

Preliminary Stormwater Control Plan
for
Seaside Assisted Living and Memory Care

prepared by:

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October 26, 2015

Mr. Eric Jacobsen
Seaside Senior Living, LLC
560 First Street, Suite 104
Lake Oswego, OR 97034

Re: Seaside Assisted Living & Memory Care
550 Monterey Road
Seaside, CA 93955

Dear Mr. Jacobsen,

We have prepared this Preliminary Stormwater Control Plan based on the latest architectural plans as of the date of this report. This Plan summarizes the proposed stormwater management strategy pursuant to the *Post Construction Stormwater Management Requirements for Development Projects in the Central Coast Region*, Central Coast Regional Water Quality Control Board (CCRWQCB) Resolution No. R3-2013-0032 for the entirety of the project. This Stormwater Control Plan was prepared using the *Technical Guide for Low Impact Development* and template dated February 18, 2014, developed by the Monterey Regional Stormwater Management Program (MRSWMP).

Sincerely,

Marlon Fenton, P.E.
JF Construction & Engineering Company

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This Stormwater Control Plan was prepared using the template dated 18 February 2014.

I. Project Data

Table 1. Project Data

Project Name/Number	Seaside Assisted Living & Memory Care
Application Submittal Date	October 26, 2015
Project Location Assessor's Parcel Number	550 Monterey Rd., Seaside, California APN 031-141-004
Project Phase No.	N/A
Project Type and Description	One and two-story Assisted Living and Memory Care Facility (RCFE) comprising 88 Assisted Living units, and 55 Memory Care beds. The entire project is a (combined)143-bed RCFE
Total Project Site Area (acres)	5.47 Ac (238,502 SF)
Total New Impervious Surface Area	130,691 SF
Total Replaced Impervious Surface Area	58,276 SF
Total Pre-Project Impervious Surface Area	58,276 SF
Total Post-Project Impervious Surface Area	130,691 SF
Net Impervious Area	72,415 SF
Watershed Management Zone(s)	4 (Figure 2)
Design Storm Frequency and Depth	100-year Storm: 4.71 in/ 24-hours (Retention Vol.) 85 th percentile rate: 0.2 in/hr 85 th percentile depth: 0.8 in/24-hours 95 th percentile depth: 1.2 in/24-hours
Urban Sustainability Area	No

(1) The project is a single-phase project. All Stormwater Control Measures will be installed following building construction. This plan is for the ultimate condition at project completion.

(2) Project Site - The area defined by the legal boundaries of a parcel of land within which the new development takes place is subject to these Post-Construction Stormwater management Requirements. (CCRWQCB Resolution No. R3-2013-0032, Attachment C.)

(3) FORA Base Reuse Plan requires projects to percolate all runoff from development on-site.

II. Setting

II.A. Project Location and Description

The site of the proposed project is an existing developed property on the former Fort Ord military base within the City of Seaside, bounded by California Highway 1, and fronts on Monterey Road as shown on attached Figure 1 – Vicinity Map and Exhibit 1 – Existing Topographic Map. Although the redevelopment of the site must follow City of Seaside and CCRWQCB guidelines, it must also follow all requirements of the Fort Ord Reuse Authority (FORA).

The project is a one and two-story Assisted Living and Memory Care Facility (RCFE) comprising 88 Assisted Living units, and 55 Memory Care beds. The entire project is a (combined)143-bed RCFE.

The project will include minor road improvements only in Monterey Road, including two new driveways, and the addition of a short section of new sidewalk. Additionally, off-site utility connections are planned within Monterey Road. Overall, the nature of the work within the Monterey Road right-of-way is fairly limited.

II.B. Existing Site Features and Conditions

The existing site includes one building, and paved parking lots that were developed when the site was a part of the Fort Ord Base. A large portion of the site was left with existing native landscaping and Cypress trees that are located throughout the property. About 24.4% of the existing site is impervious area.

Topography at the site ranges from a high of 207 feet at the Northeastly corner of the site to a low of 176.5 at the Southerly end of site (3% average slope), which is beneficial to accommodate the Stormwater Control Measures anticipated for the site.

II.C. Opportunities and Constraints for Stormwater Control

In addition to the stormwater guidelines of the CCRWQCB, projects on the former Fort Ord must percolate all runoff from development per the FOR A Base Reuse requirements. Therefore, the stormwater measures utilized for this project will be designed to retain the 100-year storm event, in addition to the smaller storm events required by the CCRWQCB Permit.

The site is constrained by the existing Highway improvements of CA-1, as well as from existing underground utilities that run along the Westerly side of the site. These utilities include a storm drain trunk line, gravity and force main sanitary sewer lines, fiber optic cables, PG&E high-pressure gas main, and various ancillary surface improvements to support these utilities. It is the Applicant's current understanding that the majority of these existing utilities will need to be retained, or reconstructed on-site. Any related surface improvements would be adjusted on an as-needed basis to new finish grades required to support the new site improvements.

The proposed density of the project has allowed for the preservation and creation of landscape open space to help accommodate the stormwater requirements. The proposed plan includes rain gardens, bio swales, and pervious pavers installed at interior courtyards and in all parking stalls. The entirety of the required stormwater mitigation will be completed with the project improvements. Please refer to Exhibit 4 for a site overview of the proposed stormwater control measures (SCM).

III. Low Impact Development Design Strategies

III.A. Optimization of Site Layout

The build-out of the project will result in an increase of the impervious area compared to the existing condition. To help mitigate the net increase in impervious area for the project, the applicant is proposing a pervious pavement system in the interior building courtyards, as well as for all on-site parking stalls. The layout of the proposed project necessitates the demolition and removal of all existing on-site impervious surfaces.

III.A.1. Limitation of development envelope

As the existing development improvements were for a gas station and sundry store, the new senior housing (assisted living and memory care) building and site improvements add a total of 72,415 SF of net impervious area to the site.

III.A.2. Preservation of natural drainage features

No natural drainage features are within the project area.

III.A.3. Setbacks from creeks, wetlands, and riparian habitats

No creeks, wetlands, or riparian habitats are within the project area.

III.A.4. Minimization of imperviousness

Impervious site areas for the proposed project were mitigated through the installation of pervious pavement within all interior building courtyards, and vehicle parking stalls. The impervious site areas have thereby been limited to a net increase of 72,415 SF.

III.A.5. Use of drainage as a design element

Stormwater Control Measures are being integrated with the landscape architecture of the site, and will be installed to look like dry bed streams, and rain gardens featuring a native plant pallet that further enhance the final landscape presentation for the overall project.

III.B. Use of Permeable Pavements

Permeable pavements have been incorporated throughout the project in all of the planned parking stalls. Additionally, this same paver design is planned for all patios. Belgard permeable pavers will be used in these areas as the standard permeable surface design for the project.

III.C. Dispersal of Runoff to Pervious Areas

Albus Keefe & Associates, Inc. (AKA) was retained to conduct a geotechnical investigation for proposed stormwater quality improvements. In AKA's report dated July 1, 2015, percolation test results confirm that the site has an average percolation rate of 5 in/ hour for soils below 7 feet from surface grade. Surficial percolation rates are 1 in/ hour up to a soil depth of 7 feet. Additionally, AKA recommends that a factor of safety be applied to the percolation rates. Note that a factor of safety of 2.0 has been applied in accordance with the recommendations of AKA's report.

In order to accommodate the required storage volumes, including a factor of safety of 2.0, the sizing calculator has been run with an infiltration rate of 2.5 in/ hour which is half the percolation rate of 5 in/ hour outlined in AKA's report. In order to discharge the retained 100-year storm event the raingardens have been designed to extend to a minimum depth of 7 feet from adjacent existing

surface grade, and thence allow infiltration to occur at a rate of 5 in/ hour with a factor of safety of 2.0.

Storage depths below the underdrains are designed to match the 100-year storm event of 4.71 in/ 24-hours based upon an infiltration rate of 5 in/ hour for soils below 7 feet from surface grade.

All project DMAs are self-sufficient, and have adequately sized rain gardens to treat all stormwater generated up through a 95th percentile storm event. Additionally, raingardens are designed with (free-board) storage above the biofiltration media to contain the 100-year storm event of 4.71 in/ 24-hours. Average water storage depths during a 100-year storm event will range from 1.21 feet for SCM#1, and 0.80 feet for SCM#2 and 0.77 feet for SCM#3.

Once the rain garden facilities are excavated to the proposed facility depth, AKA shall complete a field inspection of the excavated bottom of the facility to determine the suitability of the rain garden excavation to percolate at 5.0 in/ hour, in accordance with the findings of their percolation report.

This will allow all stormwater up to a 100-year storm event of 4.71 in/ 24-hours to infiltrate on-site.

III.D. Stormwater Control Measures

IV. Documentation of Drainage Design

IV.A. Descriptions of each Drainage Management Area

IV.A.1. Table 2 - Drainage Management Areas

DMA Name	Surface Type	Area (SF)	Total Area (SF)
1	A.C. Pavement	11,579	56,862
	Impervious Concrete	5,314	
	Pervious Pavers* ¹	3,677	
	Landscape	13,694	
	Roof Area	22,599	
2	A.C. Pavement	14,353	61,777
	Impervious Concrete	3,222	
	Pervious Pavers* ¹	7,441	
	Landscape	17,181	
	Roof Area	19,580	

3	A.C. Pavement	18,014	110,413
	Impervious Concrete	6,172	
	Pervious Pavers* ¹	14,811	
	Landscape	41,557	
	Roof Area	29,858	
4	Unimproved Area	8,834	8,834
Drive Approaches	Pervious Concrete* ²	616	616
Total		238,502	238,502

*¹ Note that pervious pavers provide capacity for the 100-year storm.

*² Note that pervious concrete provide capacity for the 100-year storm.

IV.A.2. Drainage Management Area Descriptions

DMA 1, totaling 56,862 square feet, includes the Southerly half of Building A, the Easterly third of Building B, the main driveway, looped drop-off, adjacent driveway, and guest parking stalls near the main entry to Building A. DMA 1 is at the high-point of the project, and it drains to a multi-tiered system of rain gardens that allow for surface stormwater infiltration. Drain inlets and a pipe system will collect the stormwater from the driveways, and direct it to these source control measures.

DMA 2, totaling 61,777 square feet, includes the Northerly half of Building A, and the Northerly driveway that extends to the Northwesterly corner of the site. DMA 2 drains to a multi-tiered system of rain gardens that allow for surface stormwater infiltration. Drain inlets and a pipe system will collect the stormwater from the driveways, and direct it to these source control measures.

DMA 3, totaling 110,413 square feet, is the largest DMA planned for the site, and includes the Southwesterly corner of Building A, the Westerly two-thirds of Building B, all of Building C, and the Southerly and Westerly driveways. DMA 3 drains to a multi-tiered system of rain gardens that allow for surface stormwater infiltration. Drain inlets and a pipe system will collect the stormwater from the driveways, and direct it to these source control measures.

DMA 4, totaling 8,834 square feet, includes the Southerly, undeveloped end of the project that will retain all existing native plant materials, that will be protected in place. No construction activities will be planned within this portion of the development site. DMA 4 is at the low-point of the project, and all rainfall occurring within this DMA will infiltrate directly into the ground.

IV.B.Tabulation and Sizing Calculations

IV.B.1. Information Summary for LID Facility Design

Total Project Area	238,502 SF
Design Storm Depth (Figure 3)	85 th percentile rate: 0.2 in/hr 85 th percentile depth: 0.8 in/24-hours 95 th percentile depth: 1.2 in/24-hours
Applicable Requirements	Tier 1, Tier 2, and Tier 3

A 100-year storm was used to design all rain gardens. Storm drain connections to the rain gardens will be designed to accommodate a 10-year storm. The rain gardens have been strategically located down stream of the respective, adjacent low curb lines to receive overland flow during a 100-year storm event. Should the capacity of the rain gardens be exceeded, excess runoff would continue in an overland flow condition, generally this is expected to occur Southwesterly from the site.

IV.B.2. Self-Treating Areas

Note that DMA# 4 is self-treating, with all existing native landscape being protected in place. All rainfall within this DMA will directly infiltrate.

IV.B.3. Self-Retaining Areas

Pervious pavers have been designed at the interior courtyard areas and patios within and around the building, and at all on-site parking stalls. Pervious pavers are included within DMA# 1, DMA# 2, and DMA# 3.

IV.B.4. Areas Draining to Self-Retaining Areas

Pervious pavers have been designed at the interior courtyard areas and patios within and around the building, and at all on-site parking stalls. Pervious pavers are included within DMA# 1, DMA# 2, and DMA# 3. Limited portions of the driveway areas sheetflow to pervious pavers located in DMA# 2, and DMA# 3.

IV.B.5. Areas Draining to Bioretention Facilities (Tier 2 Projects)

Each DMA includes a system of multi-tiered rain gardens that has storage capacity for a 100-year storm of 4.71 in./ 24-hours. The summary of the SCMs, and respective retention capacity of each SCM without a factor of safety, with an infiltration rate of 5 in/ hour is included is below:

SCM Area No.	SCM Surface Area Rain Garden - SF	Required & Provided Storage Volume - CF	Required & Provided Storage Depth Below Underdrain - ft
SCM 1	2,421 SF	4,842 CF	4.99 ft
SCM 2	3,076 SF	4,030 CF	3.27 ft
SCM 3	4,983 SF	6,478 CF	3.16 ft

The summary of the SCMs, and respective retention capacity of each SCM with a 2.0 factor of safety, with an assumed infiltration rate of 2.5 in/ hour is included below. Note that the storage volumes (and corresponding) depths below underdrain has been kept unchanged from the storage volumes outlined above, with an infiltration rate of 5 in/ hour. The storage depth above the biofiltration media allows for the required additional storage volume to provide required storage volumes with a 2.0 factor of safety:

SCM Area No.	SCM Sfc. Area Rain Garden - SF	Req'd & Provided TOTAL Stor. Vol. w/ 2.0 F.S. - CF	Req'd. & Provided Stor. Vol. Below Undr.- Drain - CF	Required Stor. Vol. Above Bio. Media - CF	Req'd. Stor. Depth Abv. Bio Media - ft	Provided Stor. Depth Abv. Bio Media - ft
SCM 1	2,421 SF	7,773 CF	4,842 CF	2,931 CF	1.21 ft	2.00 ft
SCM 2	3,076 SF	6,493 CF	4,030 CF	2,463 CF	0.80 ft	1.73 ft
SCM 3	4,963 SF	10,288 CF	6,478 CF	3,810 CF	0.77 ft	1.84 ft

V. Source Control Measures

V.A. Site activities and potential sources of pollutants

A preliminary listing of anticipated runoff pollutants that could be generated while operating the completed project is tabulated in the Source Control - Table 3, below. Corresponding, permanent, source control best management practices (BMPs) and operational source control BMP requirements have been included below as a general outline to provide guidance of the project design consultants to develop a comprehensive final project design, construction documents, details, specifications, and operational requirements that will meet all permanent and operational source control BMP requirements of the City of Seaside.

V.B. Source Control - Table 3

Potential Source of Runoff Pollutants	Permanent Source Control BMPs	Operational Source Control BMPs
<p>A. On-site storm drain inlets (unauthorized non-stormwater discharges and accidental spills or leaks)</p>	<p>1. Mark all inlets with the words “No Dumping! Flows to Bay” or similar.</p>	<p>1. Maintain and periodically repaint inlet markings.</p> <p>2. Provide stormwater pollution prevention information to new site owners, lessees, or operators.</p> <p>3. See applicable operational BMPs in Fact Sheet SC-44, “Drainage System Maintenance,” in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com</p> <p>4. Include the following in lease agreements: “Tenant shall not allow anyone to discharge anything to storm drains or to store or deposit materials so as to create a potential discharge to storm drains.”</p>
<p>B. Interior floor drains and elevator shaft sump pumps</p>	<p>1. State that interior floor drains and elevator shaft sump pumps will be plumbed to sanitary sewer.</p>	<p>1. Inspect and maintain drains to prevent blockages and overflow.</p>
<p>D.1. Need for future indoor & structural pest control</p> <p>D.2. Landscape/ Outdoor</p>	<p>1. Note building design features that discourage entry of pests.</p> <p>State that final landscape plans will accomplish all of the following:</p> <p>1. Preserve existing native trees, shrubs, and ground cover to the maximum extent possible.</p>	<p>1. Provide Integrated Pest Management information to owners, leasees, and operators.</p> <p>2. See applicable operational BMPs in Fact Sheet SC-41, “Building and Grounds Maintenance”, in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com</p>

<p>Pesticide Use/ Building and Grounds Maintenance</p>	<ol style="list-style-type: none"> 2. Design landscaping to minimize irrigation and runoff, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution. 3. Where landscaped areas are used to retain or detain stormwater, specify plants that are tolerant of saturated soil conditions. 4. Consider using pest-resistant plants, especially adjacent to hardscape. 5. To insure successful establishment, select plants appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions. 	<ol style="list-style-type: none"> 3. Provide IPM information to new owners, leases, and operators.
<p>E. Pools, spas, ponds, decorative fountains, and other water features.</p>	<ol style="list-style-type: none"> 1. If the local municipality requires pools to be plumbed to the sanitary sewer, place a note on the plans and state in the narrative that this connection will be made according to local requirements. 	<ol style="list-style-type: none"> 1. See applicable operational BMPs in Fact Sheet SC-72, "Fountain and Pool Maintenance", in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com
<p>F. Food Service</p>	<ol style="list-style-type: none"> 1. Describe the location and features of the designated cleaning area. 2. Describe the items to be cleaned in this facility and how it has been sized to insure that the largest items can be accommodated. 	

<p>G. Refuse areas</p>	<ol style="list-style-type: none"> 1. State how site refuse will be handled and provide supporting detail to what is shown on plans. 2. State that signs will be posted on or near dumpsters with the words “Do not dump hazardous materials here” or similar. 	<ol style="list-style-type: none"> 1. Provide adequate number of receptacles. Inspect receptacles regularly; repair or replace leaky receptacles. Keep receptacles covered. Prohibit/ prevent dumping of liquid or hazardous wastes. Post “No hazardous Materials” signs. Inspect and pick up litter daily and clean up spills immediately. Keep spill control materials available on-site. See Fact Sheet SC-34, “Waste Handling and Disposal” in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com
<p>I. Outdoor storage of equipment or materials. (See row J for source control measures for vehicle cleaning.)</p>	<ol style="list-style-type: none"> 1. Include a detailed description of materials to be stored, storage areas, and structural features to prevent pollutants from entering storm drains. 2. Where appropriate, reference documentation of compliance with the requirements of programs for: <ol style="list-style-type: none"> a. Hazardous Waste Generation b. Hazardous Materials Release Response and Inventory c. California Accidental Release (Cal ARP) d. Aboveground Storage Tank e. Uniform Fire Code Article 80 Section 103(b) & (c) 1991 	<ol style="list-style-type: none"> 1. See Fact Sheet SC-31, “Outdoor Liquid Container Storage”, and SC-33 “Outdoor Storage of Raw Materials” in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com

	f. Underground Storage Tank	
J. Vehicle and Equipment Cleaning	1. If a car wash area is not provided, describe measures taken to discourage on-site car washing and explain how these will be enforced.	1. Washwater from vehicle and equipment washing operations shall not be discharged to the storm drain system. 2. See Fact Sheet SC-21, "Vehicle and Equipment Cleaning", in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com
N. Fire Sprinkler Test Water	1. Provide a means to drain fire sprinkler test water to the sanitary sewer.	2. See the note in Fact Sheet SC-41, "Building and Grounds Maintenance", in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com
O. Miscellaneous Drain or Wash Water or Other Sources	1. Boiler drain lines shall be directly or indirectly connected to the sanitary sewer system and may not discharge to the storm drain system. 2. Condensate drain lines may discharge to the landscaped areas if the flow is small enough that runoff will not occur. Condensate drain lines may not discharge to the storm drain system. 3. Rooftop equipment with potential to produce pollutants shall be roofed, and/ or have secondary containment. 4. Any drainage sumps on-site shall feature a sediment sump to reduce	

	<p>the quantity of sediment in pumped water.</p> <p>5. Avoid roofing, gutters, and trim made of copper or other unprotected metals that may leach into runoff.</p> <p>6. Include controls for other sources as specified by local reviewer.</p>	
P. Sidewalks and streets		<p>1. Sweep plazas, sidewalks, and parking lots regularly to prevent accumulation of litter and debris.</p> <p>2. Collect debris from pressure washing to prevent entry into the storm drain system.</p> <p>3. Collect washwater containing any cleaning agent or degreaser and discharge to the sanitary sewer, not to a storm drain.</p>

V.C. Features, Materials, and Methods of Construction of Source Control BMPs

VI. Stormwater Facility Maintenance

VI.A. Ownership and Responsibility for Maintenance in Perpetuity

Prior to the issuance of the Certificate of Occupancy, the Owner will submit for review and approval to the City of Seaside, an operation and maintenance plan and a maintenance agreement in accordance with Chapter 5 of the Stormwater Technical Guide for MRSWMP that will include a statement accepting responsibility for operation and maintenance of facilities until that responsibility is formally transferred to another entity. This maintenance agreement will be filed with the City of Seaside and included as an exhibit within the Deed Restriction of the property. SCM Operation and Maintenance will be included and performed as part of the overall facilities operations. Maintenance crews will be trained to maintain SCMs in accordance with the Maintenance Plan. Labor and materials for SCM maintenance will come from the Company’s revenue.

The owner shall accept responsibility for the operation and maintenance of stormwater treatment and flow-control facilities for the life of the project. Any future change or alteration, or the failure to maintain any feature described herein can result in penalties including, but not limited to, fines, property liens, and other actions for enforcement of a civil judgment.

VI.B. Summary of Maintenance Requirements for Each Stormwater Facility

An integral part of any stormwater control plan is the maintenance program to insure proper function of the stormwater control infrastructure. Stormwater control features will be constructed as part of the development of the Seaside Assisted Living & Memory Care. The stormwater control infrastructure includes rain gardens, and pervious pavers.

This outline provides a preliminary maintenance schedule and descriptions of the following maintenance program components; (1) party responsible for operating and maintaining treatment BMPs; (2) inspection and preventative maintenance requirements; (3) expected frequency of major repairs and replacement; (4) record keeping procedures; and (5) staff responsibilities and training.

This outline will be used as the basis to prepare the detailed maintenance plan to be included in the final Stormwater Control Plan.

Following is a description of components of the maintenance program that will be included in the Stormwater Control Plan.

Seaside Senior Living, LLC is the Owner, and will be hiring Seasons Management, LLC as operator and therefore maintaining properly functioning infrastructure is the responsibility of Seasons Management, LLC. They will be responsible for inspection and maintenance of post construction stormwater control best management practices (BMPs). The final maintenance program included as a section of the Stormwater Control Plan will identify the entity responsible for inspection and maintenance of post construction stormwater control BMPs.

Post construction stormwater BMPs for the project include rain gardens and pervious pavers. Both of these components will have inspection and preventative maintenance requirements. Additional detail and design information for each component, such as make and model of rainwater harvesting design is required to prepare the final maintenance program; however, anticipated requirements are identified below. When final design of all BMPs is complete the maintenance program will be finalized in the Stormwater Control Plan.

The following tables identify inspection and preventative maintenance requirements and a schedule of activities. The tables also identify expected frequency of major repairs and replacement.

Rain Gardens

Activity	Schedule
After first storm event, inspect for proper drainage, erosion, and proper inlet, outlet, and overflow functioning	Post-Construction
Regularly water plants during the first three months as vegetation establishes	Post-Construction
Monitor vegetation to ensure successful root establishment	Semi-annually (beginning and end of rainy season)
Trim vegetation as needed to maintain desired appearance	Monthly or as needed

Inspect for erosion, clogging and vegetation damage	Semi-annually (beginning and end of rainy season) or as needed
Remove debris from inlets and outlets to avoid clogging	
Add mulch to bare areas	As needed
Replace dead or diseased plants	Annually
Re-grade soil surface if erosion or scouring has occurred	Annually
Remove any visible sediment, replace soil, and replant if the system does not drain within the design drain time	Annually

Pervious Pavers

Activity	Schedule
Inspect that all parts are installed in a continuous plane, and are free of cracks, or missing pieces	Post-Construction and semi-annually (beginning and end of rainy season)
Remove debris, litter, and any visible sediment from inlets and pavers to avoid clogging	Semi-annually (beginning and end of rainy season) or as needed
Clear litter, debris, and remove any visible sediment from adjacent gutters and impervious paved areas	As needed Semi-annually (beginning and end of rainy season) or as needed

Record Keeping

Written documentation of inspections and maintenance work will be kept by the entity identified in the Stormwater Control Plan as the responsible party. Reports will be kept by the responsible party and will be available for review by the City of Seaside.

Staff Responsibilities and Training

The entities identified in the Stormwater Control Plan will be responsible to identify staff within their organization that are responsible for implementing the maintenance program and will be responsible for training staff to comply with all aspects of the maintenance program.

VII. Construction Checklist – Table 4

Stormwater
Control Plan
Page Numbers

Source Control or Treatment Control Measure

See Landscape Plan
Sheet Numbers

	<p>Layout (to be confirmed prior to beginning excavation)</p> <ol style="list-style-type: none"> 1. Square footage of the facility meets or exceeds minimum shown in Stormwater Control Plan. 2. Site grading and grade breaks are consistent with the boundaries of the tributary Drainage Management Area(s) (DMAs) shown in the Stormwater Control Plan. 3. Inlet elevation of the facility is low enough to receive drainage from the entire tributary DMA. 4. Locations and elevations of overland flow or piping, including roof leaders, from impervious areas to the facility have been laid out and any conflicts resolved. 5. Rim elevation of the facility is laid out to be level all the way around, or elevations are consistent with a detailed cross-section showing location and height of interior dams. 6. Locations for vaults, utility boxes, and light standards have been identified so that they will not conflict with the facility. 7. Locations for signage is identified. 8. Facility is protected as needed from construction-phase runoff and sediment. 	<p>To be Determined.</p>
	<p>Excavation (to be confirmed prior to backfilling or pipe installation)</p> <ol style="list-style-type: none"> 1. Excavation conducted with materials and techniques to minimize compaction of soils within the facility area. 2. Excavation is to accurate area and depth. 3. Slopes or side walls protect from sloughing of native soils into the facility. 4. Vertical moisture barrier, if specified, has been added to protect adjacent pavement or structures. 5. Native soils at bottom of excavation are ripped or loosened to promote infiltration. 	<p>To be Determined.</p>

	<p>Underground connection to storm drain/outlet orifice (to be confirmed prior to backfilling with any materials)</p> <ol style="list-style-type: none"> 1. Perforated pipe underdrain (PVC SDR 35 or approved equivalent) is installed with holes facing down. 2. Perforated pipe is connected to storm drain at specified elevation (typ. bottom of soil elevation). 3. Cleanouts are in accessible locations and connected via sweep bends. 4. Monitoring well, if required, is installed. 5. Structures (arches or large diameter pipes) for additional surface storage are installed as shown in plans and specifications and have the specified volume. 	To be Determined.
	<p>Drain Rock/Subdrain (to be confirmed prior to installation of soil mix)</p> <ol style="list-style-type: none"> 1. Rock is installed as specified. Class 2 permeable, Caltrans specification 68-2.02(F)(3) recommended, or 4"-6" depth of pea gravel is installed at the top of the crushed rock layer to prevent migration of fines into gravel layer. 2. Rock is smoothed to a level top elevation. Depth and top elevation are as shown in plans. 3. Slopes or side walls protect from sloughing of native soils in the facility. 4. No filter fabric is placed between the subdrain and soil mix layers. 	To be Determined.
	<p>Soil Mix</p> <ol style="list-style-type: none"> 1. Soil mix is as specified. 2. Mix installed in lifts not exceeding 12". 3. Mix is not compacted during installation but may be thoroughly wetted to encourage consolidation. 4. Mix is smoothed to a level top elevation. Depth of mix (24" min.) and top elevation are as shown in plans, accounting for depth of mulch to follow and required reservoir depth. 	To be Determined.
		To be Determined.

	<p>Irrigation</p> <ol style="list-style-type: none"> 1. Irrigation system is installed so it can be controlled separately from other landscaped areas. Smart irrigation controllers and drip emitters are recommended. 2. Spray heads, if any, are positioned to avoid direct spray into outlet structures. 	
	<p>Planting</p> <ol style="list-style-type: none"> 1. Plants are installed consistent with approved planting plan. 2. Any trees and large shrubs are staked securely. 3. No fertilizer is added; compost tea may be used. 4. No native soil or clayey material are imported into the facility with plantings. 5. 1"-2" mulch may be applied following planting; mulch selected to avoid floating. 6. Final elevation of soil mix maintained following planting. 7. Curb openings are free of obstructions. 	To be Determined.
	<p>Final Engineering Inspection</p> <ol style="list-style-type: none"> 1. Drainage Management Area(s) are free of construction sediment and landscaped areas are stabilized. 2. Inlets are installed to ensure entry of runoff from adjoining pavement, have sufficient reveal (drop from the adjoining pavement to the top of the mulch or soil mix, and are not blocked. 3. Rock or other energy dissipation at piped or surface inlets is adequate. 4. Inflows from roof leaders and pipes are connected and operable. 5. Temporary flow diversions are removed. 6. Overflow outlets are configured to allow the facility to flood and fill to near rim before overflow. 7. Plantings are healthy and becoming established. 8. Irrigation is operable. 9. Facility drains rapidly; no surface ponding is evident. 	To be Determined.

	<p>10. Any accumulated construction debris, trash, or sediment is removed from facility.</p> <p>11. Permanent signage is installed and is visible to site users and maintenance personnel.</p>	
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VIII. Certifications

The design of stormwater treatment facilities and other stormwater pollution control measures in this plan are in accordance with the Monterey Regional Stormwater Management Program’s Stormwater Technical Guide for Low Impact Development dated 18 February 2014.

DRAFT

 Marlon J. Fenton, PE
 Principal, JF Engineering

 Dated

