing conditions. As such, the peak flow was lower compared to existing conditions. Thus, no routing was is necessary.

SUMMARY OF PEAK FLOWS

Discharge Location	Area (ac)			100 Year Peak Flow (cfs)		
	Existing	Developed	Difference	Existing	Developed	Difference
POD-1	9.83	10.02	+0.19	14.2	9.28	-4.92
POD-2	1.72	1.80	+0.08	2.9	2.54	-0.36
Total	**11.55**	**11.82**	**+0.27**	**17.1**	**11.82**	**-5.28**

As shown in the above table, the proposed Skyline Retirement Center project site will result in a net decrease of peak flow discharged from the project site by approximately 5.28 cfs.

Please reference the project drainage study (Attachment 6) for detailed calculations.

Step 3.5: Potential Pollutant Source Areas

Identify whether any of the following features, activities, and/or pollutant source areas will be present (select all that apply). Select "Other" if the project is a phased development and provide a description:

- ☒ On-site storm drain inlets
- ☒ Interior floor drains and elevator shaft sump pumps
- ☐ Interior parking garages
- ☒ Need for future indoor & structural pest control
- ☒ Landscape/Outdoor Pesticide Use
- ☒ Pools, spas, ponds, decorative fountains, and other water features
- ☐ Food service
- ☒ Refuse areas
- ☐ Industrial processes
- ☐ Outdoor storage of equipment or materials
- ☐ Vehicle and Equipment Cleaning
- ☐ Vehicle/Equipment Repair and Maintenance
- ☐ Fuel Dispensing Areas
- ☐ Loading Docks
- ☒ Fire Sprinkler Test Water
- ☒ Miscellaneous Drain or Wash Water
- ☒ Plazas, sidewalks, and parking lots
- ☐ Other (provide description)

Description / Additional Information:

Step 3.6: Identification and Narrative of Receiving Water and Pollutants of Concern

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):
Project site runoff is conveyed to Steele Canyon Creek which is a tributary to the Sweetwater River. The Upper Sweetwater River flows to the Sweetwater Reservoir and continues its course through the lower Sweetwater River, and finally reaches its ultimate discharge point at the San Diego Bay.

List any 303(d) impaired water bodies[11] 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
Sweetwater Reservoir	Dissolved Oxygen	Bacteria, Nutrients
San Diego Bay Shoreline (Chula Vista Marina)	Enterococcus, Fecal Coliform, Total Coliform, Copper, Benthic Community Effects, Sediment Toxicity, Toxicity, Chlordane, PAHs (Polycrylic Aromatic Hydrocarbons)	Bacteria, Dissolved Copper, Lead, Zinc
Steele Canyon Creek	Indicator Bacteria	
Upper Sweetwater River		Bacteria, Nutrients, Trash
Lower Sweetwater River	Enterococcus, Fecal Coliform, Phosphorous, Selenium, Total Dissolved Solids, Total Nitrogen as N, Toxicity	

Identification of Project Site Pollutants*

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

Identify pollutants 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	☐	☒	☐

[11] The current list of Section 303(d) impaired water bodies can be found at http://www.waterboards.ca.gov/water_issues/programs/water_quality_assessment/#impaired

Step 3.7: Hydromodification Management Requirements

Do hydromodification management requirements apply (see Section 1.6 of the BMP Design Manual)?

☒Yes, hydromodification management requirements for flow control and preservation of critical coarse sediment yield areas are applicable.

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

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

☐No, the project will discharge runoff directly to an area identified as appropriate for an exemption by the WMAA[12] for the watershed in which the project resides.

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

[12] The Watershed Management Area Analysis (WMAA) is an optional element for inclusion in the Water Quality Improvement Plans (WQIPs) described in the 2013 MS4 Permit [Provision B.3.b.(4)]. It is available online at the Project Clean Water website: http://www.projectcleanwater.org/index.php?option=com_content&view=article&id=248

Step 3.7.1: Critical Coarse Sediment Yield Areas*

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

Projects must satisfy critical coarse sediment yield area (CCSYA) requirements by characterizing the project as one of the scenario-types presented below and satisfying associated criteria. Projects must appropriately satisfy all requirements for identification, avoidance, and bypass, OR may alternatively elect to demonstrate no net impact.

☐ **Scenario 1**: Project is subject to and in compliance with RPO requirements *(without utilization of RPO exemptions 86.604(e)(2)(cc) or 86.604(e)(3) that result in impacts to more than 15% of the project-scale CCSYAs)*.

- ☐ Identify: Project has identified both onsite and upstream CCSYAs as areas that are coarse, ≥25% slope, and ≥50' tall. *(Optional refinement methods may be performed per guidance in Section H.1.2). AND,*
- ☐ Avoid: Project has avoided onsite CCSYAs per existing RPO steep slope encroachment criteria. AND,
- ☐ Bypass: Project has demonstrated that both onsite and upstream CCSYAs are bypassed through or around the project site with a 2 year peak storm velocity of 3 feet per second or greater. OR,
- ☐ No Net Impact: Project does not satisfy all Scenario 1 criteria above and must alternatively demonstrate no net impact to the receiving water.

☒ **Scenario 2**: Project is entirely exempt/not subject to RPO requirements without utilization of RPO exemptions 86.604(e)(2)(cc) or 86.604(e)(3).

- ☒ Identify: Project has identified upstream CCSYAs that are coarse, ≥25% slope, and ≥50' tall. *(Optional refinement methods may be performed per guidance in Section H.1.2). AND,*
- ☒ Avoid: Project is not required to avoid onsite CCSYAs as none were identified in the previous step. AND,
- ☒ Bypass: Project has demonstrated that upstream CCSYAs are bypassed through or around the project site with a 2 year peak storm velocity of 3 feet per second or greater. OR,
- ☐ No Net Impact: Project does not satisfy all Scenario 2 criteria above and must alternatively demonstrate no net impact to the receiving water. *(Skip to next row).*

☐ **Scenario 3**: Project utilizes exemption(s) via RPO Section 86.604(e)(2)(cc) or 86.604(e)(3) and impacts more than 15% of the project-scale CCSYAs.

- ☐ No Net Impact: Project is not eligible for traditional methods of identification, avoidance, and bypass. Project must demonstrate no net impact to the receiving water.

Critical Coarse Sediment Yield Areas Continued
Demonstrate No Net Impact
If the project elects to satisfy CCSYA criteria through demonstration of no net impact to the receiving water. Applicants must identify the methods utilized from the list below and provide supporting documentation in Attachment 2c of the SWQMP. Check all that are applicable. ☐ N/A, the project appropriately identifies, avoids, and bypasses CCSYAs. ☐ Project has performed additional analysis to demonstrate that impacts to CCSYAs satisfy the no net impact standard of Ep/Sp≤1.1. ☐ Project has provided alternate mapping of CCSYAs. ☐ Project has implemented additional onsite hydromodification flow control measures. ☐ Project has implemented an offsite stream rehabilitation project to offset impacts. ☐ Project has implemented other applicant-proposed mitigation measures.

Step 3.7.2: Flow Control for Post-Project Runoff*

*This Section only required if hydromodification management requirements apply
List and describe point(s) of compliance (POCs) for flow control for hydromodification management (see Section 6.3.1). For each POC, provide a POC identification name or number correlating to the project's HMP Exhibit and a receiving channel identification name or number correlating to the project's HMP Exhibit. POC 1 is a manhole located downstream of the outlet of an existing brow ditch. POC 2 is a junction structure located beneath the driveway entrance/exit to the adjacent Skyline Church.
Has a geomorphic assessment been performed for the receiving channel(s)? ☒ No, the low flow threshold is 0.1Q2 (default low flow threshold) ☐ Yes, the result is the low flow threshold is 0.1Q2 ☐ Yes, the result is the low flow threshold is 0.3Q2 ☐ Yes, the result is the low flow threshold is 0.5Q2 *If a geomorphic assessment has been performed, provide title, date, and preparer:* *Discussion / Additional Information: (optional)*

Step 3.8: Other Site Requirements and Constraints

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

No other site requirements and or constraints impacted the design.

Optional Additional Information or Continuation of Previous Sections As Needed

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

Step 4: Source Control BMP Checklist

Source Control BMPs

All development projects must implement source control BMPs 4.2.1 through 4.2.6 where applicable and feasible. See Chapter 4.2 and Appendix E of the County BMP Design Manual for information to implement source control BMPs shown in this checklist.

Answer each category below pursuant to the following:

- "Yes" means the project will implement the source control BMP as described in Chapter 4.2 and/or Appendix E of the County BMP Design Manual. Discussion / justification is not required.
- "No" means the BMP is applicable to the project but it is not feasible to implement. Discussion / justification must be provided.
- "N/A" means the BMP is not applicable at the project site because the project does not include the feature that is addressed by the BMP (e.g., the project has no outdoor materials storage areas). Discussion / justification must be provided.

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

Source Control Requirement	Applied?		
4.2.5 Protect Trash Storage Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	☒Yes	☐No	☐N/A
Discussion / justification if 4.2.5 not implemented:			
4.2.6 Additional BMPs Based on Potential Sources of Runoff Pollutants (must answer for each source listed below):			
☒ A. On-site storm drain inlets	☒Yes	☐No	☐N/A
☒ B. Interior floor drains and elevator shaft sump pumps	☒Yes	☐No	☐N/A
☐ C. Interior parking garages	☐Yes	☐No	☒N/A
☐ D. Need for future indoor & structural pest control	☐Yes	☐No	☒N/A
☒ E. Landscape/outdoor pesticide use	☒Yes	☐No	☐N/A
☒ F. Pools, spas, ponds, fountains, and other water features	☒Yes	☐No	☒N/A
☐ G. Food service	☐Yes	☐No	☒N/A
☒ H. Refuse areas	☒Yes	☐No	☐N/A
☐ I. Industrial processes	☐Yes	☐No	☒N/A
☐ J. Outdoor storage of equipment or materials	☐Yes	☐No	☒N/A
☐ K. Vehicle and equipment cleaning	☐Yes	☐No	☒N/A
☐ L. Vehicle/equipment repair and maintenance	☐Yes	☐No	☒N/A
☐ M. Fuel dispensing areas	☐Yes	☐No	☒N/A
☐ N. Loading docks	☐Yes	☐No	☒N/A
☒ O. Fire sprinkler test water	☒Yes	☐No	☐N/A
☐ P. Miscellaneous drain or wash water	☐Yes	☐No	☒N/A
☒ Q. Plazas, sidewalks, and parking lots	☒Yes	☐No	☐N/A

Discussion / justification if 4.2.6 not implemented. Clearly identify which sources of runoff pollutants are discussed. Justification must be provided for <u>all</u> "No" answers shown above.

<u>For onsite storm drain inlets:</u>

- Mark all inlets with the words “No Dumping! Flows to Bay” or similar.
- Maintain and periodically repaint or replace inlet markings.

<u>For interior floor drains and elevator shaft pumps:</u>

- Interior floor drains and elevator shaft sump pumps will be plumbed to sanitary sewer.
- Inspect and maintain drains to prevent blockages and overflow.

<u>For landscape/outdoor pesticide use, final landscape plans will accomplish all of the following:</u>

- Design landscaping to minimize irrigation and runoff, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides that can contribute to storm water pollution.
- Where landscaped areas are used to retain or detain storm water, specify plants that are tolerant of periodic saturated soil conditions.
- Consider using pest-resistant plants, especially adjacent to hardscape.
- To ensure successful establishment, select plants appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions.
- Maintain landscaping using minimum or no pesticides.

<u>For pools, spas, ponds, fountains, and other water features:</u>

- Show location of water feature and a sanitary sewer cleanout in an accessible area within 10 feet.

<u>For fire sprinkler test water:</u>

- Provide a means to drain fire sprinkler test water to the sanitary sewer.

<u>For refuse areas:</u>

- Signs will be posted on or near dumpsters with the words “Do not dump hazardous materials here” or similar.
- Provide adequate number of receptacles.
- Inspect receptacles regularly; repair or replace leaky receptacles.
- Keep receptacles covered. Prohibit/prevent dumping of liquid or hazardous wastes.
- Inspect and pick up litter daily and clean up spills immediately.
- Keep spill control materials available on- site.

<u>For plazas, sidewalks, and parking lots</u>:

- Plazas, sidewalks, and parking lots shall be swept regularly to prevent the accumulation of litter and debris.
- Debris from pressure washing shall be collected to prevent 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.

Note: Show all source control measures described above that are included in design capture volume calculations in the plan sheets of Attachment 5.

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Step 5: Site Design BMP Checklist

Site Design BMPs
All development projects must implement site design BMPs SD-A through SD-H where applicable and feasible. See Chapter 4.3 and Appendix E of the County BMP Design Manual for information to implement site design BMPs shown in this checklist. Answer each category below pursuant to the following: • "Yes" means the project will implement the site design BMP as described in Chapter 4.3 and/or Appendix E of the County BMP Design Manual. Discussion / justification is not required. • "No" means the BMP is applicable to the project but it is not feasible to implement. Discussion / justification must be provided. • "N/A" means the BMP is not applicable at the project site because the project does not include the feature that is addressed by the BMP (e.g., the project site has no existing natural areas to conserve). Discussion / justification must be provided.

Site Design Requirement	Applied?		
4.3.1 Maintain Natural Drainage Pathways and Hydrologic Features	☒Yes	☐No	☐N/A
Discussion / justification if 4.3.1 not implemented: Existing watercourse located along northeastern project boundary to remain undisturbed.			
4.3.2 Conserve Natural Areas, Soils, and Vegetation	☒Yes	☐No	☐N/A
Discussion / justification if 4.3.2 not implemented:			
4.3.3 Minimize Impervious Area	☒Yes	☐No	☐N/A
Discussion / justification if 4.3.3 not implemented:			
4.3.4 Minimize Soil Compaction	☒Yes	☐No	☐N/A
Discussion / justification if 4.3.4 not implemented:			
4.3.5 Impervious Area Dispersion	☒Yes	☐No	☐N/A
Discussion / justification if 4.3.5 not implemented:			

Site Design Requirement	Applied?		
4.3.6 Runoff Collection	☒Yes	☐No	☐N/A
Discussion / justification if 4.3.6 not implemented: There is a proposed path along the project boundary. The permeable material selected for the path is DG.			
4.3.7 Landscaping with Native or Drought Tolerant Species	☒Yes	☐No	☐N/A
Discussion / justification if 4.3.7 not implemented:			
4.3.8 Harvesting and Using Precipitation	☐Yes	☐No	☒N/A
Discussion / justification if 4.3.8 not implemented: Harvest and use deemed infeasible per Worksheet 3-1 (Attachment 1).			

Note: Show all site design measures described above that are included in design capture volume calculations in the plan sheets of Attachment 5.

Step 6: PDP Structural BMPs

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

PDP structural BMPs must be verified by the County at the completion of construction. This may include requiring the project owner or project owner's representative and engineer of record to certify construction of the structural BMPs (see Section 1.12 of the BMP Design Manual). PDP structural BMPs must be maintained into perpetuity, and the County must confirm the maintenance (see Section 7 of the BMP Design Manual).

Use this section to provide narrative description of the general strategy for structural BMP implementation at the project site in the box below. Then complete the PDP structural BMP summary information sheet (Step 6.2) for each structural BMP within the project (copy the BMP summary information sheet [Step 6.2] as many times as needed to provide summary information for each individual structural BMP).

Step 6.1: Description of structural BMP strategy

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

The project site was delineated by DMA per Section 3.3.3. There were a total of eleven (11) DMAs delineated. Of these, five (5) DMAs were determined to qualify, per Section 5.2, as self-mitigating DMAs. The remaining DMAs drain to one (1) of three (3) proposed BMPs. The DCV of each DMA was calculated per Appendix B.1.

It is anticipated in final engineering that all roof drains will be disconnected from each residence such that flows will travel overland via vegetated swales prior to reach the proposed street. The runoff will then be conveyed via curb and gutter to inlets that discharge into the proposed BMPs.

After filling out Worksheet B.3-1, it was determined that the implementation of Harvest and Use BMPs is infeasible. The results of Worksheet I-8 were such that site conditions are suitable for infiltration. However, site-specific percolation tests performed by the project geotechnical engineers determined that all basins are to be designed as partial retention basins. As the project has HMP requirements, the BMPs are to be for both pollutant and hydromodification control.

All proposed BMPs have been sized to adequately treat their respective DCV. The DCV was calculated based on contributing impervious and pervious areas. The BMPs were designed per Fact Sheet EF-1 and Appendix F.

(Continue on following page as necessary.)

Description of structural BMP strategy continued
(Page reserved for continuation of description of general strategy for structural BMP implementation at the site)

(Continued from previous page)

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Step 6.2: Structural BMP Checklist

(Copy this page as needed to provide information for each individual proposed structural BMP)	
Structural BMP ID No. BMP 1	
Construction Plan Sheet No.	
Type of structural BMP: ☐ Retention by harvest and use (HU-1) ☐ Retention by infiltration basin (INF-1) ☐ Retention by bioretention (INF-2) ☐ Retention by permeable pavement (INF-3) ☒ Partial retention by biofiltration with partial retention (PR-1) ☐ Biofiltration (BF-1) ☒ Biofiltration with Nutrient Sensitive Media Design (BF-2) ☐ Proprietary Biofiltration (BF-3) meeting all requirements of Appendix F ☐ Flow-thru treatment control with prior lawful approval to meet earlier PDP requirements (provide BMP type/description in discussion section below) ☐ Flow-thru treatment control included as pre-treatment/forebay for an onsite retention or biofiltration BMP (provide BMP type/description and indicate which onsite retention or biofiltration BMP it serves in discussion section below) ☐ Flow-thru treatment control with alternative compliance (provide BMP type/description in discussion section below) ☐ Detention pond or vault for hydromodification management ☐ Other (describe in discussion section below)	
Purpose: ☐ Pollutant control only ☐ Hydromodification control only ☒ Combined pollutant control and hydromodification control ☐ Pre-treatment/forebay for another structural BMP ☐ Other (describe in discussion section below)	
Who will certify construction of this BMP? Provide name and contact information for the party responsible to sign BMP verification forms (See Section 1.12 of the BMP Design Manual)	Bruce A Robertson REC Constultants, Inc. (619) 232-9200
Who will be the final owner of this BMP?	☐ HOA ☒ Property Owner ☐ County ☐ Other (describe)
Who will maintain this BMP into perpetuity?	☐ HOA ☒ Property Owner ☐ County ☐ Other (describe)
What Category (1-4) is the Structural BMP? Refer to the Category definitions in Section 7.3 of the BMP DM. Attach the appropriate maintenance agreement in Attachment 3.	Category 2
Discussion (as needed): *(Continue on subsequent pages as necessary)*	

(Copy this page as needed to provide information for each individual proposed structural BMP)	
Structural BMP ID No. BMP 2	
Construction Plan Sheet No.	
Type of structural BMP: ☐ Retention by harvest and use (HU-1) ☐ Retention by infiltration basin (INF-1) ☐ Retention by bioretention (INF-2) ☐ Retention by permeable pavement (INF-3) ☒ Partial retention by biofiltration with partial retention (PR-1) ☐ Biofiltration (BF-1) ☒ Biofiltration with Nutrient Sensitive Media Design (BF-2) ☐ Proprietary Biofiltration (BF-3) meeting all requirements of Appendix F ☐ Flow-thru treatment control with prior lawful approval to meet earlier PDP requirements (provide BMP type/description in discussion section below) ☐ Flow-thru treatment control included as pre-treatment/forebay for an onsite retention or biofiltration BMP (provide BMP type/description and indicate which onsite retention or biofiltration BMP it serves in discussion section below) ☐ Flow-thru treatment control with alternative compliance (provide BMP type/description in discussion section below) ☐ Detention pond or vault for hydromodification management ☐ Other (describe in discussion section below)	
Purpose: ☐ Pollutant control only ☐ Hydromodification control only ☒ Combined pollutant control and hydromodification control ☐ Pre-treatment/forebay for another structural BMP ☐ Other (describe in discussion section below)	
Who will certify construction of this BMP? Provide name and contact information for the party responsible to sign BMP verification forms (See Section 1.12 of the BMP Design Manual)	Bruce A. Robertson REC Consultants, Inc. (619) 232-9200
Who will be the final owner of this BMP?	☐ HOA ☒ Property Owner ☐ County ☐ Other (describe)
Who will maintain this BMP into perpetuity?	☐ HOA ☒ Property Owner ☐ County ☐ Other (describe)
What Category (1-4) is the Structural BMP? Refer to the Category definitions in Section 7.3 of the BMP DM. Attach the appropriate maintenance agreement in Attachment 3.	Category 2
Discussion (as needed): *(Continue on subsequent pages as necessary)*	

(Copy this page as needed to provide information for each individual proposed structural BMP)	
Structural BMP ID No. BMP 3	
Construction Plan Sheet No.	
Type of structural BMP: ☐ Retention by harvest and use (HU-1) ☐ Retention by infiltration basin (INF-1) ☐ Retention by bioretention (INF-2) ☐ Retention by permeable pavement (INF-3) ☒ Partial retention by biofiltration with partial retention (PR-1) ☐ Biofiltration (BF-1) ☒ Biofiltration with Nutrient Sensitive Media Design (BF-2) ☐ Proprietary Biofiltration (BF-3) meeting all requirements of Appendix F ☐ Flow-thru treatment control with prior lawful approval to meet earlier PDP requirements (provide BMP type/description in discussion section below) ☐ Flow-thru treatment control included as pre-treatment/forebay for an onsite retention or biofiltration BMP (provide BMP type/description and indicate which onsite retention or biofiltration BMP it serves in discussion section below) ☐ Flow-thru treatment control with alternative compliance (provide BMP type/description in discussion section below) ☐ Detention pond or vault for hydromodification management ☐ Other (describe in discussion section below)	
Purpose: ☐ Pollutant control only ☐ Hydromodification control only ☒ Combined pollutant control and hydromodification control ☐ Pre-treatment/forebay for another structural BMP ☐ Other (describe in discussion section below)	
Who will certify construction of this BMP? Provide name and contact information for the party responsible to sign BMP verification forms (See Section 1.12 of the BMP Design Manual)	Bruce A. Roberston REC Consultants, Inc. (619) 232-9200
Who will be the final owner of this BMP?	☐ HOA ☒ Property Owner ☐ County ☐ Other (describe)
Who will maintain this BMP into perpetuity?	☐ HOA ☒ Property Owner ☐ County ☐ Other (describe)
What Category (1-4) is the Structural BMP? Refer to the Category definitions in Section 7.3 of the BMP DM. Attach the appropriate maintenance agreement in Attachment 3.	Category 2
Discussion (as needed): *(Continue on subsequent pages as necessary)*	

Step 6.3: Offsite Alternative Compliance Participation Form

PDP INFORMATION	
Record ID:	
Assessor's Parcel Number(s) [APN(s)]	
What are your PDP Pollutant Control Debits? *See Attachment 1 of the PDP SWQMP	
What are your PDP HMP Debits? (if applicable) *See Attachment 2 of the PDP SWQMP	
ACP Information	
Record ID:	
Assessor's Parcel Number(s) [APN(s)]	
Project Owner/Address	
What are your ACP Pollutant Control Credits? *See Attachment 1 of the ACP SWQMP	
What are your ACP HMP Debits? (if applicable) *See Attachment 2 of the ACP SWQMP	
Is your ACP in the same watershed as your PDP? ☐ Yes ☐ No	Will your ACP project be completed prior to the completion of the PDP? ☐ Yes ☐ No
Does your ACP account for all Deficits generated by the PDP? ☐ Yes ☐ No (PDP and/or ACP must be redesigned to account for all deficits generated by the PDP.	What is the difference between your PDP debits and ACP Credits? *(ACP Credits -Total PDP Debits = Total Earned Credits)

ATTACHMENT 1

BACKUP FOR PDP POLLUTANT CONTROL BMPS

This is the cover sheet for Attachment 1.

Indicate which Items are Included behind this cover sheet:

Attachment Sequence	Contents	Checklist
Attachment 1a	Storm Water Pollutant Control Worksheet Calculations -Worksheet B.3-1 (Required) -Worksheet B.1-1 (Required) -Worksheet B.4-1 (if applicable) -Worksheet B.4-2 (if applicable) -Worksheet B.5-1 (if applicable) -Worksheet B.5-2 (if applicable) -Worksheet B.5-3 (if applicable) -Worksheet B.6-1 (if applicable) -Summary Worksheet (optional)	☒ Included
Attachment 1b	Form I-8, Categorization of Infiltration Feasibility Condition (Required unless the project will use harvest and use BMPs) Refer to Appendices C and D of the BMP Design Manual to complete Form I-8.	☒ Included ☐ Not included because the entire project will use harvest and use BMPs
Attachment 1c	DMA Exhibit (Required) See DMA Exhibit Checklist on the back of this Attachment cover sheet.	☒ Included
Attachment 1d	Individual Structural BMP DMA Mapbook (Required) -Place each map on 8.5”x11” paper. -Show at a minimum the DMA, Structural BMP, and any existing hydrologic features within the DMA.	☒ Included

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BMP-1 LOCATED IN HSG-A

Automated Worksheet B.3-1: Project-Scale BMP Feasibility Analysis (V1.3)

Category	#	Description	Value	Units
Capture & Use Inputs	0	Design Capture Volume for Entire Project Site	1,952	cubic-feet
	1	Proposed Development Type	Residential	unitless
	2	Number of Residents or Employees at Proposed Development	170	#
	3	Total Planted Area within Development	51,780	sq-ft
	4	Water Use Category for Proposed Planted Areas	Low	unitless
Infiltration Inputs	5	Is Average Site Design Infiltration Rate ≤0.500 Inches per Hour?	Yes	yes/no
	6	Is Average Site Design Infiltration Rate ≤0.010 Inches per Hour?	No	yes/no
	7	Is Infiltration of the Full DCV Anticipated to Produce Negative Impacts?	No	yes/no
	8	Is Infiltration of Any Volume Anticipated to Produce Negative Impacts?	No	yes/no
Calculations	9	36-Hour Toilet Use Per Resident or Employee	1.86	cubic-feet
	10	Subtotal: Anticipated 36 Hour Toilet Use	317	cubic-feet
	11	Anticipated 1 Acre Landscape Use Over 36 Hours	52.14	cubic-feet
	12	Subtotal: Anticipated Landscape Use Over 36 Hours	62	cubic-feet
	13	Total Anticipated Use Over 36 Hours	379	cubic-feet
	14	Total Anticipated Use / Design Capture Volume	0.19	cubic-feet
	15	Are Full Capture and Use Techniques Feasible for this Project?	No	unitless
	16	Is Full Retention Feasible for this Project?	No	yes/no
	17	Is Partial Retention Feasible for this Project?	Yes	yes/no
Result	18	Feasibility Category	4	1, 2, 3, 4, 5

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Automated Worksheet B.1-1: Calculation of Design Capture Volume (V1.3)

Category	#	Description	*i*	*ii*	*iii*	*iv*	*v*	*vi*	*vii*	*viii*	*ix*	*x*	Units
Standard Drainage Basin Inputs	0	Drainage Basin ID or Name	BMP-1										unitless
	1	Basin Drains to the Following BMP Type	Biofiltration										unitless
	2	85th Percentile 24-hr Storm Depth	0.52										inches
	3	Design Infiltration Rate Recommended by Geotechnical Engineer	0.102										in/hr
	4	Impervious Surfaces Not Directed to Dispersion Area (C=0.90)	37,150										sq-ft
	5	Semi-Pervious Surfaces Not Serving as Dispersion Area (C=0.30)	6,911										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)	29,058										sq-ft
	8	Natural Type B Soil Not Serving as Dispersion Area (C=0.14)											sq-ft
	9	Natural Type C Soil Not Serving as Dispersion Area (C=0.23)											sq-ft
	10	Natural Type D Soil Not Serving as Dispersion Area (C=0.30)	22,722										sq-ft
Dispersion Area, Tree Well & Rain Barrel Inputs (Optional)	11	Does Tributary Incorporate Dispersion, Tree Wells, and/or Rain Barrels?	No	No	No	No	No	No	No	No	No	No	yes/no
	12	Impervious Surfaces **Directed to Dispersion Area** per SD-B (Ci=0.90)	-	-	-	-	-	-	-	-	-	-	sq-ft
	13	Semi-Pervious Surfaces **Serving as Dispersion Area** per SD-B (Ci=0.30)	-	-	-	-	-	-	-	-	-	-	sq-ft
	14	Engineered Pervious Surfaces **Serving as Dispersion Area** per SD-B (Ci=0.10)	-	-	-	-	-	-	-	-	-	-	sq-ft
	15	Natural Type A Soil **Serving as Dispersion Area** per SD-B (Ci=0.10)	-	-	-	-	-	-	-	-	-	-	sq-ft
	16	Natural Type B Soil **Serving as Dispersion Area** per SD-B (Ci=0.14)	-	-	-	-	-	-	-	-	-	-	sq-ft
	17	Natural Type C Soil **Serving as Dispersion Area** per SD-B (Ci=0.23)	-	-	-	-	-	-	-	-	-	-	sq-ft
	18	Natural Type D Soil **Serving as Dispersion Area** per SD-B (Ci=0.30)	-	-	-	-	-	-	-	-	-	-	sq-ft
	19	Number of Tree Wells Proposed per SD-A	-	-	-	-	-	-	-	-	-	-	#
	20	Average Mature Tree Canopy Diameter	-	-	-	-	-	-	-	-	-	-	ft
	21	Number of Rain Barrels Proposed per SD-E	-	-	-	-	-	-	-	-	-	-	#
	22	Average Rain Barrel Size	-	-	-	-	-	-	-	-	-	-	gal
Treatment Train Inputs & Calculations	23	Does BMP Overflow to Stormwater Features in Downstream Drainage?	No	No	No	No	No	No	No	No	No	No	unitless
	24	Identify Downstream Drainage Basin Providing Treatment in Series	-	-	-	-	-	-	-	-	-	-	unitless
	25	Percent of Upstream Flows Directed to Downstream Dispersion Areas	-	-	-	-	-	-	-	-	-	-	percent
	26	Upstream Impervious Surfaces Directed to Dispersion Area (Ci=0.90)	0	0	0	0	0	0	0	0	0	0	cubic-feet
	27	Upstream Impervious Surfaces Not Directed to Dispersion Area (C=0.90)	0	0	0	0	0	0	0	0	0	0	cubic-feet
Initial Runoff Factor Calculation	28	Total Tributary Area	95,841	0	0	0	0	0	0	0	0	0	sq-ft
	29	Initial Runoff Factor for Standard Drainage Areas	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	unitless
	30	Initial Runoff Factor for Dispersed & Dispersion Areas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	unitless
	31	Initial Weighted Runoff Factor	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	unitless
	32	Initial Design Capture Volume	1,952	0	0	0	0	0	0	0	0	0	cubic-feet
Dispersion Area Adjustments	33	Total Impervious Area Dispersed to Pervious Surface	0	0	0	0	0	0	0	0	0	0	sq-ft
	34	Total Pervious Dispersion Area	0	0	0	0	0	0	0	0	0	0	sq-ft
	35	Ratio of Dispersed Impervious Area to Pervious Dispersion Area	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	ratio
	36	Adjustment Factor for Dispersed & Dispersion Areas	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	ratio
	37	Runoff Factor After Dispersion Techniques	0.47	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	unitless
	38	Design Capture Volume After Dispersion Techniques	1,952	0	0	0	0	0	0	0	0	0	cubic-feet
Tree & Barrel Adjustments	39	Total Tree Well Volume Reduction	0	0	0	0	0	0	0	0	0	0	cubic-feet
	40	Total Rain Barrel Volume Reduction	0	0	0	0	0	0	0	0	0	0	cubic-feet
Results	41	Final Adjusted Runoff Factor	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	unitless
	42	Final Effective Tributary Area	45,045	0	0	0	0	0	0	0	0	0	sq-ft
	43	Initial Design Capture Volume Retained by Site Design Elements	0	0	0	0	0	0	0	0	0	0	cubic-feet
	44	Final Design Capture Volume Tributary to BMP	1,952	0	0	0	0	0	0	0	0	0	cubic-feet

Automated Worksheet B.5-1: Sizing Lined or Unlined Biofiltration BMPs (V1.3)

Category	#	Description	*i*	*ii*	*iii*	*iv*	*v*	*vi*	*vii*	*viii*	*ix*	*x*	Units
BMP Inputs	0	Drainage Basin ID or Name	BMP-1	-	-	-	-	-	-	-	-	-	sq-ft
	1	Design Infiltration Rate Recommended by Geotechnical Engineer	0.102	-	-	-	-	-	-	-	-	-	in/hr
	2	Effective Tributary Area	45,045	-	-	-	-	-	-	-	-	-	sq-ft
	3	Minimum Biofiltration Footprint Sizing Factor	0.030	-	-	-	-	-	-	-	-	-	ratio
	4	Design Capture Volume Tributary to BMP	1,952	-	-	-	-	-	-	-	-	-	cubic-feet
	5	Is Biofiltration Basin Impermeably Lined or Unlined?	Unlined										unitless
	6	Provided Biofiltration BMP Surface Area	1,509										sq-ft
	7	Provided Surface Ponding Depth	6										inches
	8	Provided Soil Media Thickness	18										inches
	9	Provided Depth of Gravel Above Underdrain Invert	18										inches
	10	Diameter of Underdrain or Hydromod Orifice (Select Smallest)	1.00										inches
	11	Provided Depth of Gravel Below the Underdrain	9										inches
Retention Calculations	12	Volume Infiltrated Over 6 Hour Storm	77	0	0	0	0	0	0	0	0	0	cubic-feet
	13	Soil Media Pore Space Available for Retention	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	unitless
	14	Gravel Pore Space Available for Retention	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	unitless
	15	Effective Retention Depth	4.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	inches
	16	Calculated Retention Storage Drawdown (Including 6 Hr Storm)	41	0	0	0	0	0	0	0	0	0	hours
	17	Volume Retained by BMP	643	0	0	0	0	0	0	0	0	0	cubic-feet
	18	Fraction of DCV Retained	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	ratio
	19	Portion of Retention Performance Standard Satisfied	0.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	ratio
	20	Fraction of DCV Retained (normalized to 36-hr drawdown)	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	ratio
	21	Design Capture Volume Remaining for Biofiltration	1,347	0	0	0	0	0	0	0	0	0	cubic-feet
Biofiltration Calculations	22	Max Hydromod Flow Rate through Underdrain	0.0488	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	CFS
	23	Max Soil Filtration Rate Allowed by Underdrain Orifice	1.40	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	in/hr
	24	Soil Media Filtration Rate per Specifications	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	in/hr
	25	Soil Media Filtration Rate to be used for Sizing	1.40	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	in/hr
	26	Depth Biofiltered Over 6 Hour Storm	8.39	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	inches
	27	Soil Media Pore Space Available for Biofiltration	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	unitless
	28	Effective Depth of Biofiltration Storage	16.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	inches
	29	Drawdown Time for Surface Ponding	4	0	0	0	0	0	0	0	0	0	hours
	30	Drawdown Time for Effective Biofiltration Depth	11	0	0	0	0	0	0	0	0	0	hours
	31	Total Depth Biofiltered	25.19	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	inches
	32	Option 1 - Biofilter 1.50 DCV: Target Volume	2,021	0	0	0	0	0	0	0	0	0	cubic-feet
	33	Option 1 - Provided Biofiltration Volume	2,021	0	0	0	0	0	0	0	0	0	cubic-feet
	34	Option 2 - Store 0.75 DCV: Target Volume	1,010	0	0	0	0	0	0	0	0	0	cubic-feet
	35	Option 2 - Provided Storage Volume	1,010	0	0	0	0	0	0	0	0	0	cubic-feet
	36	Portion of Biofiltration Performance Standard Satisfied	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	ratio
Result	37	Do Site Design Elements and BMPs Satisfy Annual Retention Requirements?	#N/A	-	-	-	-	-	-	-	-	-	yes/no
	38	Overall Portion of Performance Standard Satisfied	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	ratio
	39	This BMP Overflows to the Following Drainage Basin	-	-	-	-	-	-	-	-	-	-	unitless
	40	**Deficit of Effectively Treated Stormwater**	0	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	cubic-feet

Summary of Stormwater Pollutant Control Calculations (V1.3)

Category	#	Description	*i*	*ii*	*iii*	*iv*	*v*	*vi*	*vii*	*viii*	*ix*	*x*	Units
General Info	0	Drainage Basin ID or Name	BMP-1	-	-	-	-	-	-	-	-	-	unitless
	1	85th Percentile Storm Depth	0.52	-	-	-	-	-	-	-	-	-	inches
	2	Design Infiltration Rate Recommended by Geotechnical Engineer	0.102	-	-	-	-	-	-	-	-	-	in/hr
	3	Total Tributary Area	95,841	-	-	-	-	-	-	-	-	-	sq-ft
	4	85th Percentile Storm Volume (Rainfall Volume)	4,153	-	-	-	-	-	-	-	-	-	cubic-feet
Initial DCV	5	Initial Weighted Runoff Factor	0.47	-	-	-	-	-	-	-	-	-	unitless
	6	Initial Design Capture Volume	1,952	-	-	-	-	-	-	-	-	-	cubic-feet
Site Design Volume Reductions	7	Dispersion Area Reductions	0	-	-	-	-	-	-	-	-	-	cubic-feet
	8	Tree Well and Rain Barrel Reductions	0	-	-	-	-	-	-	-	-	-	cubic-feet
BMP Volume Reductions	9	Effective Area Tributary to BMP	45,045	-	-	-	-	-	-	-	-	-	square feet
	10	Final Design Capture Volume Tributary to BMP	1,952	-	-	-	-	-	-	-	-	-	cubic-feet
	11	Basin Drains to the Following BMP Type	Biofiltration	-	-	-	-	-	-	-	-	-	unitless
	12	Volume Retained by BMP (normalized to 36 hour drawdown)	605	-	-	-	-	-	-	-	-	-	cubic-feet
Total Volume Reductions	13	Total Fraction of Initial DCV Retained within DMA	0.31	-	-	-	-	-	-	-	-	-	fraction
	14	Percent of Average Annual Runoff Retention Provided	38.3%	-	-	-	-	-	-	-	-	-	%
	15	Percent of Average Annual Runoff Retention Required	#N/A	-	-	-	-	-	-	-	-	-	%
Performance Standard	16	Percent of Pollution Control Standard Satisfied	100.0%	-	-	-	-	-	-	-	-	-	%
Treatment Train	17	Discharges to Secondary Treatment in Drainage Basin	-	-	-	-	-	-	-	-	-	-	unitless
	18	Impervious Surface Area Still Requiring Treatment	0	-	-	-	-	-	-	-	-	-	square feet
	19	Impervious Surfaces Directed to Downstream Dispersion Area	-	-	-	-	-	-	-	-	-	-	square feet
	20	Impervious Surfaces Not Directed to Downstream Dispersion Area	-	-	-	-	-	-	-	-	-	-	square feet
Result	21	Deficit of Effectively Treated Stormwater	0	-	-	-	-	-	-	-	-	-	cubic-feet

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BMPS 2 AND 3 LOCATED IN HSG-D

Automated Worksheet B.3-1: Project-Scale BMP Feasibility Analysis (V1.3)

Category	#	Description	Value	Units
Capture & Use Inputs	0	Design Capture Volume for Entire Project Site	6,016	cubic-feet
	1	Proposed Development Type	Residential	unitless
	2	Number of Residents or Employees at Proposed Development	500	#
	3	Total Planted Area within Development	78,061	sq-ft
	4	Water Use Category for Proposed Planted Areas	Low	unitless
Infiltration Inputs	5	Is Average Site Design Infiltration Rate ≤0.500 Inches per Hour?	Yes	yes/no
	6	Is Average Site Design Infiltration Rate ≤0.010 Inches per Hour?	No	yes/no
	7	Is Infiltration of the Full DCV Anticipated to Produce Negative Impacts?	No	yes/no
	8	Is Infiltration of Any Volume Anticipated to Produce Negative Impacts?	No	yes/no
Calculations	9	36-Hour Toilet Use Per Resident or Employee	1.86	cubic-feet
	10	Subtotal: Anticipated 36 Hour Toilet Use	932	cubic-feet
	11	Anticipated 1 Acre Landscape Use Over 36 Hours	52.14	cubic-feet
	12	Subtotal: Anticipated Landscape Use Over 36 Hours	93	cubic-feet
	13	Total Anticipated Use Over 36 Hours	1,026	cubic-feet
	14	Total Anticipated Use / Design Capture Volume	0.17	cubic-feet
	15	Are Full Capture and Use Techniques Feasible for this Project?	No	unitless
	16	Is Full Retention Feasible for this Project?	No	yes/no
	17	Is Partial Retention Feasible for this Project?	Yes	yes/no
Result	18	Feasibility Category	4	1, 2, 3, 4, 5

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Automated Worksheet B.1-1: Calculation of Design Capture Volume (V1.3)

Category	#	Description	*i*	*ii*	*iii*	*iv*	*v*	*vi*	*vii*	*viii*	*ix*	*x*	Units
Standard Drainage Basin Inputs	0	Drainage Basin ID or Name		BMP-2	BMP-3								unitless
	1	Basin Drains to the Following BMP Type		Biofiltration	Biofiltration								unitless
	2	85th Percentile 24-hr Storm Depth		0.52	0.52								inches
	3	Design Infiltration Rate Recommended by Geotechnical Engineer		0.090	0.140								in/hr
	4	Impervious Surfaces Not Directed to Dispersion Area (C=0.90)		103,131	28,634								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)		15,577									sq-ft
	8	Natural Type B Soil Not Serving as Dispersion Area (C=0.14)											sq-ft
	9	Natural Type C Soil Not Serving as Dispersion Area (C=0.23)											sq-ft
	10	Natural Type D Soil Not Serving as Dispersion Area (C=0.30)		36,042	26,442								sq-ft
Dispersion Area, Tree Well & Rain Barrel Inputs (Optional)	11	Does Tributary Incorporate Dispersion, Tree Wells, and/or Rain Barrels?	No	No	No	No	No	No	No	No	No	No	yes/no
	12	Impervious Surfaces **Directed to Dispersion Area** per SD-B (Ci=0.90)	-	-	-	-	-	-	-	-	-	-	sq-ft
	13	Semi-Pervious Surfaces **Serving as Dispersion Area** per SD-B (Ci=0.30)	-	-	-	-	-	-	-	-	-	-	sq-ft
	14	Engineered Pervious Surfaces **Serving as Dispersion Area** per SD-B (Ci=0.10)	-	-	-	-	-	-	-	-	-	-	sq-ft
	15	Natural Type A Soil **Serving as Dispersion Area** per SD-B (Ci=0.10)	-	-	-	-	-	-	-	-	-	-	sq-ft
	16	Natural Type B Soil **Serving as Dispersion Area** per SD-B (Ci=0.14)	-	-	-	-	-	-	-	-	-	-	sq-ft
	17	Natural Type C Soil **Serving as Dispersion Area** per SD-B (Ci=0.23)	-	-	-	-	-	-	-	-	-	-	sq-ft
	18	Natural Type D Soil **Serving as Dispersion Area** per SD-B (Ci=0.30)	-	-	-	-	-	-	-	-	-	-	sq-ft
	19	Number of Tree Wells Proposed per SD-A	-	-	-	-	-	-	-	-	-	-	#
	20	Average Mature Tree Canopy Diameter	-	-	-	-	-	-	-	-	-	-	ft
	21	Number of Rain Barrels Proposed per SD-E	-	-	-	-	-	-	-	-	-	-	#
	22	Average Rain Barrel Size	-	-	-	-	-	-	-	-	-	-	gal
Treatment Train Inputs & Calculations	23	Does BMP Overflow to Stormwater Features in Downstream Drainage?	No	No	No	No	No	No	No	No	No	No	unitless
	24	Identify Downstream Drainage Basin Providing Treatment in Series	-	-	-	-	-	-	-	-	-	-	unitless
	25	Percent of Upstream Flows Directed to Downstream Dispersion Areas	-	-	-	-	-	-	-	-	-	-	percent
	26	Upstream Impervious Surfaces Directed to Dispersion Area (Ci=0.90)	0	0	0	0	0	0	0	0	0	0	cubic-feet
	27	Upstream Impervious Surfaces Not Directed to Dispersion Area (C=0.90)	0	0	0	0	0	0	0	0	0	0	cubic-feet
Initial Runoff Factor Calculation	28	Total Tributary Area	0	154,750	55,076	0	0	0	0	0	0	0	sq-ft
	29	Initial Runoff Factor for Standard Drainage Areas	0.00	0.68	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	unitless
	30	Initial Runoff Factor for Dispersed & Dispersion Areas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	unitless
	31	Initial Weighted Runoff Factor	0.00	0.68	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	unitless
	32	Initial Design Capture Volume	0	4,560	1,456	0	0	0	0	0	0	0	cubic-feet
Dispersion Area Adjustments	33	Total Impervious Area Dispersed to Pervious Surface	0	0	0	0	0	0	0	0	0	0	sq-ft
	34	Total Pervious Dispersion Area	0	0	0	0	0	0	0	0	0	0	sq-ft
	35	Ratio of Dispersed Impervious Area to Pervious Dispersion Area	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	ratio
	36	Adjustment Factor for Dispersed & Dispersion Areas	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	ratio
	37	Runoff Factor After Dispersion Techniques	n/a	0.68	0.61	n/a	n/a	n/a	n/a	n/a	n/a	n/a	unitless
	38	Design Capture Volume After Dispersion Techniques	0	4,560	1,456	0	0	0	0	0	0	0	cubic-feet
Tree & Barrel Adjustments	39	Total Tree Well Volume Reduction	0	0	0	0	0	0	0	0	0	0	cubic-feet
	40	Total Rain Barrel Volume Reduction	0	0	0	0	0	0	0	0	0	0	cubic-feet
Results	41	Final Adjusted Runoff Factor	0.00	0.68	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	unitless
	42	Final Effective Tributary Area	0	105,230	33,596	0	0	0	0	0	0	0	sq-ft
	43	Initial Design Capture Volume Retained by Site Design Elements	0	0	0	0	0	0	0	0	0	0	cubic-feet
	44	Final Design Capture Volume Tributary to BMP	0	4,560	1,456	0	0	0	0	0	0	0	cubic-feet

Automated Worksheet B.5-1: Sizing Lined or Unlined Biofiltration BMPs (V1.3)

Category	#	Description	*i*	*ii*	*iii*	*iv*	*v*	*vi*	*vii*	*viii*	*ix*	*x*	Units
BMP Inputs	0	Drainage Basin ID or Name	-	BMP-2	BMP-3	-	-	-	-	-	-	-	sq-ft
	1	Design Infiltration Rate Recommended by Geotechnical Engineer	-	0.090	0.140	-	-	-	-	-	-	-	in/hr
	2	Effective Tributary Area	-	105,230	33,596	-	-	-	-	-	-	-	sq-ft
	3	Minimum Biofiltration Footprint Sizing Factor	-	0.030	0.030	-	-	-	-	-	-	-	ratio
	4	Design Capture Volume Tributary to BMP	-	4,560	1,456	-	-	-	-	-	-	-	cubic-feet
	5	Is Biofiltration Basin Impermeably Lined or Unlined?		Unlined	Unlined								unitless
	6	Provided Biofiltration BMP Surface Area		4,768	1,411								sq-ft
	7	Provided Surface Ponding Depth		12	12								inches
	8	Provided Soil Media Thickness		18	18								inches
	9	Provided Depth of Gravel Above Underdrain Invert		18	18								inches
	10	Diameter of Underdrain or Hydromod Orifice (Select Smallest)		1.50	0.88								inches
	11	Provided Depth of Gravel Below the Underdrain		9	12								inches
Retention Calculations	12	Volume Infiltrated Over 6 Hour Storm	0	215	99	0	0	0	0	0	0	0	cubic-feet
	13	Soil Media Pore Space Available for Retention	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	unitless
	14	Gravel Pore Space Available for Retention	0.00	0.40	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	unitless
	15	Effective Retention Depth	0.00	4.50	5.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	inches
	16	Calculated Retention Storage Drawdown (Including 6 Hr Storm)	0	46	40	0	0	0	0	0	0	0	hours
	17	Volume Retained by BMP	0	2,003	769	0	0	0	0	0	0	0	cubic-feet
	18	Fraction of DCV Retained	0.00	0.44	0.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	ratio
	19	Portion of Retention Performance Standard Satisfied	0.00	0.58	0.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	ratio
	20	Fraction of DCV Retained (normalized to 36-hr drawdown)	0.00	0.39	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	ratio
	21	Design Capture Volume Remaining for Biofiltration	0	2,782	728	0	0	0	0	0	0	0	cubic-feet
Biofiltration Calculations	22	Max Hydromod Flow Rate through Underdrain	n/a	0.1173	0.0400	n/a	n/a	n/a	n/a	n/a	n/a	n/a	CFS
	23	Max Soil Filtration Rate Allowed by Underdrain Orifice	n/a	1.06	1.23	n/a	n/a	n/a	n/a	n/a	n/a	n/a	in/hr
	24	Soil Media Filtration Rate per Specifications	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	in/hr
	25	Soil Media Filtration Rate to be used for Sizing	5.00	1.06	1.23	5.00	5.00	5.00	5.00	5.00	5.00	5.00	in/hr
	26	Depth Biofiltered Over 6 Hour Storm	30.00	6.37	7.35	30.00	30.00	30.00	30.00	30.00	30.00	30.00	inches
	27	Soil Media Pore Space Available for Biofiltration	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	unitless
	28	Effective Depth of Biofiltration Storage	0.00	22.80	22.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	inches
	29	Drawdown Time for Surface Ponding	0	10	9	0	0	0	0	0	0	0	hours
	30	Drawdown Time for Effective Biofiltration Depth	0	20	17	0	0	0	0	0	0	0	hours
	31	Total Depth Biofiltered	30.00	29.17	30.15	30.00	30.00	30.00	30.00	30.00	30.00	30.00	inches
	32	Option 1 - Biofilter 1.50 DCV: Target Volume	0	4,173	1,092	0	0	0	0	0	0	0	cubic-feet
	33	Option 1 - Provided Biofiltration Volume	0	4,173	1,092	0	0	0	0	0	0	0	cubic-feet
	34	Option 2 - Store 0.75 DCV: Target Volume	0	2,087	546	0	0	0	0	0	0	0	cubic-feet
	35	Option 2 - Provided Storage Volume	0	2,087	546	0	0	0	0	0	0	0	cubic-feet
	36	Portion of Biofiltration Performance Standard Satisfied	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	ratio
Result	37	Do Site Design Elements and BMPs Satisfy Annual Retention Requirements?	-	#N/A	Yes	-	-	-	-	-	-	-	yes/no
	38	Overall Portion of Performance Standard Satisfied	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	ratio
	39	This BMP Overflows to the Following Drainage Basin	-	-	-	-	-	-	-	-	-	-	unitless
	40	**Deficit of Effectively Treated Stormwater**	**n/a**	**0**	**0**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	cubic-feet

Summary of Stormwater Pollutant Control Calculations (V1.3)

Category	#	Description	*i*	*ii*	*iii*	*iv*	*v*	*vi*	*vii*	*viii*	*ix*	*x*	Units
General Info	0	Drainage Basin ID or Name	-	BMP-2	BMP-3	-	-	-	-	-	-	-	unitless
	1	85th Percentile Storm Depth	-	0.52	0.52	-	-	-	-	-	-	-	inches
	2	Design Infiltration Rate Recommended by Geotechnical Engineer	-	0.090	0.140	-	-	-	-	-	-	-	in/hr
	3	Total Tributary Area	-	154,750	55,076	-	-	-	-	-	-	-	sq-ft
	4	85th Percentile Storm Volume (Rainfall Volume)	-	6,706	2,387	-	-	-	-	-	-	-	cubic-feet
Initial DCV	5	Initial Weighted Runoff Factor	-	0.68	0.61	-	-	-	-	-	-	-	unitless
	6	Initial Design Capture Volume	-	4,560	1,456	-	-	-	-	-	-	-	cubic-feet
Site Design Volume Reductions	7	Dispersion Area Reductions	-	0	0	-	-	-	-	-	-	-	cubic-feet
	8	Tree Well and Rain Barrel Reductions	-	0	0	-	-	-	-	-	-	-	cubic-feet
BMP Volume Reductions	9	Effective Area Tributary to BMP	-	105,230	33,596	-	-	-	-	-	-	-	square feet
	10	Final Design Capture Volume Tributary to BMP	-	4,560	1,456	-	-	-	-	-	-	-	cubic-feet
	11	Basin Drains to the Following BMP Type	-	Biofiltration	Biofiltration	-	-	-	-	-	-	-	unitless
	12	Volume Retained by BMP (normalized to 36 hour drawdown)	-	1,778	728	-	-	-	-	-	-	-	cubic-feet
Total Volume Reductions	13	Total Fraction of Initial DCV Retained within DMA	-	0.39	0.50	-	-	-	-	-	-	-	fraction
	14	Percent of Average Annual Runoff Retention Provided	-	46.1%	54.4%	-	-	-	-	-	-	-	%
	15	Percent of Average Annual Runoff Retention Required	-	#N/A	28.1%	-	-	-	-	-	-	-	%
Performance Standard	16	Percent of Pollution Control Standard Satisfied	-	100.0%	100.0%	-	-	-	-	-	-	-	%
Treatment Train	17	Discharges to Secondary Treatment in Drainage Basin	-	-	-	-	-	-	-	-	-	-	unitless
	18	Impervious Surface Area Still Requiring Treatment	-	0	0	-	-	-	-	-	-	-	square feet
	19	Impervious Surfaces Directed to Downstream Dispersion Area	-	-	-	-	-	-	-	-	-	-	square feet
	20	Impervious Surfaces Not Directed to Downstream Dispersion Area	-	-	-	-	-	-	-	-	-	-	square feet
Result	21	Deficit of Effectively Treated Stormwater	-	0	0	-	-	-	-	-	-	-	cubic-feet

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Worksheet C.4-1: Categorization of Infiltration Feasibility Condition

Categorization of Infiltration Feasibility Condition		Worksheet C.4-1	
Part 1 - Full Infiltration Feasibility Screening Criteria Would infiltration of the full design volume be feasible from a physical perspective without any undesirable consequences that cannot be reasonably mitigated?			
Criteria	Screening Question	Yes	No
1	Is the estimated reliable infiltration rate below proposed facility locations greater than 0.5 inches per hour? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2 and Appendix D.		X
Provide basis: No, calculated infiltration rates for all three proposed basins were less than 0.5 inches per hour. Review the CTE document "Preliminary Geotechnical Report, Proposed Skyline Retirement Center" dated October 3, 2016 for subsurface conditions, applicable maps and cross sections, and exploration logs. Appendix E of the Preliminary Geotechnical Report provides percolation rates and infiltration rate calculations. Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			
2	Can infiltration greater than 0.5 inches per hour be allowed without increasing risk of geotechnical hazards (slope stability, groundwater mounding, utilities, or other factors) that cannot be mitigated to an acceptable level? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2.	X	
Provide basis: Infiltrate from proposed basins is anticipate to move downslope to the southwest where major electrical utilities such as electrical, cable service, and natural gas are located. Infiltrate over time could impact these infrastructure facilities. As such, the sidewalls of the basin should be lined at a minimum of three feet or the depth of the deepest utility or foundation excavation within 100 feet of basin to minimize such potential adverse impacts. The basin bottom should remain unlined. Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			

Appendix C: Geotechnical and Groundwater Investigation Requirements

Worksheet C.4-1 Page 3 of 4			
Part 2 – Partial Infiltration vs. No Infiltration Feasibility Screening Criteria Would infiltration of water in any appreciable amount be physically feasible without any negative consequences that cannot be reasonably mitigated?			
Criteria	Screening Question	Yes	No
5	Do soil and geologic conditions allow for infiltration in any appreciable rate or volume? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2 and Appendix D.	X	
Provide basis: On site calculated infiltration rates are less than 0.5 inches/hour. See Appendix E of the October 3, 2016 Preliminary Geotechnical Report to which this Worksheet is attached. The recommended infiltration rates including a safety factor of 2.25 per Worksheet D.5-1 are: BMP Basin 1: 0.1018 inches/hour BMP Basin 2: 0.0896 inches/hour BMP Basin 3: 0.1400 inches/hour As such there was infiltration in all three basins. The determination of "appreciable" is a function of interpretation by the County of San Diego and project designers. CTE has stated "Yes" simply because infiltration has been recorded at the site. Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.			
6	Can Infiltration in any appreciable quantity be allowed without increasing risk of geotechnical hazards (slope stability, groundwater mounding, utilities, or other factors) that cannot be mitigated to an acceptable level? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2.	X	
Provide basis: See Question 2, Part 1. Potential adverse geotechnical impacts to geotechnical hazards may be minimized by installation of an impermeable liner on the sidewalls of the proposed BMP basins. Such impermeable liners should extend to the maximum depth of all utility infrastructure and foundations excavations within 100 feet of the closest approximation to the BMP basins. Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.			

Appendix C: Geotechnical and Groundwater Investigation Requirements

Worksheet C.4-1 Page 4 of 4			
Criteria	Screening Question	Yes	No
7	Can Infiltration in any appreciable quantity be allowed without posing significant risk for groundwater related concerns (shallow water table, storm water pollutants or other factors)? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.	X	
Provide basis: Groundwater is not present within at least 10 feet of the bottom of the BMP basins. The site and upslope properties are not known contaminated sites based upon reference to Geotracker, an on line source for regulatory listed known contaminated properties.Mounding and lateral infiltration of infiltrate is to be mitigated by recommended lining of BMP basin sidewalls with an impereable geotextile. The impermeable liner should extend to the maximum depth of utility infrastructure and foundation excavations for these facilities within 100 feet of the closest approximation to a BMP basin. **Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.**			
8	Can infiltration be allowed without violating downstream water rights? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.	X	
Provide basis: To CTE's knowledge there is no downstream water rights violation as the site infiltrate is anticipated to remain within or relatively close to the property. **Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.**			
Part 2 Result*	If all answers from row 1-4 are yes then partial infiltration design is potentially feasible. The feasibility screening category is Partial Infiltration. If any answer from row 5-8 is no, then infiltration of any volume is considered to be infeasible within the drainage area. The feasibility screening category is No Infiltration.	YES	

*To be completed using gathered site information and best professional judgment considering the definition of MEP in the MS4 Permit. Additional testing and/or studies may be required by City Engineer to substantiate findings

Appendix C: Geotechnical and Groundwater Investigation Requirements

Worksheet C.4-1 Page 2 of 4			
Criteria	Screening Question	Yes	No
3	Can infiltration greater than 0.5 inches per hour be allowed without increasing risk of groundwater contamination (shallow water table, storm water pollutants or other factors) that cannot be mitigated to an acceptable level? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.	X	
Provide basis: Calculated infiltration is less than 0.5 inches per hour. Groundwater is anticipated to be deeper than at least 10 feet below the bottom of planned basins bottoms based upon test borings placed within 50 feet of the basins (see the Preliminary Geotechnical Report dated October 3, 2016 for boring logs). The site and up-gradient properties are not known contaminated sites according to Geotracker, a State of California on line resource for listings of regulated contaminated sites. Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			
4	Can infiltration greater than 0.5 inches per hour be allowed without causing potential water balance issues such as change of seasonality of ephemeral streams or increased discharge of contaminated groundwater to surface waters? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.	X	
Provide basis: Calculated infiltration rates are less than 0.5 inches per hour. However, it is anticipated that any amount of infiltration at the site would not increase the risk of changing the seasonality of ephemeral streams or increase the risk of contaminating surface waters than currently exists. A blue line stream is approximately 150 feet southwest of the site across Campo Road. Potential impacts of the proposed basins to the blue line creek are low due to distance in combination with construction of the recommended lining of basin sidewalls to the maximum depth of adjacent utility trench and foundation excavations within 100 feet of the basins. The site and up-gradient properties are not known contaminated sites according to Geotracker, a State of California on line resource for listings of regulated contaminated sites. As such there is minimal potential contamination impacts to the blue line creek with installation of the proposed basins. Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			
Part 1 Result*	If all answers to rows 1 - 4 are "Yes" a full infiltration design is potentially feasible. The feasibility screening category is Full Infiltration If any answer from row 1-4 is "No", infiltration may be possible to some extent but would not generally be feasible or desirable to achieve a "full infiltration" design. Proceed to Part 2		NO

*To be completed using gathered site information and best professional judgment considering the definition of MEP in the MS4 Permit. Additional testing and/or studies may be required by City Engineer to substantiate findings.

Appendix D: Approved Infiltration Rate Assessment Methods

Worksheet D.5-1: Factor of Safety and Design Infiltration Rate Worksheet

Factor of Safety and Design Infiltration Rate Worksheet			Worksheet D.5-1		
Factor Category		Factor Description	Assigned Weight (w)	Factor Value (v)	Product (p) p = w x v
A	Suitability Assessment	Soil assessment methods	0.25	1	0.25
		Predominant soil texture	0.25	1	0.25
		Site soil variability	0.25	1	0.25
		Depth to groundwater / impervious layer	0.25	1	0.25
		Suitability Assessment Safety Factor, $S_A = \Sigma p$			1.0
B	Design	Level of pretreatment/ expected sediment loads	0.5	1	0.5
		Redundancy/resiliency	0.25	1	0.25
		Compaction during construction	0.25	2	0.5
		Design Safety Factor, $S_B = \Sigma p$			1.25
Combined Safety Factor, $S_{total} = S_A \times S_B$				2.25	
Observed Infiltration Rate, inch/hr, $K_{observed}$ (corrected for test-specific bias)				See Below.	
Design Infiltration Rate, in/hr, $K_{design} = K_{observed} / S_{total}$				See Below	
Supporting Data					
Briefly describe infiltration test and provide reference to test forms: Reference CTE October 3, 2016 "Preliminary Geotechnical Report, Proposed Skyline Retirement Center" to include Appendix E Percolation Test Results and Calculated Infiltration Rates. Lowest of two calculated infiltration rates are: BMP Basin 1=0.1018 in/hr, BMP Basin 2=0.0896 in/hr, BMP Basin 3=0.1400 in/hr.					

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

The DMA Exhibit must identify:

☒ Underlying hydrologic soil group
☒ Approximate depth to groundwater
☒ Existing natural hydrologic features (watercourses, seeps, springs, wetlands)
☒ Critical coarse sediment yield areas to be protected
☒ Existing topography and impervious areas
☒ Existing and proposed site drainage network and connections to drainage offsite
☒ Proposed demolition
☒ Proposed grading
☒ Proposed impervious features
☒ Proposed design features and surface treatments used to minimize imperviousness
☒ Drainage management area (DMA) boundaries, DMA ID numbers, and DMA areas (square footage or acreage), and DMA type (i.e., drains to BMP, self-retaining, or self-mitigating)
☒ Potential pollutant source areas and corresponding required source controls (see Chapter 4, Appendix E.1, and Step 3.5)
☒ Structural BMPs (identify location, structural BMP ID#, type of BMP, and size/detail)

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LEGEND

DMA BOUNDARY

SOIL TYPE BOUNDARY

DEPTH TO GROUNDWATER > 20FT

NO CRITICAL COARSE SEDIMENT YIELD AREAS TO PROTECT

PRE DEVELOPED AREAS					
DMA	SOIL TYPE	IMPERVIOUS (AC)	PERVIOUS (AC)	TOTAL AREA (AC)	DRAINS TO
1-A	A	0.00	4.09	4.09	POC-1
1-D	D	0.00	4.42	4.42	
2-D	D	0.00	0.60	0.60	POC-2
OFFSITE-A	A	0.00	0.37	0.37	POC-1
OFFSITE-D	D	0.00	0.01	0.01	
TOTAL				9.48	

REVISIONS

NO.	DESCRIPTION	DATE	APP'D

R·E·C Consultants, Inc.
Civil Engineering · Environmental
Land Surveying
2442 Second Avenue
San Diego, CA 92101
(619)232-9200 (619)232-9210 Fax

DATE: 10-2016
SCALE: 1" = 50'
DRAWN:
CHECKED:

SHEET TITLE: DMA EXHIBIT - EXISITING CONDITIONS
PROJECT: SKYLINE RETIREMENT CENTER
LA MESA, CALIFORNIA 91941

SHEET 1 OF 1 SHEETS

SAVE DATE 9/18/2017 ~ PLOT DATE 9/18/2017 ~ FILE NAME P:\Vlcool\979 ~ Skyline Senior Residence\Reports\SWQMP\170911_979-DMAEXHIBITPST.dwg

NOTES:
1. SOIL MIX PER CITY OF SAN DIEGO LID MANUAL
2. "WELL DRAINED SOIL" SHALL BE "SANDY LOAM" SOIL MIX WITH NO MORE THAN 5% CLAY CONTENT. THE MIX SHALL CONTAIN 50–60% SAND, 20–30% COMPOST OR HARDWOOD MULCH, AND 20–30% TOPSOIL.

FLOW CONTROL ORIFICE PLATE
NTS

1 BMP BASIN DETAILS
NOT TO SCALE

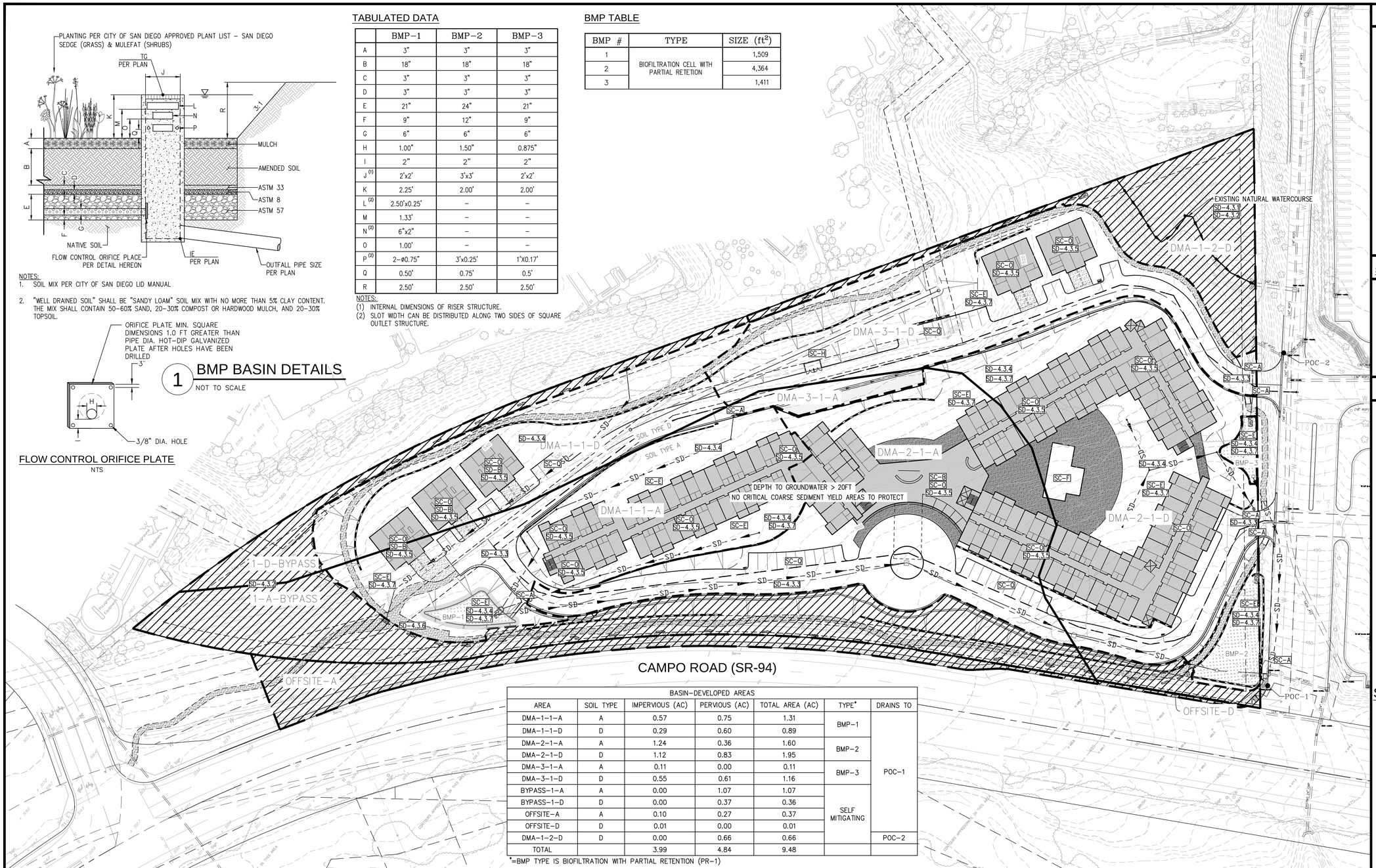
TABULATED DATA

	BMP–1	BMP–2	BMP–3
A	3"	3"	3"
B	18"	18"	18"
C	3"	3"	3"
D	3"	3"	3"
E	21"	24"	21"
F	9"	12"	9"
G	6"	6"	6"
H	1.00"	1.50"	0.875"
I	2"	2"	2"
J (1)	2'x2'	3'x3'	2'x2'
K	2.25'	2.00'	2.00'
L (2)	2.50'x0.25'	–	–
M	1.33'	–	–
N (2)	6"x2"	–	–
O	1.00'	–	–
P (2)	2–ø0.75"	3'x0.25'	1'X0.17'
Q	0.50'	0.75'	0.5'
R	2.50'	2.50'	2.50'

NOTES:
(1) INTERNAL DIMENSIONS OF RISER STRUCTURE.
(2) SLOT WIDTH CAN BE DISTRIBUTED ALONG TWO SIDES OF SQUARE OUTLET STRUCTURE.

BMP TABLE

BMP #	TYPE	SIZE (ft²)
1	BIOFILTRATION CELL WITH PARTIAL RETETION	1,509
2		4,364
3		1,411



BASIN–DEVELOPED AREAS

AREA	SOIL TYPE	IMPERVIOUS (AC)	PERVIOUS (AC)	TOTAL AREA (AC)	TYPE*	DRAINS TO
DMA–1–1–A	A	0.57	0.75	1.31	BMP–1	POC–1
DMA–1–1–D	D	0.29	0.60	0.89		
DMA–2–1–A	A	1.24	0.36	1.60	BMP–2	
DMA–2–1–D	D	1.12	0.83	1.95		
DMA–3–1–A	A	0.11	0.00	0.11	BMP–3	
DMA–3–1–D	D	0.55	0.61	1.16		
BYPASS–1–A	A	0.00	1.07	1.07	SELF MITIGATING	
BYPASS–1–D	D	0.00	0.37	0.36		
OFFSITE–A	A	0.10	0.27	0.37		
OFFSITE–D	D	0.01	0.00	0.01		
DMA–1–2–D	D	0.00	0.66	0.66		POC–2
TOTAL		3.99	4.84	9.48		

*=BMP TYPE IS BIOFILTRATION WITH PARTIAL RETENTION (PR–1)

LEGEND

- DMA BOUNDARY
- SOIL BOUNDARY
- IMPERVIOUS AREA (STREET)
- IMPERVIOUS AREA (ROOF)
- DG TRAIL
- BMP BASIN
- BYPASS/SELF MITIGATING AREA
- BROW DITCH (D–75, TYPE A)
- SOUND WALL
- RETAILING WALL
- STORM DRAIN —SD—
- TYPE "f" INLET
- SD INLET

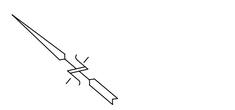
SOURCE CONTROL BMP'S

SC–A: ON–SITE STORM DRAIN INLETS
SC–B: INTERIOR FLOOR DRAINS AND ELEVATOR SHAFT SUMP PUMPS
SC–E: LANDSCAPE/OUTDOOR PESTICIDE USE
SC–F: POOLS, SPAS, PONDS, FOUNTAINS, AND OTHER WATER FEATURES
SC–H: INTERIOR PARKING GARAGES
SC–O: FUTURE INDOOR & STRUCTURAL PEST CONTROL
SC–Q: PLAZAS, SIDEWALKS, AND PARKING LOTS

SITE DESIGN BMP'S

SD–4.3.1: EXISTING VEGETATED CHANNEL ALONG NORTHERN SITE BOUNDARY TO REMAIN UNDISTURBED.
SD–4.3.2: NATURAL AREAS, SOILS, AND VEGETATION ARE TO BE CONSERVED.
SD–4.3.3: ROAD DESIGNED TO MINIMUM WIDTH WITHOUT COMPROMISING PUBLIC SAFETY OR ALTERNATIVE TRANSPORTATION.
SD–4.3.4: PROPOSED LANDSCAPED AREAS THAT BECAME COMPACTED DURING CONSTRUCTION TO BE RE–TILLED AFTER CONSTRUCTION HAS BEEN COMPLETED.
SD–4.3.5: RUNOFF FROM ROOFS AND DRIVEWAYS WILL BE DIRECTED TOWARDS LANDSCAPED AREAS.
SD–4.3.6: PERMEABLE MATERIAL
SD–4.3.7: LANDSCAPING TO BE DONE WITH NATIVE OR DROUGHT TOLERANT SPECIES

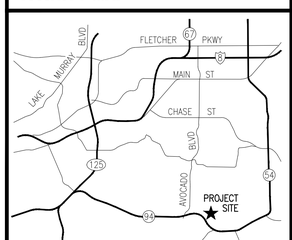
SAMPLE PROHIBITIVE SIGNAGE
NTS



50 25 0 50 100 150
SCALE: 1" = 50'

SKYLINE RETIREMENT CENTER

VICINITY MAP



OWNER INFORMATION

NAME: SKYLINE WESLEYAN CHURCH
ADDRESS: 11330 CAMPO RD
CITY: LA MESA
STATE: CALIFORNIA
ZIP: 91941
PHONE: 619–660–5000
FAX: N/A
EMAIL: N/A

CONTACT INFORMATION

NAME: PASTOR DAN GRANT
ADDRESS: 11330 CAMPO RD
CITY: LA MESA
STATE: CALIFORNIA
ZIP: 91941
PHONE: 619–660–5000
FAX: N/A
EMAIL: N/A

PARCEL INFORMATION

APN: 506–140–06, 07
SITE ADDRESS: 11330 CAMPO ROAD LA MESA, CA 91941
ZONE:
SETBACK:

I CERTIFY THAT I HAVE READ ALL ZONING REGULATIONS AND BEST MANAGEMENT PRACTICES (BMPs) NOTES AND THAT I AM THE DESIGNER OF THE PROPOSED PROJECT:

BRUCE A. ROBERTSON REC NO.48529 DATE

PROJECT INFORMATION

EXISTING:
VACANT, UNDEVELOPED LOT

PROPOSED:
CENTRAL COMMON AREA (2–STORY) = 22,400 S.F.
WING 1 (ASSISTED LIVING) = 23,215 S.F. (PER FLOOR) x 3 FLOORS= 69,645 S.F.
WING 2 (ASSISTED LIVING) = 20,106 S.F. (PER FLOOR) x 3 FLOORS= 60,318 S.F.
WING 3 (INDEPENDENT LIVING) = 21,920 S.F. (PER FLOOR) x 3 FLOORS= 65,760 S.F. w/BASEMENT PARKING GARAGE
5 DUPLEX UNITS (3,000 S.F./EA) = 15,000 S.F
AC PARKING ALONG MAIN DRIVEWAY = 30 SPACES
PARKING STRUCTURE = 25,000 S.F.

GRADING AND EARTHWORK:
CUT: 35,000 CY
FILL: 35,000 CY
IMPORT/EXPORT: 0.00 CY

DISTURBED AREA = 7.75 AC

REGISTERED PROFESSIONAL ENGINEER BRUCE A. ROBERTSON RCE ~ 48529 EXP 6/30/16 CIVIL STATE OF CALIFORNIA

R·E·C Consultants, Inc.
Civil Engineering · Environmental Land Surveying
2442 Second Avenue
San Diego, CA 92101
(619)232–9200 (619)232–9210 Fax

SHEET TITLE

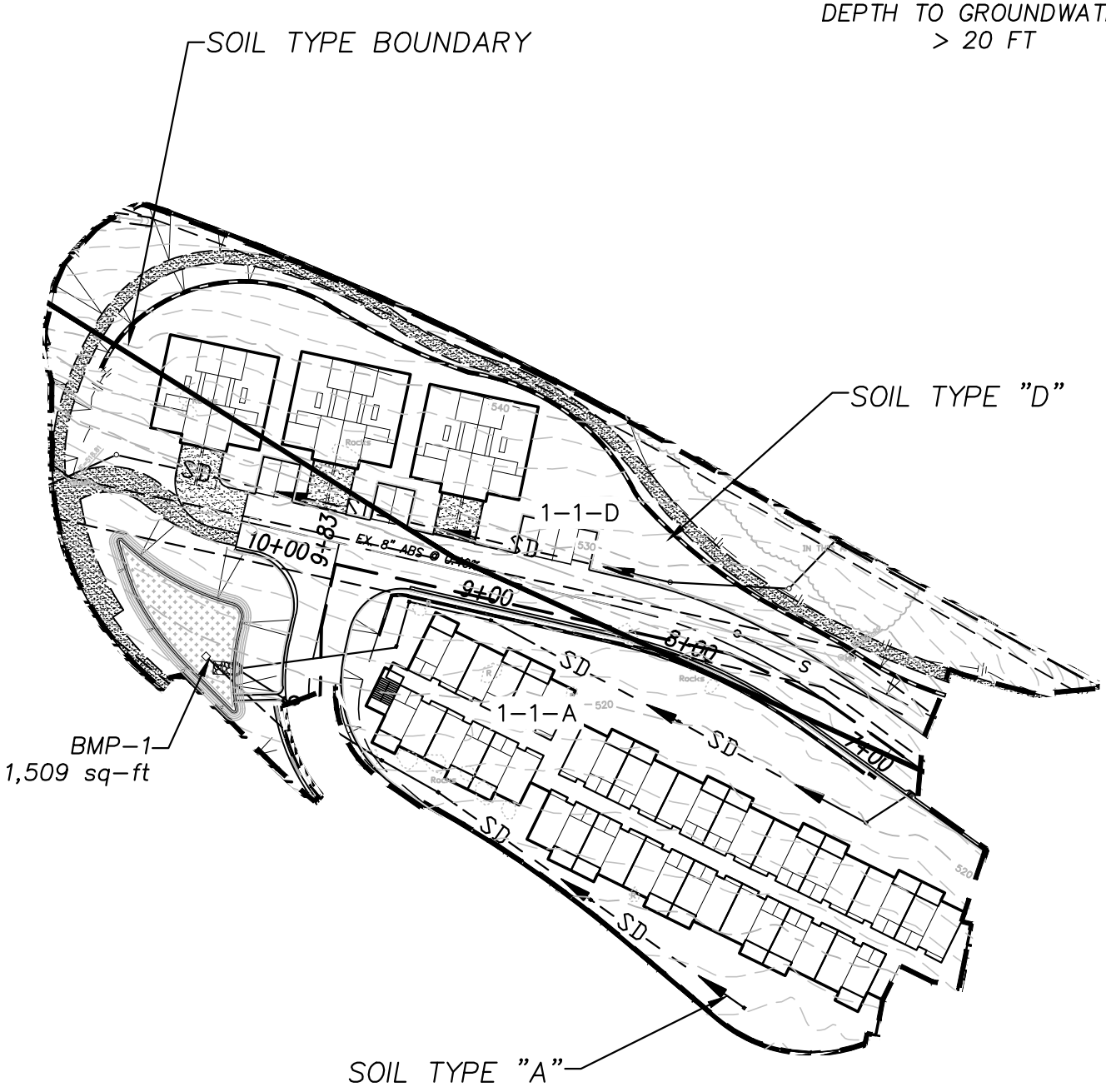
DMA EXHIBIT

SHEET NUMBER

2

PDS 040 (REV. 09/24/2012)
BUILDING PLOT PLAN TEMPLATE

DEPTH TO GROUNDWATER
> 20 FT



DMA	TOTAL AREA (AC)	IMPERVIOUS (AC)	PERVIOUS (AC)	SOIL TYPE	DRAINS TO
1-1-A	1.31	0.57	0.75	A	BMP 1
1-1-D	0.89	0.29	0.60	D	

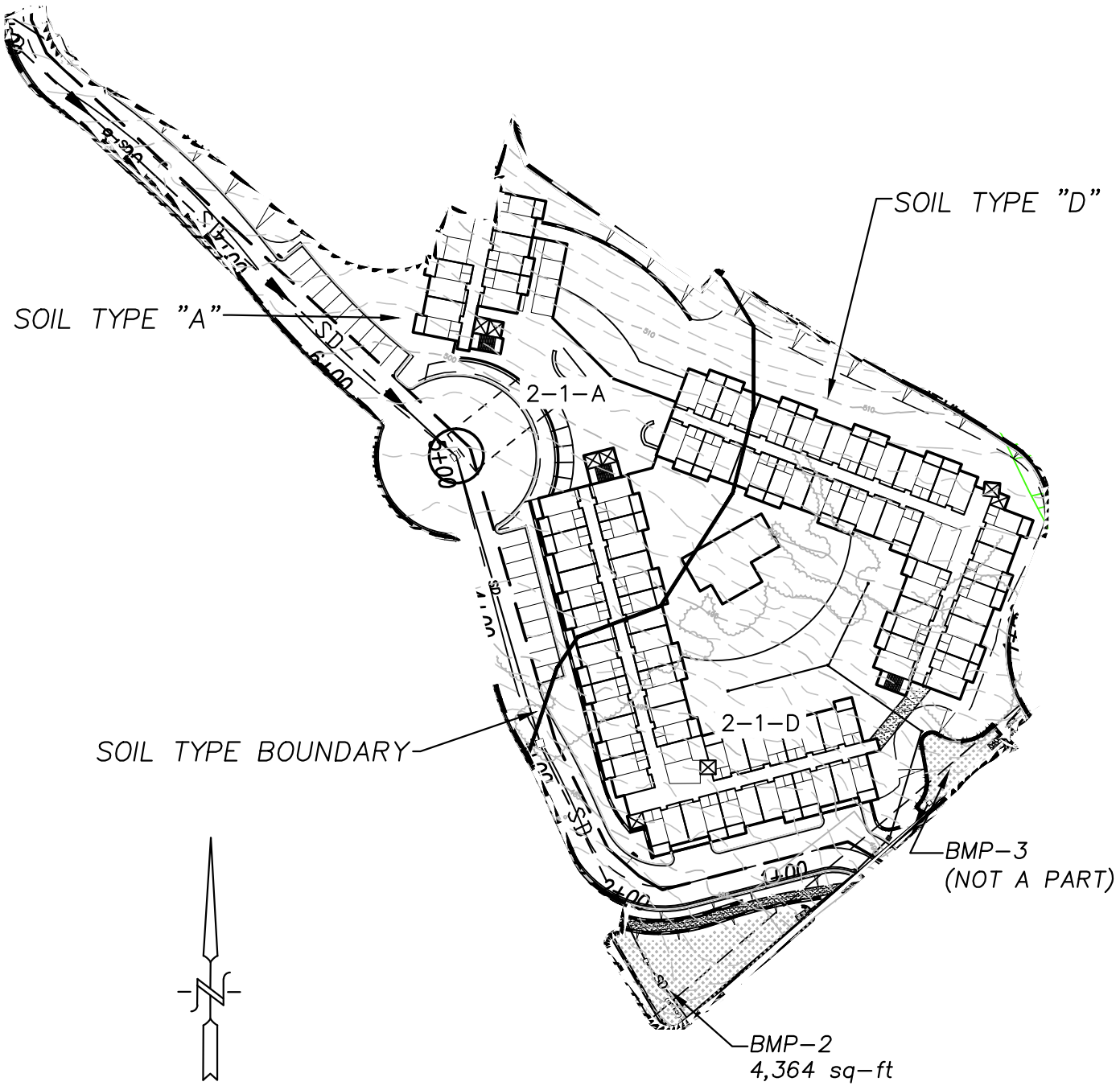
SCALE: 1" = 75'

R·E·C Consultants, Inc.
Civil Engineering · Environmental
2442 Second Avenue
San Diego, CA 92101
(619)232-9200 (619)232-9210 Fax

BMP DMA MAPBOOK
DMA 1
SKYLINE RETIREMENT CENTER
LA MESA, CALIFORNIA

DMA	TOTAL AREA (AC)	IMPERVIOUS (AC)	PERVIOUS (AC)	SOIL TYPE	DRAINS TO
2-1-A	1.60	1.24	0.36	A	BMP 2
2-1-D	1.95	1.12	0.83	D	

DEPTH TO GROUNDWATER
> 20 FT



SCALE: 1" = 100'

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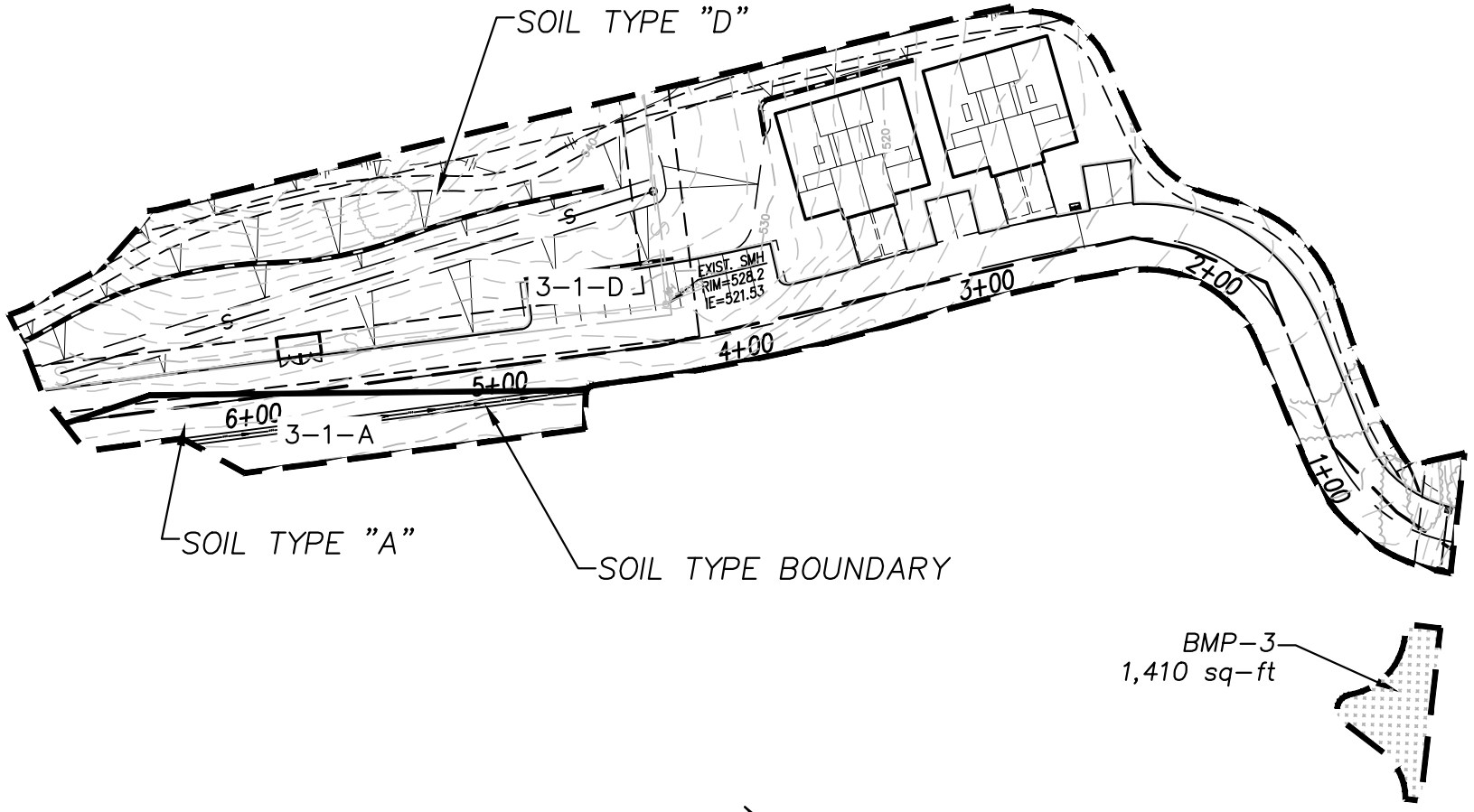
Civil Engineering · Environmental
2442 Second Avenue
San Diego, CA 92101
(619)232-9200 (619)232-9210 Fax

BMP DMA MAPBOOK
DMA 2
SKYLINE RETIREMENT CENTER
LA MESA, CALIFORNIA

DEPTH TO GROUNDWATER
> 20 FT

DMA	TOTAL AREA (AC)	IMPERVIOUS (AC)	PERVIOUS (AC)	SOIL TYPE	DRAINS TO
3-1-A	0.11	0.11	0.00	A	BMP 3
3-1-D	1.22	0.55	0.67	D	



SCALE: 1" = 70'

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Civil Engineering · Environmental
2442 Second Avenue
San Diego, CA 92101
(619)232-9200 (619)232-9210 Fax

BMP DMA MAPBOOK
DMA 3
SKYLINE RETIREMENT CENTER
LA MESA, CALIFORNIA
SHEET 3 OF 3

SAVE DATE: 9/20/2017 ~ PLOT DATE: 9/20/2017 ~ FILE NAME: P:\Acad\979 - Skyline Senior Residence\Reports\SWQMP\170911_979-DMAEXHIBITPST.dwg

ATTACHMENT 2

BACKUP FOR PDP HYDROMODIFICATION CONTROL MEASURES

This is the cover sheet for Attachment 2.

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

Indicate which Items are Included behind this cover sheet:

Attachment Sequence	Contents	Checklist
Attachment 2a	Flow Control Facility Design, including Structural BMP Drawdown Calculations and Overflow Design Summary (Required) See Chapter 6 and Appendix G of the BMP Design Manual	☐ Included ☒ Submitted as separate stand-alone document
Attachment 2b	Hydromodification Management Exhibit (Required)	☒ Included See Hydromodification Management Exhibit Checklist on the back of this Attachment cover sheet.
Attachment 2c	Management of Critical Coarse Sediment Yield Areas See Section 6.2 and Appendix H of the BMP Design Manual.	☒ Exhibit depicting onsite and/or upstream sources of critical coarse sediment as mapped by Regional or Jurisdictional approaches outlined in Appendix H.1 AND, ☒ Demonstration that the project effectively avoids and bypasses sources of mapped critical coarse sediment per approaches outlined in Appendix H.2 and H.3. OR, ☐ Demonstration that project does not generate a net impact on the receiving water per approaches outlined in Appendix H.4.
Attachment 2d	Geomorphic Assessment of Receiving Channels (Optional) See Section 6.3.4 of the BMP Design Manual.	☒ Not performed ☐ Included ☐ Submitted as separate stand-alone document
Attachment 2e	Vector Control Plan (Required when structural BMPs will not drain in 96 hours)	☐ Included ☒ Not required because BMPs will drain in less than 96 hours

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

The Hydromodification Management Exhibit must identify:

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

LEGEND

DMA BOUNDARY

SOIL TYPE BOUNDARY

DEPTH TO GROUNDWATER > 20FT

NO CRITICAL COARSE SEDIMENT YIELD AREAS TO PROTECT

PRE DEVELOPED AREAS					
DMA	SOIL TYPE	IMPERVIOUS (AC)	PERVIOUS (AC)	TOTAL AREA (AC)	DRAINS TO
1-A	A	0.00	4.09	4.09	POC-1
1-D	D	0.00	4.42	4.42	
2-D	D	0.00	0.60	0.60	POC-2
OFFSITE-A	A	0.00	0.37	0.37	POC-1
OFFSITE-D	D	0.00	0.01	0.01	
TOTAL				9.48	

REVISIONS

NO.	DESCRIPTION	DATE	APP'D

R·E·C Consultants, Inc.
Civil Engineering · Environmental
Land Surveying
2442 Second Avenue
San Diego, CA 92101
(619)232-9200 (619)232-9210 Fax

DATE: 10-2016
SCALE: 1" = 50'
DRAWN:
CHECKED:

SHEET TITLE: DMA EXHIBIT - EXISITING CONDITIONS
PROJECT: SKYLINE RETIREMENT CENTER
LA MESA, CALIFORNIA 91941

SHEET 1 OF 1 SHEETS

SAVE DATE 9/18/2017 ~ PLOT DATE 9/18/2017 ~ FILE NAME P:\Vlcool\979 ~ Skyline Senior Residence\Reports\SWQMP\170911_979-DMAEXHIBITPST.dwg

NOTES:
1. SOIL MIX PER CITY OF SAN DIEGO LID MANUAL
2. "WELL DRAINED SOIL" SHALL BE "SANDY LOAM" SOIL MIX WITH NO MORE THAN 5% CLAY CONTENT. THE MIX SHALL CONTAIN 50–60% SAND, 20–30% COMPOST OR HARDWOOD MULCH, AND 20–30% TOPSOIL.

FLOW CONTROL ORIFICE PLATE
NTS

1 BMP BASIN DETAILS
NOT TO SCALE

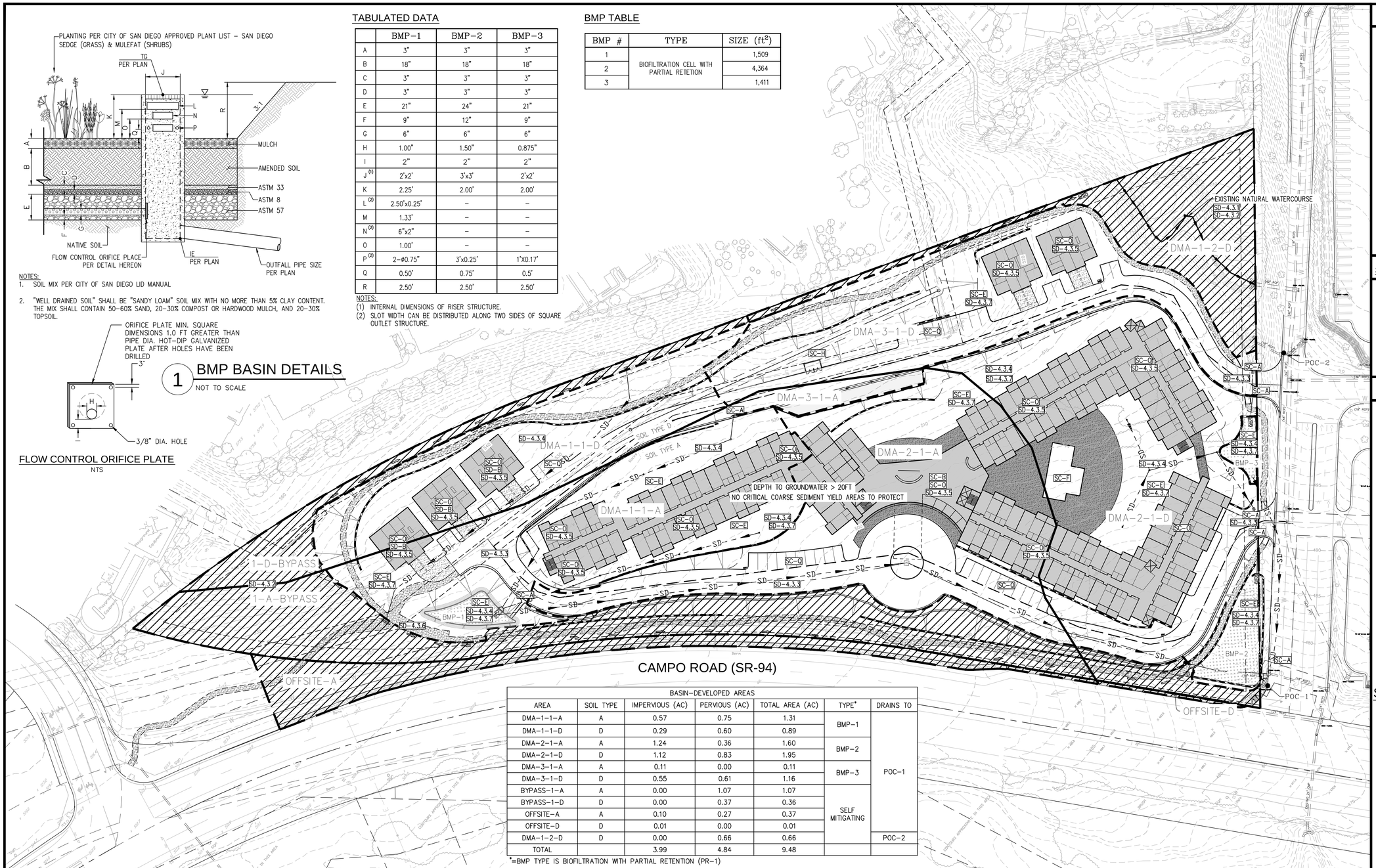
TABULATED DATA

	BMP–1	BMP–2	BMP–3
A	3"	3"	3"
B	18"	18"	18"
C	3"	3"	3"
D	3"	3"	3"
E	21"	24"	21"
F	9"	12"	9"
G	6"	6"	6"
H	1.00"	1.50"	0.875"
I	2"	2"	2"
J (1)	2'x2'	3'x3'	2'x2'
K	2.25'	2.00'	2.00'
L (2)	2.50'x0.25'	–	–
M	1.33'	–	–
N (2)	6"x2"	–	–
O	1.00'	–	–
P (2)	2–ø0.75"	3'x0.25'	1'X0.17'
Q	0.50'	0.75'	0.5'
R	2.50'	2.50'	2.50'

NOTES:
(1) INTERNAL DIMENSIONS OF RISER STRUCTURE.
(2) SLOT WIDTH CAN BE DISTRIBUTED ALONG TWO SIDES OF SQUARE OUTLET STRUCTURE.

BMP TABLE

BMP #	TYPE	SIZE (ft²)
1	BIOFILTRATION CELL WITH PARTIAL RETETION	1,509
2		4,364
3		1,411



BASIN–DEVELOPED AREAS

AREA	SOIL TYPE	IMPERVIOUS (AC)	PERVIOUS (AC)	TOTAL AREA (AC)	TYPE*	DRAINS TO
DMA–1–1–A	A	0.57	0.75	1.31	BMP–1	POC–1
DMA–1–1–D	D	0.29	0.60	0.89		
DMA–2–1–A	A	1.24	0.36	1.60	BMP–2	
DMA–2–1–D	D	1.12	0.83	1.95		
DMA–3–1–A	A	0.11	0.00	0.11	BMP–3	
DMA–3–1–D	D	0.55	0.61	1.16		
BYPASS–1–A	A	0.00	1.07	1.07	SELF MITIGATING	
BYPASS–1–D	D	0.00	0.37	0.36		
OFFSITE–A	A	0.10	0.27	0.37		
OFFSITE–D	D	0.01	0.00	0.01		
DMA–1–2–D	D	0.00	0.66	0.66		POC–2
TOTAL		3.99	4.84	9.48		

*=BMP TYPE IS BIOFILTRATION WITH PARTIAL RETENTION (PR–1)

LEGEND

- DMA BOUNDARY
- SOIL BOUNDARY
- IMPERVIOUS AREA (STREET)
- IMPERVIOUS AREA (ROOF)
- DG TRAIL
- BMP BASIN
- BYPASS/SELF MITIGATING AREA
- BROW DITCH (D–75, TYPE A)
- SOUND WALL
- RETAILING WALL
- STORM DRAIN —SD—
- TYPE "f" INLET
- SD INLET

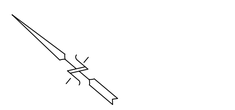
SOURCE CONTROL BMP'S

SC–A: ON–SITE STORM DRAIN INLETS
SC–B: INTERIOR FLOOR DRAINS AND ELEVATOR SHAFT SUMP PUMPS
SC–E: LANDSCAPE/OUTDOOR PESTICIDE USE
SC–F: POOLS, SPAS, PONDS, FOUNTAINS, AND OTHER WATER FEATURES
SC–H: INTERIOR PARKING GARAGES
SC–O: FUTURE INDOOR & STRUCTURAL PEST CONTROL
SC–Q: PLAZAS, SIDEWALKS, AND PARKING LOTS

SITE DESIGN BMP'S

SD–4.3.1: EXISTING VEGETATED CHANNEL ALONG NORTHERN SITE BOUNDARY TO REMAIN UNDISTURBED.
SD–4.3.2: NATURAL AREAS, SOILS, AND VEGETATION ARE TO BE CONSERVED.
SD–4.3.3: ROAD DESIGNED TO MINIMUM WIDTH WITHOUT COMPROMISING PUBLIC SAFETY OR ALTERNATIVE TRANSPORTATION.
SD–4.3.4: PROPOSED LANDSCAPED AREAS THAT BECAME COMPACTED DURING CONSTRUCTION TO BE RE–TILLED AFTER CONSTRUCTION HAS BEEN COMPLETED.
SD–4.3.5: RUNOFF FROM ROOFS AND DRIVEWAYS WILL BE DIRECTED TOWARDS LANDSCAPED AREAS.
SD–4.3.6: PERMEABLE MATERIAL
SD–4.3.7: LANDSCAPING TO BE DONE WITH NATIVE OR DROUGHT TOLERANT SPECIES

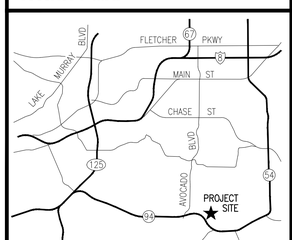
SAMPLE PROHIBITIVE SIGNAGE
NTS



50 25 0 50 100 150
SCALE: 1" = 50'

SKYLINE RETIREMENT CENTER

VICINITY MAP



OWNER INFORMATION

NAME: SKYLINE WESLEYAN CHURCH
ADDRESS: 11330 CAMPO RD
CITY: LA MESA
STATE: CALIFORNIA
ZIP: 91941
PHONE: 619–660–5000
FAX: N/A
EMAIL: N/A

CONTACT INFORMATION

NAME: PASTOR DAN GRANT
ADDRESS: 11330 CAMPO RD
CITY: LA MESA
STATE: CALIFORNIA
ZIP: 91941
PHONE: 619–660–5000
FAX: N/A
EMAIL: N/A

PARCEL INFORMATION

APN: 506–140–06, 07
SITE ADDRESS: 11330 CAMPO ROAD LA MESA, CA 91941
ZONE:
SETBACK:

I CERTIFY THAT I HAVE READ ALL ZONING REGULATIONS AND BEST MANAGEMENT PRACTICES (BMPs) NOTES AND THAT I AM THE DESIGNER OF THE PROPOSED PROJECT:

BRUCE A. ROBERTSON REC NO.48529 DATE

PROJECT INFORMATION

EXISTING:
VACANT, UNDEVELOPED LOT

PROPOSED:
CENTRAL COMMON AREA (2–STORY) = 22,400 S.F.
WING 1 (ASSISTED LIVING) = 23,215 S.F. (PER FLOOR) x 3 FLOORS= 69,645 S.F.
WING 2 (ASSISTED LIVING) = 20,106 S.F. (PER FLOOR) x 3 FLOORS= 60,318 S.F.
WING 3 (INDEPENDENT LIVING) = 21,920 S.F. (PER FLOOR) x 3 FLOORS= 65,760 S.F. w/BASEMENT PARKING GARAGE
5 DUPLEX UNITS (3,000 S.F./EA) = 15,000 S.F
AC PARKING ALONG MAIN DRIVEWAY = 30 SPACES
PARKING STRUCTURE = 25,000 S.F.

GRADING AND EARTHWORK:
CUT: 35,000 CY
FILL: 35,000 CY
IMPORT/EXPORT: 0.00 CY

DISTURBED AREA = 7.75 AC

REGISTERED PROFESSIONAL ENGINEER BRUCE A. ROBERTSON RCE ~ 48529 EXP 6/30/16 CIVIL STATE OF CALIFORNIA

R·E·C Consultants, Inc.
Civil Engineering · Environmental Land Surveying
2442 Second Avenue
San Diego, CA 92101
(619)232–9200 (619)232–9210 Fax

SHEET TITLE

DMA EXHIBIT

SHEET NUMBER

2

PDS 040 (REV. 09/24/2012)
BUILDING PLOT PLAN TEMPLATE

Project Boundary and Potential Critical Coarse Sediment Yield Areas

R·E·C Consultants, Inc.

SKYLINE SENIOR RESIDENCE

Feet
0 125 250

Data Source: ESRI Basemap, San Diego County Regional WMAA

January 2016

ATTACHMENT 3

Structural BMP Maintenance Information

This is the cover sheet for Attachment 3.

Indicate which Items are Included behind this cover sheet:

Attachment Sequence	**Contents**	**Checklist**
Attachment 3a	Structural BMP Maintenance Plan (Required)	☒ Included See Structural BMP Maintenance Information Checklist on the back of this Attachment cover sheet.
Attachment 3b	Draft Stormwater Maintenance Notification / Agreement (when applicable)	☐ Included ☒ Not Applicable

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

Attachment 3a must identify:

- ☒ Specific maintenance indicators and actions for proposed structural BMP(s). This must be based on Section 7.7 of the BMP Design Manual and enhanced to reflect actual proposed components of the structural BMP(s)
- ☒ 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)
- ☒ 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

Attachment 3b: For all Structural BMPs, Attachment 3b must include a draft maintenance agreement in the County's standard format depending on the Category (PDP applicant to contact County staff to obtain the current maintenance agreement forms). Refer to Section 7.3 in the BMP Design Manual for a description of the different categories.

PR-1

Biofiltration with Partial Retention

BMP MAINTENANCE FACT SHEET
FOR
STRUCTURAL BMP PR-1 BIOFILTRATION WITH PARTIAL RETENTION

Biofiltration with partial retention facilities are vegetated surface water systems that filter water through vegetation and soil or engineered media prior to infiltrating into native soils, discharge via underdrain, or overflow to the downstream conveyance system. These BMPs have an elevated underdrain discharge point that creates storage capacity in the aggregate storage layer. Typical biofiltration with partial retention components include:

- Inflow distribution mechanisms (e.g., perimeter flow spreader or filter strips)
- Energy dissipation mechanism for concentrated inflows (e.g., splash blocks or riprap)
- Shallow surface ponding for captured flows
- Side slope and basin bottom vegetation selected based on climate and ponding depth
- Non-floating mulch layer
- Media layer (planting mix or engineered media) capable of supporting vegetation growth
- Filter course layer consisting of aggregate to prevent the migration of fines into uncompacted native soils or the aggregate storage layer
- Aggregate storage layer with underdrain(s)
- Uncompacted native soils at the bottom of the facility
- Overflow structure

Normal Expected Maintenance

Biofiltration with partial retention requires routine maintenance to: remove accumulated materials such as sediment, trash or debris; maintain vegetation health; maintain infiltration capacity of the media layer; replenish mulch; and maintain integrity of side slopes, inlets, energy dissipators, and outlets. A summary table of standard inspection and maintenance indicators is provided within this Fact Sheet.

Non-Standard Maintenance or BMP Failure

If any of the following scenarios are observed, the BMP is not performing as intended to protect downstream waterways from pollution and/or erosion. Corrective maintenance, increased inspection and maintenance, BMP replacement, or a different BMP type will be required.

- The BMP is not drained between storm events. Surface ponding longer than approximately 24 hours following a storm event may be detrimental to vegetation health, and surface ponding longer than approximately 96 hours following a storm event poses a risk of vector (mosquito) breeding. Poor drainage can result from clogging of the media layer, filter course, aggregate storage layer, underdrain, or outlet structure. The specific cause of the drainage issue must be determined and corrected.
- Sediment, trash, or debris accumulation greater than 25% of the surface ponding volume within one month. This means the load from the tributary drainage area is too high, reducing BMP function or clogging the BMP. This would require pretreatment measures within the tributary area draining to the BMP to intercept the materials. Pretreatment components, especially for sediment, will extend the life of components that are more expensive to replace such as media, filter course, and aggregate layers.

- Erosion due to concentrated storm water runoff flow that is not readily corrected by 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.

Other Special Considerations

Biofiltration with partial retention is a vegetated structural BMP. Vegetated structural BMPs that are constructed in the vicinity of, or connected to, an existing jurisdictional water or wetland could inadvertently result in creation of expanded waters or wetlands. As such, vegetated structural BMPs have the potential to come under the jurisdiction of the United States Army Corps of Engineers, SDRWQCB, California Department of Fish and Wildlife, or the United States Fish and Wildlife Service. This could result in the need for specific resource agency permits and costly mitigation to perform maintenance of the structural BMP. Along with proper placement of a structural BMP, **routine maintenance is key to preventing this scenario**.

PR-1
Biofiltration with Partial Retention

SUMMARY OF STANDARD INSPECTION AND MAINTENANCE FOR PR-1 BIOFILTRATION WITH PARTIAL RETENTION		
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 structures	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).

SUMMARY OF STANDARD INSPECTION AND MAINTENANCE FOR PR-1 BIOFILTRATION WITH PARTIAL RETENTION (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 than 24 hours 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 as adjusting irrigation system, removing obstructions of debris or 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 adult mosquitos, see http://www.mosquito.org/biology	If mosquitos/larvae are observed: first, immediately remove any standing water by dispersing to nearby landscaping; second, make corrective measures as applicable to restore BMP drainage to prevent standing water. If mosquitos persist following corrective measures to remove standing water, or if the BMP design does not meet the 96-hour drawdown criteria due to release rates controlled by an orifice installed on the underdrain, the [City Engineer] shall be contacted to determine a solution. A different BMP type, or a Vector Management Plan prepared with concurrence from the County of San Diego Department of Environmental 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.

References

American Mosquito Control Association.
http://www.mosquito.org/
California Storm Water Quality Association (CASQA). 2003. Municipal BMP Handbook.
https://www.casqa.org/resources/bmp-handbooks/municipal-bmp-handbook
County of San Diego. 2014. Low Impact Development Handbook.
http://www.sandiegocounty.gov/content/sdc/dpw/watersheds/susmp/lid.html
San Diego County Copermittees. 2016. Model BMP Design Manual, Appendix E, Fact Sheet PR-1.
http://www.projectcleanwater.org/index.php?option=com_content&view=article&id=250&Itemid=220

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PR-1

Biofiltration with Partial Retention

Date:	Inspector:	BMP ID No.:
Permit No.:	APN(s):	
Property / Development Name:	Responsible Party Name and Phone Number:	
Property Address of BMP:	Responsible Party Address:	

INSPECTION AND MAINTENANCE CHECKLIST FOR PR-1 BIOFILTRATION WITH PARTIAL RETENTION PAGE 1 of 5			
Threshold/Indicator	**Maintenance Recommendation**	**Date**	**Description of Maintenance Conducted**
Accumulation of sediment, litter, or debris Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Remove and properly dispose of accumulated materials, without damage to the vegetation ☐ If sediment, litter, or debris accumulation exceeds 25% of the surface ponding volume within one month (25% full*), add a forebay or other pre-treatment measures within the tributary area draining to the BMP to intercept the materials. ☐ Other / Comments:		
Poor vegetation establishment Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Re-seed, re-plant, or re-establish vegetation per original plans ☐ Other / Comments:		

*"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).

Biofiltration with Partial Retention

Date:	Inspector:	BMP ID No.:
Permit No.:	APN(s):	

INSPECTION AND MAINTENANCE CHECKLIST FOR PR-1 BIOFILTRATION WITH PARTIAL RETENTION PAGE 2 of 5			
Threshold/Indicator	**Maintenance Recommendation**	**Date**	**Description of Maintenance Conducted**
Dead or diseased vegetation Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Remove dead or diseased vegetation, re-seed, re-plant, or re-establish vegetation per original plans ☐ Other / Comments:		
Overgrown vegetation Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Mow or trim as appropriate ☐ Other / Comments:		
2/3 of mulch has decomposed, or mulch has been removed Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Remove decomposed fraction and top off with fresh mulch to a total depth of 3 inches ☐ Other / Comments:		

PR-1

Biofiltration with Partial Retention

Date:	Inspector:	BMP ID No.:
Permit No.:	APN(s):	

INSPECTION AND MAINTENANCE CHECKLIST FOR PR-1 BIOFILTRATION WITH PARTIAL RETENTION PAGE 3 of 5			
Threshold/Indicator	**Maintenance Recommendation**	**Date**	**Description of Maintenance Conducted**
Erosion due to concentrated irrigation flow Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Repair/re-seed/re-plant eroded areas and adjust the irrigation system ☐ Other / Comments:		
Erosion due to concentrated storm water runoff flow Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ 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 ☐ Other / Comments:		

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INSPECTION AND MAINTENANCE CHECKLIST FOR PR-1 BIOFILTRATION WITH PARTIAL RETENTION PAGE 4 of 5			
Threshold/Indicator	**Maintenance Recommendation**	**Date**	**Description of Maintenance Conducted**
Obstructed inlet or outlet structure Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Clear blockage ☐ Other / Comments:		
Underdrain clogged (inspect underdrain if standing water is observed for longer than 24-96 hours following a storm event) Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Clear blockage ☐ Other / Comments:		
Damage to structural components such as weirs, inlet or outlet structures Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Repair or replace as applicable ☐ Other / Comments:		

PR-1

Biofiltration with Partial Retention

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Permit No.:	APN(s):	

INSPECTION AND MAINTENANCE CHECKLIST FOR PR-1 BIOFILTRATION WITH PARTIAL RETENTION PAGE 5 of 5			
Threshold/Indicator	**Maintenance Recommendation**	**Date**	**Description of Maintenance Conducted**
Standing water in BMP for longer than 24 hours following a storm event* Surface ponding longer than approximately 24 hours following a storm event may be detrimental to vegetation health Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Make appropriate corrective measures such as adjusting irrigation system, removing obstructions of debris or invasive vegetation, clearing underdrains, or repairing/replacing clogged or compacted soils ☐ Other / Comments:		
Presence of mosquitos/larvae For images of egg rafts, larva, pupa, and adult mosquitos, see http://www.mosquito.org/biology Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Apply corrective measures to remove standing water in BMP when standing water occurs for longer than 24-96 hours following a storm event.** ☐ Other / Comments:		

*Surface ponding longer than approximately 24 hours following a storm event may be detrimental to vegetation health, and surface ponding longer than approximately 96 hours following a storm event poses a risk of vector (mosquito) breeding. Poor drainage can result from clogging of the media layer, filter course, aggregate storage layer, underdrain, or outlet structure. The specific cause of the drainage issue must be determined and corrected.

**If mosquitos persist following corrective measures to remove standing water, or if the BMP design does not meet the 96-hour drawdown criteria due to release rates controlled by an orifice installed on the underdrain, the [City Engineer] shall be contacted to determine a solution. A different BMP type, or a Vector Management Plan prepared with concurrence from the County of San Diego Department of Environmental Health, may be required.

ATTACHMENT 4

County of San Diego PDP Structural BMP Verification for Permitted Land Development Projects

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County of San Diego BMP Design Manual Verification Form	
Project Summary Information	
Project Name	Skyline Retirement Center
Record ID (e.g., grading/improvement plan number)	PDS2016-SPA-16-002, GPA-16-005
Project Address	Campo Road La Mesa, Ca 91941
Assessor's Parcel Number(s) (APN(s))	506-140-06,07
Project Watershed (Complete Hydrologic Unit, Area, and Subarea Name with Numeric Identifier)	Sweetwater Watershed (909) Middle Sweetwater Hydrologic Area(909.2) Jamacha Hydrologic Subarea (909.21)
Responsible Party for Construction Phase	
Developer's Name	
Address	
Email Address	
Phone Number	
Engineer of Work	
Engineer's Phone Number	
Responsible Party for Ongoing Maintenance	
Owner's Name(s)*	Skyline Church
Address	11300 Campo Rd La Mesa, CA 91941
Email Address	
Phone Number	(619)660-5000
*Note: If a corporation or LLC, provide information for principal partner or Agent for Service of Process. If an HOA, provide information for the Board or property manager at time of project closeout.	

County of San Diego BMP Design Manual Verification Form Page 2 of 4					
Stormwater Structural Pollutant Control & Hydromodification Control BMPs* (List all from SWQMP)					
Description/Type of Structural BMP	**Plan Sheet #**	**STRUCT-URAL BMP ID#**	**Maint-enance Category**	**Maintenance Agreement Recorded Doc #**	**Revisions**
Partial Retention Basin		BMP-1	2		
Partial Retention Basin		BMP-2	2		
Partial Retention Basin		BMP-3	2		
*All Priority Development Projects (PDPs) require a Structural BMP					

Note: If this is a partial verification of Structural BMPs, provide a list and map denoting Structural BMPs that have already been submitted, those for this submission, and those anticipated in future submissions.

County of San Diego BMP Design Manual Verification Form Page 3 of 4

Checklist for Applicant to submit to PDCI:

- ☐ Copy of the final accepted SWQMP and any accepted addendum.
- ☐ Copy of the most current plan showing the Stormwater Structural BMP Table, plans/cross-section sheets of the Structural BMPs and the location of each verified as-built Structural BMP.
- ☐ Photograph of each Structural BMP.
- ☐ Photograph(s) of each Structural BMP during the construction process to illustrate proper construction.
- ☐ Copy of the approved Structural BMP maintenance agreement and associated security

By signing below, I certify that the Structural BMP(s) for this project have been constructed and all BMPs 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.

Please sign your name and seal.

Professional Engineer's Printed Name: _____

Professional Engineer's Signed Name: _____

Date: _____

[SEAL]

County of San Diego BMP Design Manual Verification Form Page 4 of 4

COUNTY - OFFICIAL USE ONLY:

For PDCI: Verification Package #: _____

PDCI Inspector: _____

Date Project has/expects to close: _____

Date verification received from EOW: _____

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

PDCI Inspector's Signature: _____ Date: _____

FOR WPP:

Date Received from PDCI: _____

WPP Submittal Reviewer: _____

WPP Reviewer concurs that the information provided for the following Structural BMPs is acceptable to enter into the Structural BMP Maintenance verification inventory:

List **acceptable** Structural BMPs:

WPP Reviewer's Signature: _____ Date: _____

ATTACHMENT 5

Copy of Plan Sheets Showing Permanent Storm Water BMPs, Source Control, and Site Design

This is the cover sheet for Attachment 5.

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

The plans must identify:

☒ Structural BMP(s) with ID numbers matching Step 6 Summary of PDP Structural BMPs
☒ 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)
☒ 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)
☒ Manufacturer and part number for proprietary parts of structural BMP(s) when applicable
☒ Maintenance thresholds specific to the structural BMP(s), with a location-specific frame of reference (e.g., level of accumulated materials that triggers removal of the materials, to be identified based on viewing marks on silt posts or measured with a survey rod with respect to a fixed benchmark within the BMP)
☒ Recommended equipment to perform maintenance
☒ When applicable, necessary special training or certification requirements for inspection and maintenance personnel such as confined space entry or hazardous waste management
☒ Include landscaping plan sheets showing vegetation requirements for vegetated structural BMP(s)
☒ All BMPs must be fully dimensioned on the plans
☒ When proprietary BMPs are used, site-specific cross section with outflow, inflow, and model number must be provided. Photocopies of general brochures are not acceptable.
☒ Include all source control and site design measures described in Steps 4 and 5 of the SWQMP. Can be included as a separate exhibit as necessary.

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CURB & SIDEWALK DETAIL

SCALE: 1 "=10'

TYPICAL SECTION
CAMPO ROAD (SR-94)

NO SCALE

TYPICAL SECTION
PRIVATE DRIVEWAY

NO SCALE

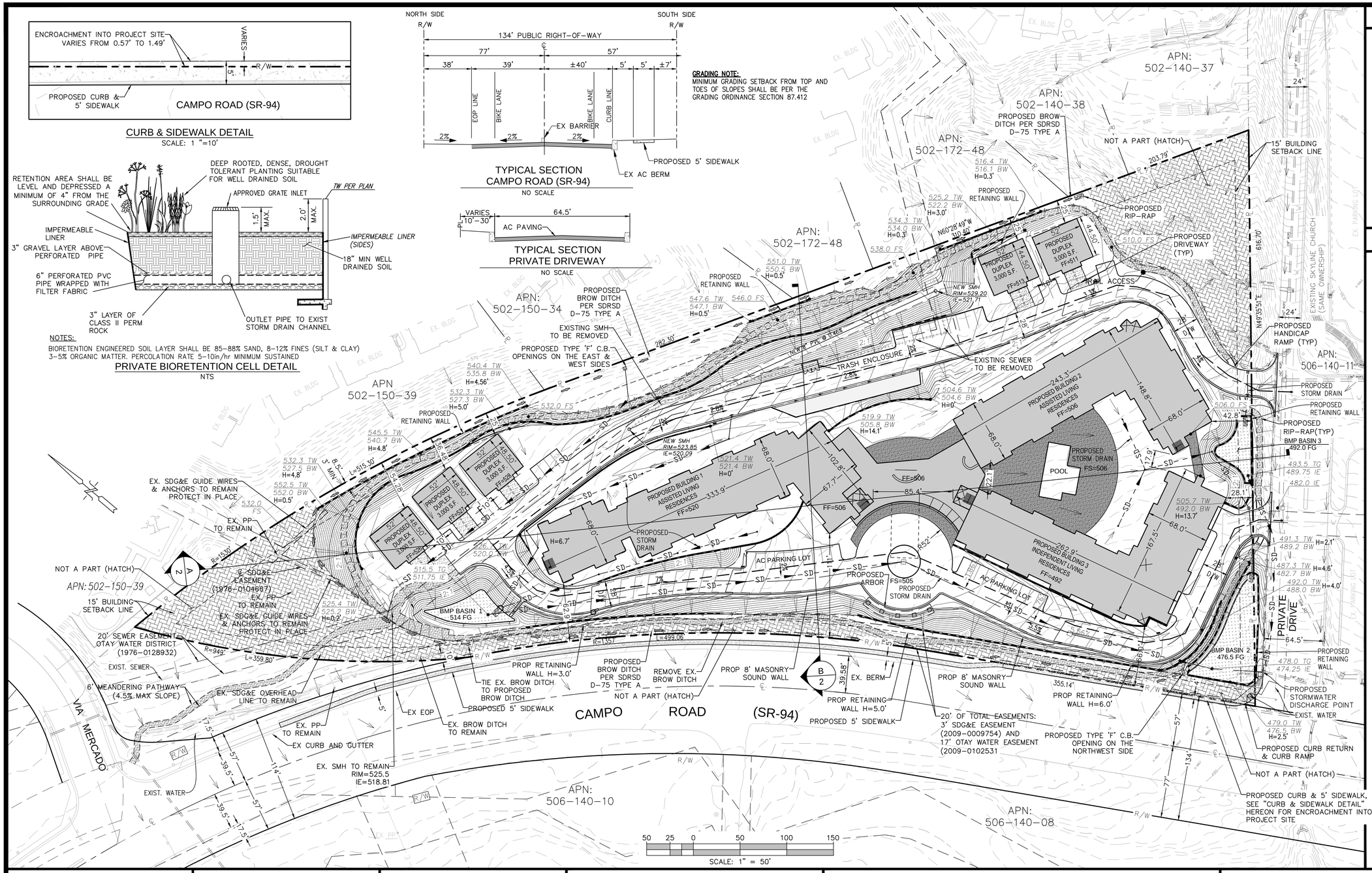
NOTES:

BIORETENTION ENGINEERED SOIL LAYER SHALL BE 85-88% SAND, 8-12% FINES (SILT & CLAY) 3-5% ORGANIC MATTER. PERCOLATION RATE 5-10in/hr MINIMUM SUSTAINED

PRIVATE BIORETENTION CELL DETAIL

NTS

GRADING NOTE:
MINIMUM GRADING SETBACK FROM TOP AND TOES OF SLOPES SHALL BE PER THE GRADING ORDINANCE SECTION 87.412

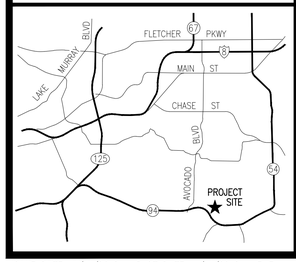


LEGEND

- DG TRAIL
- BMP BASIN
- NOT A PART
- BROW DITCH (D-75, TYPE A)
- SOUND WALL
- RETAILING WALL
- STORM DRAIN
- TYPE "F" INLET
- SD INLET
- AC PAVING
- SLOPE (2:1)

SKYLINE RETIREMENT CENTER

VICINITY MAP



OWNER INFORMATION

NAME: SKYLINE WESLEYAN CHURCH
ADDRESS: 11330 CAMPO RD
CITY: LA MESA
STATE: CALIFORNIA
ZIP: 91941
PHONE: 619-660-5000
FAX: N/A
EMAIL: N/A

CONTACT INFORMATION

NAME: PASTOR DAN GRANT
ADDRESS: 11330 CAMPO RD
CITY: LA MESA
STATE: CALIFORNIA
ZIP: 91941
PHONE: 619-660-5000
FAX: N/A
EMAIL: N/A

PARCEL INFORMATION

APN: 506-140-06, 07
SITE ADDRESS: 11330 CAMPO ROAD LA MESA, CA 91941
ZONE:
SETBACK:

I CERTIFY THAT I HAVE READ ALL ZONING REGULATIONS AND BEST MANAGEMENT PRACTICES (BMPs) NOTES AND THAT I AM THE DESIGNER OF THE PROPOSED PROJECT:

BRUCE A. ROBERTSON REC NO.48529 DATE

PROJECT INFORMATION

EXISTING:
VACANT, UNDEVELOPED LOT

PROPOSED:
CENTRAL COMMON AREA (2-STORY) = 22,400 S.F.
WING 1 (ASSISTED LIVING) = 23,215 S.F. (PER FLOOR) x 3 FLOORS= 69,645 S.F.
WING 2 (ASSISTED LIVING) = 20,106 S.F. (PER FLOOR) x 3 FLOORS= 60,318 S.F.
WING 3 (INDEPENDENT LIVING) = 21,920 S.F. (PER FLOOR) x 3 FLOORS= 65,760 S.F. w/BASEMENT PARKING GARAGE
5 DUPLEX UNITS (3,000 S.F./EA) = 15,000 S.F
AC PARKING ALONG MAIN DRIVEWAY = 30 SPACES
PARKING STRUCTURE = 25,000 S.F.

GRADING AND EARTHWORK:
CUT: 35,000 CY
FILL: 35,000 CY
IMPORT/EXPORT:0.00 CY

DISTURBED AREA = 7.75 AC

REGISTERED PROFESSIONAL ENGINEER BRUCE A. ROBERTSON RCE ~ 48529 EXP 6/30/16 CIVIL STATE OF CALIFORNIA

R·E·C Consultants, Inc.

Civil Engineering · Environmental Land Surveying
2442 Second Avenue
San Diego, CA 92101
(619)232-9200 (619)232-9210 Fax

SHEET TITLE

PRELIMINARY GRADING

SHEET NUMBER

1

PDS 040 (REV. 09/24/2012)
BUILDING PLOT PLAN TEMPLATE

DATE: 1/11/2018

NOTES:
1. SOIL MIX PER CITY OF SAN DIEGO LID MANUAL
2. "WELL DRAINED SOIL" SHALL BE "SANDY LOAM" SOIL MIX WITH NO MORE THAN 5% CLAY CONTENT. THE MIX SHALL CONTAIN 50–60% SAND, 20–30% COMPOST OR HARDWOOD MULCH, AND 20–30% TOPSOIL.

FLOW CONTROL ORIFICE PLATE
NTS

1 BMP BASIN DETAILS
NOT TO SCALE

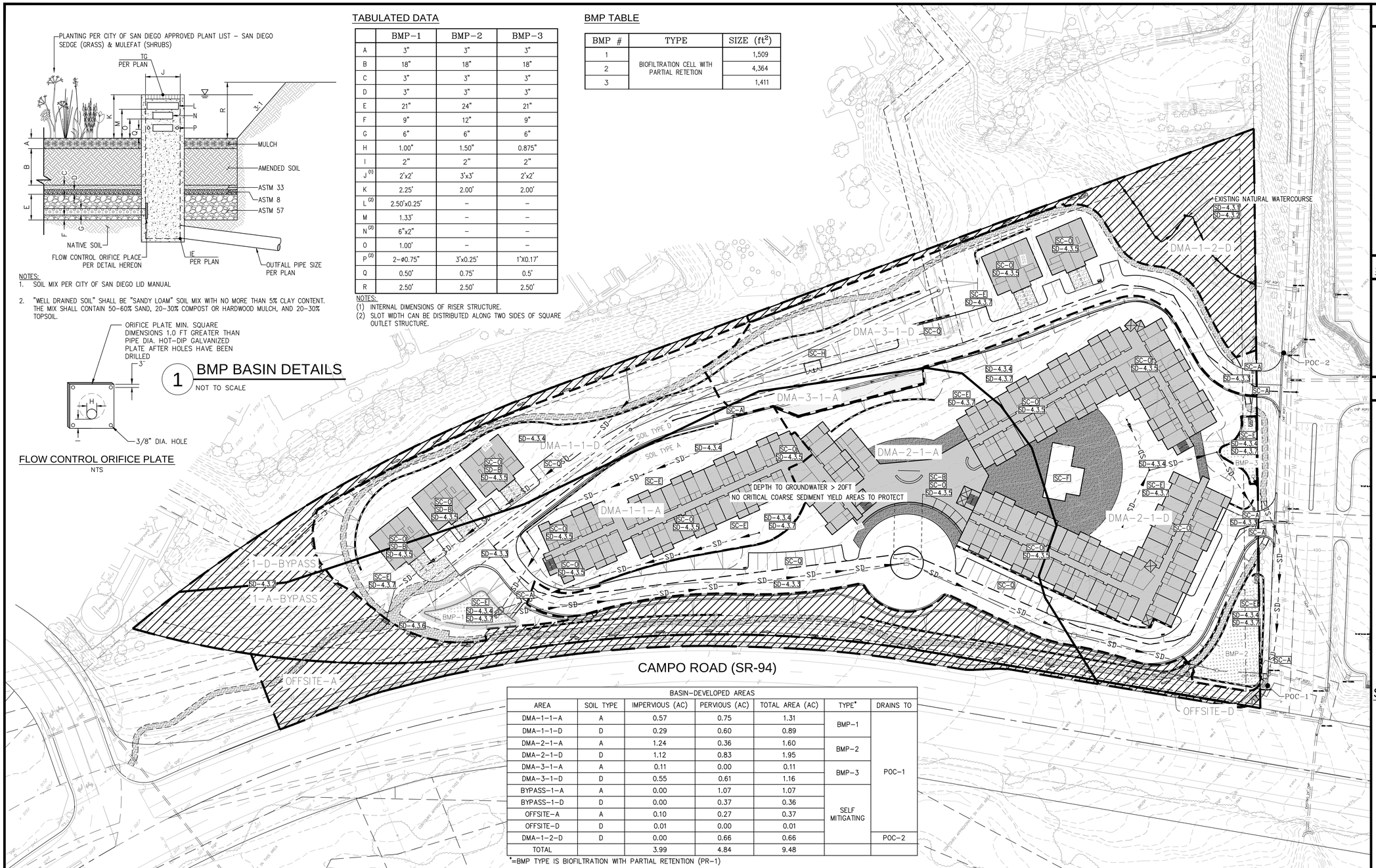
TABULATED DATA

	BMP–1	BMP–2	BMP–3
A	3"	3"	3"
B	18"	18"	18"
C	3"	3"	3"
D	3"	3"	3"
E	21"	24"	21"
F	9"	12"	9"
G	6"	6"	6"
H	1.00"	1.50"	0.875"
I	2"	2"	2"
J (1)	2'x2'	3'x3'	2'x2'
K	2.25'	2.00'	2.00'
L (2)	2.50'x0.25'	–	–
M	1.33'	–	–
N (2)	6"x2"	–	–
O	1.00'	–	–
P (2)	2–ø0.75"	3'x0.25'	1'X0.17'
Q	0.50'	0.75'	0.5'
R	2.50'	2.50'	2.50'

NOTES:
(1) INTERNAL DIMENSIONS OF RISER STRUCTURE.
(2) SLOT WIDTH CAN BE DISTRIBUTED ALONG TWO SIDES OF SQUARE OUTLET STRUCTURE.

BMP TABLE

BMP #	TYPE	SIZE (ft²)
1	BIOFILTRATION CELL WITH PARTIAL RETETION	1,509
2		4,364
3		1,411



BASIN–DEVELOPED AREAS

AREA	SOIL TYPE	IMPERVIOUS (AC)	PERVIOUS (AC)	TOTAL AREA (AC)	TYPE*	DRAINS TO
DMA–1–1–A	A	0.57	0.75	1.31	BMP–1	POC–1
DMA–1–1–D	D	0.29	0.60	0.89		
DMA–2–1–A	A	1.24	0.36	1.60	BMP–2	
DMA–2–1–D	D	1.12	0.83	1.95		
DMA–3–1–A	A	0.11	0.00	0.11	BMP–3	
DMA–3–1–D	D	0.55	0.61	1.16		
BYPASS–1–A	A	0.00	1.07	1.07	SELF MITIGATING	
BYPASS–1–D	D	0.00	0.37	0.36		
OFFSITE–A	A	0.10	0.27	0.37		
OFFSITE–D	D	0.01	0.00	0.01		
DMA–1–2–D	D	0.00	0.66	0.66		POC–2
TOTAL		3.99	4.84	9.48		

*=BMP TYPE IS BIOFILTRATION WITH PARTIAL RETENTION (PR–1)

LEGEND

- DMA BOUNDARY
- SOIL BOUNDARY
- IMPERVIOUS AREA (STREET)
- IMPERVIOUS AREA (ROOF)
- DG TRAIL
- BMP BASIN
- BYPASS/SELF MITIGATING AREA
- BROW DITCH (D–75, TYPE A)
- SOUND WALL
- RETAILING WALL
- STORM DRAIN —SD—
- TYPE "f" INLET
- SD INLET

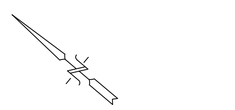
SOURCE CONTROL BMP'S

SC–A: ON–SITE STORM DRAIN INLETS
SC–B: INTERIOR FLOOR DRAINS AND ELEVATOR SHAFT SUMP PUMPS
SC–E: LANDSCAPE/OUTDOOR PESTICIDE USE
SC–F: POOLS, SPAS, PONDS, FOUNTAINS, AND OTHER WATER FEATURES
SC–H: INTERIOR PARKING GARAGES
SC–O: FUTURE INDOOR & STRUCTURAL PEST CONTROL
SC–Q: PLAZAS, SIDEWALKS, AND PARKING LOTS

SITE DESIGN BMP'S

SD–4.3.1: EXISTING VEGETATED CHANNEL ALONG NORTHERN SITE BOUNDARY TO REMAIN UNDISTURBED.
SD–4.3.2: NATURAL AREAS, SOILS, AND VEGETATION ARE TO BE CONSERVED.
SD–4.3.3: ROAD DESIGNED TO MINIMUM WIDTH WITHOUT COMPROMISING PUBLIC SAFETY OR ALTERNATIVE TRANSPORTATION.
SD–4.3.4: PROPOSED LANDSCAPED AREAS THAT BECAME COMPACTED DURING CONSTRUCTION TO BE RE–TILLED AFTER CONSTRUCTION HAS BEEN COMPLETED.
SD–4.3.5: RUNOFF FROM ROOFS AND DRIVEWAYS WILL BE DIRECTED TOWARDS LANDSCAPED AREAS.
SD–4.3.6: PERMEABLE MATERIAL
SD–4.3.7: LANDSCAPING TO BE DONE WITH NATIVE OR DROUGHT TOLERANT SPECIES

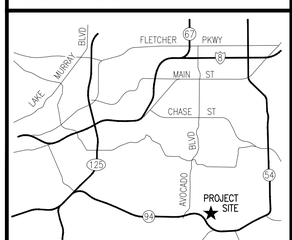
SAMPLE PROHIBITIVE SIGNAGE
NTS



50 25 0 50 100 150
SCALE: 1" = 50'

SKYLINE RETIREMENT CENTER

VICINITY MAP



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FILL: 35,000 CY
IMPORT/EXPORT: 0.00 CY

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REGISTERED PROFESSIONAL ENGINEER BRUCE A. ROBERTSON RCE ~ 48529 EXP 6/30/16 CIVIL STATE OF CALIFORNIA

R·E·C Consultants, Inc.
Civil Engineering · Environmental Land Surveying
2442 Second Avenue
San Diego, CA 92101
(619)232–9200 (619)232–9210 Fax

SHEET TITLE

DMA EXHIBIT

SHEET NUMBER

2

PDS 040 (REV. 09/24/2012)
BUILDING PLOT PLAN TEMPLATE

ATTACHMENT 6

Copy of Project's Drainage Report

This is the cover sheet for Attachment 6.

If hardcopy or CD is not attached, the following information should be provided:

Title: CEQA Drainage Study for Skyline Retirement Center
Prepared By: REC Consultants, Inc.
Date: 1/22/2018

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ATTACHMENT 7

Copy of Project's Geotechnical and Groundwater Investigation Report

This is the cover sheet for Attachment 7.

If hardcopy or CD is not attached, the following information should be provided:

Title: Geotechnical Investigation Proposed Skyline Retirement Center
Prepared By: Construction Testing and Engineering, Inc.
Date:October 3, 2016

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