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AUDITOR, Pierce County, WASHINGTON

After recording return to:

City Clerk
City of Puyallup 333 South Meridian
Puyallup, WA 98371

STORMWATER MANAGEMENT/BMP FACILITIES AGREEMENT

THIS AGREEMENT, made and entered into this 6th day of June, 2022, by and between Puyallup School District, called the "Landowner", and City of Puyallup, WA hereinafter called the "City".

WHEREAS, the Landowner is the owner of certain real property described as Pierce County Tax Parcel No. 0419043117, located at 1501 39th Avenue SW, Puyallup, Washington 98373, hereinafter called the "Property"; and

WHEREAS, the Landowner is proceeding to build on and develop the property; and

WHEREAS, the Site Plan known as Puyallup School District Kessler Center, hereinafter called the "Plan", which is expressly made a part hereof, as approved or to be approved by the City, provides for detention/retention and/or treatment of stormwater within the confines of the property; and

WHEREAS, the City and the Landowner, its successors and assigns, agree that the health, safety, and welfare of the residents of the City of Puyallup, WA, require that on-site stormwater management/BMP facilities ("Stormwater Facilities") be constructed and maintained on the Property; and

WHEREAS, the City requires that Stormwater Facilities as shown on the Plan be constructed and adequately maintained by the Landowner, its successors and assigns.

NOW, THEREFORE, in consideration of the foregoing premises, the mutual covenants contained herein, and the following terms and conditions, the parties hereto agree as follows:

1. The Stormwater Facilities shall be constructed by the Landowner, its agents, successors and assigns, in accordance with the plans and specifications identified in the Plan.
2. The Landowner, its agents, successors and assigns shall adequately maintain the Stormwater Facilities as described in the Maintenance and Operations Manual attached hereto as Exhibit A. This includes all pipes and channels built to convey stormwater to the facilities, as well as all structures, improvements, and vegetation provided to control the quantity and quality of the stormwater. Adequate maintenance is herein defined as good working condition so that these

facilities are performing their design functions. The Annual Inspection Report, in a form prescribed by the City, shall be used to establish what good working condition is acceptable to the City.

3. The Landowner, its agents, successors and assigns, shall regularly inspect the Stormwater Facilities and shall submit an inspection report not less than annually. The purpose of the inspection(s) is to assure safe and proper functioning of the Stormwater Facilities. The Annual Inspection Report form is attached hereto as Exhibit B. The inspection shall cover the entire Stormwater Facilities, including but not limited to berms, outlet structure, pond areas, access roads, etc. Deficiencies shall be noted by Landowner in the inspection report.
4. Upon advance notice to Landowner as described herein, the Landowner, its successors and assigns, hereby grants permission to the City, its authorized agents and employees, to enter upon the Property and to inspect the Stormwater Facilities whenever the City deems necessary. The purpose of a City-conducted inspection is to follow-up on reported deficiencies, to respond to citizen complaints, and/or to assure proper operation and function of Landowner's Stormwater Facilities. Except in case of emergency, the City shall provide Landowner with at least forty-eight (48) hours written notice prior to entering on to the Property. Landowner shall be entitled to have its representative accompany the City during such inspection. The City shall provide the Landowner, its successors and assigns, with copies of inspection findings and any directive to commence with the repairs if found to be necessary.
5. In the event the Landowner, its successors and assigns, fails to maintain the Stormwater Facilities in good working condition reasonably acceptable to the City consistent with the Plan, Annual Inspection Report, and accepted engineering standards, the City shall notify the Landowner in writing following identification of maintenance requirements or deficiencies. The City shall allow 60 days from date of written notification for Landowner to correct deficiencies and complete required maintenance or submit an acceptable deficiency correction and maintenance plan, at the Landowner's sole expense. In the event that the Landowner does not correct deficiencies and complete required maintenance or submit an acceptable deficiency correction and maintenance plan within the allotted time, the City may enter upon the Property and take whatever steps the City deems necessary to correct deficiencies identified in the report and to charge the reasonable costs of such repairs to the Landowners. Provided, however, in the event of an emergency situation relating to the Stormwater Facilities, the City may enter upon the Property without notice and the City shall take whatever steps are reasonably necessary to correct such emergency situation subject to the right of reimbursement by the City from the Landowner and subject to the right of objection by the Landowner. An "emergency situation" shall be a condition or state of facts which if not immediately corrected would result in material damage to the City's Municipal Separate Storm Sewer System (MS4), an illicit discharge to the MS4, or in personal injury or property damage. The provisions herein shall not be construed to allow the City to erect any structure of permanent nature on the land of the Landowner outside of the easement for or area of the Stormwater Facilities. It is expressly understood and agreed that the City is under no obligation to routinely maintain or repair said

Stormwater Facilities, and in no event shall this Agreement be construed to impose any such obligation on the City.

6. The Landowner, its successors and assigns, will perform the work necessary to keep these facilities in good working order as appropriate. In the event a maintenance schedule for the Stormwater Facilities (including sediment removal) is outlined on the approved plans, the schedule will be followed.
7. In the event the City pursuant to this Agreement, performs work of any nature, or expends any funds in performance of said work for labor, use of equipment, supplies, materials, and the like pursuant to this Agreement, the Landowner, its successors and assigns, shall reimburse the City upon demand, within thirty (30) days of receipt thereof for all actual costs incurred by the City.
8. Landowner agrees to hold the City harmless from liability arising from or related to the Landowner's design, construction, maintenance, repair or revisions to the Stormwater Facilities, its obligations under this Agreement, or any failure of the Stormwater Facilities to operate properly. However, the City shall be liable for any claims, actions, demands, injuries, or damages to person or property arising from or relating to any negligence of the City relating to or arising from its own actions, but nothing herein shall require the District to hold the City harmless for any liability attributable to the negligence of the City arising from its own actions.
9. This Agreement shall be recorded among the land records of Pierce County, WA, and shall constitute a covenant running with the land, and shall be binding on the Landowner, its executors, assigns, heirs and any other successors in interests.

WITNESS the following signatures and seals:

CITY OF PUYALLUP

Ken Cook

Signature

Ken Cook Development Eng. Manager
Print Name & Title

STATE OF WASHINGTON)
COUNTY OF *Pierce*) ss

On this day of *June 21*, 20*22*, before me, the undersigned, a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared *Ken cook*

to me, known to be the *Development Eng Mgr* of *City of Puyallup*, the municipal corporation that executed the foregoing instrument and acknowledged the said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that *he* is authorized to execute the said instrument and that the seal affixed is the corporate seal of said municipal corporation.

Witness under my hand and official seal this day of *20 June 21, 2022*.

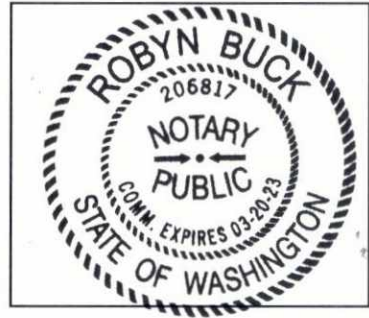
[Signature]
Signature

Robyn Buck
Type or Print Notary Name

Notary Public in and for the State of Washington, residing at

Puyallup, WA

3-20-2023
My commission expires



Use this space for Notary Seal Stamp

EXHIBIT A

(Operations and Maintenance Manual - Stormwater BMPs)

**Puyallup School District
Kessler Center**

**Operation & Maintenance
Manual**

Prepared for:

BCRA Design
2106 Pacific Avenue, Suite 300
Tacoma, WA 98402
Contact: Jim Wolch, RA
Phone: (253) 627-4367
Email: JWolch@bcradesign.com

Owner:

Puyallup School District
323 12th Street NW
Puyallup, WA 98371
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Phone: (253) 435-6673
Email: gerstlf@puyallup.k12.wa.us

Prepared by:

Sitts & Hill Engineers, Inc.
4815 Center Street
Tacoma, Washington 98409
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Phone: (253) 474-9449
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Date: Revised May 2022
December 2019

S&H Job Number 18,328

**Puyallup School District
Kessler Center**

Operation & Maintenance Manual

Prepared for:

BCRA Design
2106 Pacific Avenue, Suite 300
Tacoma, WA 98402
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TABLE OF CONTENTS

1.0 – Purpose.....	1
2.0 – Permanent Facilities Description.....	1
3.0 – Discussion of Maintenance	2
4.0 – Maintenance Frequency	2
5.0 – Annual Cost Estimate	3
Plans.....	4-12
Maintenance Log.....	13-14
Maintenance Guidance Sheets.....	15-66

1.0 – PURPOSE

The purpose of this Manual is to provide guidelines for maintaining the permanent on-site storm drainage system constructed as a part of the Puyallup School District Kessler Center Project. These improvements are located at 1501 39th Avenue SW, Puyallup, WA 98373.

Storm drainage system improvements include:

- o Infiltration Facility
- o Type 1 and 2 Catch Basins
- o Storm Drain Piping
- o Roof Drain Piping
- o Bioretention Facility
- o Dispersion Trench Facilities
- o Landscaping.

Each portion of the storm drainage system shall be maintained in good working condition for the entire stormwater system to function properly.

Operations and Maintenance will be the responsibility of the Owner, Puyallup School District. Mr. Philip Anderson is the maintenance contact person at Puyallup School District. His information is:

Mr. Philip Anderson
Director of Maintenance
323 12th Street NW
Puyallup, Washington 98371
Phone: (253) 841-8777

2.0 – PERMANENT FACILITIES DESCRIPTION

In the proposed condition, stormwater runoff from the Kessler Center project pollution generating surfaces (i.e., parking lots) will be collected via catch basins and conveyed via storm piping to a bioretention facility for treatment and then to an infiltration trench for disposal. Runoff from non-pollution generating surfaces (i.e., building roof runoff) will bypass the bioretention facility and be conveyed directly to the infiltration trench for disposal. Both the bioretention and infiltration systems are located in the southwestern portion of the site. Maps of the stormwater system are enclosed herein.

In the proposed condition, stormwater runoff from the Summit Building project non-pollution generating surfaces (building roof runoff) is collected via roof gutters and conveyed via roof drain pipelines directly to a dispersion trench facility for disposal. No stormwater pretreatment is required. Maps of the stormwater system are enclosed herein.

3.0 – DISCUSSION OF MAINTENANCE

Any buildup of sediment, debris, vegetation, or trash may adversely affect the site stormwater system performance. Maintenance is required to keep the stormwater system performing well. The following facilities require maintenance:

- General care to prevent oil, petroleum and contaminated pollutant spills shall be cleaned up properly and from entering the stormwater system.
- General Site Landscape maintenance.
- Infiltration Trench.
- Catch basin structures.
- Debris barriers-trash racks.
- Energy Dissipators-Rip Rap apron pads.
- Bioretention Facilities.
- Dispersion Trench.
- Conveyance Pipelines.

Sediment deposits, debris and trash on paved surfaces should be swept or mechanically removed in order to prevent sediment or debris from entering the drainage system. Sediment removal must be disposed of at an approved site.

Applicable maintenance checklists and excerpts from the 2014 DOE Manual have been included with this O&M Manual for review during routine maintenance inspections.

4.0 – MAINTENANCE FREQUENCY

Following construction of the project, all facilities shall be inspected and maintained according to their respective maintenance checklists included at the end of this manual. One form should be filled out for each facility on-site. It is recommended that the maintenance checklists be kept in a log book or binder on-site for documentation and review purposes.

Facilities will be inspected monthly, annually, or after every significant storm event where the precipitation is greater than or equal to one inch in 24 hours.

When deficiencies are noted, the problems are to be corrected as soon as possible. Any spill of hazardous material (e.g., fuel, lubricant, herbicide, etc.) shall be cleaned up immediately and reported to the Division of Emergency Management (1-800-258-5990). Contaminated material will be disposed of properly.

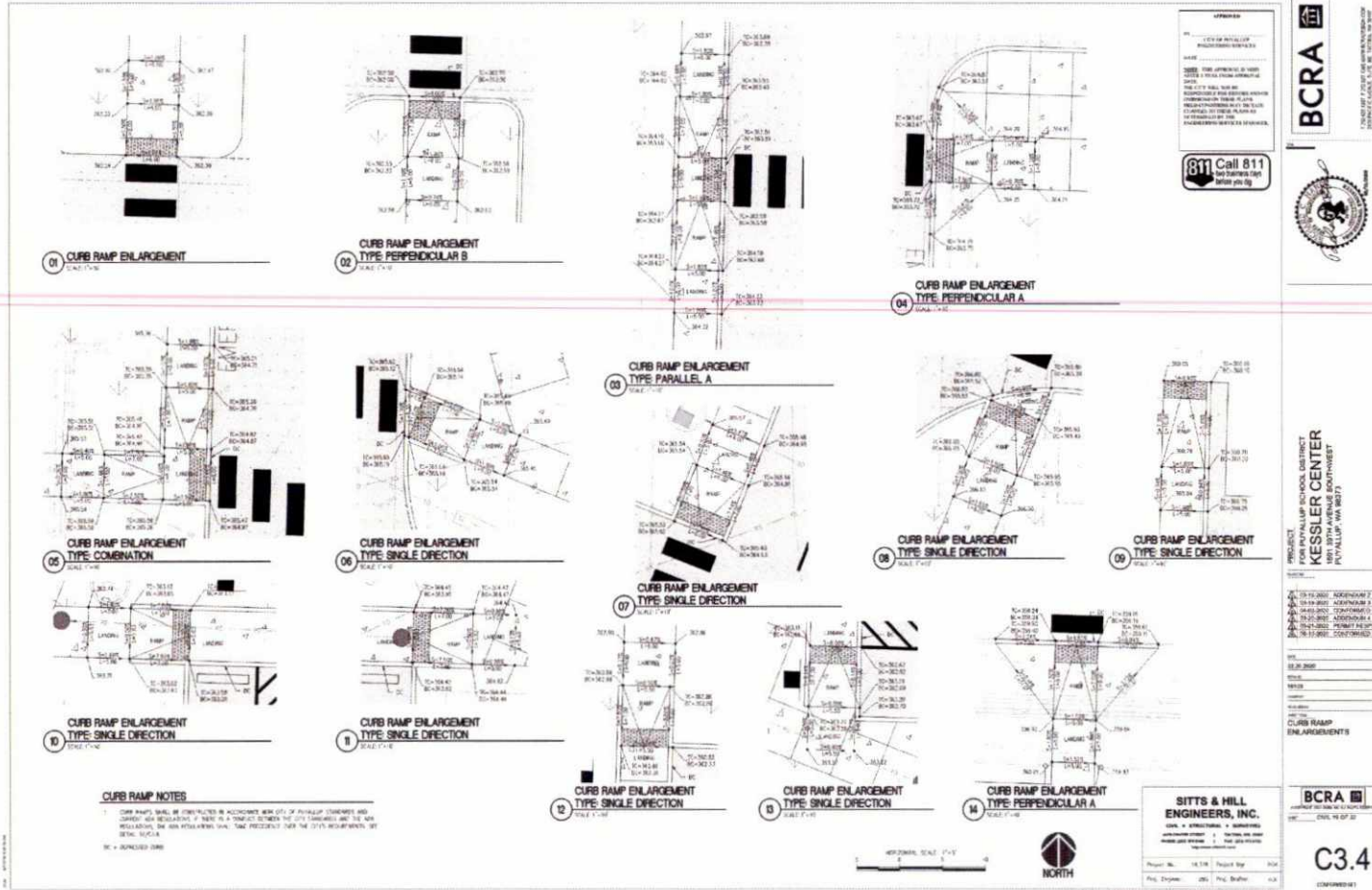
Any questions about the existence of a problem should be directed to a Professional Engineer.

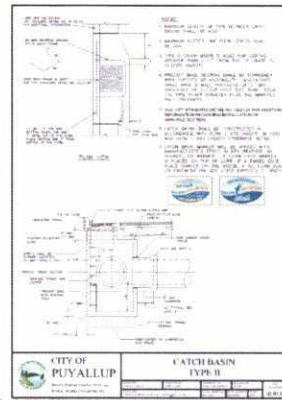
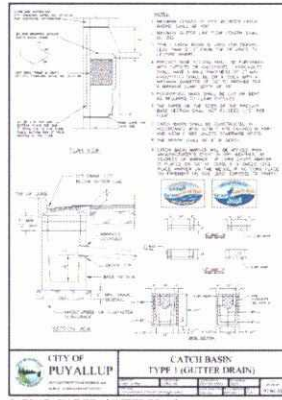
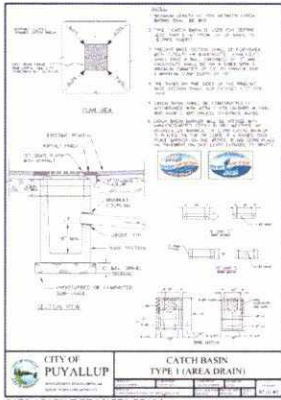
5.0 – ANNUAL COST ESTIMATE

Annual maintenance costs for the Kessler Center and Summit Building storm systems are estimated below. Approximate annual costs for these tasks are tabulated in the table below. All maintenance activities will be the responsibility of Puyallup School District upon occupation of the facility.

Facility	BMP Number	Quantity	Unit Cost	Total Cost
General Source Control BMP's	1	1	\$200	\$200
BMP's for Spills and Hazardous Substances	2			\$0
Landscaping	3	1	\$2,000	\$2,000
Infiltration Trench	4	952 LF	\$1	\$1,000
Catch Basins	5	24	\$200	\$4,800
Debris Barriers-Trash Racks	6	2	\$500	\$100
Energy Dissipator-Rip Rap Pad	7	2	\$50	\$100
Bioretention	8	1	\$2,000	\$2,000
Summit Building Dispersion Trench	9	1	\$500	\$500
Project Conveyance Pipelines	10	1	\$500	\$500
Total Cost				\$11,200

See the following pages for plan sheets showing facilities to be maintained.





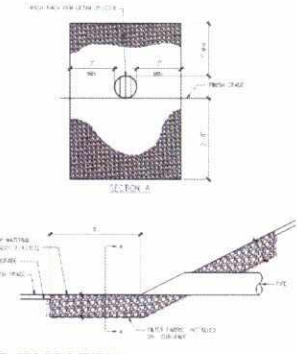
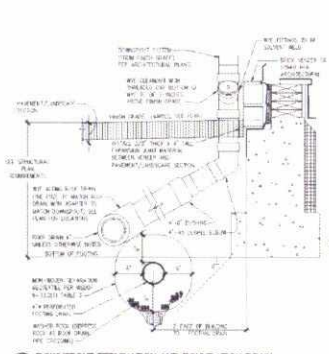
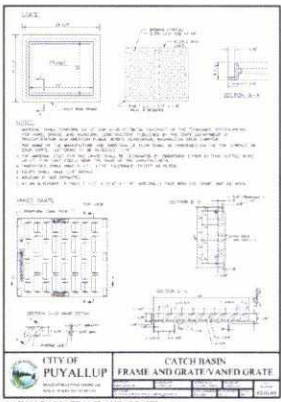
811 Call 811
NO SURFING
before you dig



PROJECT:
FOR PUYALLUP SCHOOL DISTRICT
KESSLER CENTER
100 SOUTH AVENUE SOUTH STREET
PUYALLUP, WASHINGTON

CATCH BASIN SIGNAGE NOTES

1. FIELD INSTALLER TO PROVIDE CLEAR SIGNAGE TO BE INSTALLED AT THE BASIN.
2. INSTALLER TO PROVIDE SIGNAGE TO BE INSTALLED AT THE BASIN.



SITTS & HILL ENGINEERS, INC.
1000 10TH AVENUE S.W.
TACOMA, WA 98402
PH: 253-871-1111
WWW.SITTSANDHILL.COM

BCRA
BUSINESS AND COMMUNITY RESOURCE AGENCY
1000 10TH AVENUE S.W.
TACOMA, WA 98402
PH: 253-871-1111

C3.7
COMPLETED

Cover Sheet for Maintenance Log

Name of Inspector:	_____
Date of Inspection:	_____
Number of Sheets Attached:	_____
Inspector's Signature:	_____

General Source Control BMP's

IV-2.1 Applicable (Mandatory) Operational Source Control BMPs

Sites & facilities that require the implementation of source control BMPs

Where required by local code or by an Ecology NPDES Stormwater General Permit, implement the following operational source control BMPs at:

- Commercial properties
- Industrial properties
- Multifamily properties
- Boatyards
- Sand and gravel mining operations

Formation of a Pollution Prevention Team

Assign one or more individuals to be responsible for stormwater pollution control. Hold regular meetings to review the overall operation of the BMPs. Establish responsibilities for inspections, operation, maintenance, and for emergencies. Train all team members in the operation, maintenance, and inspections of BMPs, and reporting procedures.

Good Housekeeping

- Promptly contain and clean up solid and liquid pollutant leaks and spills including oils, solvents, fuels, and dust from manufacturing operations on any exposed soil, vegetation, or paved area.
- Sweep all appropriate surfaces with vacuum sweepers quarterly or more frequently as needed for the collection and disposal of dust and debris that could contaminate stormwater.
- Do not hose down pollutants from any area to the ground, storm drains, conveyance ditches, or receiving water unless necessary for dust control purposes to

*2014 Stormwater Management Manual for Western Washington
Volume IV - Chapter 2 - Page 614*

meet air quality regulations. Convey pollutants before discharge, to a treatment system approved by the local jurisdiction.

- Clean oils, debris, sludge, etc. from all stormwater facilities regularly, including catch basins, settling/detention basins, oil/water separators, boomed areas, and conveyance systems to prevent the contamination of stormwater. Refer to [Appendix IV-D: Regulatory Requirements That Impact Stormwater Programs \(p.723\)](#) R.3 for references to assist in handling potentially dangerous waste.
- Promptly repair or replace all substantially cracked or otherwise damaged paved secondary containment, high-intensity parking, and any other drainage areas, subjected to pollutant material leaks or spills. Promptly repair or replace all leaking connections, pipes, hoses, valves, etc., which can contaminate stormwater.
- Do not connect floor drains in potential pollutant source areas to storm drains, surface water, or to the ground.

Additional good housekeeping BMPs:

- Clean up pollutant liquid leaks and spills in impervious uncovered containment areas at the end of each working day.
- Use solid absorbents, e.g., clay and peat absorbents and rags for cleanup of liquid spills/leaks, where practicable.
- Promptly repair/replace/reseal damaged paved areas at industrial facilities
- Recycle materials, such as oils, solvents, and wood waste, to the maximum extent practicable.

Preventive Maintenance

- Prevent the discharge of unpermitted liquid or solid wastes, process wastewater, and sewage to ground or surface water, or to storm drains that discharge to surface water, or to the ground. Conduct all oily parts cleaning, steam cleaning, or pressure washing of equipment or containers inside a building, or on an impervious contained area, such as a concrete pad. Direct contaminated stormwater from such an area to a sanitary sewer where allowed by local sewer authority, or to other approved treatment.
- Pressure wash impervious surfaces contaminated with oils, metals, sediment, etc. Collect the resulting washwater for proper disposal (usually involves plugging storm drains, or otherwise preventing discharge and pumping or vactoring up washwater, for discharge to sanitary sewer or for vactor truck transport to a waste water treatment plant for disposal).
- Do not pave over contaminated soil unless it has been determined that ground water has not been and will not be contaminated by the soil. Call Ecology for

assistance.

- Construct impervious areas that are compatible with the materials handled. Portland cement concrete, asphalt, or equivalent material may be considered.
- Use drip pans to collect leaks and spills from industrial/ commercial equipment such as cranes at ship/boat building and repair facilities, log stackers, industrial parts, trucks and other vehicles stored outside.
- At industrial and commercial facilities, drain oil and fuel filters before disposal. Discard empty oil and fuel filters, oily rags, and other oily solid waste into appropriately closed and properly labeled containers, and in compliance with the Uniform Fire Code or International Building Code.
- For the storage of liquids use containers, such as steel and plastic drums, that are rigid and durable, corrosion resistant to the weather and fluid content, non-absorbent, water tight, rodent-proof, and equipped with a close fitting cover.
- For the temporary storage of solid wastes contaminated with liquids or other potential polluted materials use dumpsters, garbage cans, drums, and comparable containers, which are durable, corrosion resistant, non-absorbent, non-leaking, and equipped with either a solid cover or screen cover to prevent littering. If covered with a screen, the container must be stored under a roof or other form of adequate cover.
- Where exposed to stormwater, use containers, piping, tubing, pumps, fittings, and valves that are appropriate for their intended use and for the contained liquid.

Additional preventive maintenance BMPs:

- Where feasible, store potential stormwater pollutant materials inside a building or under a cover and/or containment.
- Minimize use of toxic cleaning solvents, such as chlorinated solvents, and other toxic chemicals.
- Use environmentally safe raw materials, products, additives, etc. such as substitutes for zinc used in rubber production.
- Recycle waste materials such as solvents, coolants, oils, degreasers, and batteries to the maximum extent feasible. Refer to [Appendix IV-C: Recycling/Disposal of Vehicle Fluids/Other Wastes* \(p.721\)](#) for recommendations on recycling or disposal of vehicle waste liquids and other waste materials.
- Empty drip pans immediately after a spill or leak is collected in an uncovered area.
- Stencil warning signs at stormwater catch basins and drains, e.g., "Dump no waste – Drains to waterbody."

Note: Evidence of stormwater contamination by oils and grease can include the presence of visible sheen, color, or turbidity in the runoff, or present or historical operational problems at the facility. Operators can use simple pH tests, for example with litmus or pH paper. These tests can screen for high or low pH levels (anything outside a 6.5-8.5 range) due to contamination in stormwater.

Spill Prevention and Cleanup

- Stop, contain, and clean up all spills immediately upon discovery.
- If pollutant materials are stored on-site, have spill containment and cleanup kits readily accessible.
- If the spill has reached or may reach a sanitary or a storm sewer, ground water, or surface water notify the local jurisdiction, Ecology, and the local sewer authority immediately. Notification must comply with and federal spill reporting requirements. (See also record keeping at the end of this section and [S426 BMPs for Spills of Oil and Hazardous Substances \(p.666\)](#))
- Do not flush or otherwise direct absorbent materials or other spill cleanup materials to a storm drain. Collect the contaminated absorbent material as a solid and place in appropriate disposal containers.

Recommended additional BMP:

Place and maintain emergency spill containment and cleanup kit(s) at outside areas where there is a potential for fluid spills. These kits should be appropriate for the materials and the size of a potential spill. Locate spill kits within 25 feet of all fueling/fuel transfer areas, including on-board mobile fuel trucks.

Facilities covered under Industrial Stormwater General Permit must provide secondary containment for all chemical liquids, fluids, and petroleum products stored on-site.

Note: Ecology recommends that the kit(s) include salvage drums or containers, such as high density polyethylene, polypropylene or polyethylene sheet-lined steel; polyethylene or equivalent disposal bags; an emergency response guidebook; safety gloves/clothes/equipment; shovels or other soil removal equipment; and oil containment booms and absorbent pads; all stored in an impervious container.

Employee Training

Train all employees that work in pollutant source areas in:

- Identifying pollutant sources
- Understanding pollutant control measures
- Responding to spills

- Handling practices that are environmentally acceptable. Particularly those related to vehicle/equipment liquids such as fuels, and vehicle/equipment cleaning.

Inspections

Qualified personnel shall conduct visual inspections monthly. Make and maintain a record of each inspection on-site. Inspections shall:

- Verify the accuracy of the pollutant source descriptions in the SWPPP.
- Verify the performance of the stormwater operational and structural source controls and the treatment BMPs.
- Reflect current conditions on the site.
- Include written observations of the presence of floating materials, suspended solids, oil and grease, discoloration, turbidity and odor in the stormwater discharges; in outside vehicle maintenance/repair; and liquid handling, and storage areas. In areas where acid or alkaline materials are handled or stored use a simple litmus or pH paper to identify those types of stormwater contaminants where needed.
- Eliminate or obtain a permit for unpermitted non-stormwater discharges to storm drains or receiving waters, such as process wastewater and vehicle/equipment washwater.

Record keeping

Retain the following reports for five years:

- Visual inspection reports which should include:
 - Time and date of the inspection
 - Locations inspected
 - Statement on status of compliance with the permit
 - Summary report of any remediation activities required
 - Name, title, and signature of person conducting the inspection
- Reports on spills of oil or hazardous substances in greater than Reportable Quantities (Code of Federal Regulations Title 40 Parts 302.4 and 117). Report spills of the following: antifreeze, oil, gasoline, or diesel fuel, that cause:
 - A violation of the State of Washington's Water Quality Standards.
 - A film or sheen upon or discoloration of the waters of the State or adjoining shorelines.

- A sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines.
- To report a spill or to determine if a spill is a substance of a Reportable Quantity, call the Ecology regional office and ask for an oil spill operations or a dangerous waste specialist:

Northwest Region (425)649-7000

Southwest Region (360)407-6300

Eastern Region (509)329-3400

Central Region (509) 575-2490

In addition, call the Washington Emergency Management Division at 1-800-258-5990 or 1-800-OILS-911 AND the National Response Center at 1-800-424-8802.

Also, refer to *Emergency Spill Response in Washington State, Publication # 97-1165-CP*.

The following is additional recommended record keeping:

Maintain records of all related pollutant control and pollutant generating activities such as training, materials purchased, material use and disposal, maintenance performed, etc.

BMP's for Spills and Hazardous Substances

S426 BMPs for Spills of Oil and Hazardous Substances

Description of Pollutant Sources: Federal law requires owners or operators of facilities engaged in drilling, producing, gathering, storing, processing, transferring, distributing, refining, or consuming oil and/or oil products to have a Spill Prevention and Emergency Cleanup Plan (SPECP). The SPECP is required if the above ground storage capacity of the facility, is 1,320 gallons or more of oil. Additionally, the SPECP is required if any single container with a capacity in excess of 660 gallons and which, due to their location, could reasonably be expected to discharge oil in harmful quantities, as defined in 40 CFR Part 110, into or upon the navigable waters of the United States or adjoining shorelines {40 CFR 112.1 (b)}. Onshore and offshore facilities, which, due to their location, could not reasonably be expected to discharge oil into or upon the navigable waters of the United States or adjoining shorelines are exempt from these regulations {40 CFR 112.1(1)(i)}. State Law requires owners of businesses that produce dangerous wastes to have a SPECP. These businesses should refer to [Appendix IV-D: Regulatory Requirements That Impact Stormwater Programs \(p.723\)](#) R.6. The federal definition of oil is oil of any kind or any form, including, but not limited to petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil.

Pollutant Control Approach: Maintain, update, and implement a Spill Prevention and Emergency Cleanup Plan.

Applicable Operational BMPs: The businesses and public agencies identified in [Appendix IV-A: Urban Land Uses and Pollutant Generating Sources \(p.695\)](#) required to prepare and implement a Spill Prevention and Emergency Cleanup Plan shall implement the following:

- Prepare a Spill Prevention and Emergency Cleanup Plan (SPECP), which includes:
 - A description of the facility including the owner's name and address.
 - The nature of the activity at the facility.

2014 Stormwater Management Manual for Western Washington

Volume IV - Chapter 2 - Page 666

- The general types of chemicals used or stored at the facility.
 - A site plan showing the location of storage areas for chemicals, the locations of storm drains, the areas draining to them, and the location and description of any devices to stop spills from leaving the site such as positive control valves.
 - Cleanup procedures.
 - Notification procedures used in the event of a spill, such as notifying key personnel. Agencies such as Ecology, local fire department, Washington State Patrol, and the local Sewer Authority, shall be notified.
 - The name of the designated person with overall spill cleanup and notification responsibility.
- Train key personnel in the implementation of the SPEC. Prepare a summary of the plan and post it at appropriate points in the building, identifying the spill cleanup coordinators, location of cleanup kits, and phone numbers of regulatory agencies to contact in the event of a spill.
 - Update the SPEC regularly.
 - Immediately notify Ecology, the local jurisdiction, and the local Sewer Authority if a spill may reach sanitary or storm sewers, ground water, or surface water, in accordance with federal and Ecology spill reporting requirements.
 - Immediately clean up spills. Do not use emulsifiers for cleanup unless there is an appropriate disposal method for the resulting oily wastewater. Do not wash absorbent material down a floor drain or into a storm sewer.
 - Locate emergency spill containment and cleanup kit(s) in high-potential spill areas. The contents of the kit shall be appropriate for the type and quantities of chemical liquids stored at the facility.

Recommended Additional Operational BMP: Spill kits should include appropriately lined drums, absorbent pads, and granular or powdered materials for neutralizing acids or alkaline liquids where applicable. In fueling areas: Package absorbent material in small bags for easy use and make available small drums for storage of absorbent and/or used absorbent. Deploy spill kits in a manner that allows rapid access and use by employees.

R.6 Washington State/Federal Emergency Spill Cleanup Requirements

Washington State Requirements:

The Oil and Hazardous Substance Spills Act of 1990 and the Oil Spill Prevention and Response Act of 1991 ([Chapter 90.56 RCW](#)) authorized Ecology to develop effective oil spill response regulations.

The Facility Contingency Plan and response Contractor Standards (Chapter 173-182 WAC):

This Ecology regulation applies to all oil handling facilities (including pipelines) that are on or near navigable waters and transfer bulk oil by tank, ship, or pipeline. It contains the following elements:

- Standards for contingency plan content
- Procedures to determine the adequacy of contingency plans
- Requirements for periodic review
- Standards for cleanup and containment contractors

The Oil Handling Training and Certification Rule ([Chapter 173-180 WAC](#)) establishes oil spill training and certification requirements for key facility personnel including applicable contractors involved in oil handling, transfer, storage, and monitoring operations.

In accordance with [WAC 173-303-350](#) of Ecology's Dangerous Waste Regulations, generators of dangerous wastes must have a Contingency Plan that includes:

- Actions to be taken in the event of spill
- Descriptions of arrangements with local agencies
- The name of the owner's Emergency Coordinator
- A list of emergency equipment available
- An evaluation plan for business personnel

For more information on disposal requirements for solid and dangerous wastes, see *Step By Step: Fact Sheets for Hazardous Waste Generators*, publication #91-12, available from Ecology's Regional Offices.

Federal Requirements:

The Oil Pollution Act of 1990 is a comprehensive federal law that addresses marine oil spill issues including contingency plans, financial responsibility, marine safety regulations, etc.

Spill Prevention Control and Countermeasure (SPCC) Plans:

Federal Regulations require that owners or operators of facilities engaged in drilling, producing, gathering, storing, processing, refining, transferring, or consuming oil and oil products are required to have a Spill Prevention and Control Plan (SPCC), provided that the facility is non-transportation related; and, that the above-ground storage of a single container is in excess of 660 gallons, or an aggregate capacity greater than 1,320 gallons, or a total below-ground capacity in excess of 42,000 gallons. The Plan must:

- Be well thought out in accordance with good engineering;
- Achieve three objectives - prevent spills, contain a spill that occurs, and clean up the spill;
- Identify the name, location, owner, and type of facility;
- Include the date of initial operation and oil spill history;
- Name the designated person responsible;
- Show evidence of approval and certification by the person in authority; and
- Contain a facility analysis.

Landscaping

S411 BMPs for Landscaping and Lawn/ Vegetation Management

Description of Pollutant Sources: Landscaping can include grading, soil transfer, vegetation removal, pesticide and fertilizer applications, and watering. Stormwater contaminants include toxic organic compounds, heavy metals, oils, total suspended solids, coliform bacteria, fertilizers, and pesticides.

Lawn and vegetation management can include control of objectionable weeds, insects, mold, bacteria, and other pests with pesticides. Examples include weed control on golf course lawns, access roads, and utility corridors and during landscaping; sap stain and insect control on lumber and logs; rooftop moss removal; killing nuisance rodents; fungicide application to patio decks, and residential lawn/plant care. It is possible to release toxic pesticides such as pentachlorophenol, carbamates, and organometallics to the environment by leaching and dripping from treated parts, container leaks, product misuse, and outside storage of pesticide contaminated materials and equipment. Poor management of the vegetation and poor application of pesticides or fertilizers can cause appreciable stormwater contamination.

Pollutant Control Approach: Control of fertilizer and pesticide applications, soil erosion, and site debris to prevent contamination of stormwater.

Develop and implement an Integrated Pest Management Plan (IPM) and use pesticides only as a last resort. Carefully apply pesticides/ herbicides, in accordance with label instructions. Maintain appropriate vegetation, with proper fertilizer application where practicable, to control erosion and the discharge of stormwater pollutants. Where practicable grow plant species appropriate for the site, or adjust the soil properties of the subject site to grow desired plant species.

Applicable Operational BMPs for Landscaping:

- Install engineered soil/landscape systems to improve the infiltration and regulation of stormwater in landscaped areas.
- Do not dispose of collected vegetation into waterways or storm sewer systems.

Recommended Additional Operational BMPs for Landscaping:

- Conduct mulch-mowing whenever practicable
- Dispose of grass clippings, leaves, sticks, or other collected vegetation, by composting, if feasible.
- Use mulch or other erosion control measures on soils exposed for more than one week during the dry season or two days during the rainy season.
- Store and maintain appropriate oil and chemical spill cleanup materials in readily

accessible locations when using oil or other chemicals. Ensure that employees are familiar with proper spill cleanup procedures.

- Till fertilizers into the soil rather than dumping or broadcasting onto the surface. Determine the proper fertilizer application rate for the types of soil and vegetation encountered.
- Till a topsoil mix or composted organic material into the soil to create a well-mixed transition layer that encourages deeper root systems and drought-resistant plants.
- Use manual and/or mechanical methods of vegetation removal rather than applying herbicides, where practical.

Applicable Operational BMPs for the Use of Pesticides:

- Develop and implement an IPM (See section on IPM in Applicable Operational BMPs for Vegetation Management) and use pesticides only as a last resort.
- Implement a pesticide-use plan and include at a minimum: a list of selected pesticides and their specific uses; brands, formulations, application methods and quantities to be used; equipment use and maintenance procedures; safety, storage, and disposal methods; and monitoring, record keeping, and public notice procedures. All procedures shall conform to the requirements of [Chapter 17.21 RCW](#) and [Chapter 16-228 WAC \(Appendix IV-D: Regulatory Requirements That Impact Stormwater Programs \(p.723\) R.7\)](#).
- Choose the least toxic pesticide available that is capable of reducing the infestation to acceptable levels. The pesticide should readily degrade in the environment and/or have properties that strongly bind it to the soil. Conduct any pest control activity at the life stage when the pest is most vulnerable. For example, if it is necessary to use a *Bacillus thuringiensis* application to control tent caterpillars, apply it to the material before the caterpillars cocoon or it will be ineffective. Any method used should be site-specific and not used wholesale over a wide area.
- Apply the pesticide according to label directions. Do not apply pesticides in quantities that exceed manufacturer's instructions.
- Mix the pesticides and clean the application equipment in an area where accidental spills will not enter surface or ground waters, and will not contaminate the soil.
- Store pesticides in enclosed areas or in covered impervious containment. Do not discharge pesticide contaminated stormwater or spills/leaks of pesticides to storm sewers. Do not hose down the paved areas to a storm sewer or conveyance ditch. Store and maintain appropriate spill cleanup materials in a location known to all near the storage area.
- Clean up any spilled pesticides. Keep pesticide contaminated waste materials in

designated covered and contained areas.

- The pesticide application equipment must be capable of immediate shutoff in the event of an emergency.
- Spraying pesticides within 100 feet of open waters including wetlands, ponds, and rivers, streams, creeks, sloughs and any drainage ditch or channel that leads to open water may have additional regulatory requirements beyond just following the pesticide product label. Additional requirements may include:
 - Obtaining a discharge permit from Ecology.
 - Obtaining a permit from the local jurisdiction.
 - Using an aquatic labeled pesticide.
- Flag all sensitive areas including wells, creeks, and wetlands prior to spraying.
- Post notices and delineate the spray area prior to the application, as required by the local jurisdiction or by Ecology.
- Conduct spray applications during weather conditions as specified in the label direction and applicable local and state regulations. Do not apply during rain or immediately before expected rain.

Recommended Additional Operational BMPs for the use of pesticides:

- Consider alternatives to the use of pesticides such as covering or harvesting weeds, substitute vegetative growth, and manual weed control/moss removal.
- Consider the use of soil amendments, such as compost, that are known to control some common diseases in plants, such as Pythium root rot, ashy stem blight, and parasitic nematodes. The following are three possible mechanisms for disease control by compost addition (USEPA Publication 530-F-9-044):
 1. Successful competition for nutrients by antibiotic production;
 2. Successful predation against pathogens by beneficial microorganism; and
 3. Activation of disease-resistant genes in plants by composts.

Installing an amended soil/landscape system can preserve both the plant system and the soil system more effectively. This type of approach provides a soil/landscape system with adequate depth, permeability, and organic matter to sustain itself and continue working as an effective stormwater infiltration system and a sustainable nutrient cycle.

- Once a pesticide is applied, evaluate its effectiveness for possible improvement. Records should be kept showing the effectiveness of the pesticides considered.
- Develop an annual evaluation procedure including a review of the effectiveness of

pesticide applications, impact on buffers and sensitive areas (including potable wells), public concerns, and recent toxicological information on pesticides used/proposed for use. If individual or public potable wells are located in the proximity of commercial pesticide applications, contact the regional Ecology hydrogeologist to determine if additional pesticide application control measures are necessary.

- Rinseate from equipment cleaning and/or triple-rinsing of pesticide containers should be used as product or recycled into product.

For more information, contact the Washington State University (WSU) Extension Home-Assist Program, (253) 445-4556, or Bio-Integral Resource Center (BIRC), P.O. Box 7414, Berkeley, CA.94707, or EPA to obtain a publication entitled "Suspended, Canceled, and Restricted Pesticides" which lists all restricted pesticides and the specific uses that are allowed.

Applicable Operational BMPs for Vegetation Management:

- Use at least an eight-inch "topsoil" layer with at least 8 percent organic matter to provide a sufficient vegetation-growing medium. Amending existing landscapes and turf systems by increasing the percent organic matter and depth of topsoil can substantially improve the permeability of the soil, the disease and drought resistance of the vegetation, and reduce fertilizer demand. This reduces the demand for fertilizers, herbicides, and pesticides. Organic matter is the least water-soluble form of nutrients that can be added to the soil. Composted organic matter generally releases only between 2 and 10 percent of its total nitrogen annually, and this release corresponds closely to the plant growth cycle. Return natural plant debris and mulch to the soil, to continue recycling nutrients indefinitely.
- Select the appropriate turfgrass mixture for the climate and soil type. Certain tall fescues and rye grasses resist insect attack because the symbiotic endophytic fungi found naturally in their tissues repel or kill common leaf and stem-eating lawn insects. However, they do not, repel root-feeding lawn pests such as Crane Fly larvae, and are toxic to ruminants such as cattle and sheep. The fungus causes no known adverse effects to the host plant or to humans. Endophytic grasses are commercially available; use them in areas such as parks or golf courses where grazing does not occur. Local agricultural or gardening resources such as Washington State University Extension office can offer advice on which types of grass are best suited to the area and soil type.
- Use the following seeding and planting BMPs, or equivalent BMPs to obtain information on grass mixtures, temporary and permanent seeding procedures, maintenance of a recently planted area, and fertilizer application rates: [BMP C120: Temporary and Permanent Seeding \(p.278\)](#), [BMP C121: Mulching \(p.284\)](#), [BMP C123: Plastic Covering \(p.294\)](#), and [BMP C124: Sodding \(p.296\)](#).
- Adjusting the soil properties of the subject site can assist in selection of desired

plant species. For example, design a constructed wetland to resist the invasion of reed canary grass by layering specific strata of organic matters (e.g., composted forest product residuals) and creating a mildly acidic pH and carbon-rich soil medium. Consult a soil restoration specialist for site-specific conditions.

- Aerate lawns regularly in areas of heavy use where the soil tends to become compacted. Conduct aeration while the grasses in the lawn are growing most vigorously. Remove layers of thatch greater than ¼-inch deep.
- Mowing is a stress-creating activity for turfgrass. Grass decreases its productivity when mown too short and there is less growth of roots and rhizomes. The turf becomes less tolerant of environmental stresses, more disease prone and more reliant on outside means such as pesticides, fertilizers, and irrigation to remain healthy. Set the mowing height at the highest acceptable level and mow at times and intervals designed to minimize stress on the turf. Generally mowing only 1/3 of the grass blade height will prevent stressing the turf.

Irrigation:

- The depth from which a plant normally extracts water depends on the rooting depth of the plant. Appropriately irrigated lawn grasses normally root in the top 6 to 12 inches of soil; lawns irrigated on a daily basis often root only in the top 1 inch of soil. Improper irrigation can encourage pest problems, leach nutrients, and make a lawn completely dependent on artificial watering. The amount of water applied depends on the normal rooting depth of the turfgrass species used, the available water holding capacity of the soil, and the efficiency of the irrigation system. Consult with the local water utility, Conservation District, or Cooperative Extension office to help determine optimum irrigation practices.

Fertilizer Management:

- Turfgrass is most responsive to nitrogen fertilization, followed by potassium and phosphorus. Fertilization needs vary by site depending on plant, soil, and climatic conditions. Evaluation of soil nutrient levels through regular testing ensures the best possible efficiency and economy of fertilization. For details on soils testing, contact the local Conservation District, a soils testing professional, or a Washington State University Extension office.
- Apply fertilizers in amounts appropriate for the target vegetation and at the time of year that minimizes losses to surface and ground waters. Do not fertilize when the soil is dry. Alternatively, do not apply fertilizers within three days prior to predicted rainfall. The longer the period between fertilizer application and either rainfall or irrigation, the less fertilizer runoff occurs.
- Use slow release fertilizers such as methylene urea, IDBU, or resin coated fertilizers when appropriate, generally in the spring. Use of slow release fertilizers is especially important in areas with sandy or gravelly soils.

- Time the fertilizer application to periods of maximum plant uptake. Ecology generally recommends application in the fall and spring, although Washington State University turf specialists recommend four fertilizer applications per year.
- Properly trained persons should apply all fertilizers. Apply no fertilizer at commercial and industrial facilities, to grass swales, filter strips, or buffer areas that drain to sensitive water bodies unless approved by the local jurisdiction.

Integrated Pest Management

An IPM program might consist of the following steps:

Step 1: Correctly identify problem pests and understand their life cycle

Step 2: Establish tolerance thresholds for pests.

Step 3: Monitor to detect and prevent pest problems.

Step 4: Modify the maintenance program to promote healthy plants and discourage pests.

Step 5: Use cultural, physical, mechanical or biological controls first if pests exceed the tolerance thresholds.

Step 6: Evaluate and record the effectiveness of the control and modify maintenance practices to support lawn or landscape recovery and prevent recurrence.

For an elaboration of these steps, refer to [Appendix IV-F: Example of an Integrated Pest Management Program \(p.739\)](#).

V-4.6 Maintenance Standards for Drainage Facilities

The facility-specific maintenance standards contained in this section are intended to be conditions for determining if maintenance actions are required as identified through inspection. They are not intended to be measures of the facility's required condition at all times between inspections. In other words, exceedence of these conditions at any time between inspections and/or maintenance does not automatically constitute a violation of these standards. However, based upon inspection observations, the inspection and maintenance schedules shall be adjusted to minimize the length of time that a facility is in a condition that requires a maintenance action.

Infiltration

Maintenance Component	Defect	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
General Annually	Settlement Located Over Trench	Potential subsidence or settlement of soils or pavement dips over the trench orientation.	<p>If the settlement or subsidence is minor, repair surfacing conditions.</p> <p>If the settlement or subsidence is significant, contact Engineer for an assessment.</p>
General Annually After Major Storm Events	Catch Basin Inspections	Catch Basins 201-209: Look for water levels and sediment debris before, during and after significant rainfall events.	<p>Remove debris and sediments, barks, trash and debris that collect in the sumps. These must not enter the infiltration pipe system.</p> <p>In the event that stormwater drains out very slow from these basins (greater than 24 hours), retain Flow Hawks or another company that can jet the pipelines to remove collected sediments and debris. TV the pipelines before and after the jetting work is complete to demonstrate</p>

			pipeline cleanliness.
	Contaminants and Pollutants	Look for oil pollutants, contaminants or other pollutants.	Coordinate, Remove and Cleanup in accordance with local response agencies.

Table V-4.5.2(5) Maintenance Standards - Catch Basins

Maintenance Component	Defect	Conditions When Maintenance is Needed	Results Expected When Maintenance is performed
General	Trash & Debris	<p>Trash or debris which is located immediately in front of the catch basin opening or is blocking inletting capacity of the basin by more than 10%.</p> <p>Trash or debris (in the basin) that exceeds 60 percent of the sump depth as measured from the bottom of basin to invert of the lowest pipe into or out of the basin, but in no case less than a minimum of six inches clearance from the debris surface to the invert of the lowest pipe.</p> <p>Trash or debris in any inlet or outlet pipe blocking more than 1/3 of its height.</p> <p>Dead animals or vegetation that could generate odors that could cause complaints or dangerous gases (e.g., methane).</p>	<p>No Trash or debris located immediately in front of catch basin or on grate opening.</p> <p>No trash or debris in the catch basin.</p> <p>Inlet and outlet pipes free of trash or debris.</p> <p>No dead animals or vegetation present within the catch basin.</p>
	Sediment	Sediment (in the basin) that exceeds 60 percent of the sump depth as measured from the bottom of basin to invert of the lowest pipe into or out of the basin, but in no case less than a minimum of 6 inches clearance from the sediment surface to the invert of the lowest pipe.	No sediment in the catch basin
	Structure Damage to Frame and/or Top Slab	Top slab has holes larger than 2 square inches or cracks wider than 1/4 inch. (Intent is to make sure no material is running into basin).	Top slab is free of holes and cracks. Frame is sit-

Table V-4.5.2(5) Maintenance Standards - Catch Basins (continued)

Maintenance Component	Defect	Conditions When Maintenance is Needed	Results Expected When Maintenance is performed
		Frame not sitting flush on top slab, i.e., separation of more than 3/4 inch of the frame from the top slab. Frame not securely attached	ting flush on the riser rings or top slab and firmly attached.
	Fractures or Cracks in Basin Walls/ Bottom	Maintenance person judges that structure is unsound. Grout fillet has separated or cracked wider than 1/2 inch and longer than 1 foot at the joint of any inlet/outlet pipe or any evidence of soil particles entering catch basin through cracks.	Basin replaced or repaired to design standards. Pipe is regouted and secure at basin wall.
	Settlement/ Misalignment	If failure of basin has created a safety, function, or design problem.	Basin replaced or repaired to design standards.
	Vegetation	Vegetation growing across and blocking more than 10% of the basin opening. Vegetation growing in inlet/outlet pipe joints that is more than six inches tall and less than six inches apart.	No vegetation blocking opening to basin. No vegetation or root growth present.
	Contamination and Pollution	See "Detention Ponds" (No. 1).	No pollution present.
Catch Basin Cover	Cover Not in Place	Cover is missing or only partially in place. Any open catch basin requires maintenance.	Catch basin cover is closed
	Locking Mechanism Not	Mechanism cannot be opened by one maintenance person with proper tools. Bolts into	Mechanism opens with

Table V-4.5.2(5) Maintenance Standards - Catch Basins (continued)

Maintenance Component	Defect	Conditions When Maintenance is Needed	Results Expected When Maintenance is performed
	Working	frame have less than 1/2 inch of thread.	proper tools.
	Cover Difficult to Remove	One maintenance person cannot remove lid after applying normal lifting pressure. (Intent is keep cover from sealing off access to maintenance.)	Cover can be removed by one maintenance person.
Ladder	Ladder Rungs Unsafe	Ladder is unsafe due to missing rungs, not securely attached to basin wall, misalignment, rust, cracks, or sharp edges.	Ladder meets design standards and allows maintenance person safe access.
Metal Grates (If Applicable)	Grate opening Unsafe	Grate with opening wider than 7/8 inch.	Grate opening meets design standards.
	Trash and Debris	Trash and debris that is blocking more than 20% of grate surface inletting capacity.	Grate free of trash and debris.
	Damaged or Missing.	Grate missing or broken member(s) of the grate.	Grate is in place and meets design standards.

Table V-4.5.2(6) Maintenance Standards - Debris Barriers (e.g., Trash Racks)

Maintenance Components	Defect	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
General	Trash and Debris	Trash or debris that is plugging more than 20% of the openings in the barrier.	Barrier cleared to design flow capacity.
Metal	Damaged/ Missing	Bars are bent out of shape more than 3 inches.	Bars in place with no bends more than 3/4

Table V-4.5.2(6) Maintenance Standards - Debris Barriers (e.g., Trash Racks) (continued)

Maintenance Components	Defect	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
	Bars.	Bars are missing or entire barrier missing. Bars are loose and rust is causing 50% deterioration to any part of barrier.	inch. Bars in place according to design. Barrier replaced or repaired to design standards.
	Inlet/Outlet Pipe	Debris barrier missing or not attached to pipe	Barrier firmly attached to pipe

Table V-4.5.2(7) Maintenance Standards - Energy Dissipaters

Maintenance Components	Defect	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
External:			
Rock Pad	Missing or Moved Rock	Only one layer of rock exists above native soil in area five square feet or larger, or any exposure of native soil.	Rock pad replaced to design standards.
	Erosion	Soil erosion in or adjacent to rock pad.	Rock pad replaced to design standards.
Dispersion Trench	Pipe Plugged with Sediment	Accumulated sediment that exceeds 20% of the design depth.	Pipe cleaned/flushed so that it matches design.
	Not Discharging Water Properly	Visual evidence of water discharging at concentrated points along trench (normal condition is a "sheet flow" of water along trench). Intent is to prevent erosion damage.	Trench redesigned or rebuilt to standards.
	Perforations Plugged.	Over 1/2 of perforations in pipe are plugged with debris and sediment.	Perforated pipe cleaned or replaced.

**Table V-4.5.2(7) Maintenance Standards - Energy Dissipaters
(continued)**

Maintenance Components	Defect	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
	Water Flows Out Top of "Distributor" Catch Basin.	Maintenance person observes or receives credible report of water flowing out during any storm less than the design storm or its causing or appears likely to cause damage.	Facility rebuilt or redesigned to standards.
	Receiving Area Over-Saturated	Water in receiving area is causing or has potential of causing landslide problems.	No danger of landslides.
Internal:			
Manhole/Chamber	Worn or Damaged Post, Baffles, Side of Chamber	Structure dissipating flow deteriorates to 1/2 of original size or any concentrated worn spot exceeding one square foot which would make structure unsound.	Structure replaced to design standards.
	Other Defects	See "Catch Basins" (No. 5).	See "Catch Basins" (No. 5).

Table V-4.5.2(21) Maintenance Standards - Bioretention Facilities

Maintenance Component	Recommended Frequency ^a		Condition when Maintenance is Needed (Standards)	Action Needed (Procedures)
	Inspection	Routine Maintenance		
Facility Footprint				
Earthen side slopes and berms	B, S		Erosion (gullies/rills) greater than 2 inches deep around inlets, outlet, and alongside slopes	<ul style="list-style-type: none"> Eliminate cause of erosion and stabilize damaged area (regrade, rock, vegetation, erosion control matting) For deep channels or cuts (over 3 inches in ponding)

2014 Stormwater Management Manual for Western Washington

Volume V - Chapter 4 - Page 862

^a Frequency: A = Annually; B = Biannually (twice per year); M = Monthly; W = At least one visit should occur during the wet season (for debris/clog related maintenance, this inspection/maintenance visit should occur in the early fall, after deciduous trees have lost their leaves); S = Perform inspections after major storm events (24-hour storm event with a 10-year or greater recurrence interval).

**Table V-4.5.2(21) Maintenance Standards - Bioretention Facilities
 (continued)**

Maintenance Component	Recommended Frequency ^a		Condition when Maintenance is Needed (Standards)	Action Needed (Procedures)
	Inspection	Routine Maintenance		
				<p>depth), temporary erosion control measures should be put in place until permanent repairs can be made.</p> <ul style="list-style-type: none"> • Properly designed, constructed and established facilities with appropriate flow velocities should not have erosion problems except perhaps in extreme events. If erosion problems persist, the following should be reassessed: (1) flow volumes from contributing areas and bioretention facility sizing; (2) flow velocities and gradients within the facility; and (3) flow dissipation and erosion protection strategies at the facility inlet.
	A		Erosion of sides causes slope to become a hazard	Take actions to eliminate the hazard and stabilize slopes
	A, S		Settlement greater than 3	Restore to design height

**Table V-4.5.2(21) Maintenance Standards - Bioretention Facilities
(continued)**

Maintenance Component	Recommended Frequency ^a		Condition when Maintenance is Needed (Standards)	Action Needed (Procedures)
	Inspection	Routine Maintenance		
			inches (relative to undisturbed sections of berm)	
	A, S		Downstream face of berm wet, seeps or leaks evident	Plug any holes and compact berm (may require consultation with engineer, particularly for larger berms)
	A		Any evidence of rodent holes or water piping in berm	<ul style="list-style-type: none"> Eradicate rodents (see "Pest control") Fill holes and compact (may require consultation with engineer, particularly for larger berms)
Concrete side-walls	A		Cracks or failure of concrete side-walls	<ul style="list-style-type: none"> Repair/ seal cracks Replace if repair is insufficient
Rockery side-walls	A		Rockery side-walls are insecure	Stabilize rockery side-walls (may require consultation with engineer, particularly for walls 4 feet or greater in height)
Facility area		All maintenance visits (at least biannually)	Trash and debris present	Clean out trash and debris
Facility bottom area	A, S		Accumulated sediment to extent that infiltration rate is	<ul style="list-style-type: none"> Remove excess sediment Replace any vegetation damaged or

**Table V-4.5.2(21) Maintenance Standards - Bioretention Facilities
(continued)**

Maintenance Component	Recommended Frequency ^a		Condition when Maintenance is Needed (Standards)	Action Needed (Procedures)
	Inspection	Routine Maintenance		
			reduced (see "Ponded water") or surface storage capacity significantly impacted	destroyed by sediment accumulation and removal <ul style="list-style-type: none"> • Mulch newly planted vegetation • Identify and control the sediment source (if feasible) • If accumulated sediment is recurrent, consider adding pre-settlement or installing berms to create a forebay at the inlet
		During/after fall leaf drop	Accumulated leaves in facility	Remove leaves if there is a risk to clogging outlet structure or water flow is impeded
Low permeability check dams and weirs	A, S		Sediment, vegetation, or debris accumulated at or blocking (or having the potential to block) check dam, flow control weir or orifice	Clear the blockage
	A, S		Erosion and/or undercutting present	Repair and take preventative measures to prevent future erosion and/or undercutting

**Table V-4.5.2(21) Maintenance Standards - Bioretention Facilities
 (continued)**

Maintenance Component	Recommended Frequency ^a		Condition when Maintenance is Needed (Standards)	Action Needed (Procedures)
	Inspection	Routine Maintenance		
	A		Grade board or top of weir damaged or not level	Restore to level position
Ponded water	B, S		Excessive ponding water: Water overflows during storms smaller than the design event or ponded water remains in the basin 48 hours or longer after the end of a storm.	<p>Determine cause and resolve in the following order:</p> <ol style="list-style-type: none"> 1. Confirm leaf or debris buildup in the bottom of the facility is not impeding infiltration. If necessary, remove leaf litter/debris. 2. Ensure that underdrain (if present) is not clogged. If necessary, clear underdrain. 3. Check for other water inputs (e.g., groundwater, illicit connections). 4. Verify that the facility is sized appropriately for the contributing area. Confirm that the contributing area has not increased. If steps #1-4 do not solve the problem,

**Table V-4.5.2(21) Maintenance Standards - Bioretention Facilities
 (continued)**

Maintenance Component	Recommended Frequency ^a		Condition when Maintenance is Needed (Standards)	Action Needed (Procedures)
	Inspection	Routine Maintenance		
				<p>the bioretention soil is likely clogged by sediment accumulation at the surface or has become overly compacted. Dig a small hole to observe soil profile and identify compaction depth or clogging front to help determine the soil depth to be removed or otherwise rehabilitated (e.g., tilled). Consultation with an engineer is recommended.</p>
Bioretention soil media	As needed		<p>Bioretention soil media protection is needed when performing maintenance requiring entrance into the facility footprint</p>	<ul style="list-style-type: none"> • Minimize all loading in the facility footprint (foot traffic and other loads) to the degree feasible in order to prevent compaction of bioretention soils. • Never drive equipment or apply heavy loads in facility footprint. • Because the risk of compaction is higher during saturated soil

**Table V-4.5.2(21) Maintenance Standards - Bioretention Facilities
(continued)**

Maintenance Component	Recommended Frequency ^a		Condition when Maintenance is Needed (Standards)	Action Needed (Procedures)
	Inspection	Routine Maintenance		
				conditions, any type of loading in the cell (including foot traffic) should be minimized during wet conditions. ¶ Consider measures to distribute loading if heavy foot traffic is required or equipment must be placed in facility. As an example, boards may be placed across soil to distribute loads and minimize compaction. ¶ If compaction occurs, soil must be loosened or otherwise rehabilitated to original design state.
Inlets/Outlets/Pipes				
Splash block inlet	A		Water is not being directed properly to the facility and away from the inlet structure	Reconfigure/ repair blocks to direct water to facility and away from structure
Curb cut inlet/outlet	M during the wet season and before severe storm	Weekly during fall leaf drop	Accumulated leaves at curb cuts	Clear leaves (particularly important for key inlets and low points along long, linear facilities)

**Table V-4.5.2(21) Maintenance Standards - Bioretention Facilities
 (continued)**

Maintenance Component	Recommended Frequency ^a		Condition when Maintenance is Needed (Standards)	Action Needed (Procedures)
	Inspection	Routine Maintenance		
	is forecasted			
Pipe inlet/outlet	A		Pipe is damaged	Repair/ replace
	W		Pipe is clogged	Remove roots or debris
	A, S		Sediment, debris, trash, or mulch reducing capacity of inlet/outlet	<ul style="list-style-type: none"> • Clear the blockage • Identify the source of the blockage and take actions to prevent future blockages
		Weekly during fall leaf drop	Accumulated leaves at inlets/outlets	Clear leaves (particularly important for key inlets and low points along long, linear facilities)
			A	Maintain access for inspections
Erosion control at inlet	A		Concentrated flows are causing erosion	Maintain a cover of rock or cobbles or other erosion protection measure (e.g., matting) to protect the ground where concentrated water enters the facility (e.g., a pipe, curb

**Table V-4.5.2(21) Maintenance Standards - Bioretention Facilities
 (continued)**

Maintenance Component	Recommended Frequency ^a		Condition when Maintenance is Needed (Standards)	Action Needed (Procedures)
	Inspection	Routine Maintenance		
				cut or swale)
Trash rack	S		Trash or other debris present on trash rack	Remove/dispose
	A		Bar screen damaged or missing	Repair/replace
Overflow	A, S		Capacity reduced by sediment or debris	Remove sediment or debris/dispose
Underdrain pipe	Clean pipe as needed	Clean orifice at least biannually (may need more frequent cleaning during wet season)	<ul style="list-style-type: none"> Plant roots, sediment or debris reducing capacity of underdrain Prolonged surface ponding (see "Ponded water" 	<ul style="list-style-type: none"> Jet clean or rotary cut debris/roots from underdrain(s) If underdrains are equipped with a flow restrictor (e.g., orifice) to attenuate flows, the orifice must be cleaned regularly.
Vegetation				
Facility bottom area and upland slope vegetation	Fall and Spring		Vegetation survival rate falls below 75% within first two years of establishment (unless project O&M manual or record drawing stipulates more	<ul style="list-style-type: none"> Determine cause of poor vegetation growth and correct condition Replant as necessary to obtain 75% survival rate or greater. Refer to original planting plan, or approved jur-

**Table V-4.5.2(21) Maintenance Standards - Bioretention Facilities
 (continued)**

Maintenance Component	Recommended Frequency ^a		Condition when Maintenance is Needed (Standards)	Action Needed (Procedures)
	Inspection	Routine Maintenance		
			or less than 75% survival rate).	isdictional species list for appropriate plant replacements (See Appendix 3 - Bioretention Plant List, in the LID Technical Guidance Manual for Puget Sound). <ul style="list-style-type: none"> • Confirm that plant selection is appropriate for site growing conditions • Consultation with a landscape architect is recommended for removal, transplant, or substitution of plants
Vegetation (general)	As needed		Presence of diseased plants and plant material	<ul style="list-style-type: none"> • Remove any diseased plants or plant parts and dispose of in an approved location (e.g., commercial landfill) to avoid risk of spreading the disease to other plants • Disinfect gardening tools after pruning to prevent the spread of disease • See Pacific North-

**Table V-4.5.2(21) Maintenance Standards - Bioretention Facilities
 (continued)**

Maintenance Component	Recommended Frequency ^a		Condition when Maintenance is Needed (Standards)	Action Needed (Procedures)
	Inspection	Routine Maintenance		
				west Plant Disease Management Handbook for information on disease recognition and for additional resources <ul style="list-style-type: none"> • Replant as necessary according to recommendations provided for "facility bottom area and upland slope vegetation".
Trees and shrubs		All pruning seasons (timing varies by species)	Pruning as needed	<ul style="list-style-type: none"> • Prune trees and shrubs in a manner appropriate for each species. Pruning should be performed by landscape professionals familiar with proper pruning techniques • All pruning of mature trees should be performed by or under the direct guidance of an ISA certified arborist
	A		Large trees and shrubs interfere with operation of the facility or access for maintenance	<ul style="list-style-type: none"> • Prune trees and shrubs using most current ANSI A300 standards and ISA BMPs. • Remove trees and

**Table V-4.5.2(21) Maintenance Standards - Bioretention Facilities
 (continued)**

Maintenance Component	Recommended Frequency ^a		Condition when Maintenance is Needed (Standards)	Action Needed (Procedures)
	Inspection	Routine Maintenance		
				shrubs, if necessary.

**Table V-4.5.2(21) Maintenance Standards - Bioretention Facilities
 (continued)**

Maintenance Component	Recommended Frequency ^a		Condition when Maintenance is Needed (Standards)	Action Needed (Procedures)
	Inspection	Routine Maintenance		
	Fall and Spring		Standing dead vegetation is present	<ul style="list-style-type: none"> Remove standing dead vegetation Replace dead vegetation within 30 days of reported dead and dying plants (as practical depending on weather/planting season) If vegetation replacement is not feasible within 30 days, and absence of vegetation may result in erosion problems, temporary erosion control measures should be put in place immediately. Determine cause of dead vegetation and address issue, if possible If specific plants have a high mortality rate, assess the cause and replace with appropriate species. Consultation with a landscape architect is recommended.
	Fall and		Planting	<ul style="list-style-type: none"> When working

**Table V-4.5.2(21) Maintenance Standards - Bioretention Facilities
 (continued)**

Maintenance Component	Recommended Frequency ^a		Condition when Maintenance is Needed (Standards)	Action Needed (Procedures)
	Inspection	Routine Maintenance		
	Spring		beneath mature trees	<p>around and below mature trees, follow the most current ANSI A300 standards and ISA BMPs to the extent practicable (e.g., take care to minimize any damage to tree roots and avoid compaction of soil).</p> <ul style="list-style-type: none"> Planting of small shrubs or ground-covers beneath mature trees may be desirable in some cases; such plantings should use mainly plants that come as bulbs, bare root or in 4-inch pots; plants should be in no larger than 1-gallon containers.
	Fall and Spring		Presence of or need for stakes and guys (tree growth, maturation, and support needs)	<ul style="list-style-type: none"> Verify location of facility liners and underdrain (if any) prior to stake installation in order to prevent liner puncture or pipe damage Monitor tree support systems: Repair and adjust as needed to

**Table V-4.5.2(21) Maintenance Standards - Bioretention Facilities
 (continued)**

Maintenance Component	Recommended Frequency ^a		Condition when Maintenance is Needed (Standards)	Action Needed (Procedures)
	Inspection	Routine Maintenance		
Trees and shrubs adjacent to vehicle travel areas (or areas where visibility needs to be maintained)				<p>provide support and prevent damage to tree.</p> <ul style="list-style-type: none"> Remove tree supports (stakes, guys, etc.) after one growing season or maximum of 1 year. Backfill stake holes after removal.
	A		Vegetation causes some visibility (line of sight) or driver safety issues	<ul style="list-style-type: none"> Maintain appropriate height for sight clearance When continued, regular pruning (more than one time/ growing season) is required to maintain visual sight lines for safety or clearance along a walk or drive, consider relocating the plant to a more appropriate location. Remove or transplant if continual safety hazard Consultation with a landscape architect is recommended for removal, transplant, or substitution of

**Table V-4.5.2(21) Maintenance Standards - Bioretention Facilities
 (continued)**

Maintenance Component	Recommended Frequency ^a		Condition when Maintenance is Needed (Standards)	Action Needed (Procedures)
	Inspection	Routine Maintenance		
				plants
Flowering plants		A	Dead or spent flowers present	Remove spent flowers (deadhead)
Perennials		Fall	Spent plants	Cut back dying or dead and fallen foliage and stems
Emergent vegetation		Spring	Vegetation compromises conveyance	Hand rake sedges and rushes with a small rake or fingers to remove dead foliage before new growth emerges in spring or earlier only if the foliage is blocking water flow (sedges and rushes do not respond well to pruning)
Ornamental grasses (perennial)		Winter and Spring	Dead material from previous year's growing cycle or dead collapsed foliage	<ul style="list-style-type: none"> • Leave dry foliage for winter interest • Hand rake with a small rake or fingers to remove dead foliage back to within several inches from the soil before new growth emerges in spring or earlier if the foliage collapses and is blocking water flow
Ornamental grasses (evergreen)		Fall and Spring	Dead growth present in spring	<ul style="list-style-type: none"> • Hand rake with a small rake or fingers to remove dead growth before new growth emerges in spring

**Table V-4.5.2(21) Maintenance Standards - Bioretention Facilities
 (continued)**

Maintenance Component	Recommended Frequency ^a		Condition when Maintenance is Needed (Standards)	Action Needed (Procedures)
	Inspection	Routine Maintenance		
				<ul style="list-style-type: none"> • Clean, rake, and comb grasses when they become too tall • Cut back to ground or thin every 2-3 years as needed
Noxious weeds		M (March - October, preceding seed dispersal)	Listed noxious vegetation is present (refer to current county noxious weed list)	<ul style="list-style-type: none"> • By law, class A & B noxious weeds must be removed, bagged and disposed as garbage immediately • Reasonable attempts must be made to remove and dispose of class C noxious weeds • It is strongly encouraged that herbicides and pesticides not be used in order to protect water quality; use of herbicides and pesticides may be prohibited in some jurisdictions • Apply mulch after weed removal (see "Mulch")
Weeds		M (March - October, preceding seed dispersal)	Weeds are present	<ul style="list-style-type: none"> • Remove weeds with their roots manually with pincer-type weeding tools, flame

**Table V-4.5.2(21) Maintenance Standards - Bioretention Facilities
 (continued)**

Maintenance Component	Recommended Frequency ^a		Condition when Maintenance is Needed (Standards)	Action Needed (Procedures)
	Inspection	Routine Maintenance		
				weeders, or hot water weeders as appropriate <ul style="list-style-type: none"> Follow IPM protocols for weed management (see "Additional Maintenance Resources" section for more information on IPM protocols)
Excessive vegetation		Once in early to mid- May and once in early- to mid-September	Low-lying vegetation growing beyond facility edge onto sidewalks, paths, or street edge poses pedestrian safety hazard or may clog adjacent permeable pavement surfaces due to associated leaf litter, mulch, and soil	<ul style="list-style-type: none"> Edge or trim groundcovers and shrubs at facility edge Avoid mechanical blade-type edger and do not use edger or trimmer within 2 feet of tree trunks While some clippings can be left in the facility to replenish organic material in the soil, excessive leaf litter can cause surface soil clogging
	As needed		Excessive vegetation density inhibits stormwater flow beyond design ponding or	<ul style="list-style-type: none"> Determine whether pruning or other routine maintenance is adequate to maintain proper plant density and aesthetics

**Table V-4.5.2(21) Maintenance Standards - Bioretention Facilities
 (continued)**

Maintenance Component	Recommended Frequency ^a		Condition when Maintenance is Needed (Standards)	Action Needed (Procedures)
	Inspection	Routine Maintenance		
			becomes a hazard for pedestrian and vehicular circulation and safety	<ul style="list-style-type: none"> • Determine if planting type should be replaced to avoid ongoing maintenance issues (an aggressive grower under perfect growing conditions should be transplanted to a location where it will not impact flow) • Remove plants that are weak, broken or not true to form; replace in-kind • Thin grass or plants impacting facility function without leaving visual holes or bare soil areas • Consultation with a landscape architect is recommended for removal, transplant, or substitution of plants
	As needed		Vegetation blocking curb cuts, causing excessive sediment buildup and flow bypass	Remove vegetation and sediment buildup

**Table V-4.5.2(21) Maintenance Standards - Bioretention Facilities
(continued)**

Maintenance Component	Recommended Frequency ^a		Condition when Maintenance is Needed (Standards)	Action Needed (Procedures)
	Inspection	Routine Maintenance		
Mulch				
Mulch		Following weeding	Bare spots (without mulch cover) are present or mulch depth less than 2 inches	<ul style="list-style-type: none"> • Supplement mulch with hand tools to a depth of 2 to 3 inches • Replenish mulch per O&M manual. Often coarse compost is used in the bottom of the facility and arborist wood chips are used on side slopes and rim (above typical water levels) • Keep all mulch away from woody stems
Watering				
Irrigation system (if any)		Based on manufacturer's instructions	Irrigation system present	Follow manufacturer's instructions for O&M
	A		Sprinklers or drip irrigation not directed/located to properly water plants	Redirect sprinklers or move drip irrigation to desired areas
Summer watering (first year)		Once every 1-2 weeks or as needed during prolonged dry periods	Trees, shrubs and groundcovers in first year of establishment period	<ul style="list-style-type: none"> • 10 to 15 gallons per tree • 3 to 5 gallons per shrub • 2 gallons water per square foot for groundcover areas

**Table V-4.5.2(21) Maintenance Standards - Bioretention Facilities
 (continued)**

Maintenance Component	Recommended Frequency ^a		Condition when Maintenance is Needed (Standards)	Action Needed (Procedures)
	Inspection	Routine Maintenance		
				<ul style="list-style-type: none"> • Water deeply, but infrequently, so that the top 6 to 12 inches of the root zone is moist • Use soaker hoses or spot water with a shower type wand when irrigation system is not present <ul style="list-style-type: none"> ◦ Pulse water to enhance soil absorption, when feasible ◦ Pre-moisten soil to break surface tension of dry or hydrophobic soils/mulch, followed by several more passes. With this method, each pass increases soil absorption and allows more water to infiltrate prior to runoff • Add a tree bag or slow-release watering device (e.g.,

**Table V-4.5.2(21) Maintenance Standards - Bioretention Facilities
 (continued)**

Maintenance Component	Recommended Frequency ^a		Condition when Maintenance is Needed (Standards)	Action Needed (Procedures)
	Inspection	Routine Maintenance		
				bucket with a perforated bottom) for watering newly installed trees when irrigation system is not present
Summer watering (second and third years)		Once every 2-4 weeks or as needed during prolonged dry periods	Trees, shrubs and groundcovers in second or third year of establishment period	<ul style="list-style-type: none"> • 10 to 15 gallons per tree • 3 to 5 gallons per shrub • 2 gallons water per square foot for groundcover areas • Water deeply, but infrequently, so that the top 6 to 12 inches of the root zone is moist • Use soaker hoses or spot water with a shower type wand when irrigation system is not present <ul style="list-style-type: none"> ◦ Pulse water to enhance soil absorption, when feasible ◦ Pre-moisten soil to break surface tension of dry or hydrophobic soils/mulch, fol-

**Table V-4.5.2(21) Maintenance Standards - Bioretention Facilities
 (continued)**

Maintenance Component	Recommended Frequency ^a		Condition when Maintenance is Needed (Standards)	Action Needed (Procedures)
	Inspection	Routine Maintenance		
				lowed by several more passes. With this method , each pass increases soil absorption and allows more water to infiltrate prior to runoff
Summer watering (after establishment)		As needed	Established vegetation (after 3 years)	<ul style="list-style-type: none"> Plants are typically selected to be drought tolerant and not require regular watering after establishment; however, trees may take up to 5 years of watering to become fully established Identify trigger mechanisms for drought-stress (e.g., leaf wilt, leaf senescence, etc.) of different species and water immediately after initial signs of stress appear Water during drought conditions or more often if necessary to main-

**Table V-4.5.2(21) Maintenance Standards - Bioretention Facilities
 (continued)**

Maintenance Component	Recommended Frequency ^a		Condition when Maintenance is Needed (Standards)	Action Needed (Procedures)
	Inspection	Routine Maintenance		
				tain plant cover
Pest Control				
Mosquitoes	B, S		Standing water remains for more than 3 days after the end of a storm	<ul style="list-style-type: none"> Identify the cause of the standing water and take appropriate actions to address the problem (see "Ponded water") To facilitate maintenance, manually remove standing water and direct to the storm drainage system (if runoff is from non pollution-generating surfaces) or sanitary sewer system (if runoff is from pollution-generating surfaces) after getting approval from sanitary sewer authority. Use of pesticides or <i>Bacillus thuringiensis israelensis</i> (Bti) may be considered only as a temporary measure while addressing the standing water cause. If overflow to

**Table V-4.5.2(21) Maintenance Standards - Bioretention Facilities
 (continued)**

Maintenance Component	Recommended Frequency ^a		Condition when Maintenance is Needed (Standards)	Action Needed (Procedures)
	Inspection	Routine Maintenance		
				a surface water will occur within 2 weeks after pesticide use, apply for coverage under the Aquatic Mosquito Control NPDES General Permit.
Nuisance animals	As needed		Nuisance animals causing erosion, damaging plants, or depositing large volumes of feces	<ul style="list-style-type: none"> • Reduce site conditions that attract nuisance species where possible (e.g., plant shrubs and tall grasses to reduce open areas for geese, etc.) • Place predator decoys • Follow IPM protocols for specific nuisance animal issues (see "Additional Maintenance Resources" section for more information on IPM protocols) • Remove pet waste regularly • For public and right-of-way sites consider adding garbage cans with dog bags for picking

**Table V-4.5.2(21) Maintenance Standards - Bioretention Facilities
 (continued)**

Maintenance Component	Recommended Frequency ^a		Condition when Maintenance is Needed (Standards)	Action Needed (Procedures)
	Inspection	Routine Maintenance		
				up pet waste.
Insect pests	Every site visit associated with vegetation management		Signs of pests, such as wilting leaves, chewed leaves and bark, spotting or other indicators	<ul style="list-style-type: none"> Reduce hiding places for pests by removing diseased and dead plants For infestations, follow IPM protocols (see "Additional Maintenance Resources" section for more information on IPM protocols)
<p>Note that the inspection and routine maintenance frequencies listed above are recommended by Ecology. They do not supersede or replace the municipal stormwater permit requirements for inspection frequency required of municipal stormwater permittees for "stormwater treatment and flow control BMPs/facilities".</p> <p>^a Frequency: A = Annually; B = Biannually (twice per year); M = Monthly; W = At least one visit should occur during the wet season (for debris/clog related maintenance, this inspection/maintenance visit should occur in the early fall, after deciduous trees have lost their leaves); S = Perform inspections after major storm events (24-hour storm event with a 10-year or greater recurrence interval).</p> <p>IPM - Integrated Pest Management ISA - International Society of Arboriculture</p>				

Dispersion Trench

Maintenance Component	Defect	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
General Annually	Cover over the Dispersion Trench Rock Top	The dispersion trench shall have an open rock top. When any cover is placed or grows over the rock top.	Remove all soils, grass clippings, debris and vegetation that either cover or grows over the top of the rock.
	Contaminants and Pollutants	Look for oil pollutants, contaminants or other pollutants.	Coordinate, Remove and Cleanup in accordance with local response agencies.

Project Conveyance Pipelines

Maintenance Component	Defect	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
General Annually	Stormwater Flows into the Pipes are NOT the same as Flows exiting the Pipes	Check for pipeline blockages via TV (Flow Hawks or ProVac).	Jet clean the pipelines.
	No flows entering the pipes	Check the pipeline inlet for potential blockages.	Remove sediment and blockages from the pipe inlet. Vector out the Catch basin structure of all sediment and debris and jet clean the pipeline.
	More flow is exiting the pipe than entering the pipe.	Check plans for potential intermediate connections between the inlet and outlet pipeline ends	If the flows are obviously very different, retain Flow Hawks or ProVac to TV the pipeline to identify reasons. If there is a broken pipeline, repair the broken pipeline.

EXHIBIT B

(Annual Inspection Report Form)

Annual Inspection Report
City of Puyallup - Stormwater BMP Facilities Inspection and Maintenance Log

Facility Name Puyallup School District - Kessler Center
 Address 1501 39th Avenue SW, Puyallup, WA 98373
 Begin Date _____ End Date _____

Date	BMP ID#	BMP Facility Description	Inspected by:	Cause for Inspection	Exceptions Noted	Comments and Actions Taken
	1	General Source Control BMP				
	2	BMP's for Spills and Hazardous Substances				
	3	Landscaping				
	4	Infiltration Trench				
	5	Catch Basins				

Instructions:

Record all inspections and maintenance for all treatment BMPs on this form. Use additional log sheets and/or attach extended comments or documentation as necessary. Submit a copy of the completed log with the Annual Independent Inspectors' Report to the City, and start a new log at that time.

BMP ID# — Always use ID# from the Operation and Maintenance Manual.

Inspected by — Note all inspections and maintenance on this form, including the required independent annual inspection.

Cause for inspection — Note if the inspection is routine, pre-rainy-season, post-storm, annual, or in response to a noted problem or complaint.

Exceptions noted — Note any condition that requires correction or indicates a need for maintenance.

Comments and actions taken — Describe any maintenance done and need for follow-up.

Return Form to: Stormwater Engineer/City of Puyallup
 333 South Meridian
 Puyallup, WA 98371

Annual Inspection Report

City of Puyallup - Stormwater BMP Facilities Inspection and Maintenance Log

Facility Name Puyallup School District - Kessler Center

Date	BMP ID#	BMP Facility Description	Inspected by:	Cause for Inspection	Exceptions Noted	Comments and Actions Taken
	6	Debris Barriers-Trash Racks				
	7	Energy Dissipator				
		-Rip Rap Pad				
	8	Bioretention				
	9	Summit Building				
		Dispersion Trench				
	10	Conveyance Pipelines				

EXHIBIT C

(Legal Description of Property)

LEGAL DESCRIPTION

THE LAND IN THE COUNTY OF PIERCE, STATE OF WASHINGTON,
DESCRIBED AS FOLLOWS:

THE WEST HALF OF THE SOUTHWEST QUARTER OF THE SOUTHWEST
QUARTER AND THE WEST HALF OF THE WEST HALF OF THE EAST HALF
OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION
4, TOWNSHIP 19 NORTH, RANGE 4 EAST OF THE WILLAMETTE MERIDIAN;

EXCEPT THE FOLLOWING DESCRIBED PROPERTY:
BEGINNING 30 FEET NORTH AND 15 FEET EAST OF THE SOUTHWEST
CORNER OF SAID SECTION 4;
THENCE NORTH 553.14 FEET;
THENCE EAST 315 FEET;
THENCE SOUTH 553.14 FEET;
THENCE WEST 315 FEET TO THE POINT OF BEGINNING;

ALSO EXCEPT THE FOLLOWING DESCRIBED PROPERTY:
BEGINNING AT THE SOUTHWEST CORNER OF SAID SECTION 4;
THENCE NORTH 00°04'25"EAST ALONG THE WEST LINE OF SAID SECTION
A DISTANCE OF 1148.90 FEET TO THE TRUE
POINT OF BEGINNING;
THENCE NORTH 89°07'39"EAST A DISTANCE OF 162.00 FEET;
THENCE NORTH 00°04'25"EAST A DISTANCE OF 148.00 FEET;
THENCE SOUTH 89°07'39"WEST A DISTANCE OF 162.00 FEET TO THE
WEST LINE OF SAID SECTION;
THENCE SOUTH 00°04'25"WEST 148.00 FEET ALONG THE WEST LINE OF
SAID SECTION TO THE POINT OF BEGINNING;
EXCEPT 86TH AVENUE EAST RESERVED FOR COUNTY ROAD (ALSO
KNOWN AS 17TH STREET S.W.);

ALSO EXCEPT THAT PORTION THEREOF CONVEYED TO THE STATE OF
WASHINGTON BY INSTRUMENTS RECORDED UNDER
RECORDING NUMBERS 2227151, 2239840, 9407070774 AND
9407070775;

ALSO EXCEPT THE SOUTHERLY 30 FEET THEREOF FOR 39TH AVENUE
S.W. (ALSO KNOWN AS 112TH STREET EAST);
SITUATE IN THE CITY OF PUYALLUP, COUNTY OF PIERCE, STATE OF
WASHINGTON.