

Post-Construction Stormwater Management Inspection & Maintenance Manual



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Central State Hospital
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For concerns related to Illicit Discharge Detection and Elimination or for reporting pollution into stormwater runoff contact Andrew Conti, Director of Physical Plant Services or Designee at (804) 524-4723.

Central State Hospital

TABLE OF CONTENTS

1.0	INTRODUCTION AND PURPOSE	1
2.0	DOCUMENTATION REQUIREMENTS	2
2.1	Construction Record Drawings	2
2.2	SMF Inspection Forms.....	2
2.3	SMF Maintenance Records	2
2.4	Annual Reporting to DEQ.....	3
3.0	INSPECTION FREQUENCY	4
3.1	DEQ Stormwater Inspector Certification	4
4.0	STORMWATER MANAGEMENT FACILITIES	5
4.1	Detention	5
5.0	SMF INSPECTION FORMS	6
5.1	Stormwater Management Facility Information	6
5.2	Inspection Elements.....	6
5.2.1	Contributing Drainage Area	6
5.2.2	Pretreatment	7
5.2.3	Inlets	7
5.2.4	Sediment Forebay	7
5.2.5	Vegetation.....	7
5.2.6	Emergency Spillway	7
5.2.7	SMF Outfall	8
5.2.8	Principle Spillway	8
5.2.9	Berm/Embankment	8
5.2.10	Low Flow Orifice	8
5.2.11	Miscellaneous	8
6.0	FACILITY MAINTENANCE	9
6.1	Routine Maintenance	9
6.2	Corrective Maintenance	9

APPENDICES

Appendix A: Stormwater Facility Inspection Forms

ACRONYMS

BMP	Best Management Practice
CWA	Clean Water Act
DEQ	Virginia Department of Environmental Quality
EPA	Environmental Protection Agency
IDDE	Illicit Discharge Detection and Elimination
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollutant Discharge Elimination System
SMF	Stormwater Management Facility
SWPPP	Stormwater Pollution Prevention Plan
TMDL	Total Maximum Daily Load
VPDES	Virginia Pollutant Discharge Elimination System
VSMP	Virginia Stormwater Management Program

1.0 INTRODUCTION AND PURPOSE

Land development disturbs stable vegetated landscapes and increases impervious areas, which in turn increases the stormwater runoff from the land surface. Development also increases pollutant concentrations in stormwater runoff, as pollution associated with development is deposited onto hardened surfaces and carried by runoff into nearby water bodies. Such pollutants include sediment, suspended solids, nutrients, pesticides, herbicides, heavy metals, chlorides, hydrocarbons, other organics, and bacteria. To remove pollutants from stormwater runoff, structures are installed to reduce the pollutant loads using various processes. These stormwater structures management facilities (SMF) are also called Best Management Practices, Practices and commonly referred to as BMPs. They are designed to reduce flooding, remove pollutants, and decrease the amount of stormwater runoff that ultimately flows into our creeks, streams, and rivers. Ensuring these BMPSMF facilities function correctly requires long-term inspections and maintenance.

This manual presents the standard protocol for Post-Construction Stormwater Management Inspection and Maintenance procedures and satisfies the written procedures for long-term operation & maintenance (O&M) requirements of the small municipal separate storm sewer system (MS4) General Permit. As a regulated MS4, Central State Hospital (CSH) is obligated to meet the requirements of the MS4 General Permit (General Permit). The General Permit is issued through the Virginia Pollutant Discharge Elimination System (VPDES), which is administered at the state level by the Virginia Department of Environmental Quality (DEQ). The MS4 program is part of the Federal National Pollutant Discharge Elimination System (NPDES), which is authorized through the Clean Water Act and regulated through the US Environmental Protection Agency (EPA).

CSH's Post-Construction Stormwater Management Program, which is a series of written procedures in this manual, ensures adequate long-term operation and maintenance of SMFs for CSH. CSH may use inspection and maintenance specifications available from the Virginia Stormwater BMP Clearinghouse or inspection and maintenance plans developed in accordance with the department's Stormwater Local Assistance Fund (SLAF) guidelines.

CSH's Post-Construction Stormwater Management Program includes three distinct components:

- **Documentation** – Procedures to document efforts related to the Post-Construction Stormwater Management inspection and maintenance procedures are outlined in Section 2.0 of this manual.
- **Inspections** – Discussion of Post-Construction Stormwater Management facility types and components that require inspections are outlined in Section 4.0 of this manual. Instruction for the Post-Construction Stormwater Management Facility inspections are outlined in Section 5.0 of this manual. Stormwater facility inspection forms are provided in the Appendices.
- **Maintenance** – Discussion of typical maintenance requirements are provided in Section 6.0 of this manual.

2.0 DOCUMENTATION REQUIREMENTS

Documentation of Post-Construction Stormwater Management efforts is critical for demonstrating compliance with the General Permit. All documentation related to Post-Construction Stormwater Management is required to be maintained on file and available upon request and include:

- Project Records, including stormwater plans (retain for 3 years);
- Construction Record Drawings (as-builts retain in perpetuity or until the SMF is removed);
- Completed SMF Inspection Forms (retain for 5 years); and
- Completed SMF maintenance recorded in the MS4 Tracking Spreadsheet, when applicable (retain for 5 years).

2.1 Construction Record Drawings

Upon completion of the construction of a SMF, a record drawing should be obtained. The record drawing, or as-built, serves the purpose of:

- Ensuring the SMF was built in accordance with the design plans and
- As a reference over time to assist with long-term inspection and maintenance.

Ideally, the record drawing would also prescribe inspection frequency and discuss critical maintenance needs. Information such as the design of the outfall structure, elevations, and vegetation plans will allow CSH to restore the SMF to its original design, when necessary. Sometimes an issue with a SMF may not be evident during an inspection, such as if the facility should be holding water or be dry. A record drawing can be referenced to make that determination. Examples include, discovering the surface of an infiltration basin or a low-flow orifice being clogged, resulting in ponding. The intended function, such as time for water to drawdown out of the basin, may not be known until the record drawing is reviewed.

In some cases, especially with older facilities, a record drawing may not be available. In these cases, the Virginia BMP Clearinghouse can be referenced for additional information regarding inspections and maintenance of each type of stormwater SMF. The Clearinghouse can be found at:

<https://www.deq.virginia.gov/our-programs/water/stormwater/stormwater-construction/bmp-clearinghouse>

2.2 SMF Inspection Forms

The General Permit requires SMFs be inspected at a minimum once per year by CSH. Completion of comprehensive inspection forms assists the inspector to:

- Inspect each critical component of the facility;
- Identify maintenance needs; and
- Properly document inspections to demonstrate compliance with the General Permit.

SMF inspection forms in Appendix A have been developed to assist the inspector, and unique forms are provided dependent on the type of SMF being inspected. In addition to the completion of the inspection forms, where applicable, a SMF Maintenance Follow-up Form should be completed as described in the next Section. Inspection forms are discussed in additional detail in Section 5.0 of this Manual.

2.3 SMF Maintenance Records

In the case that issues are identified on SMF Inspection Forms, it is important to ensure the necessary maintenance is performed in a timely manner. It is critical that documentation demonstrating the completion of the maintenance is maintained on file to demonstrate compliance. This documentation

should be provided on the SMF Maintenance Summary tab in the MS4 Tracking spreadsheet incorporated in this Manual via reference. This Manual establishes time frames for completing maintenance needs identified during inspections. Time frames shall be designated by the Environmental Compliance Officer, or designee, and be prioritized based on the nature of the maintenance need. High prioritization should be given to situations that include issues with:

- SMF functionality regarding the potential to cause flooding (e.g., structural integrity of the embankment or clogged outflow structures);
- SMF functionality regarding the inability to remove pollutants as designed (e.g., clogged infiltration surface, dead vegetation); or
- SMF acting as a source of sediment (exposed soils requiring stabilization).

In the case of Corrective Maintenance, as identified in Section 6.2, a timeframe designation should be carefully considered by the Director of Physical Plant Services or designee. In some cases, repairs may be necessary as soon as possible.

The SMF Maintenance Summary tab identifies the SMF, a description of the necessary maintenance, and an indicator of the severity of the issue(s) identified. Upon reviewing the SMF Maintenance Summary tab, the CSH Director of Physical Plant Services or designee identifies who will perform the maintenance, sets a timeframe for performing the maintenance, and includes a description of the completed maintenance, date completed or description of the status of the maintenance or an estimated date of completion.

2.4 Annual Reporting to DEQ

CSH must annually report to the DEQ information pertaining to its Post-Construction Stormwater Management efforts. By October 1 of each year CSH shall electronically report new SMFs implemented and inspected as applicable between July 1 and June 30 and newly discovered SMFs previously not reported using the DEQ BMP Warehouse. CSH shall use the associated reporting template for stormwater management facilities not reported, including:

- Stormwater management facilities installed to control post-development stormwater runoff from land disturbing activities less than one acre in accordance with the Chesapeake Bay Preservation Area Designation and Management Regulations 9VAC25-830, if applicable, and for which a General VPDES Permit for Discharges of Stormwater from Construction Activities was not required.
- Implemented as part of a TMDL action plan to achieve nitrogen, phosphorus, and total suspended solids reductions.
- Any SMFs that were not reported in accordance with the first two bullets.

Reporting requirements include the submittal of CSH's Post-Construction Stormwater Management SMF electronic database into the DEQ BMP Warehouse that includes the following information:

- The SMF type;
- The SMF location as decimal degree latitude and longitude;
- The acres treated by the SMF, including total acres and impervious acres;
- The date the SMF was brought online (MM/YYYY). If the date brought online is not known, the permittee shall use 06/2005;
- The 6th Order Hydrologic Unit Code in which the SMF is located;
- Whether the SMF is owned or operated by the permittee or privately owned;
- Whether or not the SMF is part of the permittee's Chesapeake Bay TMDL action plan required in Part II A or local TMDL action plan required in Part II B, or both;
- If the SMF is privately owned, whether a maintenance agreement exists;
- The date of the permittee's most recent inspection of the SMF; and
- Any other information specific to the SMF type required by the DEQ BMP Warehouse (e.g., linear feet of stream restoration).

CSH shall include in the annual report the following information:

- Total number of inspections conducted on stormwater management facilities owned or operated by CSH;
- A description of the significant maintenance, repair, or retrofit activities performed on the stormwater management facilities owned or operated by the permittee to ensure it continues to perform as designed. This does not include routine activities such as grass mowing or trash collection;
- A confirmation statement that CSH electronically reported stormwater management facilities using the DEQ BMP Warehouse in accordance with the MS4 General Permit.

3.0 INSPECTION FREQUENCY

The General Permit requires inspection of all stormwater management facilities at a minimum once per year. In addition to the annual inspections, the Virginia Stormwater Management Program and regulations require a stormwater facility inspection after any storm event that exceeds the principal spillway, or more specifically, whenever the emergency spillway is engaged in accordance with the Virginia Erosions and Stormwater Management Regulation 9VAC25-875-790.B Maintenance and Inspections.

Further, the inspection frequency may vary for a specific SMF if additional inspections are prescribed on the construction record drawings. This is oftentimes the case for the first year of a newly constructed SMF to ensure stabilization takes hold and any necessary plants survive.

3.1 DEQ Stormwater Inspector Certification

Individuals performing inspections of stormwater management facilities for CSH are required to maintain a Stormwater Inspector Certification from DEQ. Information regarding the certification requirements is available at the DEQ Stormwater Certification webpage.

4.0 STORMWATER MANAGEMENT FACILITIES

This section describes the types of SMFs found on the CSH property and their general layout and function. If additional SMFs are added to the property that differ in type, the manual will require updates to assist with compliance in accordance with Section 2.4 of this manual. Updates should be incorporated into the Manual within 1-year of the installation of the new SMF type.

There are several types of SMFs on the CSH property. A discussion of the facility types is included in the following sections.

4.1 Detention

These basins have at least one inflow channel, an embankment/dam, a bottom level orifice, sometimes a riser in the basin, a principal spillway structure to route drainage through the dam, and an outlet structure. These basins do not have a normal pool and remain dry except during and shortly after storm events. Some extended detention facilities may have a wet marsh with plantings in the bottom for additional pollutant removal. On rare occasions the extended detention basin may be designed to have a wet normal pool. If a plan does not indicate a wet marsh or normal pool elevation, investigate to ensure a constant pool of water is not due to blockage.

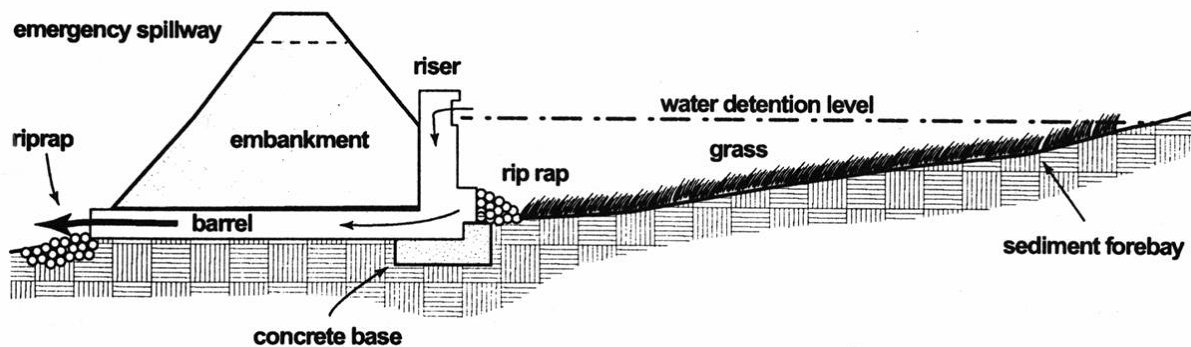


Figure 1: Typical Dry Detention Basin Section

5.0 SMF INSPECTION FORMS

SMF inspection forms are an integral part of the Post-Construction Stormwater Management Program and provide documentation to demonstrate compliance to the General Permit requirements. The following sections are intended to provide guidance when completing the SMF inspection forms located in Appendix A.

5.1 Stormwater Management Facility Information

The following describes the general information required on the SMF inspection form:

- “MS4”: CSH;
- “SMF ID #”: This is the facility identification # as identified on the IDDE & Post-Construction Stormwater Facility Map (incorporated by reference);
- “Inspection Date”: The date the inspection is taking place;
- “As-Built Plans Available”: Are the original As-Built plans available for reference? Indicate yes or no;
- “Date of Last Inspection”: The date of the last inspection of the facility. This information should be maintained on file and in the SMF inventory database;
- “Inspector Name”: The name of the inspector performing the inspection;
- Determination if maintenance was required and performed that stemmed from a previous inspection. The inspector should be able to obtain and review the previous inspection form. During the current inspection, the inspector should be able to determine if previous maintenance items have been addressed; and
- Determination if maintenance is needed based on the current inspection. Maintenance would typically be required if “Yes” is selected for any of the issues on the form. In this case, the Director of Physical Plant Services or designee should record maintenance completed in the MS4 Tracking spreadsheet.

5.2 Inspection Elements

The inspection form is designed so that individual elements of the stormwater facility are inspected for the occurrence of typical issues. For each element issue, the inspector indicates a “yes,” “no,” or “N/A.” Where “yes” is indicated, the corresponding corrective action identified on the form needs to be scheduled. Proper evaluation of element issues is critical to identify maintenance needs; and therefore, preserve proper functionality of the SMF. The notes section of the form can be utilized to indicate the severity of maintenance needs. The following sections define and describe each component of the Inspection Form.

5.2.1 Contributing Drainage Area

The contributing drainage area includes any area that drains to the facility, both onsite and offsite. These areas should be examined as a potential source of trash, debris, or erosion if any of these are within the facility. Eliminating the source of the issue is essential and works as a preventative measure to ensure long term functionality of the SMF.

5.2.2 Pretreatment

Pretreatment is the initial structure or measure through which stormwater runoff is routed before it enters the SMF. It serves as a preliminary filter, or trap, to remove silt and sediment that could reduce the pollutant removal efficiency of the SMF. As a result, the pretreatment structures or measures require clean out more often than the facility itself. If there are significant amounts of sediment in the pretreatment structure, it should be removed to maintain its function and to prevent the sediment from being re-suspended in runoff and conveyed to the SMF and subsequently downstream to the receiving waters.

5.2.3 Inlets

Inlets, such as drop inlets and curb inlets, route runoff through the storm sewer and into SMFs for treatment from the contributing drainage area. The inspector should determine if sediment, trash, or other obstructions are preventing flow from being conveyed to the SMF.

5.2.4 Sediment Forebay

A sediment forebay is a pretreatment structure that traps debris, trash, sediment and other pollutants from entering the SMF. Sediment must be cleaned out once the level in the forebay reaches 50% of the capacity. This can be measured by placing a marked stake in the forebay with the marking indicating the 50% level. The marker is useful since the forebay may often maintain a wet pool. Excessive sediment accumulation may also indicate exposed soils within the drainage area to the SMF that require stabilization.

5.2.5 Vegetation

For certain SMFs, such as constructed wetlands, the planting plan serves as a component of the design. Vegetation assists with filtering and biological uptake of pollutants, and maintaining the plantings is critical to ensure functionality. The SMF vegetation should match the design plans for the number and species of plants present. Having more plants than what is shown on the plans is acceptable as long as it is not an invasive species and/or the overgrowth is not impacting the storage volume and the SMF's ability to drain. Mosquito breeding can also be a concern, especially once cattail matting has become established in the SMF. Therefore, cattails are not a desirable species within a SMF. Considering the general planting location in the facility is also helpful. For example, if there is a section of plants adjacent to a road shoulder that is dying, it may be indicative of contaminated runoff, such as from de-icing operations. Vegetation should be replaced in accordance with the approved plans, acceptable species and quantities from the Virginia BMP Clearinghouse for the SMF type, or as specified by a licensed Landscape Architect or Professional Engineer.

5.2.6 Emergency Spillway

The emergency spillway is a channel that conveys stormwater during large storm events from the SMF to an outfall, usually the same one as the principal spillway or main outlet. It prevents the facility from overtopping during the large storm events. Not all facilities have an emergency spillway. Spillways can be lined with various materials including grass with or without erosion control matting, riprap, or concrete, based on the velocity of flows predicted through the spillway. The spillway is usually visible as a low spot a minimum of 1' below the top of embankment off to one side. Consult the design plans for additional details.

5.2.7 SMF Outfall

The SMF outfall is the location where flows are discharged from the SMF. The SMF outfall should discharge into a stabilized receiving channel. At the location where the discharge from the SMF enters the receiving channel, there is typically a riprap stone lining to prevent erosion, otherwise known as outlet protection. The purpose of many stormwater facilities is to protect the downstream channels, and thus, an evaluation of the outfall and the channel immediately downstream should be conducted to determine if erosion is occurring.

5.2.8 Principle Spillway

The principle spillway is the structure that controls how much flow exits the SMF during more frequent storm events. Flows typically pass through the control structure (e.g., orifice, riser) and subsequently through a culvert that passes through an embankment, if present. The principle spillway is used in most storm events, unlike the emergency spillway, which is only used during very large events. Because this is typically the only conveyance through the embankment, the functionality and structural integrity of the principle spillway is critical. Often, a riser may serve as the principal spillway and connect the discharge culvert to convey flows to the SMF outfall. The riser usually has a small opening, or orifice, that controls the amount of flow through the system. The functionality of the riser can have a large impact on the water level in the basin; and therefore, whether the designed pollutant removal is met. Larger storms may spill over the top of the riser through a grate. Inspections should ensure the top of the riser is free from obstruction as well as any orifices in the structure. Damage or deterioration can take the form of rust, cracking, exposed rebar, or additional holes in the structure.

5.2.9 Berm/Embankment

The embankment or berm is the fill section that detains runoff within the facility. The face of the dam is the front side that interacts with the water level and the top, or crown, is the highest flat surface. The downstream side is the back of the dam from the top down to where the fill section meets the natural grade (called the “toe” of the dam), typically just below the outfall. Basins outlet on the downstream side, which can be a more problematic area due to the effects of water pressure and saturation on the face and through the embankment. Trees should not be allowed to grow in the embankment since their root systems can affect the structural integrity. A dug basin, however, will not have all of these components since it is excavated into the existing earth and not created by fill placement. Additionally, roadways are not considered embankments because they typically have culvert pipes through them to convey stormwater effectively. Issues with the embankment can be critical to the function of the facility, downstream safety, as well as environmental concerns in the case of a failure.

5.2.10 Low Flow Orifice

The low flow orifice is the smaller outflow hole, usually in the riser, that slows the discharge from the pond, protecting against downstream erosion. It also provides settling time for the runoff within the facility. The low flow orifice tends to clog because of its small size and will typically have a trash rack or screen on the front of it.

5.2.11 Miscellaneous

This section captures any other pertinent features or issues of the facility not otherwise addressed in the checklist. Issues may be identified in the footprint area and with general issues such as difficulty in accessing the SMF. Note any of the criteria needing repair and include applicable location information for reporting.

6.0 FACILITY MAINTENANCE

The effectiveness of post-construction stormwater control SMFs depends upon regular inspections and maintenance of all aspects of the facility. There are typically two types of SMF maintenance, referred to as routine maintenance and corrective maintenance.

6.1 Routine Maintenance

Routine maintenance consists of preventative measures that are essential to the ongoing care and upkeep of a SMF. These measures are performed regularly to ensure proper function. Additionally, it helps prevent potential nuisances (odors, mosquitoes, weeds, etc.), reduces the need for corrective maintenance, and reduces the chance of polluting stormwater runoff by identifying and repairing problems before they further deteriorate. Upon being identified during an inspection, routine maintenance should be conducted within six (6) months of the inspection.

Examples of routine maintenance include:

- Removal of any accumulated sediment from the forebays;
- Replacement of plants called for in the approved plans that have died or are diseased;
- Repair of the stormwater structures for erosion or undercutting;
- Repair of any erosion in the facility, including sloughing, animal burrows, and slopes;
- Repair of any deterioration at the outfall of the facility, including the riprap outlet protection;
- Removal of blockages from all trash racks, inlets, and outlets;
- Maintenance of adequate access to the facility and removal of woody vegetation as needed;
- Removal of trees from embankments;
- Exercise of valves to prevent them from locking up where applicable; or
- Removal all trash, debris, and floatables periodically from the facility.

6.2 Corrective Maintenance

Corrective maintenance is any maintenance that should be addressed for the facility to properly function in accordance with the plans. These items require more intensive repair efforts and should be addressed as a higher priority than routine maintenance. If there are structural deficiencies, or issues that raise the water level in the facility beyond the design intentions, corrective maintenance is required and should be conducted as soon as possible to prevent downstream damage to properties and/or the environment. Upon being identified during an inspection, corrective maintenance should be conducted within one (1) year of the inspection contingent on complexity. Reasonable progress steps should at least be taken.

Examples of Corrective Maintenance include:

- Repair of any deterioration or issues with the principal spillway and riser, such as evidence of spalling, joint failure, leakage, corrosion, etc.;
- Extensive sediment removal when inspections indicate that 50% of the forebay sediment storage capacity has been filled;
- Control or removal of invasive species and plant growth if there are impacts to the storage volume (i.e., water levels rise because the vegetation is taking up the water storage space); or
- Removal of woody vegetation from the embankment, if present, to prevent structural damage.

Further information on maintenance recommendations for various types of SMFs can be found at the Virginia BMP Clearinghouse at:

<https://www.deq.virginia.gov/our-programs/water/stormwater/stormwater-construction/bmp-clearinghouse>

Appendix A: Stormwater Facility Inspection Forms

Stormwater Facility Inspection for a **Wet, Detention, or Extended Detention Pond**

MS4 Name:		SMF ID #:			
Date of Inspection:		Inspector Name:			
Date of Last Inspection:		As-built plans available? Yes No			
Were issues identified during the previous inspection that required maintenance?		Yes No			
If yes, was the maintenance performed and recorded on the MS4 Tracking Spreadsheet?		Yes No			
If no, explain:					
Does the current inspection, as summarized hereon, identified maintenance needs?		Yes No			
If yes, record maintenance in the MS4 Tracking Spreadsheet upon completion.					
SMF Element	Issue	Yes	No	N/A	Corrective Action
Contributing Drainage Area	Excessive trash/debris	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Remove trash/debris and properly dispose.
	Bare exposed soil	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Stabilize with seed and mulch. ESC measures may be warranted until stabilized.
	Evidence of erosion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Backfill area, seed, mulch and consider matting. ESC measures may be warranted until stabilized.
	Excessive landscape waste/yard clippings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Remove landscape waste and yard clippings to prevent clogging and properly dispose of them.
Pretreatment / Forebay / Inflow	Excessive trash/debris/sediment or other blockage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Remove trash/debris/sediment or blockages and properly dispose of.
	Dead vegetation, exposed soil	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Replace vegetation and stabilize according to plans. E&S measures may be warranted until stabilized.
	Evidence of erosion, undercutting, or bare soils	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Backfill area, seed, mulch and consider matting, ESC measures may be warranted until stabilized.
	Structural deterioration of inlets, outfalls or pretreatment overflow weirs into the facility	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Repair and restabilize area. Consult plans for approved configuration or an engineer. E&S measures may be warranted until stabilized.
	Animal burrows	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fill in immediately and stabilize.
Aquatic Bench / Vegetation	Plantings inconsistent with approved plans.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Consult approved plans and/or management to ensure no approved plant substitutions were used. Remove unapproved plants and replace any required plantings in kind.
	Dead vegetation/exposed soil	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Replace vegetation and stabilize according to plans. E&S measures may be warranted until stabilized.
	Invasive plants, such as cattails and phragmites, exceeds 15% of the planted area.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Invasive plants should be removed immediately. Vegetation may require periodic harvesting for proper long term management.

Berm / Embankment	Overgrown, including woody growth 5' beyond the outfall pipe and/or embankment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Removal of woody species near or on the embankment is critical for proper function and long term stability. Remove all woody growth including stumps. Consult an engineer for backfill specifications. Mow thick growth.
	There is sparse vegetative cover and erosion channels are present.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Backfill area with structural fill and consult engineer for proper specifications. Stabilize with seed and mulch, consider matting. E&S measures may be warranted until stabilized.
	Cracking, bulging, sloughing and seepage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Consult an engineer immediately to prevent failure.
	Evidence of animal burrows.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fill in immediately and stabilize.
Riser	Structural condition of the riser is deteriorating.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Consult an engineer to recommend a repair and review the approved plans.
	Adjustable control valve inaccessible and inoperable (if present).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Repair valve to be operational.
	Pieces of the riser are broken or missing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Repair immediately in accordance with the approved plans. Consult an engineer as needed.
	Riser or low flow orifice is blocked.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Remove blockage and properly dispose of.
	Riser provides inadequate conveyance out of facility.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Repair to properly convey drainage to the outfall per the approved plan. Consult an engineer as needed.
	Evidence of erosion or undermining at/around riser.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Repair erosion. Consult engineer for structural repairs as needed.
	Structural deterioration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Consult engineer for proper repair procedures.
Outlet / Outfall	Exposed rebar, joint failure, loss of joint material, misalignment, leaking or corrosion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Repair concrete to cover rebar. Consult engineer for all other structural repairs.
	Excessive trash/debris/sediment or blockages.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Remove trash/debris/sediment/blockages and properly dispose of.
	Evidence of erosion and bare soil.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Backfill area, seed, mulch and consider matting, ESC measures may be warranted until stabilized.
	Valves, manholes or locks cannot be opened or operated (if present).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Repair/replace any broken fixtures.
	Erosion of outfall channel or riprap deterioration.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Repair and/or supplement riprap outlet protection in accordance with the approved plans.
	Outlets provide inadequate conveyance out of facility.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Repair to properly convey drainage to the outfall per the approved plan. Consult an engineer as needed.
Overall	Access to the facility is in need of repair.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Restore access for maintenance equipment per the approved plans.
	Encroachment on facility or easement by buildings or other structures.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Contact Operations and Maintenance or Plant Services Division
	Evidence of oil/chemical accumulation, odor, algae, color or pollution.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Report to management and consult IDDE manual.
	Fences and/or safety signage is inadequate.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Repair fences and signage for public safety.
	Trash in the pool	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Remove immediately and observe safety procedures.
Additional and/or Summary Notes:					