PORT OF SAN DIEGO

BMP OPERATIONS AND MAINTENANCE PLAN (BMP O&M PLAN)

Project NAME:

PROJECT NUMBER:

Applicant name:

date:

Project type: Priority Development Project/Green Street Project

[update with project type and remove the highlight]





This O&M Plan shall be incorporated into the Project’s Stormwater Quality Management Plan (SWQMP) required per the Port’s Post-Construction Stormwater Requirements.

**Table of Contents**

[I. Compliance with Stormwater Best Management Practices Maintenance Requirements 1](#_Toc188515049)

[II. Designation Responsible Parties 1](#_Toc188515050)

[A. Maintenance Personnel 2](#_Toc188515051)

[B. Organizational Chart 2](#_Toc188515052)

[C. Training 2](#_Toc188515053)

[D. BMP Maintenance Funding 3](#_Toc188515054)

[III. Low Impact Development and Site Design BMPs 4](#_Toc188515055)

[IV. Source Control BMPs 5](#_Toc188515056)

[V. Drainage Areas 16](#_Toc188515057)

[VI. Stormwater Treatment Control BMPS 16](#_Toc188515058)

[VII. Inspecting Stormwater BMPs 17](#_Toc188515059)

[A. Inspection Procedures 17](#_Toc188515060)

[B. Inspection Report 17](#_Toc188515061)

[VIII. Maintenance Schedule for Stormwater BMPs 18](#_Toc188515062)

[IX. Maintaining Stormwater BMPs 18](#_Toc188515063)

[A. Maintenance Categories 18](#_Toc188515064)

[B. Maintenance Forms 19](#_Toc188515065)

[X. Inspection & Maintenance – Annual Reporting 19](#_Toc188515066)

TABLES

[TABLE 1 Ownership and Maintenance](#_Toc187327311)

[TABLE 2 BMP Operation and Maintenance Funding](#_Toc187327312)

[TABLE 3 Low Impact development BMPs](#_Toc187327313)

[TABLE 4 Source Control BMPs](#_Toc187327314)

[TABLE 4 Drainage Management Areas](#_Toc187327315)

[TABLE 5 Stormwater Treatment Control BMPs](#_Toc187327316)

**ATTACHMENTS**

1. Organizational Chart

2. Training Program

3. BMP Operation and Maintenance Funding Supplemental Information

4. Site Map

5. LID BMPs Inspection Form

6. Source Control BMP Inspection Form

7. Plans and Other Operation and Maintenance Requirements

8. Treatment Control BMP Inspection and Maintenance Checklist(s)

9. Service Agreement

10. Annual Inspection and Maintenance Reporting Form

11. Port of San Diego O&M Agreement

# Compliance with Stormwater Best Management Practices Maintenance Requirements

In conformance with the Municipal Stormwater Permit and required by the Port’s Stormwater Management and Discharge Control Ordinance (Article 10 of the San Diego Unified Port District Code), Sections 10.06 and 10.07, the Project proponent is responsible for ensuring that stormwater best management practices (BMPs) are properly maintained and function as designed throughout the life of the project and are to ensure that this Operations and Maintenance Plan (O&M Plan) is fully implemented. This includes but is not limited to the following actions:

* The Project proponent must verify on an annual basis that all structural stormwater treatment control BMPs are being maintained and inspected as described in the Project SWQMP approved by the Port.
* This verification of maintenance is to be completed by the Project through inspections and the submittal to the Port, an annual written verification of effective operation and maintenance of each approved treatment control BMP. Annual verification must be completed prior to each wet season (October 1 to April 30).
* The Project proponent shall document all maintenance requirements and activities and shall retain these records for at least five (5) years. These documents shall be made available to the Port upon request.
* Update the O&M as needed to ensure that roles and responsible maintenance personnel are identified.

The Port maintains the right to access leased properties as part of lease provisions. This right extends to any required access related to structural treatment control BMPs for inspection.

# Designation Responsible Parties

Responsible parties shall be designated and identified in Table 1.

* The Responsible BMP Party is an individual, party, or parties that shall have direct responsibility for the maintenance of stormwater controls. This individual shall be the designated contact with Port inspectors and should sign self-inspection reports and any correspondence with the Port regarding verification of inspections and required maintenance.
* The Duly Authorized Representative is the corporate officer authorized to negotiate and execute any contracts that might be necessary for future changes to operation and maintenance or to implement corrective actions if problems occur.
* The Designated Emergency Respondent is the party responsible for emergencies such as clogged drains, broken irrigation pipes, etc., that would require immediate response should they occur during off-hours.

|  |
| --- |
| TABLE 1Ownership and Maintenance |
|  | **Name** | **Address** | **Phone / Email** |
| Responsible BMP Party |  |  |  |
| Duly Authorized Representative |  |  |  |
| Designated Emergency Respondent1 |  |  |  |

1 The Designated Emergency Respondent’s phone number must be a cellular phone that is reachable 24 hours a day.

Updated contact information must be provided to the Port immediately whenever a property is sold and whenever designated individuals or contractors are changed.

A. Maintenance Personnel

Maintenance personnel including Responsible BMP Party, Employees Reporting to Responsible BMP Party, and the Designated Emergency Respondent, must be qualified to properly maintain stormwater BMPs (including treatment and flow-control facilities), especially for restoration or rehabilitation work.

B. Organizational Chart

An organization chart showing the relationships of authority and responsibility between the individuals responsible for maintenance is in Attachment 1.

C. Training

Training shall be provided to all personnel affiliated with the maintenance of stormwater BMPs at the time of hire and at least annually thereafter. Training shall include at a minimum the purpose, mode of operation, and maintenance requirements of the facilities’ stormwater BMPs. The site’s Staff BMP Training Program shall be maintained in Attachment 2.

D. BMP Maintenance Funding

The funding for BMP operation and maintenance shall be described in Table 2, including sources of funds, budget category for expenditures, process for establishing the annual operations and maintenance budget, and process for obtaining authority should unexpected expenditures for major corrective maintenance be required. Any supplemental information, including calculations and documentation is in Attachment 3.

|  |
| --- |
| TABLE 2BMP Operation and Maintenance Funding |
| Sources of Funding |  |
| Budget Category for Expenditures |  |
| Process for establishing Annual O&M Budget |  |
| Process for obtaining unexpected expenditures for major corrective activities |  |

# Low Impact Development and Site Design BMPs

Low Impact Development (LID) and Site Design BMPs have been incorporated into the project to minimize stormwater impacts. LID BMPs collectively minimize directly connected impervious area and promote infiltration on the project site. Site design BMPs are permanent measures and are similar to LID BMPs.

The LID and Site Design BMPs for the project which require maintenance are identified along with their locations in Table 3 below as well as in Attachment 4. A LID Inspection form for the site is in Attachment 5. In the event that a project use should change, or maintenance considerations may require the site to become amended, this document should be referenced for original site constraints and design guidelines.

|  |
| --- |
| TABLE 3Low impact development BMPs |
| **BMP Type** | **Description** | **Location** |
| [ ] Bioretention |  |  |
| [ ] Filter Strips |  |  |
| [ ] Vegetated Buffers |  |  |
| [ ] Bioswale/Grassed Swale |  |  |
| [ ] Green Roofs |  |  |
| [ ] Rain Barrels / Cisterns |  |  |
| [ ] Porous Pavement |  |  |
| [ ] Soil Structure Enhancement (use of compost) |  |  |

# Source Control BMPs

Source control BMPs have been selected for the project in order to minimize or prevent pollutant generation. Table 3 identifies the potential pollutant sources and corresponding permanent and operational source controls as well as their locations.

Source control BMPs should be inspected routinely in order to reduce or prevent pollution from accumulating in these areas. Source control inspection forms are in Attachment 6.

| TABLE 4 Source Control BMPs |
| --- |
| **Potential Pollutant Sources** | **Description** | **Operational BMPs** | **Location** |
| [ ] On-site storm drain inlets | * All inlets shall be marked with Port of San Diego storm drain markers (shown below). Markers can be obtained from the Port’s Environmental Protection Department.

 | * Maintain and periodically replace inlet markers, as necessary.
* Review stormwater pollution prevention information applicable to the site.
* Adhere to applicable operational BMPs in Fact Sheet SC-44, “Drainage System Maintenance,” in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com
* Do 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.
 |  |
| [ ] Interior floor drains and elevator shaft sump pumps | * Interior floor drains and elevator shaft sump pumps will be plumbed to sanitary sewer.
 | * Inspect and maintain drains to prevent blockages and overflow.
* Regularly clear all associated cleanouts and hand holes.
 |  |
| [ ] Interior parking garages | * Parking garage floor drains will be plumbed to the sanitary sewer.
 | * Inspect and maintain drains to prevent blockages and overflow.
 |  |
| [ ] Landscape/ Outdoor Pesticide Use | * Final site landscape plans shall be placed in Attachment 7 and shall be used to maintain the following:
	+ Preserve existing native trees, shrubs, and ground cover to the maximum extent possible.
	+ Minimize irrigation and runoff, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution.
	+ Where landscaped areas are used to retain or detain stormwater, maintain, and replace, as necessary, plants that are tolerant of 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 a minimum amount of or no pesticides (consider the use of organic techniques).
* Review and adhere to applicable operational BMPs in Fact Sheet SC-41, “Building and Grounds Maintenance,” in the CASQA Stormwater Quality Handbooks at [www.cabmphandbooks.com](http://www.cabmphandbooks.com)
* Review IMP information and provide to landscape and maintenance personnel.
 |  |
| [ ] Use efficient irrigation systems | * Employ rain shutoff devices to prevent irrigation after precipitation.
* Design irrigation systems to each landscape area’s specific water requirements.
* Use flow reducers or shutoff valves triggered by a pressure drop to control water loss in the event of broken sprinkler heads or lines.
* Employ other comparable, equally effective, methods to reduce irrigation water runoff.
 | * Inspect irrigation system for leaks and/or malfunctions.
* Inspect that water usage is consistent with vegetation requirements.
* Inspect that irrigation shut-off controls operate correctly.
 |  |
| [ ] Need for future indoor & structural pest control | * Note building design features that discourage entry of pests.
 | * Review Integrated Pest Management (IPM) information and provide to other maintenance personnel.
 |  |
| [ ] Pools, spas, ponds, decorative fountains, and other water features. | * Plumb pools to the sanitary sewer in accordance with local requirements.
 | * Review and adhere to applicable operational BMPs in Fact Sheet SC-72, “Fountain and Pool Maintenance,” in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com
 |  |
| [ ] Food service | * Describe the location and features of the designated cleaning area.
* Describe the items to be cleaned in this facility and how it has been sized to ensure that the largest items can be accommodated.
 |  |  |
| [ ] Refuse areas | * State how site refuse will be handled and provide supporting detail to what is shown on plans.
* Prohibitive signs shall be posted on or near dumpsters with the words “Do not dump hazardous materials here” or similar.
* Any drains from dumpsters, compactors, and bin areas shall be connected to a grease removal device before discharge to sanitary sewer.
 | * Provide adequate number of receptacles.
* Inspect receptacles regularly; repair or replace leaky receptacles.
* Keep receptacles covered at all times.
* Prohibit/prevent dumping of liquid or hazardous wastes.
* Post and replace, as necessary, “no hazardous materials” signs.
* Inspect and pick up litter daily and clean up spills immediately.
* Keep spill control materials available on- site. Review Fact Sheet SC-34, “Waste Handling and Disposal” in the CASQA Stormwater Quality Handbooks atwww.cabmphandbooks.com
 |  |
| [ ] Industrial processes. | * Cover or enclose areas that would be the most significant source of pollutants; or, slope the area toward a dead-end sump; or, discharge to the sanitary sewer system in compliance with the applicable municipal waste water district’s requirements (include a copy of the waste acceptance letter from the agency accepting the waste in Attachment 9).
* Grade or berm area to prevent run-on from surrounding areas.
* Installation of storm drains in areas of equipment repair is prohibited.
* Implement other features which are comparable or equally effective.
 | * Review and adhere to Fact Sheet SC-10, “Non- Stormwater Discharges” in the CASQA Stormwater Quality Handbooks atwww.cabmphandbooks.com
 |  |
| [ ] Outdoor storage of equipment or materials  | * Comply with all requirements of local Hazardous Materials Programs for:
	+ Hazardous Waste Generation
	+ Hazardous Materials Release Response and Inventory
	+ California Accidental Release (CalARP)
	+ Aboveground Storage Tank
	+ Uniform Fire Code Article 80 Section 103(b) & (c) 1991
* Underground Storage Tank
* Storage of non-hazardous liquids shall be covered by a roof and/or drain to the sanitary sewer system, and be contained by berms, dikes, liners, or vaults.
* Storage of hazardous materials and wastes must be in compliance with the local hazardous materials ordinance and a Hazardous Materials Management Plan for the site.
 | * Review and adhere to the Fact Sheets SC-31, “Outdoor Liquid Container Storage” and SC- 33, “Outdoor Storage of Raw Materials” in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com
 |  |
| Include a detailed description of materials to be stored, storage areas, and structural features to prevent pollutants from entering storm drains. |
| [ ] Vehicle and Equipment Cleaning | * If a car wash area is not provided, describe measures taken to discourage on-site car washing and explain how these will be enforced.
* Equip wash area with a clarifier, grease trap or other pretreatment facility, as appropriate and properly connect to the sanitary sewer.
* Implement other features which are comparable or equally effective.
* Commercial/ industrial facilities having vehicle/ equipment cleaning needs shall either provide a covered, bermed area for washing activities or discourage vehicle/equipment washing by removing hose bibs and installing signs prohibiting such uses.
* Washing areas for cars, vehicles, and equipment shall be paved, designed to prevent run-on to or runoff from the area, and plumbed to drain to the sanitary sewer.
* Commercial car wash facilities shall be designed such that no runoff from the facility is discharged to the storm drain system. Wastewater from the facility shall discharge to the sanitary sewer, or a wastewater reclamation system shall be installed and permitted by proper regulatory authorities (attach permits in Attachment 9, as necessary).
 | * Follow operational measures to implement the following (if applicable):
	+ Washwater from vehicle and equipment washing operations shall not be discharged to the storm drain system.
	+ Car dealerships and similar may rinse cars with water only.
	+ Review and adhere to Fact Sheet SC-21, “Vehicle and Equipment Cleaning,” in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com.
 | . |
| [ ] Vehicle/Equipment Repair and Maintenance | * No vehicle repair or maintenance will be done outdoors, or else describe the required features of the outdoor work area.
* An industrial waste discharge permit will be obtained. For floor drains connected to the sanitary sewer; design will meet the permitting agency’s requirements.
* An industrial waste discharge permit will be obtained for tanks, containers or sinks to be used for parts cleaning or rinsing; design will meet the permitting agency’s requirements.
* Accommodate all vehicle equipment repair and maintenance indoors or designate an outdoor work area and design the area to prevent run-on and runoff of stormwater.
* Show secondary containment for exterior work areas where motor oil, brake fluid, gasoline, diesel fuel, radiator fluid, acid-containing batteries or other hazardous materials or hazardous wastes are used or stored. Drains shall not be installed within the secondary containment areas.

  | * The following restrictions apply to use the site:
	+ No person shall dispose of, nor permit the disposal, directly or indirectly of vehicle fluids, hazardous materials, or rinse water from parts cleaning into storm drains.
	+ No vehicle fluid removal shall be performed outside a building, nor on asphalt or ground surfaces, whether inside or outside a building, except in such a manner as to ensure that any spilled fluid will be in an area of secondary containment. Leaking vehicle fluids shall be contained or drained from the vehicle immediately.
	+ No person shall leave unattended drip parts or other open containers containing vehicle fluid unless such containers are in use or in an area of secondary containment.
 |  |
| [ ] Fuel Dispensing Areas | * Fueling areas[[1]](#footnote-2) shall have impermeable floors (i.e., portland cement concrete or equivalent smooth impervious surface) that are:
	+ Graded at the minimum slope necessary to prevent ponding.
	+ Separated from the rest of the site by a grade break that prevents run-on of stormwater to the maximum extent practicable.
* Fueling areas shall be covered by a canopy that extends a minimum of ten feet in each direction from each pump. [Alternative: The fueling area must be covered and the cover’s minimum dimensions must be equal to or greater than the area within the grade break or fuel dispensing area1. The canopy [or cover] shall not drain onto the fueling area.
 | * The fueling area is to be dry swept routinely.
* Review and adhere to the Business Guide Sheet, “Automotive Service—Service Stations” in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com
 |  |
| [ ] Loading Docks | * Loading dock areas draining directly to the sanitary sewer shall be equipped with a spill control valve or equivalent device, which shall be kept closed during periods of operation.
* Provide a roof overhang over the loading area or install door skirts cowling) at each bay that enclose the end of the trailer.
* Roof downspouts shall be positioned to direct stormwater away from the loading area. Water from loading dock areas should be drained to the sanitary sewer where feasible.
 | * Move loaded and unloaded items indoors as soon as possible.
* Review and adhere to Fact Sheet SC-30, “Outdoor Loading and Unloading,” in the CASQA Stormwater Quality Handbooks at

 www.cabmphandbooks.com |  |
| [ ] Fire Sprinkler Test Water | * Provide a means to drain fire sprinkler test water to the sanitary sewer.
 | * Review the note in Fact Sheet SC-41, “Building and Grounds

 Maintenance,” in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com |  |
| [ ] Miscellaneous Drain or Wash Water* Boiler drain lines Condensate drain lines.
* Rooftop equipment Drainage sumps
* Roofing, gutters, and trim
 | * Boiler drain lines shall be directly or indirectly connected to the sanitary sewer system and may not discharge to the storm drain system.
* Condensate drain lines may discharge to landscaped areas if the flow is small enough that runoff will not occur. Condensate drain lines may not discharge to the storm drain system.
* Rooftop mounted equipment with potential to produce pollutants shall be roofed and/or have secondary containment.
* Any drainage sumps on-site shall feature a sediment sump to reduce the quantity of sediment in pumped water.
* Avoid roofing, gutters, and trim made of copper or other unprotected metals that may leach into runoff.
 |  |  |
| [ ] Plazas, sidewalks, and parking lots |  | * 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.
 |  |

# Drainage Areas

Table 5 summarizes the drainage management areas (DMAs) on site. Areas are designated as self-mitigating, self-retaining, de minimis, or draining to a structural BMP. The DMAs are shown on the site map in Attachment 4.

|  |
| --- |
| TABLE 5Drainage Management Areas |
| **DMA No.** | **Designation** | **Description** |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

# Stormwater Treatment Control BMPS

Treatment control BMPs treating runoff from DMAs that could not be routed to properly sized self-mitigating areas, self-retaining areas, and/or de minimis areas have been included in the project design and are summarized in Table 6.

|  |
| --- |
| TABLE 6Stormwater Treatment Control BMPs |
| **Treatment Control BMP Type** | **Description** | **Size or Treatment Control BMP Capacity** | **Area Drained or Water Quality Flow** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

The location and type of each of the project’s stormwater facilities on site are shown on the site map in Attachment 4.

The as-built drawings[[2]](#footnote-3), manufacturer’s data, cut-sheets, manuals, and specific operation and maintenance requirements/schedules for each treatment control BMP shall be provided in Attachment 7.

# Inspecting Stormwater BMPs

The quality of stormwater entering the waters of the U.S. or waters of the state relies heavily on the proper operation and maintenance of permanent BMPs. LID, source control, and treatment control stormwater BMPs must be periodically inspected to ensure that they are functioning as designed. Inspections will determine the appropriate maintenance that is required for the facility.

A. Inspection Procedures

All stormwater LID, source control, and treatment control BMPs are required to be inspected at a frequency to be determined based on the type of BMP but at a minimum of once per year. The inspection frequency is included in the inspection forms. The LID and Source Control BMPs Inspection Forms are provided in Attachment 5 and Attachment 6, respectively; the Inspection and Maintenance Checklist(s) for structural BMPs is provided in Attachment 8.

B. Inspection Report

The person(s) conducting the inspection activities (Responsible BMP Party, Employees reporting to Responsible BMP Party, or the Designated Emergency Respondent) shall complete the appropriate inspection checklist for the specific facility. A copy of each inspection form shall be kept by the lessee a minimum of 5 years. The inspection forms shall be made available to the Port when requested.

Inspection Scoring

For each inspection item, a score is given to identify the urgency for any required maintenance. The scoring is as follows:

0 = No deficiencies identified.

1 = Monitor – Although maintenance may not be required at this time, a potential problem exists that will most likely need to be addressed in the future. This can include items like minor erosion, concrete cracks/spalling, or minor sediment accumulation. This item should be revisited at the next inspection.

2 = Routine Maintenance Required – Some inspection items can be addressed through the routine maintenance program. This can include items like vegetation management or debris/trash removal.

3 = Immediate Repair Necessary – This item needs immediate attention because failure is imminent or has already occurred. This could include items such as structural failure of a feature (outlet, weir, manhole, etc.), significant erosion, or significant sediment accumulation. This score should be given to an item that can significantly affect the function of the facility.

N/A = This is checked by an item that may not exist in a facility. Not all facilities have all of the features identified on the form (outlet, weir, manhole, etc.).

Overall Facility Rating

An overall rating is given for each facility inspected. The overall facility rating should correspond with the highest score (0, 1, 2, 3) given to any feature on the inspection form.

# Maintenance Schedule for Stormwater BMPs

A maintenance schedule and/or indicators for the stormwater source control and treatment control BMPs on site are provided in Attachment 7. Maintenance frequencies will be recorded on the Stormwater BMP Inspection and Maintenance Checklists in Attachment 8.

A service agreement with any contractors hired to perform stormwater treatment control BMP maintenance is also provided in Attachment 9.

# Maintaining Stormwater BMPs

Stormwater BMPs must be properly maintained to ensure that they operate correctly and provide the water quality treatment for which they were designed. Routine maintenance performed on a frequently scheduled basis, can help avoid more costly rehabilitative maintenance that results when facilities are not adequately maintained.

A. Maintenance Categories

Stormwater BMP maintenance programs are separated into three broad categories of work: routine, restoration, and rehabilitation. The categories are separated based upon the magnitude and type of the maintenance activities performed. A description of each category follows:

Routine Work

This work includes items such as the removal of debris/material that may be clogging the outlet structure well screens and trash racks. It also includes activities such as road and parking lot sweeping, weed control, mosquito treatment, and algae treatment. These activities normally will be performed numerous times during the year. These items can be completed without any prior correspondence with the Port Environmental Protection; however, inspection and maintenance forms shall be completed with the information also being reported on the annual verification of inspection and maintenance forms and submitted to the Port.

Restoration Work

This work consists of a variety of isolated or small-scale maintenance and work needed to address operational problems. Most of this work can be completed by a small crew, with minor tools, and small equipment. These items can be completed without any prior correspondence with the Port Environmental Protection; however, inspection and maintenance forms shall be completed with the information also being reported on the annual verification of inspection and maintenance forms and submitted to the Port.

Rehabilitation Work

This work consists of large-scale maintenance and major improvements needed to address failures within the stormwater BMP. This work requires consultation with the Port and may require an engineering design with construction plans to be prepared for review and approval by the Port.

B. Maintenance Forms

The Stormwater BMP Inspection and Maintenance Form provides a record of maintenance activities. Maintenance Forms for each facility type are provided in Attachment 8. Maintenance Forms shall be completed by the responsible BMP party. The form shall then be reviewed by the lessee or an authorized agent of the lessee and made available for review upon inspection by the Port of San Diego.

# Inspection & Maintenance – Annual Reporting

The tenant is responsible for providing verification that the stormwater treatment control BMPs have been properly inspected and maintained unless otherwise noted. Verification includes records of inspections and maintenance performed on site. Any maintenance required will be identified and described.

The Annual verification of Inspection and Maintenance Form (Attachment 10) is required to be submitted to the Port of San Diego Environmental Protection by May 31st of each year.

ATTACHMENT 1 - ORGANIZATIONAL CHART

Incorporate an organization chart showing the relationships of authority and responsibility between the individuals responsible for maintenance.

ATTACHMENT 2 - TRAINING PROGRAM

Provide any necessary ongoing training for staff and/or contractors.

ATTACHMENT 3 - BMP OPERATION AND MAINTENANCE FUNDING SUPPLEMENTAL INFORMATION

ATTACHMENT 4 - SITE MAP

Incorporate Drainage Management Area Exhibit as provided in the SWQMP

ATTACHMENT 5 - LID BMPS INSPECTION FORM

| LID BMP INSPECTION FORM |  |
| --- | --- |
| **Date:** | **Inspector:** |  | **Weather:** |
| **Reason for Inspection:** | **Comments:** |
| **LID BMP Type** | **Description** | **Location** | **Operational BMPs** | **Maintenance Required** | **Maintenance Performed/Comments** | **Maintenance Frequency**  |
| [ ] Bioretention |  |  | [ ] Regularly weed and water during plant establishment phase | [ ] No [ ]  Yes |  |  |
|  |  |  | [ ] Area is free of litter and excess sediment | [ ] No [ ]  Yes |  |  |
|  |  |  | [ ] Area free of erosion and stabilized | [ ] No [ ]  Yes |  |  |
|  |  |  | [ ] Plants are healthy and thriving | [ ] No [ ]  Yes |  |  |
|  |  |  | [ ] Plant types are those from original design  | [ ] No [ ]  Yes |  |  |
| [ ] Filter Strips |  |  | [ ] Regularly weed and water during plant establishment phase | [ ] No [ ]  Yes |  |  |
|  |  |  | [ ] Plants are healthy and thriving | [ ] No [ ]  Yes |  |  |
|  |  |  | [ ] Area free of erosion and stabilized | [ ] No [ ]  Yes |  |  |
|  |  |  | [ ] Area is free of litter and excess sediment | [ ] No [ ]  Yes |  |  |
|  |  |  | [ ] Plant types are those from original design  | [ ] No [ ]  Yes |  |  |
|  |  |  | [ ] Flow spreader is free of debris and is not clogged | [ ] No [ ]  Yes |  |  |
| [ ] Vegetated Buffers |  |  | [ ] Regularly weed and water during plant establishment phase | [ ] No [ ]  Yes |  |  |
|  |  |  | [ ] Plants are healthy and thriving | [ ] No [ ]  Yes |  |  |
|  |  |  | [ ] Area free of erosion and stabilized | [ ] No [ ]  Yes |  |  |
|  |  |  | [ ] Area is free of litter and excess sediment | [ ] No [ ]  Yes |  |  |
|  |  |  | [ ] Plant types are those from original design  | [ ] No [ ]  Yes |  |  |
|  |  |  | [ ] Flow spreader is free of debris and is not clogged | [ ] No [ ]  Yes |  |  |
| [ ] Bioswale/Grassed Swale |  |  | [ ] Regularly weed and water during plant establishment phase | [ ] No [ ]  Yes |  |  |
|  |  |  | [ ] Plants are healthy and thriving | [ ] No [ ]  Yes |  |  |
|  |  |  | [ ] Area free of erosion and stabilized | [ ] No [ ]  Yes |  |  |
|  |  |  | [ ] Area is free of litter and excess sediment | [ ] No [ ]  Yes |  |  |
|  |  |  | [ ] Plant types are those from original design  | [ ] No [ ]  Yes |  |  |
| [ ] Green Roofs |  |  | [ ] Regularly weed and water during plant establishment phase | [ ] No [ ]  Yes |  |  |
|  |  |  | [ ] Plants are healthy and thriving | [ ] No [ ]  Yes |  |  |
| [ ] Rain Barrels / Cisterns |  |  | [ ] Roof catchment and gutters are free of debris and sediment | [ ] No [ ]  Yes |  |  |
|  |  |  | [ ] Downspouts are free of leaks and obstructions | [ ] No [ ]  Yes |  |  |
|  |  |  | [ ] Rain barrel, top, and seal are free of leaks | [ ] No [ ]  Yes |  |  |
|  |  |  | [ ] Overflow pipe is not causing erosion | [ ] No [ ]  Yes |  |  |
| [ ] Porous Pavement |  |  | [ ] Pavement is free of debris and sediment | [ ] No [ ]  Yes |  |  |
|  |  |  | [ ] Pavement is swept monthly | [ ] No [ ]  Yes |  |  |
|  |  |  | [ ] Pavement is in good condition and stabilized | [ ] No [ ]  Yes |  |  |
|  |  |  | [ ] Area is dry swept regularly | [ ] No [ ]  Yes |  |  |
| [ ] Soil Structure Enhancement (use of compost) |  |  | [ ] Area is protected from compaction | [ ] No [ ]  Yes |  |  |
|  |  |  | [ ] Limited foot traffic | [ ] No [ ]  Yes |  |  |
|  |  |  | [ ] 2 to 1 ratio of compost soil and existing soil is present | [ ] No [ ]  Yes |  |  |

ATTACHMENT 6 - SOURCE CONTROL BMP INSPECTION FORM

| Source Control BMP Inspection form |
| --- |
| **Date:** | **Inspector:** | **Weather:** |
| **Reason for Inspection:**  | **Comments:** |
| **Potential Pollutant Sources** | **Location** | **Operational BMPs** | **Maintenance Required** | **Maintenance Performed/Comments** | **Maintenance Frequency** |
| [ ] On-site storm drain inlets |  | [ ] Maintain and periodically replace inlet markers, if necessary. | [ ] No [ ]  Yes |  |  |
| [ ] Review stormwater pollution prevention information applicable to the site. | [ ] No [ ]  Yes |  |  |
| [ ] Adhere to applicable operational BMPs in Fact Sheet SC-44, “Drainage System Maintenance,” in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com  | [ ] No [ ]  Yes |  |  |
| [ ] Prevent any illicit discharges from entering storm drains.  | [ ] No [ ]  Yes |  |  |
| [ ] Interior floor drains and elevator shaft sump pumps |  | [ ] Inspect and maintain drains to prevent blockages and overflow. | [ ] No [ ]  Yes |  |  |
| [ ] Interior parking garages |  | [ ] Inspect and maintain drains to prevent blockages and overflow. | [ ] No [ ]  Yes |  |  |
| [ ] Landscape/ Outdoor Pesticide Use*Landscape/Outdoor pesticide Use Continued* |  | [ ] Maintain landscaping using minimum or no pesticides. | [ ] No [ ]  Yes |  |  |
| [ ] Review and adhere to applicable operational BMPs in Fact Sheet SC-41, `“Building and Grounds Maintenance,” in the CASQA Stormwater Quality Handbooks at [www.cabmphandbooks.com](http://www.cabmphandbooks.com) | [ ] No [ ]  Yes |  |  |
| [ ] Review IPM information. Provide IPM information to landscape and maintenance personnel. | [ ] No [ ]  Yes |  |  |
| [ ] Use efficient irrigation systems |  | [ ] Inspect irrigation system for leaks and/or malfunctions. | [ ] No [ ]  Yes |  |  |
| [ ] Need for future indoor & structural pest control |  | [ ] Review Integrated Pest Management information and provide to other maintenance personnel. | [ ] No [ ]  Yes |  |  |
| [ ] Pools, spas, ponds, decorative fountains, and other water features. |  | [ ] Review and adhere to applicable operational BMPs in Fact Sheet SC-72, “Fountain and Pool Maintenance,” in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com | [ ] No [ ]  Yes |  |  |
| [ ] Food service |  | [ ] Grease traps cleaned, as necessary.[ ] See Refuse Areas. | [ ] No [ ]  Yes |  |  |
| [ ] Refuse areas*Refuse areas- Continued* |  | [ ] Provide adequate number of receptacles.  | [ ] No [ ]  Yes |  |  |
| [ ] Inspect receptacles regularly; repair or replace leaky receptacles.  | [ ] No [ ]  Yes |  |  |
| [ ] Keep receptacles covered at all times. | [ ] No [ ]  Yes |  |  |
| [ ] Prohibit/prevent dumping of liquid or hazardous wastes.  | [ ] No [ ]  Yes |  |  |
| [ ] Post “no hazardous materials” signs.  | [ ] No [ ]  Yes |  |  |
| [ ] Inspect and pick up litter daily and clean up spills immediately. | [ ] No [ ]  Yes |  |  |
| [ ] Keep spill control materials available on- site. Review Fact Sheet SC-34, “Waste Handling and Disposal” in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com | [ ] No [ ]  Yes |  |  |
| [ ] Industrial processes. |  | [ ] Review and adhere to Fact Sheet SC-10, “Non- Stormwater Discharges” in the CASQA Stormwater Quality Handbooks atwww.cabmphandbooks.com | [ ] No [ ]  Yes |  |  |
| [ ] Outdoor storage of equipment or materials  |  | [ ] Review and adhere to the Fact Sheets SC-31, “Outdoor Liquid Container Storage” and SC- 33, “Outdoor Storage of Raw Materials” in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com | [ ] No [ ]  Yes |  |  |
| [ ] Vehicle and Equipment Cleaning |  | **Follow operational measures to implement the following (if applicable):** |
| [ ] Washwater from vehicle and equipment washing operations shall not be discharged to the storm drain system. | [ ] No [ ]  Yes |  |  |
| [ ] Car dealerships and similar may rinse cars with potable water only. Any excess water shall be drained through landscaping and dechlorinated prior to discharge to the storm drain system. | [ ] No [ ]  Yes |  |  |
| [ ] Review and adhere to Fact Sheet SC-21, “Vehicle and Equipment Cleaning,” in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com | [ ] No [ ]  Yes |  |  |
| [ ] Vehicle/Equipment Repair and Maintenance*Vehicle/Equipment Repair**and Maintenance**Continued* |  | **The following restrictions apply to use the site:** |
| [ ] No person shall dispose of, nor permit the disposal, directly or indirectly of vehicle fluids, hazardous materials, or rinse water from parts cleaning into storm drains. | [ ] No [ ]  Yes |  |  |
| [ ] No vehicle fluid removal shall be performed outside a building, nor on asphalt or ground surfaces, whether inside or outside a building, except in such a manner as to ensure that any spilled fluid will be in an area of secondary containment. Leaking vehicle fluids shall be contained or drained from the vehicle immediately. | [ ] No [ ]  Yes |  |  |
| [ ] No person shall leave unattended drip parts or other open containers of chemicals such as vehicle fluid unless such containers are in use or in an area of secondary containment. | [ ] No [ ]  Yes |  |  |
| [ ] Fuel Dispensing Areas |  | [ ] The fueling area is to be dry swept routinely. | [ ] No [ ]  Yes |  |  |
| [ ] Review and adhere to the Business Guide Sheet, “Automotive Service—Service Stations” in the CASQA Stormwater Quality Handbooks at [www.cabmphandbooks.com](http://www.cabmphandbooks.com) | [ ] No [ ]  Yes |  |  |
| [ ] Fueling areas are covered by a canopy. | [ ] No [ ]  Yes |  |  |
| [ ] The canopy does not drain onto the fueling area. | [ ] No [ ]  Yes |  |  |
| [ ] Grading of the area prevents run-on of stormwater to the maximum extent practicable. | [ ] No [ ]  Yes |  |  |
| [ ] Loading Docks*Loading Docks**Continued* |  | [ ] Move loaded and unloaded items indoors as soon as possible. | [ ] No [ ]  Yes |  |  |
| [ ] Review and adhere to Fact Sheet SC-30, “Outdoor Loading and Unloading,” in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com | [ ] No [ ]  Yes |  |  |
| [ ] Fire Sprinkler Test Water |  | [ ] Review the note in Fact Sheet SC-41, “Building and Grounds Maintenance,” in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com | [ ] No [ ]  Yes |  |  |
| [ ] Miscellaneous Drain or Wash Water* Boiler drain lines Condensate drain lines
* Rooftop equipment Drainage sumps
* Roofing, gutters, and trim
 |  |  | [ ] No [ ]  Yes |  |  |
| [ ] Plazas, sidewalks, and parking lots |  | [ ] 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. | [ ] No [ ]  Yes |  |  |

ATTACHMENT 7 - PLANS AND OTHER OPERATIONS AND MAINTENANCE REQUIREMENTS

Incorporate design/as-built drawings and the relevant manufacturer’s data such as cut-sheets, manuals, and other specific operation and maintenance information for each treatment control BMP.

Note that the O&M Plan will need to be updated with the as-built plans at the BMP verification stage.

ATTACHMENT 8 - TREATMENT CONTROL BMP INSPECTION AND MAINTENANCE CHECKLIST(S)

Include all applicable inspection and maintenance checklist(s).

Property Address: Property Lessee:

Location of BMP: \_\_\_\_\_\_\_ Date of Inspection: \_\_\_\_ Type of Inspection:  Monthly  Pre-Wet Season

  After heavy runoff  End of Wet Season

Inspector(s): Overall Facility Score\*:  Other:

| **Defect** | **Conditions When Maintenance Is Needed** | **Maintenance****Score\*\*** | **Comments (Describe maintenance completed and if needed maintenance was not conducted, note when it will be done)** | **Maintenance Frequency** | **Results Expected When Maintenance Is Performed** |
| --- | --- | --- | --- | --- | --- |
| 1. Standing Water | When water stands in the bioretention area between storms and does not drain within five days after rainfall. |  |  |  | There should be no areas of standing water once inflow has ceased. Any of the following may apply: sediment or trash blockages removed, improved grade from head to foot of bioretention area, or added underdrains.  |
| 2. Trash and Debris Accumulation | Trash and debris accumulated in the bioretention area. |  |  |  | Trash and debris removed from bioretention area and disposed of properly. |
| 3. Sediment | Evidence of sedimentation in bioretention area.  |  |  |  | Material removed so that there is no clogging or blockage. Material is disposed of properly. |
| 4. Erosion | Channels have formed around inlets, there are areas of bare soil, and/or other evidence of erosion. |  |  |  | Obstructions and sediment removed so that water flows freely and disperses over a wide area. Obstructions and sediment are disposed of properly. |
| 5. Vegetation | Vegetation is dead, diseased, and/or overgrown. |  |  |  | Vegetation is healthy and attractive in appearance. |
| 6. Mulch | Mulch is missing or patchy in appearance. Areas of bare earth are exposed, or mulch layer is less than 3 inches in depth.  |  |  |  | All bare earth is covered, except mulch is kept 6 inches away from trunks of trees and shrubs. Mulch is even in appearance, at a depth of 3 inches.  |
| 7. Miscellaneous | Any condition not covered above that needs attention for the bioretention area to function as designed. |  |  |  | Meet the design specifications. |

\*Overall Facility Score = Worst Score from all Defect Items Noted.

\*\*Scores: 0 = OK, 1 = Monitor, 2 = Routine Maintenance, 3 = Immediate Repair Necessary

Property Address: Property Lessee:

Treatment Measure No.: Date of Inspection: Type of Inspection:  Monthly  Pre-Wet Season

  After heavy runoff  End of Wet Season

Inspector(s): Overall Facility Score\*:  Other:

| **Defect** | **Conditions When Maintenance Is Needed** | **MaintenanceScore\*\*** | **Comments (Describe maintenance completed and if needed maintenance was not conducted, note when it will be done)** | **Maintenance Frequency** | **Results Expected When Maintenance Is Performed** | **Date Complete / Initial** |
| --- | --- | --- | --- | --- | --- | --- |
| 1. Sediment Accumulation on Vegetation | Sediment accumulating near culverts and/or in channels builds up to 75 millimeters (3 inches) at any spot, or it covers vegetation |  |  |  | Remove accumulated sediment deposits. When finished, buffer strip should be level from side to side and drain freely toward outlet. There should be no areas of standing water once inflow has ceased. Dispose of sediment properly. |  |
| 2. Standing Water | Water stands in the buffer strip between storms and does not drain within five days after rainfall. |  |  |  | There should be no areas of standing water once inflow has ceased. Any of the following may apply: sediment or trash blockages removed, improved grade from head to foot of buffer strip, removed clogged check dams, added underdrains, or converted to a wet buffer strip. |  |
| 3. Flow spreader (if any) | Flow spreader uneven or clogged such that flows are not uniformly distributed through entire buffer strip width. |  |  |  | Spreader leveled and cleaned so that flows are spread evenly over entire buffer strip width. |  |
| 4. Constant Baseflow | When small quantities of water continually flow through the buffer strip, even when it has been dry for weeks, and an eroded, muddy channel has formed in the buffer strip bottom. |  |  |  | No eroded, muddy channel on the bottom. A low-flow pea-gravel drain may be added the length of the buffer strip. |  |
| 5. Poor Vegetation Coverage | When planted vegetation is sparse, bare, or eroded, patches occur in more than 10% of the buffer strip bottom.  |  |  |  | Vegetation coverage in more than 90% of the buffer strip bottom. Determine why growth of planted vegetation is poor and correct that condition. Replant with plugs of vegetation from the upper slope: plant in the buffer strip bottom at 8-inch intervals, or reseed into loosened, fertile soil. |  |
| 6. Vegetation | When the planted vegetation becomes excessively tall; when nuisance weeds and other vegetation start to take over. |  |  |  | Vegetation mowed per specifications or maintenance plan, or nuisance vegetation removed so that flow is not impeded. Vegetation should never be mowed lower than the design flow depth. Remove clippings from the buffer strip and dispose appropriately.  |  |
| 7. Excessive Shading | Growth of planted vegetation is poor because sunlight does not reach buffer strip. |  |  |  | Healthy growth of planted vegetation. If possible, trim back over-hanging limbs and remove brushy vegetation on adjacent slopes. |  |
| 8. Inlet/Outlet | Inlet/outlet areas clogged with sediment and/or debris. |  |  |  | Material removed so that there is no clogging or blockage in the inlet and outlet areas. |  |
| 9. Trash and Debris Accumulation | Trash and debris accumulated in the buffer strip. |  |  |  | Trash and debris removed from buffer strip. Dispose of trash and debris properly.  |  |
| 10. Erosion/ Scouring | Eroded or scoured buffer strip bottom due to flow channelization, or higher flows. |  |  |  | No erosion or scouring in buffer strip bottom. For ruts or bare areas less than 12 inches wide, repair the damaged area by filling with crushed gravel. If bare areas are large, greater than 12 inches wide, the buffer strip should be re-graded and re-seeded. For smaller bare areas, overseed when bare spots are evident, or take plugs of grass from the upper slope and plant in the buffer strip bottom at 8-inch intervals. |  |
| 11. Miscellaneous | Any condition not covered above that needs attention for the vegetated buffer strip to function as designed. |  |  |  | Meet the design specifications. |  |

\*Overall Facility Score = Worst Score from all Defect Items Noted.

\*\*Scores: 0 = OK, 1 = Monitor, 2 = Routine Maintenance, 3 = Immediate Repair Necessary

Property Address: Property Lessee:

Treatment Measure No.: Date of Inspection: Type of Inspection:  Monthly  Pre-Wet Season

  After heavy runoff  End of Wet Season

Inspector(s): Overall Facility Score\*:  Other:

| **Defect** | **Conditions When Maintenance Is Needed** | **MaintenanceScore\*\*** | **Comments (Describe maintenance completed and if any needed maintenance was not conducted, note when it will be done.)** | **Maintenance Frequency** | **Results Expected When Maintenance Is Performed** |
| --- | --- | --- | --- | --- | --- |
| **General** |
| Trash & Debris | Trash and debris accumulated in basin at a minimum of once prior to October 1st, once around Feb 1st, and once May 15th.Visual evidence of dumping. |  |  |  | Trash and debris cleared from site and disposed of properly. |
| Poisonous Vegetation and noxious weeds | Poisonous or nuisance vegetation or noxious weeds, e.g., morning glory, English ivy, reed canary grass, Japanese knotweed, purple loosestrife, blackberry, Scotch broom, poison oak, stinging nettles, or devil’s club. |  |  |  | Use Integrated Pest Management techniques to control noxious weeds or invasive species. |
| Contaminants and Pollution | Any evidence of oil, gasoline, contaminants, or other pollutants. Note signs of hydrocarbon buildup such as floating oil on water surface. |  |  |  | No contaminants or pollutants present. |
| Rodent Holes | If facility acts as a dam or berm, any evidence of rodent holes, or any evidence of water piping through dam or berm via rodent holes. |  |  |  | The design specifications are not compromised by holes. Any rodent control activities are in accordance with applicable laws and do not affect any protected species.  |
| Insects | Insects such as wasps and hornets interfere with maintenance activities.Where permitted by CA DFG, or other agency regulations, stock regularly with mosquito fish (Gambusia spp.) to enhance natural mosquito and midge control.Maintain vegetation to assist Gambusia spp. movements to control mosquitoes, as well as to provide access for vector inspectors.Maintain emergent and perimeter shoreline vegetation as well as site and road access to facilitate vector surveillance and control activities. |  |  |  | Insects do not interfere with maintenance activities.No mosquitoes or other vectors present in unusual abundance. |
| Vegetation | Inspect for invasive vegetation, differential settlement, cracking, erosion, leakage, or tree growth on the embankment. Correct observed problems, as necessary. Mow side slopes and remove grass clippings every other month or as necessary.Supplement wetland plants if a significant portion have not established (at least 50% of the surface area) on an annual basis. Remove nuisance plant species.  |  |  |  | Wetland vegetation should be at proper vigor and density, no nuisance or noxious weeds or invasive species should be visible, and growth should not hinder physical characteristics or requirements of wetland area. |
| Tree/Brush Growth and Hazard Trees | Growth does not allow maintenance access or interferes with maintenance activity.Vegetation harvesting should occur preferably between June to September (CASCA TC-21)Dead, diseased, or dying trees. |  |  |  | Trees do not hinder maintenance activities. Remove hazard trees as approved by the Port. (Use a certified Arborist to determine health of tree or removal requirements). |
| Drainage time | Standing water remains in basin more than five days. |  |  |  | Correct any circumstances that restrict the flow of water from the system. Restore drainage to design condition. If the problem cannot be corrected and problems with standing water recur, then mosquitoes should be controlled with larvicides, applied by a licensed pesticide applicator. |
| Outfall structure | Debris or silt build-up obstructs an outfall structure. |  |  |  | Remove debris and/or silt build-up and dispose of properly. |
| **Side Slopes** |
| Erosion | Eroded over 2 in. deep where cause of damage is still present or where there is potential for continued erosion.Any erosion on a compacted berm embankment. |  |  |  | Cause of erosion is managed appropriately. Side slopes or berm are restored to design specifications, as needed.  |
| **Storage Area** |
| Sediment | Monitor for sediment accumulation in the facility and forebay. Remove accumulated sediment in the forebay and regrade about every 5-7 years or when the accumulated sediment volume exceeds 10 percent of the basin volume. Sediment removal may not be required in the main pool area for as long as 20 years. |  |  |  | Sediment cleaned out to designed basin shape and depth; basin reseeded if necessary to control erosion. Sediment disposed of properly. |
| Liner (If Applicable) | Liner is visible and has more than three 1/4-inch holes in it. |  |  |  | Liner repaired or replaced. Liner is fully covered. |
| **Emergency Overflow/Spillway and Berms** |
| Settlement | Berm settlement 4 inches lower than the design elevation.  |  |  |  | Dike is built back to the design elevation. |
| Tree Growth | Tree growth on berms or emergency spillway >4 ft in height or covering more than 10% of spillway.  |  |  |  | Trees should be removed. If root system is small (base less than 4 inches) the root system may be left in place. Otherwise, the roots should be removed and the berm restored. A civil engineer should be consulted for proper berm/spillway restoration.  |
| Emergency Overflow/ Spillway | Rock is missing and soil is exposed at top of spillway or outside slope. |  |  |  | Rocks and pad depth are restored to design standards. |
| **Debris Barriers (*e.g.*, Trash Racks)** |
| Trash and Debris | Trash or debris is plugging openings in the barrier. |  |  |  | Trash or debris is removed and disposed of properly. |
| Damaged/ Missing Bars | Bars are missing, loose, bent out of shape, or deteriorating due to excessive rust. |  |  |  | Bars are repaired or replaced to allow proper functioning of trash rack. |
| Inlet/Outlet Pipe | Debris barrier is missing or not attached to pipe. |  |  |  | Debris barrier is repaired or replaced to allow proper functioning of trash rack. |
| **Fencing and Gates** |
| Missing or broken parts | Any defect in or damage to the fence or gate that permits easy entry to a facility. |  |  |  | Fencing and gate are restored to design specifications. |
| Deteriorating Paint or Protective Coating | Part or parts that have a rusting or scaling condition that has affected structural adequacy. |  |  |  | Paint or protective coating is sufficient to protect structural adequacy of fence or gate. |
| **Flow Duration Control Outlet** (if included in design to meet Hydromodification Management Standard) [[==refer to any attachments with additional provisions==]] |  |
| Risers, orifices, and screens | Any debris or clogging |  |  |  | Restore unobstructed flow through discharge structure; to meet original design; dispose of debris properly. |
| **Miscellaneous** |
| Miscellaneous | Any condition not covered above that needs attention to restore extended detention basin to design conditions. |  |  |  | Meets the design specifications. |

\*Overall Facility Score = Worst Score from all Defect Items Noted.

\*\*Scores: 0 = OK, 1 = Monitor, 2 = Routine Maintenance, 3 = Immediate Repair Necessary

Property Address: Property Lessee:

Treatment Measure No.: Date of Inspection: Type of Inspection:  Monthly  Pre-Wet Season

  After heavy runoff  End of Wet Season

Inspector(s): Overall Facility Score\*:  Other:

| **Defect** | **Conditions When Maintenance Is Needed** | **Maintenance****Score\*\*** | **Comments (Describe maintenance completed and if any needed maintenance was not conducted, note when it will be done.)** | **Maintenance Frequency** | **Results Expected When Maintenance Is Performed** |
| --- | --- | --- | --- | --- | --- |
| **General** |
| Trash & Debris | Trash and debris accumulated in basin.Visual evidence of dumping. |  |  |  | Trash and debris cleared from site and disposed of properly. |
| Poisonous Vegetation and noxious weeds | Poisonous or nuisance vegetation or noxious weeds, e.g., morning glory, English ivy, reed canary grass, Japanese knotweed, purple loosestrife, blackberry, Scotch broom, poison oak, stinging nettles, or devil’s club. |  |  |  | Use Integrated Pest Management techniques to control noxious weeds or invasive species. |
| Contaminants and Pollution | Any evidence of oil, gasoline, contaminants, or other pollutants. |  |  |  | No contaminants or pollutants present. |
| Rodent Holes | If facility acts as a dam or berm, any evidence of rodent holes, or any evidence of water piping through dam or berm via rodent holes. |  |  |  | The design specifications are not compromised by holes. Any rodent control activities are in accordance with applicable laws and do not affect any protected species.  |
| Insects | Insects such as wasps and hornets interfere with maintenance activities. |  |  |  | Insects do not interfere with maintenance activities. |
| Tree/Brush Growth and Hazard Trees | Growth does not allow maintenance access or interferes with maintenance activity.Dead, diseased, or dying trees. |  |  |  | Trees do not hinder maintenance activities. Remove hazard trees as approved by the Port. (Use a certified Arborist to determine health of tree or removal requirements). |
| Drainage time | Standing water remains in basin more than five days. |  |  |  | Correct any circumstances that restrict the flow of water from the system. Restore drainage to design condition. If the problem cannot be corrected and problems with standing water recur, then mosquitoes should be controlled with larvicides, applied by a licensed pesticide applicator. |
| Outfall structure | Debris or silt build-up obstructs an outfall structure. |  |  |  | Remove debris and/or silt build-up and dispose of properly. |
| **Side Slopes** |
| Erosion | Eroded over 2 in. deep where cause of damage is still present or where there is potential for continued erosion.Any erosion on a compacted berm embankment. |  |  |  | Cause of erosion is managed appropriately. Side slopes or berm are restored to design specifications, as needed.  |
| **Storage Area** |
| Sediment | Accumulated sediment >10% of designed basin depth or affects inletting or outletting condition of the facility. |  |  |  | Sediment cleaned out to designed basin shape and depth; basin reseeded if necessary to control erosion. Sediment disposed of properly. |
| Liner (If Applicable) | Liner is visible and has more than three 1/4-inch holes in it. |  |  |  | Liner repaired or replaced. Liner is fully covered. |
| **Emergency Overflow/ Spillway and Berms** |
| Settlement | Berm settlement 4 inches lower than the design elevation.  |  |  |  | Dike is built back to the design elevation. |
| Tree Growth | Tree growth on berms or emergency spillway >4 ft in height or covering more than 10% of spillway.  |  |  |  | Trees should be removed. If root system is small (base less than 4 inches) the root system may be left in place. Otherwise, the roots should be removed and the berm restored. A civil engineer should be consulted for proper berm/spillway restoration.  |
| Emergency Overflow/ Spillway | Rock is missing and soil is exposed at top of spillway or outside slope. |  |  |  | Rocks and pad depth are restored to design standards. |
| **Debris Barriers (e.g., Trash Racks)** |
| Trash and Debris | Trash or debris is plugging openings in the barrier. |  |  |  | Trash or debris is removed and disposed of properly. |
| Damaged/ Missing Bars | Bars are missing, loose, bent out of shape, or deteriorating due to excessive rust. |  |  |  | Bars are repaired or replaced to allow proper functioning of trash rack. |
| Inlet/Outlet Pipe | Debris barrier is missing or not attached to pipe. |  |  |  | Debris barrier is repaired or replaced to allow proper functioning of trash rack. |
| **Fencing and Gates** |
| Missing or broken parts | Any defect in or damage to the fence or gate that permits easy entry to a facility. |  |  |  | Fencing and gate are restored to design specifications. |
| Deteriorating Paint or Protective Coating | Part or parts that have a rusting or scaling condition that has affected structural adequacy. |  |  |  | Paint or protective coating is sufficient to protect structural adequacy of fence or gate. |
| **Flow Duration Control Outlet** (if included in design to meet Hydromodification Management Standard) [[==refer to any attachments with additional provisions==]] |
| Risers, orifices, and screens | Any debris or clogging |  |  |  | Restore unobstructed flow through discharge structure; to meet original design; dispose of debris properly. |
| **Miscellaneous** |
| Miscellaneous | Any condition not covered above that needs attention to restore extended detention basin to design conditions. |  |  |  | Meets the design specifications. |

\*Overall Facility Score = Worst Score from all Defect Items Noted.

\*\*Scores: 0 = OK, 1 = Monitor, 2 = Routine Maintenance, 3 = Immediate Repair Necessary

Property Address: Property Lessee:

Treatment Measure No.: Date of Inspection: Type of Inspection:  Monthly  Pre-Wet Season

  After heavy runoff  End of Wet Season

Inspector(s): Overall Facility Score\*:  Other:

| **Defect** | **Conditions When Maintenance Is Needed** | **MaintenanceScore\*\*** | **Comments (Describe maintenance completed and if needed maintenance was not conducted, note when it will be done)** | **Maintenance Frequency** | **Results Expected When Maintenance Is Performed** |
| --- | --- | --- | --- | --- | --- |
| 1. Vegetation  | Vegetation is dead, diseased, and/or overgrown.  |  |  |  | Vegetation is healthy and attractive in appearance. |
| 2. Soil | Soil too deep or too shallow.  |  |  |  | Soil is at proper depth (per soil specifications) for optimum filtration and flow.  |
| 3. Mulch | Mulch is missing or patchy in appearance. Areas of bare earth are exposed, or mulch layer is less than 3 inches in depth.  |  |  |  | All bare earth is covered, except mulch is kept 6 inches away from trunks of trees and shrubs. Mulch is even in appearance, at a depth of 3 inches.  |
| 4. Sediment, Trash and Debris Accumulation | Sediment, trash, and debris accumulated in the flow-through planter. Planter does not drain as specified.  |  |  |  | Sediment, trash, and debris removed from flow-through planter and disposed of properly. Planter drains within 3-4 hours.  |
| 5. Clogs | Soil too deep or too shallow. Sediment, trash, and debris accumulated in the flow-through planter. Planter does not drain within five days after rainfall. |  |  |  | Planter drains per design specifications. |
| 6. Downspouts and Sheet Flow  | Flow to planter is impeded. Downspouts are clogged or pipes are damaged. Splash blocks and rocks in need of repair, replacement, or replenishment.  |  |  |  | Downspouts and sheet flow is conveyed efficiently to the planter.  |
| 7. Overflow Pipe | Does not safely convey excess flows to storm drain. Piping damaged or disconnected.  |  |  |  | Overflow pipe conveys excess flow to storm drain efficiently.  |
| 8. Structural Soundness | Planter is cracked, leaking, or falling apart. |  |  |  | Cracks and leaks are repaired, and planter is structurally sound.  |
| 9. Miscellaneous | Any condition not covered above that needs attention in order for the flow-through planter to function as designed. |  |  |  | Meet the design specifications. |

\*Overall Facility Score = Worst Score from all Defect Items Noted.

\*\*Scores: 0 = OK, 1 = Monitor, 2 = Routine Maintenance, 3 = Immediate Repair Necessary

Property Lessee: Property Address:

Date of Inspection: Type of Inspection:  Monthly  Pre-Wet Season

  After heavy runoff  End of Wet Season

System Type:

Installer/Contractor: Overall Facility Score\*:

Manufacturer: Inspector(s):

| **Defect** | **Conditions When Maintenance Is Needed** | **Maintenance Score\*\*** | **Comments (Describe maintenance completed and if needed maintenance was not conducted, note when it will be done)** | **Maintenance Frequency** | **Results Expected When Maintenance Is Performed** |
| --- | --- | --- | --- | --- | --- |
| 1. Sediment, trash, and debris accumulation on Filter  | Sediment, trash, and debris accumulated in the sedimentation basin, riser pipe, retention pipes and filter bed. Filter does not drain as specified.  |  |  |  | Sediment, trash, and debris removed from sedimentation basin, riser pipe and filter bed and disposed of properly. Filter drains per design specifications. Empty cartridge should be reassembled and reinstalled.  |
| 2. Standing water | Manufactured treatment measure does not drain within five days after rainfall. |  |  |  | Clogs removed from filters, sedimentation basin, riser pipe and filter bed. Filter drains per design specifications.  |
| 3. Mosquitoes | Evidence of mosquito larvae in manufactured treatment measure. |  |  |  | Clogs removed from sedimentation basin, riser pipe and filter bed. Filter drains per design specifications.  |
| 4. Miscellaneous | Any condition not covered above that needs attention in order for the manufactured treatment measure to function as designed. |  |  |  | Meet the design specifications. |

\*Overall Facility Score = Worst Score from all Defect Items Noted.

\*\*Scores: 0 = OK, 1 = Monitor, 2 = Routine Maintenance, 3 = Immediate Repair Necessary.

Property Address: Property Lessee:

Treatment Measure No.: Date of Inspection: Type of Inspection:  Monthly  Pre-Wet Season

  After heavy runoff  End of Wet Season

Inspector(s): Overall Facility Score\*:  Other:

| **Defect** | **Conditions When Maintenance Is Needed** | **Maintenance****Score\*\*** | **Comments (Describe maintenance completed and if needed maintenance was not conducted, note when it will be done)** | **Maintenance Frequency** | **Results Expected When Maintenance Is Performed** |
| --- | --- | --- | --- | --- | --- |
| 1. Standing Water | When water stands in the infiltration trench between storms and does not drain within 5 days after rainfall. |  |  |  | There should be no areas of standing water once inflow has ceased. Any of the following may apply: sediment or trash blockages removed, improved grade from head to foot of infiltration trench, removed clogging at check dams, or added underdrains.  |
| 2. Trash and Debris Accumulation | Trash and debris accumulated in the infiltration trench. |  |  |  | Trash and debris removed from infiltration trench and disposed of properly. |
| 3. Sediment | Evidence of sedimentation in trench. Less than 50% storage volume remaining in sediment traps, forebays or pretreatment swales.  |  |  |  | Material removed and disposed of properly so that there is no clogging or blockage. |
| 4. Inlet/Outlet | Inlet/outlet areas clogged with sediment or debris, and/or eroded. |  |  |  | Material removed and disposed of properly so that there is no clogging or blockage in the inlet and outlet areas. |
| 5. Overflow Spillway | Clogged with sediment or debris, and/or eroded. |  |  |  | Material removed and disposed of properly so that there is no clogging or blockage, and trench is restored to design condition. |
| 6. Filter Fabric | Annual inspection, by removing a small section of the top layer, shows sediment accumulation that may lead to trench failure. |  |  |  | Replace filter fabric, as needed, to restore infiltration trench to design condition. |
| 7. Observation Well | Routine monitoring of observation well indicates that trench is not draining within specified time or observation well cap is missing. |  |  |  | Restore trench to design conditions. Observation well cap is sealed.  |
| 8. Miscellaneous | Any condition not covered above that needs attention in order for the infiltration trench to function as designed. |  |  |  | Meet the design specifications. |

\*Overall Facility Score = Worst Score from all Defect Items Noted.

\*\*Scores: 0 = OK, 1 = Monitor, 2 = Routine Maintenance, 3 = Immediate Repair Necessary.

Property Lessee: Property Address:

Date of Inspection: Type of Inspection:  Monthly  Pre-Wet Season

  After heavy runoff  End of Wet Season

System Type:

Installer/Contractor: Overall Facility Score\*:

Manufacturer: Inspector(s):

| **Defect** | **Conditions When Maintenance Is Needed** | **Maintenance****Score\*\*** | **Comments (Describe maintenance completed and if needed maintenance was not conducted, note when it will be done)** | **Maintenance Frequency** | **Results Expected When Maintenance Is Performed** |
| --- | --- | --- | --- | --- | --- |
| 1. Sediment, trash, and debris accumulation on Filter  | Sediment, trash, and debris accumulated in the sedimentation basin, riser pipe, retention pipes and filter bed. Filter does not drain as specified.  |  |  |  | Sediment, trash, and debris removed from sedimentation basin, riser pipe and filter bed and disposed of properly. Filter drains per design specifications. Empty cartridge should be reassembled and reinstalled.  |
| 2. Standing water | Manufactured treatment measure does not drain within five days after rainfall. |  |  |  | Clogs removed from filters, sedimentation basin, riser pipe and filter bed. Filter drains per design specifications.  |
| 3. Mosquitoes | Evidence of mosquito larvae in manufactured treatment measure. |  |  |  | Clogs removed from sedimentation basin, riser pipe and filter bed. Filter drains per design specifications.  |
| 4. Miscellaneous | Any condition not covered above that needs attention in order for the manufactured treatment measure to function as designed. |  |  |  | Meet the design specifications. |

\*Overall Facility Score = Worst Score from all Defect Items Noted.

\*\*Scores: 0 = OK, 1 = Monitor, 2 = Routine Maintenance, 3 = Immediate Repair Necessary.

Property Address: Property Lessee:

Treatment Measure No.: Date of Inspection: Type of Inspection:  Monthly  Pre-Wet Season

  After heavy runoff  End of Wet Season

Inspector(s): Overall Facility Score\*:  Other:

| **Defect** | **Conditions When Maintenance Is Needed** | **Maintenance****Score\*\*** | **Comments (Describe maintenance completed and if needed maintenance was not conducted, note when it will be done)** | **Maintenance Frequency** | **Results Expected When Maintenance Is Performed** | **Date Complete / Initial** |
| --- | --- | --- | --- | --- | --- | --- |
| 1. Sediment, trash, and debris accumulation | Sediment, trash, and debris accumulated in the sedimentation basin, riser pipe and filter bed. Filter does not drain as specified.  |  |  |  | Sediment, trash, and debris removed from sedimentation basin, riser pipe and filter bed and disposed of properly. Filter drains per design specifications.  |  |
| 2. Standing water | Non-proprietary media filter does not drain within three days after rainfall. |  |  |  | Clogs removed from sedimentation basin, riser pipe and filter bed. Filter drains per design specifications.  |  |
| 3. Sediment | Evidence of sedimentation in bioretention area. |  |  |  | Material removed so that there is no clogging or blockage. Material is disposed of properly. |  |
| 4. Erosion | Channels have formed around inlets, there are areas of bare soil, and/or other evidence of erosion. |  |  |  | Obstructions and sediment removed so that water flows freely and disperses over a wide area. Obstructions and sediment are disposed of properly. |  |
| 5. Vegetation | Vegetation is dead, diseased, and/or overgrown. |  |  |  | Vegetation is healthy and attractive in appearance. |  |
| 6. Mulch | Mulch is missing or patchy in appearance. Areas of bare earth are exposed, or mulch layer is less than 3 inches in depth.  |  |  |  | All bare earth is covered, except mulch is kept 6 inches away from trunks of trees and shrubs. Mulch is even in appearance, at a depth of 3 inches.  |  |
| 7. Mosquitoes | Evidence of mosquito larvae in non-proprietary media filter. |  |  |  | Clogs removed from sedimentation basin, riser pipe and filter bed. Filter drains per design specifications.  |  |
| 8. Filter bed | Overall media depth 300 millimeters (12 inches) or less. |  |  |  | Media depth restored to 450 millimeters (18 inches).  |  |
| 9. Miscellaneous | Any condition not covered above that needs attention in order for the non-proprietary media filter to function as designed. |  |  |  | Meet the design specifications. |  |

\*Overall Facility Score = Worst Score from all Defect Items Noted.

\*\*Scores: 0 = OK, 1 = Monitor, 2 = Routine Maintenance, 3 = Immediate Repair Necessary

Property Address: Property Lessee:

Treatment Measure No.: Date of Inspection: Type of Inspection:  Monthly  Pre-Wet Season

  After heavy runoff  End of Wet Season

Inspector(s): Overall Facility Score\*:  Other:

| **Defect** | **Conditions When Maintenance Is Needed** | **Maintenance****Score\*\*** | **Comments (Describe maintenance completed and if needed maintenance was not conducted, note when it will be done)** | **Maintenance Frequency** | **Results Expected When Maintenance Is Performed** | **Date Complete / Initial** |
| --- | --- | --- | --- | --- | --- | --- |
| 1. Sediment, trash, and debris accumulation | Sediment, trash, and debris accumulated in the pervious pavement valley gutter and downstream catch basin. Pavement does not drain as specified. |  |  |  | Sediment, trash, and debris removed from pervious pavement and catch basin and disposed of properly. Pavement drains per design specifications. |  |
| 2. Standing water | Pervious Pavement does not drain within three days after rainfall. |  |  |  | Clogs removed from pervious pavement. Pavement drains per design specifications. |  |
| 3. Sediment | Evidence of sedimentation in Pervious Pavement. |  |  |  | Material removed so that there is no clogging or blockage. Material is disposed of properly. |  |
| 4. Mosquitoes | Evidence of mosquito larvae in Pervious Pavement. |  |  |  | Clogs removed from pervious pavement. Pavement drains per design specifications. |  |
| 5. Miscellaneous | Any condition not covered above that needs attention in order for the non-proprietary media filter to function as designed. |  |  |  | Meet the design specifications. |  |

\*Overall Facility Score = Worst Score from all Defect Items Noted.

\*\*Scores: 0 = OK, 1 = Monitor, 2 = Routine Maintenance, 3 = Immediate Repair Necessary.

Property Lessee: Property Address:

Date of Inspection: Type of Inspection:  Monthly  Pre-Wet Season

  After heavy runoff  End of Wet Season

System Type:

Installer/Contractor: Overall Facility Score\*:

Manufacturer: Inspector(s):

| **Defect** | **Conditions When Maintenance Is Needed** | **Maintenance****Score\*\*** | **Comments (Describe maintenance completed and if needed maintenance was not conducted, note when it will be done)** | **Maintenance Frequency** | **Results Expected When Maintenance Is Performed** |
| --- | --- | --- | --- | --- | --- |
| 1. Sediment, trash, and debris accumulation on Filter  | Sediment, trash, and debris accumulated in the sedimentation basin, riser pipe, retention pipes and filter bed. Filter does not drain as specified.  |  |  |  | Sediment, trash, and debris removed from sedimentation basin, riser pipe and filter bed and disposed of properly. Filter drains per design specifications. Empty cartridge should be reassembled and reinstalled.  |
| 2. Standing water | Manufactured treatment measure does not drain within five days after rainfall. |  |  |  | Clogs removed from filters, sedimentation basin, riser pipe and filter bed. Filter drains per design specifications.  |
| 3. Mosquitoes | Evidence of mosquito larvae in manufactured treatment measure. |  |  |  | Clogs removed from sedimentation basin, riser pipe and filter bed. Filter drains per design specifications.  |
| 4. Miscellaneous | Any condition not covered above that needs attention in order for the manufactured treatment measure to function as designed. |  |  |  | Meet the design specifications. |

\*Overall Facility Score = Worst Score from all Defect Items Noted.

\*\*Scores: 0 = OK, 1 = Monitor, 2 = Routine Maintenance, 3 = Immediate Repair Necessary.

Property Address: Property Lessee:

Treatment Measure No.: Date of Inspection: Type of Inspection:  Monthly  Pre-Wet Season

  After heavy runoff  End of Wet Season

Inspector(s): Overall Facility Score\*:  Other:

| **Defect** | **Conditions When Maintenance Is Needed** | **MaintenanceScore\*\*** | **Comments (Describe maintenance completed and if needed maintenance was not conducted, note when it will be done)** | **Maintenance Frequency** | **Results Expected When Maintenance Is Performed** | **Date Complete / Initial** |
| --- | --- | --- | --- | --- | --- | --- |
| 1. Vegetation  | Vegetation is dead, diseased, and/or overgrown. |  |  |  | Vegetation is healthy and attractive in appearance. |  |
| 2. Planting Mix | Planting mix too deep or too shallow. |  |  |  | Planting mix is at proper depth for optimum filtration and flow.  |  |
| 3. Mulch | Mulch is missing or patchy in appearance. Areas of bare earth are exposed, or mulch layer is less than 3 inches in depth.  |  |  |  | All bare earth is covered, except mulch is kept 6 inches away from trunks of trees and shrubs. Mulch is even in appearance, at a depth of 3 inches.  |  |
| 4. Trash and Debris Accumulation | Trash and debris accumulated in the tree well filter. Filter does not drain as specified.  |  |  |  | Trash and debris removed from tree well filter and disposed of properly. Filter drains per design specifications.  |  |
| 5. Sediment | Evidence of sedimentation in tree well filter.  |  |  |  | Material removed so that there is no clogging or blockage. Sediment is disposed of properly.  |  |
| 6. Standing Water | When water stands in the tree well filter between storms and does not drain within five days after rainfall. |  |  |  | There should be no areas of standing water once inflow has ceased. Any of the following may apply: sediment or trash blockages removed; overflow pipe repaired. |  |
| 7. Overflow Pipe | Does not safely convey excess flows to storm drain. Piping damaged or disconnected.  |  |  |  | Overflow pipe conveys excess flow to storm drain efficiently.  |  |
| 8. Miscellaneous | Any condition not covered above that needs attention in order for the tree well filter to function as designed. |  |  |  | Meet the design specifications. |  |

\*Overall Facility Score = Worst Score from all Defect Items Noted.

\*\*Scores: 0 = OK, 1 = Monitor, 2 = Routine Maintenance, 3 = Immediate Repair Necessary.

Property Address: Property Lessee:

Treatment Measure No.: Date of Inspection: Type of Inspection:  Monthly  Pre-Wet Season

  After heavy runoff  End of Wet Season

Inspector(s): Overall Facility Score\*:  Other:

| **Defect** | **Conditions When Maintenance Is Needed** | **Maintenance****Score\*\*** | **Comments (Describe maintenance completed and if needed maintenance was not conducted, note when it will be done)** | **Maintenance****Frequency** | **Results Expected When Maintenance Is Performed** | **Date Complete / Initial** |
| --- | --- | --- | --- | --- | --- | --- |
| Sediment Accumulation on Vegetation | Sediment accumulating near culverts and/or in channels builds up to 75 millimeters (3 inches) at any spot, or it covers vegetation |  |  |  | When finished, swale should be level from side to side and drain freely toward outlet. There should be no areas of standing water once inflow has ceased and sediment is disposed of properly. |  |
| Standing Water | When water stands in the swale between storms and does not drain within 5 days after rainfall. |  |  |  | There should be no areas of standing water once inflow has ceased. Any of the following may apply: sediment or trash blockages removed, improved grade from head to foot of swale, removed clogged check dams, added underdrains, or converted to a wet swale. |  |
| Flow spreader (if any) | Flow spreader uneven or clogged so that flows are not uniformly distributed through entire swale width. |  |  |  | Spreader leveled and cleaned so that flows are spread evenly over entire swale width. |  |
| Constant Baseflow | When small quantities of water continually flow through the swale, even when it has been dry for weeks, and an eroded, muddy channel has formed in the swale bottom. |  |  |  | No eroded, muddy channel on the bottom. A low-flow pea-gravel drain may be added the length of the swale. |  |
| Poor Vegetation Coverage | When planted vegetation is sparse or bare or eroded patches occur in more than 10% of the swale bottom.  |  |  |  | Vegetation coverage in more than 90% of the swale bottom. Determine why growth of planted vegetation is poor and correct that condition. Re-plant with plugs of vegetation from the upper slope: plant in the swale bottom at 8-inch intervals, or re-seed into loosened, fertile soil. |  |
| Vegetation | When the planted vegetation becomes excessively tall; when nuisance weeds and other vegetation start to take over. |  |  |  | Vegetation mowed per specifications or maintenance plan, or nuisance vegetation removed so that flow is not impeded. Vegetation should never be mowed lower than the design flow depth. Remove clippings from the swale and dispose appropriately.  |  |
| Excessive Shading | Growth of planted vegetation is poor because sunlight does not reach swale. |  |  |  | Healthy growth of planted vegetation. If possible, trim back over-hanging limbs and remove brushy vegetation on adjacent slopes. |  |
| Inlet/Outlet | Inlet/outlet areas clogged with sediment and/or debris. |  |  |  | Material removed so that there is no clogging or blockage in the inlet and outlet areas. |  |
| Trash and Debris Accumulation | Trash and debris accumulated in the swale. |  |  |  | Trash and debris removed from swale. |  |
| Erosion/ Scouring | Eroded or scoured swale bottom due to flow channelization, or higher flows. |  |  |  | No erosion or scouring in swale bottom. For ruts or bare areas less than 12 inches wide, repair the damaged area by filling with crushed gravel. If bare areas are large, generally greater than 12 inches wide, the swale should be re-graded and re-seeded. For smaller bare areas, overseed when bare spots are evident, or take plugs of grass from the upper slope and plant in the swale bottom at 8-inch intervals. |  |
| Miscellaneous | Any condition not covered above that needs attention in order for the vegetated swale to function as designed. |  |  |  | Meet the design specifications. |  |

\*Overall Facility Score = Worst Score from all Defect Items Noted.

\*\*Scores: 0 = OK, 1 = Monitor, 2 = Routine Maintenance, 3 = Immediate Repair Necessary.

Property Address: Property Lessee:

Treatment Measure No.: Date of Inspection: Type of Inspection:  Monthly  Pre-Wet Season

  After heavy runoff  End of Wet Season

Inspector(s): Overall Facility Score\*:  Other:

| **Defect** | **Conditions When Maintenance Is Needed** | **Maintenance****Score\*\*** | **Comments (Describe maintenance completed and if any needed maintenance was not conducted, note when it will be done.)** | **Maintenance Frequency** | **Results Expected When Maintenance Is Performed** |
| --- | --- | --- | --- | --- | --- |
| **General** |  |  |  |  |
| Trash & Debris | Trash and debris accumulated in basin at a minimum of once prior to October 1st, once around Feb 1st, and once May 15th.Visual evidence of dumping. |  |  |  | Trash and debris cleared from site and disposed of properly. |
| Poisonous Vegetation and noxious weeds | Poisonous or nuisance vegetation or noxious weeds, e.g., morning glory, English ivy, reed canary grass, Japanese knotweed, purple loosestrife, blackberry, Scotch broom, poison oak, stinging nettles, or devil’s club. |  |  |  | Use Integrated Pest Management techniques to control noxious weeds or invasive species. |
| Contaminants and Pollution | Any evidence of oil, gasoline, contaminants, or other pollutants. |  |  |  | No contaminants or pollutants present. |
| Rodent Holes | If facility acts as a dam or berm, any evidence of rodent holes, or any evidence of water piping through dam or berm via rodent holes. |  |  |  | The design specifications are not compromised by holes. Any rodent control activities are in accordance with applicable laws and do not affect any protected species.  |
| Insects | Insects such as wasps and hornets interfere with maintenance activities.Mosquitoes and other vectorsWhere permitted by CA DFG, or other agency regulations, stock regularly with mosquito fish (Gambusia spp.) to enhance natural mosquito and midge control.Maintain vegetation to assist Gambusia spp. movements to control mosquitoes, as well as to provide access for vector inspectors.Maintain emergent and perimeter shoreline vegetation as well as site and road access to facilitate vector surveillance and control activities. |  |  |  | Insects do not interfere with maintenance activities.No mosquitoes or other vectors present in unusual abundance. |
| Tree/Brush Growth and Hazard Trees | Growth does not allow maintenance access or interferes with maintenance activity.Vegetation harvesting should occur preferably between June to September (CASCA TC-20)Dead, diseased, or dying trees. |  |  |  | Trees do not hinder maintenance activities. Remove hazard trees as approved by the Port. (Use a certified Arborist to determine health of tree or removal requirements). |
| Drainage time | Standing water remains in basin more than five days. |  |  |  | Correct any circumstances that restrict the flow of water from the system. Restore drainage to design condition. If the problem cannot be corrected and problems with standing water recur, then mosquitoes should be controlled with larvicides, applied by a licensed pesticide applicator. |
| Outfall structure | Debris or silt build-up obstructs an outfall structure. |  |  |  | Remove debris and/or silt build-up and dispose of properly. |
| **Side Slopes** |  |  |  |  |
| Erosion | Eroded over 2 in. deep where cause of damage is still present or where there is potential for continued erosion.Any erosion on a compacted berm embankment. |  |  |  | Cause of erosion is managed appropriately. Side slopes or berm are restored to design specifications, as needed.  |
| **Storage Area** |  |  |  |  |
| Sediment | Remove accumulated sediment in the forebay and regrade about every 5-7 years or when the accumulated sediment volume exceeds 10 percent of the basin volume. Sediment removal may not be required in the main pool area for as long as 20 years. |  |  |  | Sediment cleaned out to designed basin shape and depth; basin reseeded if necessary to control erosion. Sediment disposed of properly. |
| Liner (If Applicable) | Liner is visible and has more than three 1/4-inch holes in it. |  |  |  | Liner repaired or replaced. Liner is fully covered. |
| **Emergency Overflow/ Spillway and Berms** |  |  |  |  |
| Settlement | Berm settlement 4 inches lower than the design elevation.  |  |  |  | Dike is built back to the design elevation. |
| Tree Growth | Tree growth on berms or emergency spillway >4 ft in height or covering more than 10% of spillway.  |  |  |  | Trees should be removed. If root system is small (base less than 4 inches) the root system may be left in place. Otherwise, the roots should be removed and the berm restored. A civil engineer should be consulted for proper berm/spillway restoration.  |
| Emergency Overflow/ Spillway | Rock is missing and soil is exposed at top of spillway or outside slope. |  |  |  | Rocks and pad depth are restored to design standards. |
| **Debris Barriers** (*e.g.,* Trash Racks) |  |  |  |  |
| Trash and Debris | Trash or debris is plugging openings in the barrier. |  |  |  | Trash or debris is removed and disposed of properly. |
| Damaged/ Missing Bars | Bars are missing, loose, bent out of shape, or deteriorating due to excessive rust. |  |  |  | Bars are repaired or replaced to allow proper functioning of trash rack. |
| Inlet/Outlet Pipe | Debris barrier is missing or not attached to pipe. |  |  |  | Debris barrier is repaired or replaced to allow proper functioning of trash rack. |
| **Fencing and Gates** |  |  |  |  |
| Missing or broken parts | Any defect in or damage to the fence or gate that permits easy entry to a facility. |  |  |  | Fencing and gate are restored to design specifications. |
| Deteriorating Paint or Protective Coating | Part or parts that have a rusting or scaling condition that has affected structural adequacy. |  |  |  | Paint or protective coating is sufficient to protect structural adequacy of fence or gate. |
| **Flow Duration Control Outlet** (if included in design to meet Hydromodification Management Standard) [[==refer to any attachments with additional provisions==]] |
| Risers, orifices, and screens | Any debris or clogging |  |  |  | Restore unobstructed flow through discharge structure; to meet original design; dispose of debris properly. |
| **Miscellaneous** |  |  |  |  |
| Miscellaneous | Any condition not covered above that needs attention to restore extended detention basin to design conditions. |  |  |  | Meets the design specifications. |

\*Overall Facility Score = Worst Score from all Defect Items Noted.

\*\*Scores: 0 = OK, 1 = Monitor, 2 = Routine Maintenance, 3 = Immediate Repair Necessary.

ATTACHMENT 9 - SERVICE AGREEMENT

Include any maintenance agreements between the lessee and their maintenance employees associated with this property (e.g., service agreement with hired contractors to perform stormwater treatment control BMP maintenance).

ATTACHMENT 10 - ANNUAL VERIFICATION OF INSPECTION AND MAINTENANCE REPORTING FORM

Stormwater quality management Plan Reporting Form
Annual Inspection and Maintenance of Treatment Control BMPs
(Side A)

Responsible Party for Inspection Maintenance: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date: \_\_\_\_\_\_\_\_\_\_\_\_\_ Print Name/Title

Facility Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

| **BMP Type** | **Location****Lat/Lon****or Inlet #** | **Date of Construction** | **Inspection Date(s)** | **Condition of BMPIndicate whether the BMP is present and in working condition, requires cleaning or replacement.** | **\*Maintenance required? (Y/N)****If yes, complete reverse side.** |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |
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|  |  |  |  |  |  |

\* Maintenance is to be carried out as needed and in accordance with the Port approved Operation and Maintenance Plan.

**A copy of this inspection report must be provided to the Port’s Environmental Protection by May 31st of each year. Submissions can be made via email, fax or through regular mail. For assistance completing this form, contact Port Environmental Protection at (619) 686-6254.**

STormwater Quality management Plan Reporting Form
Annual Inspection and Maintenance of Treatment Control BMPs
(Side B)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **BMP Type** | **BMP Location****(lat/lon or Inlet #)** | **Date of Maintenance Activity** | **Description of maintenance performed** | **If applicable, describe any additional work required.** |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

\* Maintenance is to be carried out as needed and in accordance with the Port approved Operation and Maintenance Plan.

**A copy of this inspection report must be provided to the Port’s Environmental Protection by May 31st of each year. Submissions can be made via email, fax or through regular mail. For assistance completing this form, contact Port Environmental Protection at (619) 686-6254.**

ATTACHMENT 11 - PORT OF SAN DIEGO O&M AGREEMENT

Applicable to the Stormwater Quality Management Plan for
 Project.

This Stormwater Quality Management Plan (SWQMP) Access and Maintenance Acknowledgement form is applicable to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_leasehold in order to meet a condition of the Coastal Development Permit or project approval issued for the\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(Project). The SWQMP was prepared to satisfy the conditions of the San Diego County Municipal Stormwater Permit Order No. R9-2015-0001 (Municipal Permit) and the San Diego Unified Port District (Port) Best Management Practices Design Manual, dated May 2024.

As directed in the Municipal Permit and required by the Port’s Stormwater Management and Discharge Control Ordinance (Article 10 of the San Diego Unified Port District Code), Sections 10.06 and 10.07, the tenant/Project proponent must verify on an annual basis that all structural stormwater treatment control BMPs are being maintained and inspected as described in the Project SWQMP approved by the Port. This verification will be accomplished by the tenant/Project proponent through inspections and the submittal of an annual written verification of effective operation and maintenance of each approved treatment control BMP. Annual verification must be completed prior to each wet season (October 1 to April 30). The tenant/Project proponent shall document all maintenance requirements and activities and shall retain these records for at least five (5) years. These documents shall be made available to the Port upon request.

Further, the Port maintains the right to access tenant properties as part of lease provisions. This right extends to any required access related to structural treatment control BMPs for inspection.

I, (tenant/Project proponent), acknowledge the above stated responsibilities of maintenance and maintaining access to the structural treatment control BMPs contained in the SWQMP dated \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_for the Project.

Furthermore, the following individual will be responsible for correspondence, on-going maintenance, and inspection of the post-construction BMPs at the Project site:

Name:

Title:

Phone:

Address:

1. The fueling area shall be defined as the area extending a minimum of 6.5 feet from the corner of each fuel dispenser or the length at which the hose and nozzle assembly may be operated plus a minimum of one foot, whichever is greater. [↑](#footnote-ref-2)
2. As-built drawings must be included after construction is complete. [↑](#footnote-ref-3)