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After recording return to:

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

info@puyallupwa.gov

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**Document Title:** Stormwater Management & BMP Facilities Agreement
**Grantor:** Pierce College, a public community college of the State of Washington
**Grantee:** City of Puyallup
**Legal Description:** Section 03, Township 19, Range 04, Quarter 44
**Complete Legal Description on Page 5 of this Document**
**Assessor's Tax Parcel or Account Numbers:** 0419034039
**Reference Number of Related Document(s):** N/A

# Stormwater Management & BMP Facilities Agreement

**A. Parties**. The parties to this agreement are Grantee City of Puyallup, a Washington State municipal corporation (City), and Grantor landowner Pierce College, a public community college of the State of Washington (Landowner).

**B. Property.** Landowner is the owner of certain real property (Property), which is legally described in this document and is located at the following address: 1601 39th Ave SE, Puyallup, WA 98374.

**C. Development Plan & Stormwater Facilities.** The site, subdivision or other development plan (Plan) for the Property, specifically known, entitled or described as Pierce College STEM Building, provides for detention, retention, treatment or management of stormwater that is associated with the Property through the use of identified stormwater facilities or best management practices (collectively, Stormwater Facilities). Upon approval of the Plan by the City, the Plan shall be incorporated herein by this reference. In accordance with the Plan, Landowner shall adequately construct, operate, use, maintain and repair the Stormwater Facilities.

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**D. Agreement.** On the terms and conditions set forth herein, the City and Landowner agree as follows:

1. The Stormwater Facilities shall be constructed, operated, used, maintained and repaired by Landowner in accordance with the requirements of the Plan, and any other applicable law or regulation.
2. Landowner (which expressly includes its agents, successors and assigns, including any homeowners association) shall adequately and properly operate, use, maintain and repair the Stormwater Facilities as described in the maintenance and operations manual, which is on file with the City, and may be attached and recorded herewith as Exhibit A. This duty extends to all associated pipes and channels, as well as all structures, improvements, and vegetation that are provided to control the quantity and quality of the stormwater. Adequate maintenance shall mean maintenance that is sufficient to keep the Stormwater Facilities in good working order and operating so as to satisfy the design and performance standards of the Plan.
3. Landowner shall regularly inspect the Stormwater Facilities and shall submit an inspection report to the City at least once a year on a date prescribed by the City. The purpose of the inspection(s) is to ensure that the Stormwater Facilities are safe and functioning properly. The scope of the inspection shall include the entire Stormwater Facilities, including but not limited to, berms, outlet structures, pond areas, access roads, and so forth. Deficiencies and any performance or other related issues shall be noted by Landowner in the inspection report. The annual report shall be in a form and include content as prescribed from time to time by the City. An example copy of the report form may be attached hereto as Exhibit B.
4. Landowner hereby grants permission to the City to enter upon the Property to inspect the 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 a representative accompany the City during such inspection. The City shall provide Landowner with copies of written inspection reports.
5. If Landowner fails to adequately and properly operate, use, maintain or repair the Stormwater Facilities, the City shall notify Landowner in writing and provide Landowner with a reasonable opportunity to cure. If Landowner fails to timely cure, then the City may enter upon the Property and remedy the issue(s) identified in the notice and those reasonably related thereto; Furthermore, if the City performs work of any nature, or expends any funds in performance of said work for labor, use of equipment, supplies, materials, and the like while remedying the identified issues, the City may charge the cost of the remedy to Landowner, and Landowner shall promptly pay the costs to the City. Notwithstanding the foregoing, the City shall be under no obligation to inspect, maintain or repair the Stormwater Facilities.
6. Landowner shall defend, indemnify and hold the City, its officers, officials, employees and volunteers harmless from any and all claims, injuries, damages, losses or suits including attorney fees, arising out of or in connection with activities or operations, performed by Landowner, or on Landowner's behalf, that relate to the Stormwater Facilities and the subject matter of this agreement. The City shall defend, indemnify and hold the Landowner, its officers, officials, employees and volunteers harmless from any and all claims, injuries, damages, losses or suits including attorney fees, arising out of or in connection with negligent activities or operations, performed by the City, or on City's behalf, that relate to the Stormwater Facilities and the subject matter of this agreement.

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**E. Covenant.** The terms and provisions of this agreement constitute a covenant, which is subject to the following: This covenant is an equitable covenant. It touches and concerns the land that is described as the Property herein. The parties intend that this covenant shall bind the parties' successor and assigns. This covenant shall run with the land that is described as the Property herein, and shall bind whoever has possession of the land, in whole or in part, without regard to whether the possessor has title, or has succeeded to the same estate that granting parties have or had. Possessors shall include, but are not limited to, leasehold tenants, contract purchasers, subtenants, and adverse possessors. This covenant shall run with the land even in the absence of the transfer of some interest in land, other than the covenant itself, between Landowner and the City. This covenant shall not be governed by the mutuality rule. The burden of the covenant can run independently from the benefit of the covenant, and the benefit need not run. The benefit may be in gross or personal to Landowner or the City. Landowner waives its right to assert any defenses to the enforcement of this covenant, including, but not limited to, the change of neighborhood doctrine, laches, estoppel, balancing of hardships, and abandonment. If Landowner breaches any term of this covenant and agreement, then all remedies in equity and at law, including, but not limited to, injunctions, mandamus, declaratory judgments, and damages, shall be available to the City.

**F. Governing Law & Venue.** This agreement shall be governed by and construed in accordance with the laws of the State of Washington. The venue for any action that arises from or out of this instrument shall be the Pierce County Superior Court.

*<signature page to follow>*

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State of Washington
State Board for Community and Technical Colleges

Dated: 10.15.24

BY: Paul Francis
Paul Francis
Executive Director for the Washington State Board
for Community and Technical Colleges

City of Puyallup

Dated: 10/18/2024

Signed by:
BY: Kenneth Cook
20DB362E4E87478...
Kenneth Cook
Development Engineering Manager

City of Puyallup

Dated: 10/17/2024

DocuSigned by:
BY: Joseph N Beck
EF5BA5DC2E5544B...
Approved as to form:
Joseph N. Beck
City Attorney

STATE OF WASHINGTON )
) -ss
COUNTY OF PIERCE )

This record was acknowledged before me on 10.15.2024 by Paul Francis as Executive Director for the Washington State Board for Community and Technical Colleges.

Dated: 10.15.24

Susan Locke
Printed Name:
Notary Public, State of: WASHINGTON
My appointment expires: 4.12.27

SUSAN LOCKE
APPOINTMENT EXPIRES
April 12, 2027
NOTARY
PUBLIC
COMM # 203302
STATE OF WASHINGTON

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**Parcel 0419034039 Legal Description**

THAT PORTION OF THE SOUTHWEST QUARTER OF SECTION 2 AND OF THE SOUTHEAST QUARTER OF SECTION 3, TOWNSHIP 19 NORTH, RANGE 4 EAST, WILLAMETTE MERIDIAN, PIERCE COUNTY, WASHINGTON, DESCRIBED AS FOLLOWS:
BEGINNING AT A POINT ON THE EAST LINE OF SAID SECTION 3, SAID POINT BEARS NORTH 00°13'37" EAST 60.10 FEET FROM THE SOUTHEAST CORNER OF SAID SECTION 3 AND IS ALSO THE NORTH MARGIN OF 112TH STREET EAST (39TH AVENUE SE); THENCE ALONG SAID NORTH MARGIN NORTH 86°30'40" WEST 1015.14 FEET TO THE EAST LINE OF THE PARCEL OF LAND DESCRIBED IN PIERCE COUNTY AUDITOR'S NUMBER 2362554; THENCE NORTH 00°13'59" EAST 1758.59 FEET; THENCE NORTH 45°03'08" EAST 722.96 FEET TO THE WESTERLY MARGIN OF WILDWOOD PARK DRIVE (SCHOOL ROAD EAST), AS CONVEYED TO PIERCE COUNTY BY INSTRUMENT RECORDED UNDER AUDITOR'S NO. 3125764 AND 2135764; THENCE ALONG SAID WESTERLY MARGIN THE FOLLOWING COURSE: SOUTH 08°28'11" EAST 195.80 FEET TO THE BEGINNING OF A CURVE, CONCAVE TO THE NORTHEAST, HAVING A RADIUS OF 331.56 FEET; THENCE ALONG THE ARC OF SAID CURVE, PASSING THROUGH A CENTRAL ANGLE OF 79°33'34" A DISTANCE OF 460.40 FEET; THENCE SOUTH 88°01'45" EAST 289.96 FEET TO THE BEGINNING OF A CURVE, CONCAVE TO THE SOUTHWEST, HAVING A RADIUS OF 760.23 FEET; THENCE ALONG THE ARC OF SAID CURVE, PASSING THROUGH A CENTRAL ANGLE OF 82°42'29" A DISTANCE OF 1097.41 FEET; THENCE SOUTH 05°19'16" EAST 19.70 FEET TO THE BEGINNING OF A CURVE, CONCAVE TO THE NORTHEAST, HAVING A RADIUS OF 848.57 FEET; THENCE ALONG THE ARC OF SAID CURVE, PASSING THROUGH A CENTRAL ANGLE OF 22°18'00" A DISTANCE OF 330.27 FEET; THENCE SOUTH 27°37'16" EAST 106.86 FEET; THENCE SOUTH 62°34'14" WEST 37.70 FEET; THENCE SOUTH 37°57'43" WEST 64.30 FEET; THENCE SOUTH 65°18'15" WEST 74.47 FEET; THENCE SOUTH 12°29'28" WEST 53.54 FEET; THENCE SOUTH 64°36'58" WEST 64.85 FEET; THENCE SOUTH 49°35'52" WEST 94.92 FEET; THENCE SOUTH 23°59'34" WEST 126.39 FEET; THENCE SOUTH 21°03'12" WEST 264.77 FEET; THENCE SOUTH 09°30'04" WEST 146.09 FEET TO SAID NORTH MARGIN OF 112TH STREET EAST; THENCE ALONG SAID MARGIN NORTH 88°31'34" WEST 610.67 FEET TO EAST LINE OF SAID SECTION 3; THENCE NORTH 00°13'37" EAST 5.09 FEET TO THE POINT OF BEGINNING.

TOGETHER WITH:

(Wetlands Parcel)
THAT PORTION OF THE SOUTHWEST QUARTER OF SECTION 2, TOWNSHIP 19 NORTH, RANGE 4 EAST, WILLAMETTE MERIDIAN, PIERCE COUNTY, WASHINGTON; DESCRIBED AS FOLLOWS:

COMMENCING AT A POINT ON THE WEST LINE OF SAID SECTION 2, SAID POINT BEARS NORTH 00°13'37" EAST 55.01 FEET FROM THE SOUTHWEST CORNER OF SAID SECTION 2 AND IS ALSO THE NORTH MARGIN OF 112TH STREET EAST (39TH AVENUE SE); THENCE ALONG SAID NORTH MARGIN SOUTH 88°31'34" EAST 610.67 FEET TO THE POINT OF BEGINNING; THENCE NORTH 09°30'04" WEST 146.09 FEET; THENCE NORTH 21°03'12" EAST 264.77 FEET; THENCE NORTH 23°59'34" EAST 126.39 FEET; THENCE NORTH 49°35'52" EAST 94.92 FEET; THENCE NORTH 64°36'58" EAST 64.85 FEET; THENCE NORTH 12°29'28" EAST 53.54 FEET; THENCE NORTH 65°18'15" EAST 74.47 FEET; THENCE NORTH 37°57'43" EAST 64.30 FEET; THENCE NORTH 62°34'14" EAST 37.70 FEET TO A POINT OF THE WESTERLY MARGIN OF WILDWOOD PARK DRIVE (SCHOOL ROAD EAST); THENCE SOUTH 27°37'16" EAST ALONG SAID WESTERLY MARGIN A DISTANCE OF 51.87 FEET TO THE BEGINNING OF A CURVE, CONCAVE TO THE SOUTHWEST, HAVING A RADIUS OF 920.34 FEET; THENCE ALONG THE ARC OF SAID CURVE, PASSING THROUGH A CENTRAL ANGLE OF 29°05'30" A DISTANCE OF 467.30 FEET; THENCE SOUTH 01°28'14" WEST 259.81 FEET TO THE SAID NORTH MARGIN OF 112TH STREET EAST; THENCE ALONG SAID NORTH MARGIN NORTH 88°31'34" WEST 470.95 FEET; THENCE SOUTH 10°42'07" WEST 5.07 FEET; THENCE NORTH 88°31'34" WEST 55.77 FEET TO THE POINT OF BEGINNING.

SUBJECT TO AND TOGETHER WITH ALL EASEMENTS OF RECORD.

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# Exhibit A

Operation and Maintenance Manual

## 1.0 Introduction

The Pierce College Puyallup Campus maintenance staff shall be responsible for maintaining properly functioning stormwater control facilities. This report presents a maintenance program that meets City of Puyallup maintenance requirements. The private stormwater facilities for this project include a system of catch basins and pipes to collect surface runoff and route it through bioretention facilities for stormwater treatment prior to routing to a detention facility through a level spreader.

It is vitally important that the proponent/owner maintain these facilities in a timely and conscientious manner to ensure the facilities function as designed. Siltation, debris, or lack of maintenance can reduce the capabilities of the conveyance system which can lead to localized flooding. If bioretention facilities are not maintained in accordance with the attached maintenance checklist, onsite stormwater can contribute to negative water quality to downstream waterbodies of the state.

## 2.0 Responsibility

The private stormwater facilities are maintained by Pierce College.

Property Owner:

Pierce College, a public community college of the State of Washington
1601 39th Avenue SE
Puyallup, WA 98374
(253) 840-8400

## 3.0 Schedule

Maintenance of the stormwater facilities shall follow the schedule as specified in the attached maintenance checklists and as recommended by the media filter manufacturer guidelines. Additional maintenance may be required to respond to unusual storm events or reduced performance of the treatment system. A copy of the Pierce County-recommended maintenance schedule is attached and may be photocopied and used as inspection records. An annual inspection report must be submitted to City of Puyallup in accordance with the Maintenance Agreement.

## 4.0 Cost

The following is an estimate of the average annual cost of maintenance for the stormwater control facilities within the scope of this project.

| | |
|---|---|
| Vactor truck @ $200/hour x 6 hours | $1,200 |
| Personnel @ $25/hour x 6 hours | $150 |
| Dumping Fees @ $50/ton x 6 tons | $300 |
| Sweep Parking Lot Once Yearly | $500 |
| **Total Estimated Annual Cost** | **$2,150** |

## 5.0 Vegetation Management Plan

The attached maintenance schedule provides guidance on vegetation control and management. Irrigation and other maintenance, as necessary, shall be provided to ensure that vegetation remains viable and that a hardy root structure forms in the first year. Vegetation planting shall be provided, as described in the construction documents

## 6.0 Instructions for Person Maintaining Stormwater System

The attached Maintenance Checklists specify maintenance schedules for stormwater facilities onsite. Plan to complete a checklist for all system components per the following schedule:

1. Monthly from November through April.

2. Once in late summer (preferably September).

3. After any major storm event (items marked "S" only).

Using photocopies of the attached pages, check off the problems that are noted each time the item is inspected. Document comments on problems found and the corrective action taken. The Inspection Checklist sheets should be kept on file and used to prepare the annual report required by Pierce County, due on or before May 15 of each year. Use the Pierce County suggested inspection frequency at the left of each item as an inspection guide.

## 7.0 Conclusion

This Private Stormwater Facilities Operation and Maintenance Manual is developed for the operation of the Pierce College Puyallup Campus STEM classroom building private stormwater systems. This maintenance document has been prepared within the guidelines of City of Puyallup Construction Standards. If this plan is implemented, the owner can expect the stormwater system to function as designed.

AHBL, Inc.

William J. Fierst

William J. Fierst, PE
Principal

ACP/CFH/lsk

February 2022
Revised August 2022

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# *Maintenance Checklists*

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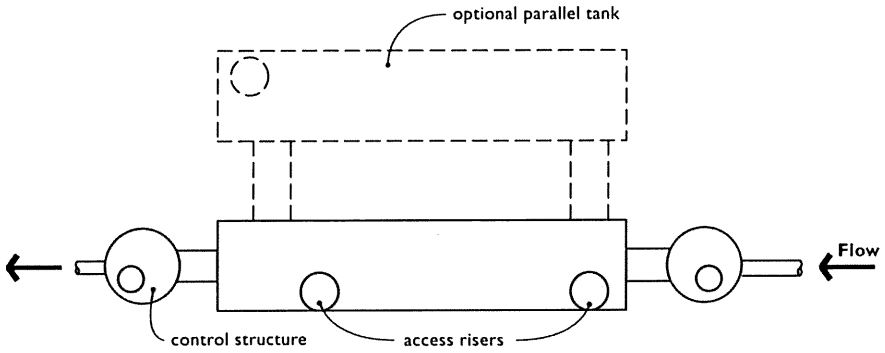
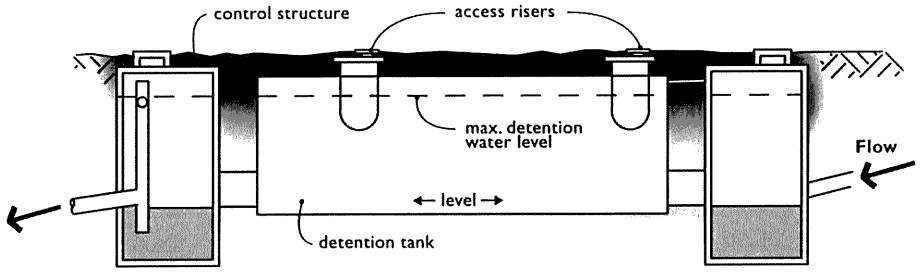
## 3.3 Closed Detention Systems (Tanks/Vaults)

Closed detention systems function similar to detention ponds with the temporary storage volume provided by an underground structure to regulate the storm discharge rate from the site. The structure is typically constructed of large diameter pipe (48" diameter or greater) or a concrete box (Vault). These systems are typically utilized for sites that do not have space available for an above-ground system and are more commonly associated with commercial sites.

Underground detention systems are an enclosed space where harmful chemicals and vapors can accumulate. Therefore, the inspection and maintenance of these facilities should be conducted by an individual with training and certification in working in hazardous confined spaces.




BIRD'S-EYE VIEW




Note:
Closed detention systems will contain water during rainfall events, bus should be empty during dry periods.

SIDE PROFILE

# Closed Detention Systems (Tanks/Vaults) Checklist

| Frequency | Drainage System Feature | Date ✓ | ✓ | ✓ | ✓ | Problem | Conditions to Check For | Conditions That Should Exist |
|---|---|---|---|---|---|---|---|---|
| M | Storage Area | | | | | Plugged Air Vents | One-half of the cross section of a vent is blocked at any point or the vent is damaged. | Vents open and functioning. |
| M | Storage Area | | | | | Debris and Sediment | Accumulated sediment depth exceeds 10% of the diameter of the storage area for ½ length of storage vault or any point depth exceeds 15% of diameter. (Example: 72-inch storage tank would require cleaning when sediment reaches depth of 7 inches for more than 1/2 length of tank.) | All sediment and debris removed from storage area. |
| A | Storage Area | | | | | Joints Between Tank/Pipe Section | Any openings or voids allowing material to be transported into facility. (Will require engineering analysis to determine structural stability). | All joint between tank/pipe sections are sealed. |
| A | Storage Area | | | | | Tank Pipe Bent Out of Shape | Any part of tank/pipe is bent out of shape more than 10% of its design shape. (Review required by engineer to determine structural stability). | Tank/pipe repaired or replaced to design. |
| A | Storage Area | | | | | Vault Structure Includes Cracks in Wall, Bottom, Damage to Frame and/or Top Slab | Cracks wider than 1/2-inch and any evidence of soil particles entering the structure through the cracks, or maintenance/inspection personnel determines that the vault is not structurally sound. | Vault replaced or repaired to design specifications and is structurally sound. |
| A | Storage Area | | | | | | Cracks wider than 1/2-inch at the joint of any inlet/outlet pipe or any evidence of soil particles entering the vault through the walls | No cracks more than 1/4-inch wide at the joint of the inlet/outlet pipe. |
| A | Manhole | | | | | Cover Not in Place | Cover is missing or only partially in place. Any open manhole requires maintenance. | Manhole is closed. |
| A | Manhole | | | | | Locking Mechanism Not Working | Mechanism cannot be opened by one maintenance person with proper tools. Bolts into frame have less than 1/2 inch of thread (may not apply to self-locking lids). | Mechanism opens with proper tools. |

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# Closed Detention Systems (Tanks/Vaults) Checklist (Continued)

| | | Date | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Frequency | Drainage System Feature | ✓ | ✓ | ✓ | ✓ | Problem | Conditions to Check For | Conditions That Should Exist |
| A | Manhole | | | | | Cover Difficult to Remove | One maintenance person cannot remove lid after applying normal lifting pressure. Intent is to keep cover from sealing off access to maintenance. | Cover can be removed and reinstalled by one maintenance person. |
| A | Manhole | | | | | Ladder Rungs Unsafe | Ladder is unsafe due to missing rungs, misalignment, not securely attached to structure wall, rust, or cracks. | Ladder meets design standards. Allows maintenance person safe access. |

If you are unsure whether a problem exists, please contact a Professional Engineer.

Comments:

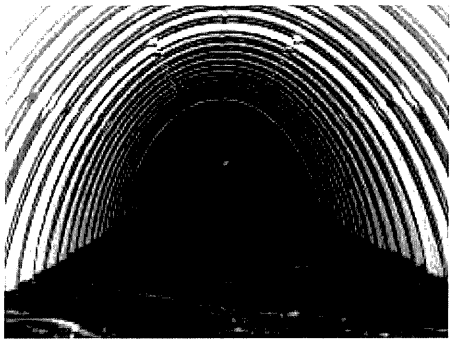
Key:
(M) Monthly from November through April.
(A) Once in late summer (preferable September)
(S) After any major storm (use 1-inch in 24 hours as a guideline).

## 9.1 ISOLATOR ROW INSPECTION

Regular inspection and maintenance are essential to assure a properly functioning stormwater system. Inspection is easily accomplished through the manhole or optional inspection ports of an Isolator Row. Please follow local and OSHA rules for a confined space entry.

Inspection ports can allow inspection to be accomplished completely from the surface without the need for a confined space entry. Inspection ports provide visual access to the system with the use of a flashlight. A stadia rod may be inserted to determine the depth of sediment. If upon visual inspection it is found that sediment has accumulated to an average depth exceeding 3" (76 mm), cleanout is required.

A StormTech Isolator Row should initially be inspected immediately after completion of the site's construction. While every effort should be made to prevent sediment from entering the system during construction, it is during this time that excess amounts of sediments are most likely to enter any stormwater system. Inspection and maintenance, if necessary, should be performed prior to passing responsibility over to the site's owner. Once in normal service, a StormTech Isolator Row should be inspected bi-annually until an understanding of the sites characteristics is developed. The site's maintenance manager can then revise the inspection schedule based on experience or local requirements.

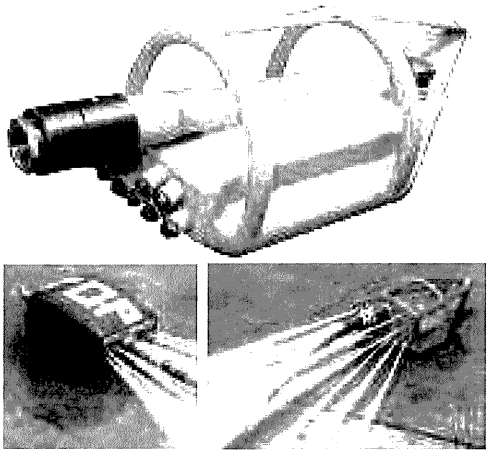


*Looking down the Isolator Row.*

*A typical JetVac truck. (This is not a StormTech product.)*

## 9.2 ISOLATOR ROW MAINTENANCE

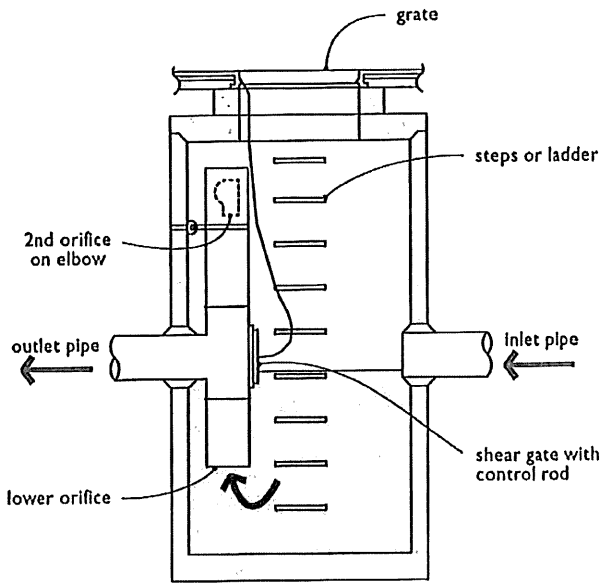
JetVac maintenance is recommended if sediment has been collected to an average depth of 3" (76 mm) inside the Isolator Row. More frequent maintenance may be required to maintain minimum flow rates through the Isolator Row. The JetVac process utilizes a high pressure water nozzle to propel itself down the Isolator Row while scouring and suspending sediments. As the nozzle is retrieved, a wave of suspended sediments is flushed back into the manhole for vacuuming. Most sewer and pipe maintenance companies have vacuum/ JetVac combination vehicles. Fixed nozzles designed for culverts or large diameter pipe cleaning are preferable. Rear facing jets with an effective spread of at least 45" (1143 mm) are best. The JetVac process shall only be performed on StormTech Rows that have AASHTO class 1 woven geotextile over their foundation stone (ADS 315WTM or equal).



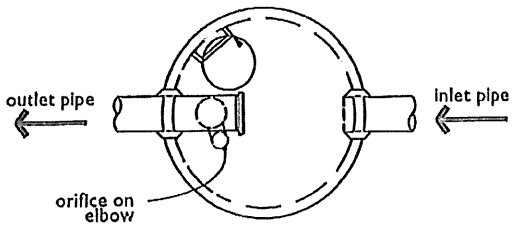
*Examples of culvert cleaning nozzles appropriate for Isolator Row maintenance. (These are not StormTech products.)*

## 3.4 Control Structure/Flow Restrictor

Control structures/flow restrictors are located on the outlet pipe of a detention system. The control structure is typically a Type 2 concrete catch basin (see Section 3.5 for catch basin description) with a riser (vertical pipe). The control structure reduces the discharge rate of stormwater from a detention facility. The flow is regulated by a combination of orifices (holes with specifically sized diameters) and weirs (plates with rectangular or vee shaped notch). Lack of maintenance of the control structure can result in the plugging of an orifice. This can result in flooding of the stormwater system and/or an increase in the rate of discharge from the site potentially damaging downstream property.




BIRD'S-EYE VIEW




SECTION PROFILE

# Control Structure/Flow Restrictor Checklist

| Frequency | Drainage System Feature | Date ✓ | ✓ | ✓ | ✓ | Problem | Conditions to Check For | Conditions That Should Exist |
|---|---|---|---|---|---|---|---|---|
| M | General | | | | | Trash and Debris (Includes Sediment) | Material exceeds 25% of sump depth or 1 foot below orifice plate. | Control structure orifice is not blocked. All trash and debris removed. |
| A | General | | | | | Structural Damage | Structure is not securely attached to manhole wall. | Structure securely attached to wall and outlet pipe. |
| A | General | | | | | Structural Damage | Structure is not in upright position (allow up to 10% from plumb). | Structure in correct position. |
| A | General | | | | | Structural Damage | Connections to outlet pipe are not watertight and show signs of rust. | Connections to outlet pipe are water tight; structure repaired or replaced and works as designed. |
| A | General | | | | | Structural Damage | Any holes--other than designed holes--in the structure. | Structure has no holes other than designed holes. |
| A | Cleanout Gate | | | | | Damaged or Missing | Cleanout gate is not watertight or is missing. | Gate is watertight and works as designed. |
| A | Cleanout Gate | | | | | Damaged or Missing | Gate cannot be moved up and down by one maintenance person. | Gate moves up and down easily and is watertight. |
| A | Cleanout Gate | | | | | Damaged or Missing | Chain/rod leading to gate is missing or damaged. | Chain is in place and works as designed. |
| A | Cleanout Gate | | | | | Damaged or Missing | Gate is rusted over 50% of its surface area. | Gate is repaired or replaced to meet design standards. |
| A | Orifice Plate | | | | | Damaged or Missing | Control device is not working properly due to missing, out of place, or bent orifice plate. | Plate is in place and works as designed. |
| M,S | Orifice Plate | | | | | Obstructions | Any trash, debris, sediment, or vegetation blocking the plate. | Plate is free of all obstructions and works as designed. |
| | Overflow Pipe | | | | | Obstructions | Any trash or debris blocking (or having the potential of blocking) the overflow pipe. | Pipe is free of all obstructions and works as designed. |
| A | Manhole | | | | | Cover Not in Place | Cover is missing or only partially in place. Any open manhole requires maintenance. | Manhole is closed. |

## Control Structure/Flow Restrictor Checklist (Continued)

| Frequency | Drainage System Feature | Date ✓ | ✓ | ✓ | ✓ | Problem | Conditions to Check For | Conditions That Should Exist |
|---|---|---|---|---|---|---|---|---|
| A | Manhole | | | | | Locking Mechanism Not Working | Mechanism cannot be opened by one maintenance person with proper tools. Bolts into frame have less than 1/2 inch of thread (may not apply to self-locking lids). | Mechanism opens with proper tools. |
| A | Manhole | | | | | Cover Difficult to Remove | One maintenance person cannot remove lid after applying normal lifting pressure. Intent is to keep cover from sealing off access to maintenance. | Cover can be removed and reinstalled by one maintenance person. |
| A | Manhole | | | | | Ladder Rungs Unsafe | Ladder is unsafe due to missing rungs, misalignment, not securely attached to structure wall, rust, or cracks. | Ladder meets design standards. Allows maintenance person safe access. |

If you are unsure whether a problem exists, please contact a Professional Engineer.

Comments:

Key:

(M) Monthly from November through April.
(A) Once in late summer (preferable September)
(S) After any major storm (use 1-inch in 24 hours as a guideline).

| RANGE | TOWNSHIP | SECTION | QUARTER | 015 | 17/35 |
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## 3.5 Catch Basins

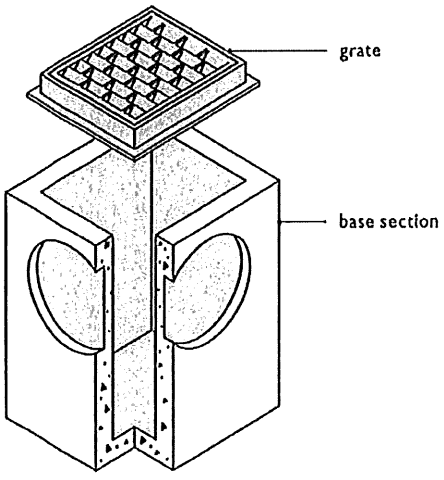
Catch basins are underground concrete structures typically provided with a slotted grate to collect stormwater runoff and route it through underground pipes. Catch basins can also be used as a junction in a pipe system and may have a solid lid. There are two catch basin types.

A Type 1 catch basin is a rectangular box with approximate dimensions of 3'x2'x5'. Type 1 catch basins are utilized when the connected conveyance pipes are less than 18 inches in diameter and the depth from the gate to the bottom of the pipe is less than 5 feet.

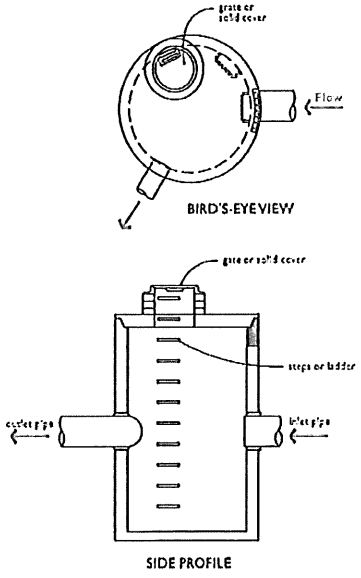
Type 2 catch basins, also commonly referred to as storm manholes, are round concrete structures ranging in diameter of 4 feet to 8 feet. Type 2 catch basins are used when the connecting conveyance pipe is 18 inches or greater or the depth from grate to pipe bottom exceeds 5 feet. Type 2 catch basins typically have manhole steps mounted on the side of the structure to allow for access.

Both catch basin types typically provide a storage volume (sump) below the outlet pipe to allow sediments and debris to settle out of the stormwater runoff. Some catch basins are also provided with a spill control device (inverted elbow on outlet pipe) intended to contain large quantities of grease or oils.

The most common cleaning method for catch basins is to utilize a truck with a tank and vacuum hose (vactor truck) to remove sediment and debris from the sump. Catch basins may be an enclosed space where harmful chemicals and vapors can accumulate. Therefore, if the inspection and maintenance requires entering a catch basin, it should be conducted by an individual with training and certification in working in hazardous confined spaces.




Type 1




Type 2

# Catch Basins Checklist

| | | Date | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Frequency | Drainage System Feature | ✓ | ✓ | ✓ | ✓ | Problem | Conditions to Check For | Conditions That Should Exist |
| A | General | | | | | "Dump no pollutants " Stencil or stamp not visible | Stencil or stamp should be visible and easily read | Warning signs (e.g., "Dump No Waste- Drains to Stream") shall be painted or embossed on or adjacent to all storm drain inlets. |
| M,S | General | | | | | Trash & Debris | 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%. | No trash or debris located immediately in front of catch basin or on grate opening. |
| M | General | | | | | Trash & Debris | 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. | No trash or debris in the catch basin. |
| M | General | | | | | Trash & Debris | Trash or debris in any inlet or outlet pipe blocking more than 1/3 of its height. | Inlet and outlet pipes free of trash or debris. |
| M | General | | | | | Trash & Debris | Dead animals or vegetation that could generate odors that could cause complaints or dangerous gases (e.g., methane). | No dead animals or vegetation present within the catch basin. |
| M | General | | | | | 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 |
| A | General | | | | | 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. |

| RANGE | TOWNSHIP | SECTION | QUARTER | 015 | 19/35 |
|---|---|---|---|---|---|
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| DOCUMENT NUMBER | | | | SERIAL NUMBER | PAGE NUMBER |

## Catch Basins Checklist (Continued)

| | | Date | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Frequency | Drainage System Feature | ✓ | ✓ | ✓ | ✓ | Problem | Conditions to Check For | Conditions That Should Exist |
| A | General | | | | | Structure Damage to Frame and/or Top Slab | 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. | Frame is sitting flush on the riser rings or top slab and firmly attached. |
| A | General | | | | | Fractures or Cracks in Basin Walls/ Bottom | Maintenance person judges that structure is unsound. | Basin replaced or repaired to design standards. |
| A | General | | | | | Fractures or Cracks in Basin Walls/ Bottom | 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. | Pipe is re-grouted and secure at basin wall. |
| A | General | | | | | Settlement / Misalignment | If failure of basin has created a safety, function, or design problem. | Basin replaced or repaired to design standards. |
| M | General | | | | | Vegetation | Vegetation growing across and blocking more than 10% of the basin opening. | No vegetation blocking opening to basin. |
| M | General | | | | | Vegetation | Vegetation growing in inlet/outlet pipe joints that is more than six inches tall and less than six inches apart. | No vegetation or root growth present. |
| M | General | | | | | Contamination and Pollution | Any evidence of oil, gasoline, contaminants, or other pollutants (Coordinate removal/cleanup with local water quality response agency). | No contaminants or pollutants present. |
| A | 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 |
| A | Catch Basin Cover | | | | | Locking Mechanism Not Working | Mechanism cannot be opened by one maintenance person with proper tools. Bolts into frame have less than 1/2 inch of thread. | Mechanism opens with proper tools. |
| A | Catch Basin Cover | | | | | Cover Difficult to Remove | One maintenance person cannot remove lid after applying normal lifting pressure. (Intent is to keep cover from sealing off access to maintenance.) | Cover can be removed by one maintenance person. |

## Catch Basins Checklist (Continued)

| | | Date | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Frequency | Drainage System Feature | ✓ | ✓ | ✓ | ✓ | Problem | Conditions to Check For | Conditions That Should Exist |
| A | 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. |
| | Grates | | | | | Grate opening Unsafe | Grate with opening wider than 7/8 inch. | Grate opening meets design standards. |
| M,S | Grates | | | | | Trash and Debris | Trash and debris that is blocking more than 20% of grate surface inletting capacity. | Grate free of trash and debris. |
| A | Grates | | | | | Damaged or Missing. | Grate missing or broken member(s) of the grate. | Grate is in place and meets design standards. |

If you are unsure whether a problem exists, please contact a Professional Engineer.

Comments:

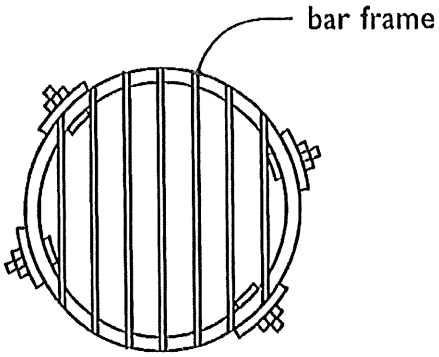
Key:

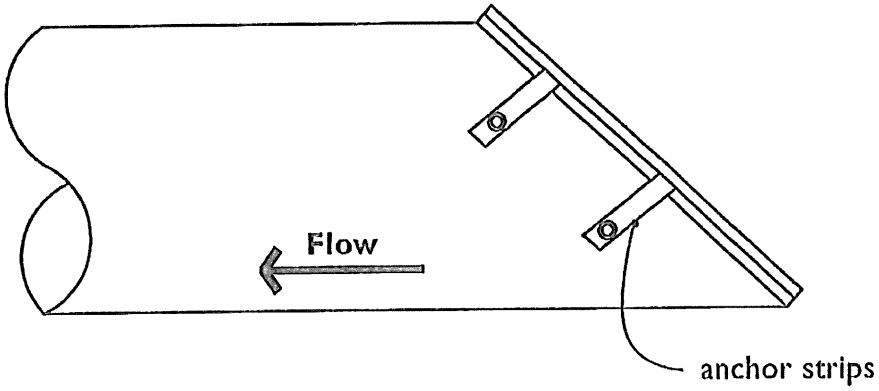
(M) Monthly from November through April.
(A) Once in late summer (preferable September)
(S) After any major storm (use 1-inch in 24 hours as a guideline).

## 3.6 Debris Barriers (e.g. Trash Racks)

Debris barriers consist of bar grates over the open end of a culvert or conveyance pipe. The intent of a debris barrier is to prevent large materials from entering a closed pipe system. Debris barriers are typically located on the outlet pipe from a detention pond to the control structure. If a debris barrier is not located on the outlet pipe, one should be provided to prevent plugging of the control structure and possible flooding.

Access barriers are similar to debris barriers but are included on all pipe ends that exceed 18 inches in diameter. Their function is to prevent debris and unauthorized access into the storm conveyance pipe. Removing debris and maintenance to the debris barrier when there is flow through the conveyance pipe should be performed by qualified personnel only.



## Debris Barriers (e.g. Trash Racks) Checklist

| | | Date | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Frequency | Drainage System Feature | ✓ | ✓ | ✓ | ✓ | Problem | Conditions to Check For | Conditions That Should Exist |
| M,S | 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. |
| A | General | | | | | Damaged/Missing Bars. | Bars are bent out of shape more than 3 inches. | Bars in place with no bends more than 3/4 inch. |
| A | General | | | | | Damaged/Missing Bars. | Bars are missing or entire barrier missing. | Bars in place according to design. |
| A | General | | | | | Damaged/Missing Bars. | Bars are loose and rust is causing 50% deterioration to any part of barrier. | Barrier replaced or repaired to design standards. |
| A | General | | | | | Inlet/Outlet Pipe | Debris barrier missing or not attached to pipe. | Barrier firmly attached to pipe. |

If you are unsure whether a problem exists, please contact a Professional Engineer.

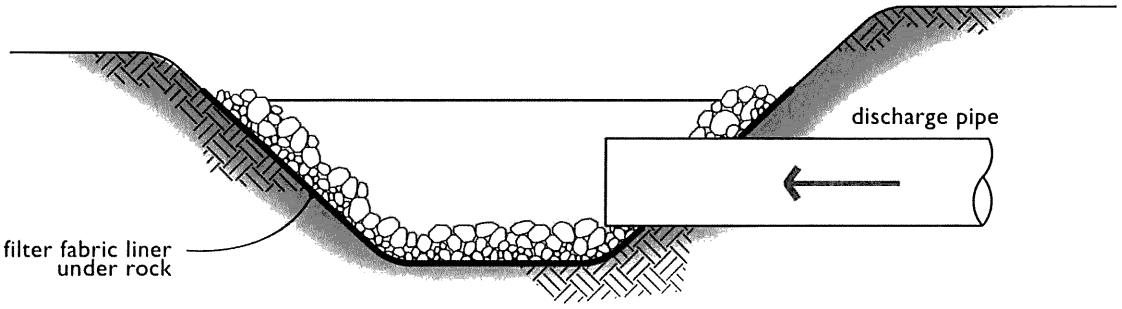
Comments:

Key:

(M) Monthly from November through April.
(A) Once in late summer (preferable September)
(S) After any major storm (use 1-inch in 24 hours as a guideline).

## 3.7 Energy Dissipaters

Energy dissipaters are provided on the inlet and outlet to a closed pipe system to prevent erosion at these locations. Design of an energy dissipater can vary significantly from highly engineered systems (concrete or rock gabion structures) to the more commonly used rock pad. The rock pad is typically constructed of 4- to 12-inch diameter rocks a minimum of 12 inches thick and is often lined with filter fabric. The rock pad should extend above the top of the pipe a minimum of 1 foot.



# Energy Dissipaters Checklist

| Frequency | Drainage System Feature | Date ✓ | ✓ | ✓ | ✓ | Problem | Conditions to Check For | Conditions That Should Exist |
|---|---|---|---|---|---|---|---|---|
| External: | | | | | | | | |
| M | 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. |
| M | Rock Pad | | | | | Erosion | Soil erosion in or adjacent to rock pad. | Rock pad replaced to design standards. |
| M | Dispersion Trench | | | | | Pipe Plugged with Sediment | Accumulated sediment that exceeds 20% of the design depth. | Pipe cleaned/flushed so that it matches design. |
| M | Dispersion Trench | | | | | 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. |
| M | Dispersion Trench | | | | | Perforations Plugged. | Over 1/2 of perforations in pipe are plugged with debris and sediment. | Perforated pipe cleaned or replaced. |
| M | Dispersion Trench | | | | | 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. |
| M | Dispersion Trench | | | | | Receiving Area Over-Saturated | Water in receiving area is causing or has potential of causing landslide problems. | No danger of landslides. |
| Internal: | | | | | | | | |
| M | 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. |
| M | Manhole/ Chamber | | | | | Trash& Debris | 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. | No trash or debris in the catch basin. |
| M | Manhole/ Chamber | | | | | Trash& Debris | Trash or debris in any inlet or outlet pipe blocking more than 1/3 of its height. | Inlet and outlet pipes free of trash or debris. |
| M | Manhole/ Chamber | | | | | Trash& Debris | Dead animals or vegetation that could generate odors that could cause complaints or dangerous gases (e.g., methane). | No dead animals or vegetation present within the catch basin. |

# Energy Dissipaters Checklist (Continued)

| Frequency | Drainage System Feature | Date ✓ | ✓ | ✓ | ✓ | Problem | Conditions to Check For | Conditions That Should Exist |
|---|---|---|---|---|---|---|---|---|
| Internal (Continued): | | | | | | | | |
| M | Manhole/ Chamber | | | | | 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. There shall be a minimum of 6 inches clearance from the sediment surface to the invert of the lowest pipe. | No sediment in the catch basin |
| A | Manhole/ Chamber | | | | | 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. |
| A | Manhole/ Chamber | | | | | Structure Damage to Frame and/or Top Slab | 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 | Frame is sitting flush on the riser rings or top slab and firmly attached. |
| A | Manhole/ Chamber | | | | | Fractures or Cracks in Basin Walls/ Bottom | Maintenance person judges that structure is unsound. | Basin replaced or repaired to design standards. |
| A | Manhole/ Chamber | | | | | Fractures or Cracks in Basin Walls/ Bottom | 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. | Pipe is re-grouted and secure at basin wall. |
| A | Manhole/ Chamber | | | | | Settlement / Misalignment | If failure of basin has created a safety, function, or design problem. | Basin replaced or repaired to design standards. |
| M | Manhole/ Chamber | | | | | Contamination and Pollution | Any evidence of oil, gasoline, contaminants, or other pollutants (Coordinate removal/cleanup with local water quality response agency). | No contaminants or pollutants present. |
| A | 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 |

# Energy Dissipaters Checklist (Continued)

| | | Date | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Frequency | Drainage System Feature | ✓ | ✓ | ✓ | ✓ | Problem | Conditions to Check For | Conditions That Should Exist |
| Internal (Continued): | | | | | | | | |
| A | Catch Basin Cover | | | | | Locking Mechanism Not Working | Mechanism cannot be opened by one maintenance person with proper tools. Bolts into frame have less than 1/2 inch of thread. | Mechanism opens with proper tools. |
| A | Catch Basin Cover | | | | | Cover Difficult to Remove | One maintenance person cannot remove lid after applying normal lifting pressure. (Intent is to keep cover from sealing off access to maintenance.) | Cover can be removed by one maintenance person. |

If you are unsure whether a problem exists, please contact a Professional Engineer.

Comments:

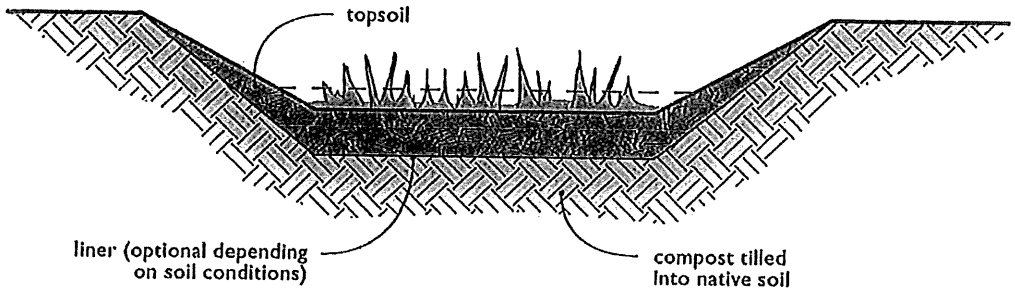
Key:
(M) Monthly from November through April.
(A) Once in late summer (preferable September)
(S) After any major storm (use 1-inch in 24 hours as a guideline).

## 3.8 Typical Biofiltration Swale

Biofiltration swales are engineered grass-lined open channels with moderate centerline slope similar in appearance to typical ditches.

Biofiltration uses vegetation in conjunction with slow and shallow-depth flow for runoff treatment. As runoff passes through the vegetation, pollutants are removed through the combined effects of filtration, infiltration, and settling. These effects are aided by the reduction of the velocity of stormwater as it passes through the biofilter.

Biofiltration swales provide stormwater quality control (treatment), but do not provide stormwater quantity control (detention/retention).



| RANGE | TOWNSHIP | SECTION | QUARTER | | |
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| 04E- | 19 N- | 03 | 4/4 | 015 | 28/35 |
| DOCUMENT NUMBER | | | | SERIAL NUMBER | PAGE NUMBER |

# Typical Biofiltration Swale Checklist

| Frequency | Drainage System Feature | Date ✓ | ✓ | ✓ | ✓ | Problem | Conditions to Check For | Conditions That Should Exist |
|---|---|---|---|---|---|---|---|---|
| M | General | | | | | Sediment Accumulation on Grass | Sediment depth exceeds 2 inches. | Remove sediment deposits on grass treatment area of the bio-swale. When finished, swale should be level from side to side and drain freely toward outlet. There should be no areas of standing water once inflow has ceased. |
| M | General | | | | | Standing Water | When water stands in the swale between storms and does not drain freely. | Any of the following may apply: remove sediment or trash blockages, improve grade from head to foot of swale, remove clogged check dams, add underdrains or convert to a wet biofiltration swale. |
| M | General | | | | | Flow spreader | Flow spreader uneven or clogged so that flows are not uniformly distributed through entire swale width. | Level the spreader and clean so that flows are spread evenly over entire swale width. |
| M | General | | | | | Constant Baseflow | When small quantities of water continually flow through the swale, even when it has been dry for weeks and an eroded, muddy channel has formed in the swale bottom. | Add a low-flow pea-gravel drain the length of the swale or by-pass the baseflow around the swale. |
| M | General | | | | | Poor Vegetation Coverage | When grass is sparse or bare or eroded patches occur in more than 10% of the swale bottom. | Determine why grass growth is poor and correct that condition. Re-plant with plugs of grass from the upper slope: plant in the swale bottom at 8-inch intervals. Or re-seed into loosened, fertile soil. |
| M | General | | | | | Vegetation | When the grass becomes excessively tall (greater than 10-inches); when nuisance weeds and other vegetation starts to take over. | Mow vegetation or remove nuisance vegetation so that flow is not impeded. Grass should be mowed to a height of 3 to 4 inches. Remove grass clippings. |

## Typical Biofiltration Swale Checklist (Continued)

| Frequency | Drainage System Feature | Date ✓ | ✓ | ✓ | ✓ | Problem | Conditions to Check For | Conditions That Should Exist |
|---|---|---|---|---|---|---|---|---|
| M | General | | | | | Excessive Shading | Grass growth is poor because sunlight does not reach swale. | If possible, trim back over-hanging limbs and remove brushy vegetation on adjacent slopes. |
| M | General | | | | | Inlet/Outlet | Inlet/outlet areas clogged with sediment and/or debris. | Remove material so that there is no clogging or blockage in the inlet and outlet area. |
| M | General | | | | | Trash and Debris Accumulation | Trash and debris accumulated in the bio-swale. | Remove trash and debris from bioswale. |
| M | General | | | | | Erosion/Scouring | Eroded or scoured swale bottom due to flow channelization, or higher flows. | For ruts or bare areas less than 12 inches wide, repair the damaged area by filling with crushed gravel. If bare areas are large, generally greater than 12 inches wide, the swale should be re-graded and re-seeded. For smaller bare areas, overseed when bare spots are evident, or take plugs of grass from the upper slope and plant in the swale bottom at 8-inch intervals. |

If you are unsure whether a problem exists, please contact a Professional Engineer.

Comments:

Key:

(M) Monthly from November through April.
(A) Once in late summer (preferable September)
(S) After any major storm (use 1-inch in 24 hours as a guideline).

## 3.21 Grounds (Landscaping)

Landscaping is an essential component of stormwater management. Bare soil areas generate higher levels of stormwater runoff and sedimentation in stormwater facilities. The following check list gives some general guidance for landscape management.

## Grounds (Landscaping) Checklist

| | | Date | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Frequency | Drainage System Feature | ✓ | ✓ | ✓ | ✓ | Problem | Conditions to Check For | Conditions That Should Exist |
| M | General | | | | | Weeds (nonpoisonous) | Weeds growing in more than 20% of the landscaped area (trees and shrubs only). | Weeds present in less than 5% of the landscaped area. |
| M | General | | | | | Insect hazard | Any presence of poison ivy or other poisonous vegetation or insect nests. | No poisonous vegetation or insect nests present in landscaped area. |
| M,S | General | | | | | Trash or litter | See Ponds Checklist. | See Ponds Checklist. |
| M,S | General | | | | | Erosion of Ground Surface | Noticeable rills are seen in landscaped areas. | Causes of erosion are identified and steps taken to slow down/spread out the water. Eroded areas are filled, contoured, and seeded. |
| A | Trees and shrubs | | | | | Damage | Limbs or parts of trees or shrubs that are split or broken which affect more than 25% of the total foliage of the tree or shrub. | Trim trees/shrubs to restore shape. Replace trees/shrubs with severe damage. |
| M | Trees and shrubs | | | | | Damage | Trees or shrubs that have been blown down or knocked over. | Replant tree, inspecting for injury to stem or roots. Replace if severely damaged. |
| A | Trees and shrubs | | | | | Damage | Trees or shrubs which are not adequately supported or are leaning over, causing exposure of the roots. | Place stakes and rubber-coated ties around young trees/shrubs for support. |

If you are unsure whether a problem exists, please contact a Professional Engineer.

Comments:

Key:
(M) Monthly from November through April.
(A) Once in late summer (preferable September)
(S) After any major storm (use 1-inch in 24 hours as a guideline).

## 3.26 Inlet/Outlet Stormwater Pipe

The inlet and outlet stormwater pipes convey stormwater in, through, and out of stormwater facilities.

Storm sewer pipes convey stormwater. Pipes are built from many materials and are sometimes perforated to allow stormwater to infiltrate into the ground. Stormwater pipes are cleaned to remove sediment or blockages when problems are identified. Stormwater pipes must be clear of obstructions and breaks to prevent localized flooding. All stormwater pipes should be in proper working order and free of the possible defects listed below.

In addition, outlet stormwater pipes should be inspected to make sure stormwater exits the facility without causing any negative impacts to the drainage area, if applicable.

## Inlet/Outlet Storm Pipe Checklist

| | | Date | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Frequency | Drainage System Feature | ✓ | ✓ | ✓ | ✓ | Problem | Conditions to Check For | Conditions That Should Exist |
| M | General | | | | | Obstructions including roots | Storm pipe- root enters or deforms pipe, reducing flow. | Use mechanical methods to remove root. Do not put root-dissolving chemicals in storm sewer pipes. If necessary, remove the vegetation over the line. |
| M | General | | | | | Pipe dented or broken | Inlet/outlet piping damaged or broken and in need of repair. | Pipe repaired and/or replaced. |
| M | General | | | | | Pipe rusted or deteriorated | Any part of the piping that is crushed or deformed more than 20% or any other failure to the piping. | Pipe repaired and/or replaced. |
| M | Erosion | | | | | Erosion | Eroded or scoured areas due to flow channelization, high flows, or vehicular damage. | For ruts or bare areas less than 12 inches wide, repair the damaged area by filling with crushed gravel. If bare areas are large, generally greater than 12 inches wide, the damaged area should be re-graded and re-seeded. For smaller bare areas, overseed. |
| M | Pipe outfall | | | | | Missing or removed 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. |
| M | Pipe outfall | | | | | Erosion | Soil erosion in or adjacent to rock pad. | Rock pad replaced to design standards. |

# Inlet/Outlet Storm Pipe Checklist (Continued)

| | | Date | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Frequency | Drainage System Feature | ✓ | ✓ | ✓ | ✓ | Problem | Conditions to Check For | Conditions That Should Exist |
| M | Pipe outfall | | | | | Erosion/Scouring | Eroded or scoured ditch or stream banks due to flow channelization, or higher flows. | For ruts or bare areas less than 12 inches wide, repair the damaged area by filling with crushed gravel. If bare areas are large, generally greater than 12 inches wide, damaged area should be re-graded and re-seeded. For smaller bare areas, overseed. |
| M | Pipe Outfall | | | | | Missing or Moved Rock | Only one layer of rock exists above native soil area in area five square feet or larger, or any exposure of native soil. | Rock pad replaced to design standards. |
| M | Pipe Outfall | | | | | Erosion | Soil erosion in or adjacent to rock pad. | Rock pad replaced to design standards. |

If you are unsure whether a problem exists, please contact a Professional Engineer.

Comments:

Key:
(A) Annual (March or April preferred)
(M) Monthly (see schedule)
(S) After major storms (use 1-inch in 24 hours as a guideline)

| RANGE | TOWNSHIP | SECTION | QUARTER | 015 | 33/35 |
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# Exhibit B

Annual Inspection Report Example

# Annual Inspection Report

## City of Puyallup - Stormwater BMP Facilities Inspection and Maintenance Log

Facility Name .....

Address .....

Begin Date ..... End Date .....

| Date | BMP ID# | BMP Facility Description | Inspected by: | Cause for Inspection | Exceptions Noted | Comments and Actions Taken |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | | | | | |
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**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 _____

| Date | BMP ID# | BMP Facility Description | Inspected by: | Cause for Inspection | Exceptions Noted | Comments and Actions Taken |
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