

# SELF-INSPECTION / SELF-REPORTING GUIDANCE MANUAL

FOR STORMWATER MANAGEMENT BEST PRACTICES FACILITIES SEPTEMBER 2018

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# DOEE, STORMWATER MANAGEMENT AND YOU: AN OVERVIEW

#### Who We Are

The Department of Energy and Environment (DOEE) is the leading authority on energy and environmental issues affecting the District of Columbia. Using a combination of regulations, outreach, education, and incentives, our agency administers programs and services to fulfill our mission. We work collaboratively with other government agencies, residents, businesses, and institutions to promote environmentally responsible behavior that will lead to a more sustainable urban environment.

#### **Our Mission**

DOEE's mission is to improve the quality of life for the residents and natural inhabitants of the nation's capital by protecting and restoring the environment, conserving our natural resources, mitigating pollution, increasing access to clean and renewable energy, and educating the public on ways to secure a sustainable future. The agency's core responsibilities include, but are not limited to, enforcing environmental regulations; monitoring and assessing environmental risks; developing energy and environmental policies; issuing permits; and providing residents and local businesses with funding, technical assistance, and information on initiatives designed to ensure a more resilient and sustainable city. We perform all agency mission activities with the highest integrity to uphold the public trust.



#### Self-Inspection / Self-Reporting For Stormwater Management Best Practices Facilities

DOEE envisions a city whose rivers and waters are fishable and swimmable for the residents and natural inhabitants of the nation's capital. One way in which DOEE aims to achieve this goal is through the use of stormwater management facilities, sometimes called stormwater best management practices (SWBMP) facilities. A SWBMP facility is a structure or vegetated area that minimizes the impact of stormwater runoff on receiving waterbodies and other environmental resources. The facilities are intended to reduce the volume of water that reaches the city's sewer system as well as the amount of pollutants carried in it. These stormwater facilities have been built throughout the city, in public spaces and on private property. They can range from large structures, such as engineered ponds, to more discreet structures, such as underground tanks and landscaping along curbs. The Self-Inspection & Self-Reporting (SISR) program is an effort by DOEE to maintain stormwater facilities more consistently and enlist their owners to perform necessary inspections of their own facilities. Having stormwater facilities that are regularly inspected and well-maintained contributes to the District's efforts to meet our sustainability goal of swimmable and fishable waterways. This work also helps improve the quality, health, and safety of water in the Anacostia and Potomac rivers, Rock Creek and their surrounding areas.

SISR is one step in the life cycle of a stormwater facility, as shown in Figure 1. The figure above illustrates where SISR fits within the entire process. More details about the various steps are described in later sections.

#### **Stormwater Management Plans**

A (SWMP) is an engineering drawing that lays out the plans for a construction project. In addition to drawings of what is to be built, SWMPs also contain detailed notes for the contractor and the property owner. The notes can provide information on how to construct particular structures, calculations used in developing the structure's design, and certifications granted by engineers. Among the most important information provided for owners, are details on the stormwater facility and maintenance requirements.

SWMPs are critical in helping the District protect the health of its waterways. In general, if 5,000 square-feet or more of land is disturbed during a construction project, a SWMP is required. The central area of the District has a combined sewer system, where sanitary sewage and stormwater are routed through the same pipe system. When large rainfall events occur, DC's wastewater treatment plant may reach capacity. If this happens, the plant cannot manage the large volume of combined sewage and stormwater flowing in the system, so some of this water-sewage mix has to be released to the District's rivers and creeks. This results in a large amount of pollutants and debris ending up in the city's waterways, negatively affecting the water quality.

As properties become developed, natural areas containing trees and grass get replaced by buildings and pavements. These structures do not allow for water to seep into the ground as it would naturally do on most grass surfaces. Instead this water gets routed to the city's sewer system and contributes to the volume of water that may potentially overflow during large rain events. Stormwater facilities are intended to capture and manage some of this stormwater before it can reach the sewers. By reducing the volume of water that makes it into the sewer, the likelihood that an overflow will occur is decreased.

#### **Stormwater Facility Owners' Responsibilities**

In an approved SWMP, DOEE assigns maintenance responsibility. When an owner undertakes a construction project that disturbs more than 5,000 square-feet of land coverage, they are required to inspect and maintain their stormwater facility as required by the SWMP. This is described in the District of Columbia Municipal Regulations, Title 21, Chapter 5, Section 528.1:

Each owner or designee of each lot and parcel that is part of a site that undertook a major regulated project shall be responsible for maintenance required by the Stormwater Management Plan (SWMP) approved by the Department and shall record that responsibility in a declaration of covenants.

Aside from the regulation, it is also in the interest of property owners to perform their own inspections. While self-reporting on stormwater facilities is optional, taking this initiative allows for longer grace periods to be granted for the required maintenance. Performing self-inspections may also prevent costs from accruing in the future.

SISR should be of particular interest to commercial property owners, as their properties often already have maintenance personnel on staff. The requirements of the SISR program may be very similar to tasks already being completed on a regular basis. The SISR creates an easier, more streamlined process for inspection reporting that may already be taking place.

# STORMWATER FACILITY TYPES

#### **Green Roofs**

Green roofs capture and store rainfall in engineered growing media that is designed to support plant growth. A portion of the captured rainfall evaporates or is used by plants, which helps reduce runoff volumes and pollutants. Green roofs typically contain a layered system of roofing, which is designed to support plant growth and retain water for plant uptake while preventing ponding on the roof surface. The roofs are designed so that water drains vertically through the media and then horizontally along a waterproofing layer towards the outlet. Extensive green roofs are designed to have minimal maintenance requirements. Plant species are selected so that the roof does not need supplemental irrigation and requires minimal, infrequent fertilization after vege-tation is initially established. Intensive green roofs are deeper, generally, than extensive green roofs, with a growing media layer that ranges from 6 inches to 4 feet thick.



#### **Rainwater Harvesting (cistern)**

Rainwater harvesting systems store rainwater and release it for future use. Rainwater that falls on a rooftop or other impervious surface is collected and conveyed into an above- or below-ground tank (also referred to as a cistern), where it is stored for non-potable uses or for on-site disposal. A rain barrell is a simpler type of rainwater harvesting facility.



Figure 3: Rainwater harvesting (cistern)

# **Permeable Pavement**

Permeable pavement is an alternative paving surface that captures and temporarily stores stormwater by filtering it through voids in the pavement surface into an underlying stone reservoir. Filtered stormwater may be collected and returned to the conveyance system, or allowed to partially infiltrate into the soil. Design variants include: porous asphalt, pervious concrete, permeable pavers.



# **Bioretentions/Rain Gardens**

Bioretentions capture and store stormwater runoff and pass it through a filter bed of soil media composed of sand, soil, and organic matter. Filtered runoff may be collected and returned to the conveyance system, or allowed to infiltrate into the soil. Design variants include:

- Traditional bioretention
- Streetscape bioretention
- Engineered tree pits
- Stormwater planters
- Residential rain gardens



# **Sand Filters**

A sand filter captures and temporarily stores stormwater and passes it through a filter bed of sand and stone. A typical District of Columbia sand filter is contained in an underground or sometimes above ground concrete vault. The filter consists of three chambers: the first is devoted to separating sediment and trash from the water, the second is a filter bed consisting of a sand and stone, and the third allows for treated water to discharge from the facility.



#### **Infiltration Trenches and Basins**

Infiltration trenches capture and temporarily store stormwater before allowing it to infiltrate into the soil over a two day period. This type of facility includes infiltration trenches and infiltration basins. Infiltration facilities use temporary surface or underground storage to allow incoming stormwater runoff to infiltrate into underlying soils. Polluted stormwater first passes through multiple pretreatment mechanisms to trap sediment, plant debris, and trash before it reaches the facility. As the stormwater penetrates the underlying soil, chemical and physical processes remove pollutants. Infiltration facilities are suitable for use in residential and other urban areas where field measured soil infiltration rates are sufficient.



# **Proprietary Facilities**

Proprietary facilities are manufactured stormwater treatment facilities that utilize settling, filtration, absorptive/adsorptive materials, vortex separation, vegetative components, and/or other appropriate technology to manage the impact of stormwater runoff. Proprietary facilities may be used to achieve treatment compliance, provided they have been approved by the District and meet the performance criteria outlined in this specification. Historically, proprietary facilities do not provide retention volume.

## Stormwater Facilities that May Be Reported Using SISR

Certain SWMPs may be reported using SISR, while others may not. Eligibility depends on the stormwater facility type. Some Stormwater facilities are more complex and may require more specialized knowledge to properly inspect. Other limitations to self-inspection include safety concerns for particular stormwater facilities. Stormwater facilities will not be eligible for SISR if they cannot be safely accessed. For example, facilities that require the inspector to enter confined spaces are not appropriate for most owners to inspect. Table 1 shows which Stormwater facilities are eligible for self-inspection and self-maintenance and which require action by licensed professionals.

Additionally, certain documentation needs to be in place within the first five years of a stormwater facility being constructed. To be eligible for SISR, plans must have an as-built set of engineering drawings that include a certification that the project was completed and that it was built as designed. Also, an initial inspection of the stormwater facility is required by DOEE. These two conditions must be met within the first years of a stormwater facility being constructed. If after five years either the as-built is missing or the stormwater facility has not been inspected by DOEE, then it is no longer eligible for SISR.

FACILITY TYPE	SELF-INSPECTION	PROFFESIONAL INSPECTIONS	SELF-MAINTENANCE	PROFESSIONAL MAINTENANCE
Green Roof	Conditional	1	Conditional	1
Rainwater Harvesting (Cistern)		1		1
Rainwater Harvesting (Rain Barrel)	1	1	1	1
Permeable Pavement	<ul> <li>Image: A set of the set of the</li></ul>	1	1	1
Bioretention	1	1	1	1
Sand Filter	<ul> <li>Image: A second s</li></ul>	1		1
Infiltration Facility	1	1	1	1
Storage Facility	1	1		1
Proprietary Facility	1	1		1

	Table 1: S	Stormwater	Facility	Eligibility	for SISF	R and	Professional	Inspection	&	Maintenand
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## Who may perform the inspections?

As a stormwater facility owner, may be able to take responsibility for performing inspections for your own facilities. Refer to Table 1 to determine whether your facility qualifies for self-inspection. In some cases it is infeasible for a non-professional to inspect a stormwater facility due to safety concerns or the complex nature of particular facilities.

Stormwater management professionals can provide specialized knowledge and services regarding Stormwater facilities. This can include both stormwater facility inspections and maintenance. Professionals have completed the necessary training to understand the various stormwater facilities and how they should operate. They have experience locating and evaluating Stormwater facilities, and if necessary can perform maintenance to bring facilities back to optimal conditions. Performing inspections and maintenance can come with safety risks. Professionals have had the proper training to know how to effectively manage these risks and safely accomplish their work. For a list of professionals in the DC area, see appendix A.

#### **DOEE Review Process**

Once an owner submits an inspection report to the stormwater database, the report is sent to a DOEE inspector for review. Based on the answers submitted to the inspection questions, the DOEE inspector will issue either a maintenance compliance letter or a maintenance notice. A maintenance compliance letter will inform the stormwater facility owner that his or her facility is up to date on maintenance activities and meets maintenance requirements. If a maintenance notice is issued it means that the stormwater facility owner needs to perform further maintenance. In addition, before a maintenance letter or notice is issued, the DOEE inspector will confirm that the inspection meets established quality standards. DOEE may audit submitted self-inspections to confirm accuracy of reported information. Inaccurate reporting could result in warning notices, subsequent inspections by DOEE, and removal from the SISR program.

This SISR Guidance Manual provides details on what maintenance activities are needed for each stormwater facility type.



Figure 8: Inspection submission process

# **INSPECTION PROCESS**

#### **Overview**

The steps necessary for SISR are outlined in the sections below. The primary tasks that need to be completed include accessing the database, locating the stormwater facilities, and conducting the inspection. See Figure 9 for the detailed inspection process.





#### What You Will Need

Before getting started on the inspection, you will need internet access, either through a mobile device or a laptop or desktop PC. You will need to be able to take photos and access the photos so they can be uploaded with the completed inspection report. Additional documents may also be helpful for reference if questions arise during the inspection

What you will need for the inspection:

- Laptop or mobile device, with the following capabilities:
  - o Camera for uploading photos
  - o Internet access
- Login credentials for database
- Self-Inspection Approval Notice
- SISR Guidance Manual or Stormwater Facility Fact Sheets
- Flashlight (if inspecting sand filters, storage facilities, or proprietary facilities)
- Footwear that cannot be easily punctured by glass or other sharp objects

# Accessing the Database

Using your laptop or mobile device, visit the Stormwater Database at <u>https://octo.quickbase.com</u>. Once you navigate to this page, you will be asked to login to the site. This should be done using your old login credentials.

Once you are signed into your account, you will be able to:

- view all approved SWMPs associated with your address
- Submit the inspection and maintenance reports associated with your facilities.
- View previous inspections and maintenance reports
- · Grant access to someone who will conduct inspections and/or maintenance on your behalf

#### Who to contact with issues?

If you are not able to recover your login credentials using the system options, please email Matthew Espie matthew.espie@dc.gov.

#### Locating the Stormwater facilities

#### Using Database Map to Locate Stormwater Facility

In the database you will find an embedded map that can be used to help locate your facilities. The points on the map indicate the approximate location of stormwater facilities. If there is more than one stormwater facility in your SWMP, you can use the stormwater facility number and stormwater facility type displayed on the map to differentiate between the multiple points. You can also zoom in to the map to see more details or zoom out to get a larger perspective of the surrounding area.

#### **Key Features to Look For**

You can also locate your stormwater facility by simply inspecting your site. This section is provided to give you examples of what various stormwater facility types might look like. Stormwater facilities can vary in design and appearance and are not limited to what is shown in the following images.

#### Green Roofs



Figure 10: (A) and (B) Vegetation on Green Roofs

#### Rainwater Harvesting



Figure 11: (A) Side view of rain barrel. (B) Downspout draining into rain barrel (C) Manhole for underground cistern. (D) Above-ground cistern

#### Permeable Pavement



Figure 12: (A) Permeable pavers (B) Pervious concrete

#### Permeable Pavement



Figure 13: (A) Vegetation in bioretention. (B) and (C) Overflow structures. (D) Curb cut for runoff to flow into bioretention

#### Sand Filters



Figure 14: (A). Manhole for sand filter (B) and (C) Top view of sand filter

#### Infiltration Facilities



Figure 15: (A) Inlet leading to dry well (B) Infiltration trench

#### Storage Facilities



Figure 16: (A) Storage facility during construction (B) Manhole of storage facility

#### **Proprietary Facilities**



Figure 17: (A) Bayfilter (B) Manhole StormFilter (C) Catch Basin Jellyfish (D) Snout

#### **Conducting the Assessment**

After you have identified the location of your stormwater facility, you may be ready to begin the inspection. However, the ability to proceed is weather dependent. Assessments should not occur while it is raining or within 72 hours of a rain event. If it has been less than 72 hours from the last rainfall event, you must wait to perform your inspection.

#### **Complete Inspection Report**

This assessment process involves making visual observations of the stormwater facility and surrounding area, as well as submitting answers to inspection questions. The stormwater facility-specific inspection questions will dictate what sort of conditions and features you should look for.

The following information will be requested in the inspection report:

• **Owner Information:** Provide the contact information for the owner of the facility. Please indicate if this is a new owner of the facility.

• Facility Information: Enter the information from your Self Inspection Approval Notice.

• **Inspection Information:** To be completed by the individual performing the inspection, stormwater facility owner, or the person responsible for maintenance.

• **Inspection Tasks:** The person inspecting each component is required to complete this information. Describe completed maintenance in the notes section.

• **Photos:** Attach a minimum of two date-stamped photos of the facility to this completed form. One photo should show the facility, and one or more photos should show areas inspected or serviced for maintenance. See the examples below.

• **Supporting Documents:** When applicable, attach material receipts, dump tickets, and a contractor invoice





Figure 18: Wide View

Figure 19: Close-up of inspected areas

The Appendix provides examples of the types of questions asked for each stormwater facility. The paper forms are for reference only. They cannot be submitted in place of the online inspection report. All SISR submissions must be sent through the online database.

#### **Further Steps if Maintenance Needed**

If you answered "Yes" or "True" to all of the questions in the Inspection Task section, maintenance is not required and you may proceed to the final step of submitting your inspection. If you answered "No" or "False" to any of the question in the Inspection Task section maintenance is required. When you submit your inspection form, you will also need to provide additional documentation. This will include:

- Material receipts
- Dump tickets
- Contractor invoices
- Photos

The maintenance needs differ depending on the stormwater facility. The following subsections provide details on what next steps you may need to take to optimize the effectiveness of your stormwater facility and meet its maintenance requirements.

#### Green Roofs

The use of herbicides, insecticides, and fungicides should be avoided, since their presence could hasten degradation of some waterproofing membranes. Fertilization is generally not recommended due to the potential for leaching of nutrients from the green roof. Recommended maintenance activities are as follows: As needed or as required by manufacturer

Water to promote plant growth and survival

• Inspect the green roof and replace dead or dying vegetation

#### Semi – annually

- Inspect the waterproof membrane for leaks and cracks.
- Weed to remove invasive plants (do not dig or use pointed tools where there is potential to harm the root barrier or waterproof membrane)
- Inspect roof drains, scuppers, and gutters to ensure they are not overgrown and have not accumulated organic matter deposits. Remove any accumulated organic matter or debris.
- Inspect the green roof for dead, dying, or invasive vegetation. Plant replacement vegetation as needed.
- Inspect for standing water

Warning: Exercise caution and utilize proper fall protection when working on a roof

#### **Rainwater Harvesting**

Periodic inspections and maintenance shall be conducted for each system by a qualified professional. Maintenance requirements for rainwater harvesting systems vary according to use. Systems that are used to provide supplemental irrigation water have relatively low maintenance requirements, while systems designed for indoor uses have much higher maintenance requirements. Maintenance tasks must be performed by a — Inspector Specialist, certified by the American Rainwater Catchment Association. Recommended maintenance activities are as follows:

#### **Owner (Rain Barrel)**

Four times a year

• Inspect and clean prescreening devices and first flush diverters.

Twice a year

• Keep gutters and downspouts free of leaves and other debris.

Once a year

- Inspect and clean storage cistern lids, paying special attention to vents and screens on inflow and outflow spigots. Check mosquito screens and patch holes or gaps immediately.
- Inspect condition of overflow pipes, overflow filter path, and/or secondary stormwater treatment facilities.

Every third year

• Clear overhanging vegetation and trees over roof surface.

#### **Qualified Third Party Inspector (Cistern)**

According to Manufacturer

• Inspect water quality devices.

As indicated in tiered risk assessment management (TRAM)

• Provide water quality analysis to DDOE.

Every third year

- Inspect cistern for sediment buildup.
- Check integrity of backflow preventer.
- Inspect structural integrity of cistern, pump, pipe, and electrical system.
- Replace damaged or defective system components.

#### **Permeable Pavement**

It is difficult to prescribe the specific types or frequency of maintenance tasks that are needed to maintain the hydrologic function of permeable pavement systems over time. The frequency of maintenance will depend largely on the pavement use, traffic loads, and the surrounding land use. One preventative maintenance task for large-scale applications (e.g., parking lots) involves vacuum sweeping on a frequency consistent with the use and loadings encountered in the site. Many experts consider an annual, dry-weather sweeping in the spring months to be important. The contract for sweeping should specify that a vacuum sweeper be used that does not use water spray, since spraying may lead to subsurface clogging. Additional, recommended maintenance activities are as follows:

After installation

• For the first 6 months following construction, the facility and contributing drainage area (CDA) should be inspected at least twice after storm events that exceed 1/2 inch of rainfall. Conduct any needed repairs or stabilization.

Once every 1–2 months during the growing season

• Mow grass in grid paver applications.

As needed

- Stabilize the CDA to prevent erosion.
- Remove any soil or sediment deposited on pavement.
- Replace or repair any pavement surfaces that are degenerating or spalling.

2-4 times per year (depending on use)

• Mechanically sweep pavement with a standard street sweeper to prevent clogging. Annually

- Conduct a maintenance inspection.
- Spot weed for grass applications.

Once every 2-3 years

• Remove any accumulated sediment in pretreatment cells and inflow points.

If clogged

- Conduct maintenance using a regenerative street sweeper or a vacuum sweeper.
- Replace any necessary joint material.

#### **Bioretention**

Standing water is the most common problem in bioretention facilities. If water remains on the surface for more than 72 hours after a storm, adjustments to the grading or underdrain repairs may be needed. The surface of the filter bed should also be checked for accumulated sediment or a fine crust that builds up after the first several storm events. There are several methods that can be used to rehabilitate the filter:

• Open the underdrain observation well or cleanout and pour in water to verify that the underdrains are functioning and not clogged or otherwise in need of repair. The purpose of this check is to see if there is standing water all the way down through the soil. If there is standing water on top, but not in the underdrain, then there is a clogged soil layer. If the underdrain and stand pipe indicates standing water, then the underdrain must be clogged and will need to be cleaned out.

- Remove accumulated sediment and till 2 to 3 inches of sand into the upper 6 to 12 inches of soil.
- Install sand wicks from 3 inches below the surface to the underdrain layer. This reduces the average concentration of fines in the media bed and promotes quicker drawdown times. Sand wicks can be installed by excavating or auguring (i.e., using a tree auger or similar tool) down to the top of the underdrain layer to create vertical columns which are then filled with a clean open-graded coarse sand material (e.g., ASTM C-33 concrete sand or similar approved sand mix for bioretention media). A sufficient number of wick drains of sufficient dimension should be installed to meet the design dewatering time for the facility.
- Remove and replace some or all of the soil media.

Additional recommended maintenance activities are as follows:

At least 4 times per year

- Mow grass filter strips and bioretention with turf cover.
- Spot weed, remove trash, and rake the mulch.
- Supplement mulch in to maintain a 3 inch layer.
- Prune trees and shrubs.
- Remove sediment in pretreatment cells and inflow points.
- Add reinforcement planting to maintain desired vegetation density.
- Remove invasive plants using recommended control methods.
- Remove any dead or diseased plants.
- Stabilize the contributing drainage area to prevent erosion.

#### Sand Filters

Maintenance of filters is required and involves several routine maintenance tasks. A cleanup should be scheduled at least once a year to remove trash and floatables that accumulate in the pretreatment cells and filter bed. Frequent sediment cleanouts in the dry and wet sedimentation chambers are recommended every 1 to 3 years to maintain the function and performance of the filter. If the filter treats runoff from a stormwater hotspot, crews may need to test the filter bed media before disposing of the media and trapped pollutants. Petroleum hydrocarbon contaminated sand or filter cloth must be disposed of according to District solid waste disposal regulations. Testing is not needed if the filter does not receive runoff from a designated stormwater hotspot, in which case the media can be safely disposed of in a landfill. Additional recommended maintenance activities are as follows:

#### By Owner

Twice a year

- Check for oil, trash, and sediment accumulation in the first chamber.
- Stabilize contributing drainage area and side-slopes to prevent erosion.

Once a month

• Remove blockages and obstructions from inflows. Trash collected on the grates protecting the inlets shall be removed regularly to ensure the inflow capacity of the stormwater facility is preserved.

#### By qualified professional

Annually

- Dig a small test pit in the filter bed to determine whether the first 3 inches of sand are visibly discolored and need replacement.
- Check to see if inlets and flow splitters are clear of debris and are operating properly.
- Check concrete structures and outlets for any evidence of spalling, joint failure, leakage, corrosion, etc.
- Ensure that the filter bed is level and remove trash and debris from the filter bed. Sand or gravel covers should be raked to a depth of 3 inches.

Every 5 years

- Replace top sand layer.
- Till or aerate surface to improve infiltration/grass cover.

#### Infiltration Facilities

Effective long-term operation of infiltration facilities requires a dedicated and routine maintenance inspection schedule with clear guidelines and schedules. Where possible, facility maintenance should be integrated into routine landscaping maintenance tasks. Recommended maintenance activities are as follows: Quarterly

- Ensure that the contributing drainage area, inlets, and facility surface are clear of debris.
- Ensure that the contributing drainage area is stabilized. Perform spot-reseeding where needed.
- Remove sediment and oil/grease from inlets, pretreatment devices, flow diversion, structures, and overflow structures.
- Repair undercut and eroded areas at inflow and outflow structures.

Semi-annual inspection

- Check observation wells three days after a storm event in excess of 1/2 inch in depth. Standing water observed in the well after three days is a clear indication of clogging.
- Inspect pretreatment devices and diversion structures for sediment build-up and structural damage. Annually
  - Clean out accumulated sediment from the pretreatment cell.

#### As needed

- Replace pea gravel/topsoil and top surface geotextile fabric (when clogged).
- Mow vegetated filter strips as necessary and remove the clippings.

#### **Storage Facilities**

Maintenance requirements for underground storage facilities will generally require quarterly visual inspections by a qualified professional from the manhole access points to verify that there is no standing water or excessive sediment buildup. Entry into the system for a full inspection of the system components (pipe or vault joints, general structural soundness, etc.) should be conducted annually. Confined space entry credentials are typically required for this inspection. Additional recommended maintenance activities are as follows: As Needed

- Water dry pond side slopes to promote vegetation growth and survival.
- Remove sediment and oil/grease from inlets, pretreatment devices, flow diversion structures, storage facilities and overflow structures.
- Ensure that the contributing drainage area, inlets, and facility surface are clear of debris.
- Ensure that the contributing drainage area is stabilized. Perform spot-reseeding where needed.
- Repair undercut and eroded areas at inflow and outflow structures.

#### Annual Inspection

- Measure sediment accumulation levels in forebay. Remove sediment when 50% of the forebay capacity has been lost.
- Inspect the condition of stormwater inlets for material damage, erosion or undercutting. Repair as necessary.
- Inspect the banks of upstream and downstream channels for evidence of sloughing, animal burrows, boggy areas, woody growth, or gully erosion that may undermine pond embankment integrity.
- Inspect outfall channels for erosion, undercutting, rip-rap displacement, woody growth, etc.
- Inspect condition of principal spillway and riser for evidence of spalling, joint failure, leakage, corrosion, etc.
- Inspect condition of all trash racks, reverse sloped pipes or flashboard risers for evidence of clogging, leakage, debris accumulation, etc.
- Inspect maintenance access to ensure it is free of debris or woody vegetation, and check to see whether valves, manholes, and locks can be opened and operated.
- Inspect internal and external side slopes of dry ponds for evidence of sparse vegetative cover,

erosion, or slumping, and make needed repairs immediately.

• Monitor the growth of wetlands, trees and shrubs planted in dry ponds. Remove invasive species and replant vegetation where necessary to ensure dense coverage.

#### **Proprietary Facilities**

In order to ensure effective and long-term performance of a proprietary facility, regular maintenance tasks and inspections are required. All proprietary facilities should be inspected by a qualified professional and maintained in accordance with the manufacturer's instructions and recommendations and any maintenance requirements associated with the device's verification by DDOE.

#### **Submitting Inspection**

If maintenance is not required or already completed, you may finish the SISR process by submitting the report via the stormwater database. If maintenance is required and has not been completed, you must first complete maintenance and then submit the report with supporting documentation.

After you have finished going through all of the inspections questions, please review your answers. Before the report can be submitted, you will be asked to confirm that all answers were answered and entered as intended. You will need to read the final statement and declare that all of the provided information is accurate.

# APPENDIX A

### **Frequently Asked Question**

What if I've used all the guidance provided, and still can't find my stormwater facility?

Contact professional maintenance service provider for assistance. See the Gray and Green Maintenance Professional Service Providers section for a list of recommended stormwater professionals.

What if my stormwater facility doesn't have the same characteristics as mentioned in the manual examples?

The design of stormwater management facilities can vary depending on the engineer, the characteristics of the site, and a number of other factors. The manual provides general information for various facilities, but providing details on the numerous design variances is out of scope for this document. The inspection questions are intended to determine whether a facility is functioning properly. As an inspector you must be able to identify the necessary features to answer the inspection questions. If more information on stormwater facilities is needed refer to the Stormwater Management Guidebook (https://doee.dc.gov/swguidebook). If you are still having difficulties identifying stormwater facility features and answering the inspection questions, contacts a professional inspector for assistance.

Who should I contact if I'm having technical issues with the database/inspection site?

Matthew Espie (202) 281-7450 Matthew.Espie@dc.gov

Where can I find more detailed documentation on the stormwater facilities?

Please refer to the Stormwater Management Guidebook. This document can be found on the Department of Energy & Environment website: <u>https://doee.dc.gov/swguidebook</u>.

#### **DOEE Natural Resource Administration (NRA) Contacts**

Self-Inspection and Self-Reporting program

Alecia Jenkins alecia.jenkins@dc.gov (202) 480-3867

Requesting a maintenance inspection

Rickeisha Goldsby Rickeisha.goldsby@dc.gov (202) 480 – 5067

# **Gray and Green Maintenance Professional Service Providers**

#### **Gray Maintenance Service Providers**

A2Z Environmental Group, LLC 250 S. Kresson St. Baltimore, MD 21224 (410) 679-8877 http://a2zgroup.com

AIA Green Solutions LLC 1629 K Street NW #300 Washington, DC 20006 (202) 709-9882 https://aiags.com

Apex Companies, LLC 15850 Crabbs Branch Way, 200 Rockville, MD 20855 (301) 417-0200 https://www.apexcos.com/all-locations/ maryland/rockville-md

Atlas Environmental Services, LLC 10139 Giles Run Road Lorton, VA 22079 (703) 339-9770 https://www.atlasontheweb.com

B & P Environmental One LLC 1230 Cronson BLVD Crofton, MD 21114 (410) 721-7091 http://www.bandpenvironmental.com

Busy Service, Inc. 7840 Cessna Ave. Unit Ste C, Gaithersburg, MD 20879 (410) 635-8560 http://busyserviceinc.com/ JP Seworootor, Inc. 5350 Odell Rd. Beltsville, MD 20705 (202) 822-9581 http://jpsinc.com/

Magnolia Plumbing 600 Gallatin St, NE Washington, DC 20017 (202) 829-8510 https://www.magnoliaplumbing.com

Remcon3, LLC 5320 Enterprise St Unit A Eldersburg, MD 21784 (410) 781-0002 https://remcon3.com

MPS Utilities 5512 Oakwood Rd. Alexandria, VA 22310 (703) 313-6771 http://www.mps-utilities.com

Storm Water Management FRG, Inc. 8345 A Beechcraft Ave Gaithersburg, MD 20879 (301) 869-2200 http://www.bmpclean.org/aaa-storm-water-management-frg-inc\_c866.html

Stormwater Maintenance LLC 10944 Beaver Dam Rd, Suite C Hunt Valley, MD 21030 (202) 787-1971 https://swmaintenance.com Petroleum Management, Inc. 2138 Priest Bridge Court Suite# 10 Crofton, MD 21114 (410) 354-0200 https://www.petromgt.net/

First Class Plumbing 2084 General Hwy. Annapolis, MD 21401 (866) 989-2837 https://1stclassplumber.com

#### **Green Maintenance Service Providers**

Angler Environmental 5367 Telephone Road Warrenton, VA 20187 (703) 393-3833 www.AnglerEnvironmental.com

Arya Civil, LLC 57 N Street NW Unit H Washington, DC 20001 (443) 535 -2325 www.aryacivilllc.com

AIA Green Solutions LLC 1629 K Street NW #300 Washington, DC 20006 (202) 709-9882 www.aiags.com

Ecological Restoration & Management, Inc. 10600 York Road #203 Cockeysville, MD 21030 (410) 337-4899 www.er-m.com

Environmental Quality Resources, LLC 1 Church View Road Millersville, MD 21108 410-932-8680 www.eqri.com Waste Strategies 200 Harry S Truman Pkwy Annapolis, MD 21401 (866) 241-1134 http://www.wastestrategies.com

Old Colony Group, LLC 3031 Carroll Road Huntingtown, MD 20639 (908) 923-4006 http://www.labpack.com/

Furbish 3430 2nd Street, Suite 100 Baltimore, MD 21225 443-874-7465 www.furbishco.com

Low Impact Development Center 5000 Sunnyside Avenue, Suite 100 Beltsville, MD 20705 301-982-9305 www.lowimpactdevelopment.org

Pratum Greenroofs, LLC 10300 Farnham Dr Bethesda, MD 20814 202-415-2674 www.pratumgreenroofs.com

Prospect Waterproofing Company 118 Acacia Lane Sterling, VA 20166 703-450-2355 www.pwcompany.com