MAINTENANCE OF
STORMWATER
MANAGEMENT MEASURES

Brian Salvo
NJDEP Division of Water Quality
SWMDR Training Day 2
October 31, 2019
Goals

- Goal One: Understand the Importance of long-term operation and maintenance of BMPs
- Goal Two: Understand the permittee’s responsibility for performing/ensuring long-term operation and maintenance
- Goal Three: Understand the required elements of a maintenance plan
THE IMPORTANCE OF LONG-TERM OPERATION & MAINTENANCE OF BMPs
Why?  This is Why.
Ponding Infiltration Basin or Constructed Wetland?
Poorly maintained BMPs lead to

- Water quality issues in receiving water bodies
- Flood hazards
- Safety issues
- Soil erosion
- Mosquito breeding
- Decreases in property value
PERMITTEE’S RESPONSIBILITY FOR PERFORMING | ENSURING MAINTENANCE
Permittee’s responsibility for performing/ensuring maintenance

- MS4 Post-construction Program
  - Ensure adequate long-term operation and maintenance of BMPs;
  - Post-construction inspection and maintenance of BMPs; and
  - Penalty provisions for the noncompliance with design, construction or operation and maintenance.
Ensure adequate long-term cleaning, operation and maintenance of stormwater management measures:

i. **owned or operated** by the Tier A Municipality

   The permittee must develop, update and implement a program
   
   • **Inspection and maintenance must be performed** pursuant to any plans, or more frequently, to ensure proper function and operation.
   
   • The Tier A municipality must **maintain a log to demonstrate compliance** with this section (Part IV.C.)
     
     o Facility information and field location - geographic coordinates
     o Inspector information
     o Inspection details
     o Maintenance performed
Minimum Standards/Other Control Measures for Stormwater Facilities Maintenance – MS4

Ensure adequate long-term cleaning, operation and maintenance of stormwater management measures:

i. owned or operated by the Tier A Municipality

The permittee must develop, update and implement a program (cont’d.)

- The permittee shall **certify annually** that municipally owned or operated facilities are properly functioning.
- Maintenance must be **documented and prioritized** for facilities not functioning. A **schedule for the repairs shall be maintained**. (Part IV.C.1.b.iv/IV.C.3.f)
Ensure adequate long-term cleaning, operation and maintenance of stormwater management measures:

ii. not owned or operated by the Tier A Municipality

The Tier A municipality must develop, update and implement a program for facilities constructed after Feb. 7, 1984

- Ensure inspection and maintenance performed pursuant to any plans, or more frequently, to ensure proper function and operation.
- The Tier A municipality must maintain a log to demonstrate compliance with this section (Part IV.C.1.b)
  - List actions taken to enforce compliance
  - Identify facilities requiring action and provide location information
  - Name of person(s) taking action and date of action(s)
  - Detailed findings of actions
Reviewer Responsibilities

- Failure to require a proper maintenance plan may have consequences:
  - Inadequate removal of pollutants
  - Improper or insufficient maintenance of the BMP
  - Municipality has a weaker basis to inspect and enforce maintenance
  - Permittee will violate its MS4 permit
### Checklist for Conducting Stormwater Management Reviews (cont’d.)

<table>
<thead>
<tr>
<th>Information</th>
<th>Check/ Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>8. Maintenance Plan</strong></td>
<td></td>
</tr>
<tr>
<td>a. Identify if the maintenance plan includes the contact information of the responsible party including name, address and telephone number.</td>
<td></td>
</tr>
<tr>
<td>b. Identify if the responsible party is an individual homeowner in a multiple-lot development. Assigning maintenance responsibilities to an individual homeowner shall not be permitted.</td>
<td></td>
</tr>
<tr>
<td>c. Identify if the maintenance plan has the required specific preventive and corrective maintenance tasks and schedules, including:</td>
<td></td>
</tr>
<tr>
<td>- repairs or replacement to the structure;</td>
<td></td>
</tr>
<tr>
<td>- removal of sediment, debris or trash;</td>
<td></td>
</tr>
<tr>
<td>- restoration of eroded areas;</td>
<td></td>
</tr>
<tr>
<td>- snow and ice removal;</td>
<td></td>
</tr>
<tr>
<td>- fence repair or replacement;</td>
<td></td>
</tr>
<tr>
<td>- restoration of vegetation and repair or replacement of non-vegetated linings; and</td>
<td></td>
</tr>
<tr>
<td>- cost estimates, including estimated cost of sediment, debris, or trash removal.</td>
<td></td>
</tr>
<tr>
<td>d. Determine if the developer has recorded the maintenance plan with the county clerk’s office. If this is required as a condition of approval, follow-up is necessary.</td>
<td></td>
</tr>
</tbody>
</table>
### Stormwater Facilities Maintenance Requirements

<table>
<thead>
<tr>
<th>Minimum Standard</th>
<th>Measurable Goal</th>
<th>Implementation Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop, update and implement a program to ensure adequate long-term cleaning, operation and maintenance of all stormwater facilities owned or operated by the Tier A Municipality.</td>
<td>Certify annually; SPPP records retention</td>
<td>Existing Permittees: January 1, 2018</td>
</tr>
<tr>
<td></td>
<td></td>
<td>New Permittees: EDPA + 18 Months</td>
</tr>
<tr>
<td>Inspect and maintain stormwater facilities pursuant to any maintenance plans, or more frequently as needed, to ensure proper function and operation of each stormwater facility.</td>
<td>Certify annually</td>
<td>Existing Permittees: January 1, 2018</td>
</tr>
<tr>
<td></td>
<td></td>
<td>New Permittees: EDPA + 18 Months</td>
</tr>
<tr>
<td>Maintain a log sufficient to demonstrate compliance with this section; including but not limited to a list of inspections and preventative and corrective maintenance performed, and a schedule for repairs to be made.</td>
<td>Certify annually</td>
<td>Existing Permittees: January 1, 2018</td>
</tr>
<tr>
<td></td>
<td></td>
<td>New Permittees: EDPA + 18 Months</td>
</tr>
</tbody>
</table>

Note: EDPA means effective date of permit authorization.
## Stormwater Facilities Maintenance Requirements (cont’d.)

<table>
<thead>
<tr>
<th>Minimum Standard</th>
<th>Measurable Goal</th>
<th>Implementation Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certify annually that municipally owned or operated stormwater facilities are properly functioning.</td>
<td>Certify annually</td>
<td>January 1, 2018</td>
</tr>
<tr>
<td>If stormwater facilities were found not to be functioning properly and repairs not made, then necessary preventative and corrective maintenance shall be documented and prioritized and a schedule for maintenance shall be maintained.</td>
<td>Certify annually</td>
<td>EDPA + 18 Months</td>
</tr>
<tr>
<td>Develop, update, implement and enforce a program to ensure adequate long-term cleaning, operation and maintenance of stormwater facilities not owned or operated by the Tier A Municipality, not subject to the conditions of another NJPDES stormwater permit and constructed after February 7, 1984.</td>
<td>Certify annually; SPPP records retention</td>
<td>January 1, 2019</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EDPA + 18 Months</td>
</tr>
</tbody>
</table>
### Stormwater Facilities Maintenance Requirements (cont’d.)

<table>
<thead>
<tr>
<th>Minimum Standard</th>
<th>Measurable Goal</th>
<th>Implementation Schedule</th>
</tr>
</thead>
</table>
| Ensure that stormwater facility inspection and maintenance is performed pursuant to any maintenance plans, or more frequently as needed to ensure proper function and operation of each stormwater facility. | Certify annually | Existing Permittees: January 1, 2019  
New Permittees: EDPA + 18 Months |
| Maintain a log sufficient to demonstrate compliance with this section; including but not limited actions taken by the municipality to enforce compliance with the long-term cleaning, operation and maintenance program. | Certify annually | Existing Permittees: January 1, 2019  
New Permittees: EDPA + 18 Months |
| Maintain copies of all maintenance plans for stormwater facilities approved by the municipality, and make them available to the Department upon request. | Certify annually | Existing Permittees: January 1, 2019  
New Permittees: EDPA + 12 Months |

Note: EDPA means effective date of permit authorization.
What is a review engineer’s role in MS4 Permit compliance

Review Engineer

Ensure MS4 Permit Compliance

Enforce Maintenance

Review Maintenance plan

DPW/Facilities Office & DEP Enforcement

Stormwater Program Coordinator
BY THE COURT

Plaintiffs,

vs.

Defendants.

SUPERIOR COURT OF NEW JERSEY
CHANCERY DIVISION
COUNTY

Docket No.

Civil Action
ORDER DISMISSING PLAINTIFFS’
SECOND AMENDED COMPLAINT
and DECLARING CITY OF
RESPONSIBLE PARTY
FOR ENFORCEMENT OF STORM
WATER MANAGEMENT PLAN

It is on this 26th day of __________ ORDERED and ADJUDGED as follows:
1. The Second Amended Complaint is dismissed with prejudice as to all defendants except the _____________________.
2. Judgment is entered declaring the ____________________ responsible entity for enforcement of its storm water management plan and RSIS compliance.
3. Plaintiffs’ counsel may make application for fees pursuant to ERA.
4. Claims for contribution and/or indemnification survive the dismissal of the Second Amended Complaint and may be brought in a separate action in the Law Division.
5. As no proposed form of Order has been submitted, this Order has been prepared by the court after listening to the record created on March 18, 2016.
6. A copy of this Order shall be served on counsel of record by facsimile.
REQUIRED ELEMENTS OF A MAINTENANCE PLAN
Maintenance Plan
• Design engineer has to prepare a maintenance plan
  o Specific tasks and schedules;
  o Cost estimates, including estimated cost of sediment, debris, or trash removal;
  o The name, address, and telephone number of the person or persons responsible for preventative and corrective maintenance (including replacement).
Preventative and corrective maintenance shall be performed to maintain the function of the stormwater management measures, including:

- Preventative Tasks
  - Removal of sediment, debris, or trash
  - Restoration of vegetation
  - Snow and ice removal
- Corrective Tasks
  - Repairs or replacement to the structure
  - Restoration of eroded areas
  - Fence repair or replacement
  - Restoration of vegetation
  - Repair or replacement of non-vegetated linings
 NJDEP Stormwater BMP Maintenance Requirements

Stormwater Management Rules at N.J.A.C. 7:8-5.8

Inspection and Maintenance Records
  • The party responsible for the BMP shall maintain a detailed log of all preventative and corrective maintenance for the structural stormwater management measures incorporated into the design of the development, including a record of all inspections and copies of all maintenance-related work orders.

Annual Evaluation
  • The responsible party shall evaluate the effectiveness of the maintenance plan at least once per year and adjust the plan and the deed as needed.
The Stormwater Management rules also refer to the BMP manual for guidelines.

- **Chapter 8: Maintenance and Retrofit of Stormwater Management Measures**
  - General guidelines for preparation of maintenance plan, performance of inspection and maintenance, and record keeping
  - Retrofit stormwater BMPs

- **Chapter 9: Structural Stormwater Management Measures**
  - Specific preventative and corrective actions for each type of BMPs
Recordation Requirement

• If the person responsible for maintenance identified under (b) above is not a public agency, the maintenance plan and any future revisions based on (h) below shall be recorded upon the deed of record for each property on which the maintenance described in the maintenance plan must be undertaken.

• The Maintenance Plan must be recorded with the parcel where the stormwater management measure is located.

• If the maintenance plan was initially recorded under the developer’s name, the township needs to make sure that, after the completion of the construction, the plan is recorded again to show the subsequent responsible party, such as HOA or owner.
STORMWATER MANAGEMENT FACILITIES MAINTENANCE,
REPAIR AND SAFETY PLAN

The on-site stormwater management facilities were designed to operate under conditions that require regular active maintenance to ensure their integrity and proper operation. In order to assure the aforementioned, the following maintenance plan must be implemented and adhered to by the owner as a minimum. Should specific conditions warrant additional maintenance measures shall also be implemented as required. When establishing or restoring vegetation, bi-weekly inspections of vegetation health should be performed during the first growing season. Once established, the inspection of vegetation health, density and diversity shall be performed at least twice annually. The vegetated cover should be maintained at 85%.

1. Inspection

Routine inspection of the Infiltration/retention basin shall be performed on a monthly basis and following all storms exceeding one inch of rainfall. In addition to the monthly inspections, the basin should be inspected annually by a licensed professional engineer to ensure its proper operation and to provide recommended changes to the maintenance thereof. Among the specific items that must be looked for and reported on are erosion of the side slopes, breaching of embankments, damage to fences and gates, and deterioration of the headwalls and outlet works. Any erosion on the basin side slopes must be repaired and then reseeded in accordance with the State Soil Erosion Control Standards. Breaching of embankments may be caused by animals, settlement or other factors. Deterioration of the outlet structure may cause a basin failure to occur and result in property damage downstream. Due to all of the concerns above, any observed deficiencies must be reported and corrected immediately upon discovery. Other minor items such as displacement of rip-rap, etc., should also be noted and repaired in a timely fashion.

2. Maintenance Activities

A. Turf Management

All turf shall be actively maintained throughout the year by the proper application of fertilizers, pesticides, weed control, lime, supplemental seeding, and any other measures necessary to maintain a healthy stand of grass. All treatments are to be applied in accordance with the manufacturer’s recommendations and safety precautions. Grassed areas are to be mowed twice a month as a minimum during the growing season, with mowing scheduled weekly or as needed during periods of heavy growth. All grass clippings shall be removed from the basin area and disposed of properly.
### E. SWMF Maintenance Procedure

1. Preventive Maintenance Procedures
   1. Grass Cutting
   2. Grounds Maintenance
   3. Vegetative Cover
   4. Removal and Disposal of Trash & Debris
   5. Sediment Removal & Disposal
   6. Mechanical Components
   7. Elimination of Potential Mosquito Breeding Habitats
   8. Maintenance of Stormwater Detention Facility
   9. Inspection
   10. Reporting

This is a maintenance plan for a Standard Constructed Wetland, but not a single phrase mentions what it is.
### Maintenance Plan Components:

<table>
<thead>
<tr>
<th>Information</th>
<th>Planning</th>
<th>Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inventory of the Stormwater BMPs</td>
<td>Planning of Preventative &amp; Corrective Maintenance Actions</td>
<td>Safety Measures &amp; Procedures</td>
</tr>
<tr>
<td>• Type and locations of BMPs</td>
<td>• Establish schedule of tasks</td>
<td>Staff Training</td>
</tr>
<tr>
<td>Information about the Stormwater BMPs</td>
<td>Planning Logistics</td>
<td></td>
</tr>
<tr>
<td>• Design information of BMPs</td>
<td>• Maintenance Equipment, Tools, &amp; Supplies</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Planning Disposal Method</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Destination and Conveyance for removed vegetation &amp; sediment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Planning the Cost</td>
<td></td>
</tr>
</tbody>
</table>
Information

- Inventory of the Stormwater BMPs
  - Type of BMPs
  - Location of BMPs
  - Location of outfalls

- Information about the Stormwater BMPs
  - Design information of BMPs
  - Documentation of BMPs
  - Site plans, reports, manuals, warranties, etc.
Maintenance Plan Components:

Planning

• Planning of Preventative & Corrective Maintenance Actions
  • Itemize required tasks
  • Establish schedule of tasks

• Planning Logistics
  • Maintenance Personnel
  • Equipment, Tools, & Supplies
Maintenance Plan Components:

Planning

• Planning Disposal Method
  • Conveyance for removed vegetation & sediment
  • Destination

• Planning the Cost
  • Itemized by task
  • Annualized costs
Education

- Safety Measures & Procedures
- Staff Training
  - Inspection
  - Preventative & Corrective Actions
  - Operation of Tools & Equipment
  - Records
Roles and Responsibilities

Responsible Party

- Developer of the development
- Public entity for publicly owned and operated BMPs
- Entities other than the developer
  - (转移 under agreement or assignment by ordinances/regulations)
  - Public agency
  - Homeowners’ association
  - Owner/ Tenant of an individual property in a nonresidential development
  - Owner/ Tenant of an individual property in a residential development (only if the individual owns the ENTIRE residential development)
Subdivision Projects

**Development** - "means the division of a parcel of land into two or more parcels, the construction, reconstruction, conversion, structural alteration, relocation or enlargement of any building or structure, any mining excavation or landfill, and any use or change in the use of any building or other structure, or land or extension of use of land, for which permission is required under the Municipal Land Use Law, N.J.S.A. 40:55D-1 et seq."

7:8-1.6 Applicability to major development

(a) Except as provided in (b) below, all major development shall comply with the requirements of this chapter.”

If disturbance in a project = major development threshold, the project **must comply** with the SCO

• Design and performance standards
• Nonstructural strategies
• Maintenance plan requirements
  o Responsible party
  o Deed recording
NJDEP Maintenance Guidance

Maintenance Plan & Field Manuals

Development Name
Address
Block(s)/Lot(s)
Township, County

Party Responsible for Maintenance:

Address: ____________________________
Contact Person(s): __________________ Phone: __________________
Prepared by: __________________ Date: __________________

This plan is recorded in:
Deed Book: __________ Page: __________ County Clerk on Date: __________
Last Revised: __________ DD/YY

14 Templates of Field Manuals for Different BMPs

Maintenance Log

Maintenance Log

Record Log

for Inspection Checklists and Maintenance Work Orders

*Optional and Editable
Field Manual

Components

- BMP Overview
- Basic Design Information
- Visual Aid for Stormwater Basin Inspection
- Reference Documents
- Inspection Checklist / Maintenance Actions
- Preventative Maintenance Record
- Corrective Maintenance Record
### Inspection Checklist/Maintenance Actions

**Tailored to each type of BMPs**

<table>
<thead>
<tr>
<th>Component No. Component Name</th>
<th>For Inspector</th>
<th>For Maintenance Crew</th>
<th>Preventative / Corrective Maintenance Actions</th>
</tr>
</thead>
</table>
| A1 Pretreatment (Forebay)    | 1  
Scouring or erosion is present at inlet structure and/or riprap apron | Y__  
N__ | Check the flow diversion device before the inlet pipe and whether the bypass flow channel is clogged  
Work Order # __________ |
|                              | 2  
Clogged pipes or excessive sediment in the forebay | Y__  
N__ | Remove sediment or debris |
|                              | 3  
Damaged outlet structure (e.g., cracking, subsidence, spalling, erosion, or deterioration) | Y__  
N__ | Repair or replace the outlet structure  
Work Order # __________ |
| A2 Pretreatment (MTD, if installed) | 1  
MTD inspection | Y__  
N__ | (If a MTD is used for pretreatment, see manufacturer’s maintenance manual) |
| A3 Pretreatment (Structural BMP) | 1  
BMP inspection | Y__  
N__ | (See BMP No. __________ Field Manual) |

**Note:**
**Preventative Maintenance Record**

**Corresponding Checklist No. _____**
**Component No. _____, Inspection Item No. _____**

<table>
<thead>
<tr>
<th>Work Logs</th>
<th>Components</th>
<th>Date Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sediment/debris removal</td>
<td>A1/A2/A3 – Pretreatment</td>
<td></td>
</tr>
<tr>
<td>Sediment removal should take place when the basin is thoroughly dry</td>
<td>B – Infiltration Bed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>D – Basin Embankment and Side Slopes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>E – Outlet</td>
<td></td>
</tr>
<tr>
<td>Vegetation removal</td>
<td>A1/A2/A3 – Pretreatment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>B – Infiltration Bed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>D – Basin Embankment and Side Slopes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>E – Outlet</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F – Emergency Spillway</td>
<td></td>
</tr>
<tr>
<td>(List additional tasks, if applicable)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Vegetation is removed by _____________ (type of equipment) with minimum disruption to the remaining vegetation.
### Preventative & Corrective Maintenance Records

#### Inspection Checklist
1. The responsible party shall report issues to the local as required by local ordinances and regulatory authorities.
2. The maintenance crew should fill out the checklist in the inspection/maintenance task.
3. After the maintenance task is performed, the checklist should be recorded in the log below.

<table>
<thead>
<tr>
<th>Cycle of Inspection</th>
<th>Stormwater Management Measure No.</th>
<th>Checklist No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1st Quarter) MM/DD/YYYY</td>
<td>(Basin #1, GS #1, GS#2 ....)</td>
<td></td>
</tr>
<tr>
<td>(2nd Quarter) MM/DD/YYYY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(3rd Quarter) MM/DD/YYYY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(4th Quarter) MM/DD/YYYY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Unscheduled Inspection; e.g., after 1&quot; rain) MM/DD/YYYY</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Corrective Maintenance Log

<table>
<thead>
<tr>
<th>Maintenance Schedule</th>
<th>Stormwater Management Measure No.</th>
<th>Corrective Maintenance Record No.</th>
<th>Date(s) of Maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1st Quarter) MM/DD/YYYY</td>
<td>(Basin #1, GS #1, GS#2 ....)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2nd Quarter) MM/DD/YYYY</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(3rd Quarter) MM/DD/YYYY</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(4th Quarter) MM/DD/YYYY</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Unscheduled Maintenance work; e.g., after 1&quot; rain) MM/DD/YYYY</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Maintenance Guidance

The guidance on this page is intended to assist design engineers and responsible parties with complying with the maintenance requirements for stormwater management measures. The Maintenance Guidance can be customized to allow for specific considerations in design, site conditions, and responsible party needs.

Note: Documents were drafted using Microsoft Office 2010, depending on the user’s computer settings, format of the texts and graphics in the files may change.

Introduction of NJDEP Stormwater Maintenance Guidance

This video provides an explanation for how the Maintenance Guidance materials (Maintenance Plan, Field Manuals, and Maintenance Logs and Inspection Records) work together.

- Introduction NJDEP Stormwater Maintenance Guidance (mp4)

Maintenance Plan

The Maintenance Plan incorporates the rule requirements for maintenance plan contents and additional items addressed in the NJ Stormwater BMP Manual chapters: Structural Stormwater Management Measures and Chapter 8 - Maintenance and Retirief of Stormwater Management Measures, in the form of a template to assist design engineers with the preparation of their maintenance plans.

- Maintenance Plan

Field Manuals

Each Field Manual includes templates for basic design information, checklists, visual aids, reference documents, and maintenance records. This provides a systematic method to assist maintenance crews in performing field work and retaining records. Each Field Manual was developed with the consideration of essential maintenance requirements for each type of stormwater measure addressed in the corresponding Structural Stormwater Management Measures sub-chapters within the NJ Stormwater Best Management Practices Manual.

- Bioretention Systems
- Dry Wells
- Grass Swales
- Infiltration Basins
  - Surface Infiltration - Extended Detention
  - Surface Infiltration
  - Manufactured Treatment Devices
  - Pervious Paving Systems
- Sand Filters
  - Sand Filter with Infiltration
  - Sand Filter with Underdrain
- Standard Constructed Wetlands
- Subsurface Gravel Wetlands
- Surface Extended Detention Basins
- Vegetative Filter Strips
- Wet Ponds

Maintenance Logs and Inspection Records

- Maintenance Logs and Inspection Records

Whole Package of the Maintenance Guidance

A compressed zip file containing the Maintenance Plan, all 14 Field Manuals, and the Maintenance Logs and Inspection Records (80.24mb)

Click here for compressed zip file

State Permits Potentially Required During Maintenance

Click here for State Permits

Rainfall Information

The National Climatic Data Center provides current and historical precipitation information, which can assist maintenance crews with assessments.

Click here for Rainfall Information

Stormwater Training for Maintenance of Stormwater Management Measures

Click here for Stormwater Training
Summary

• Long-term operation and maintenance of BMPs is important and is required under the permit.

• The permittee is responsible for performing/ensuring long-term operation and maintenance.

• The reviewer should ascertain the required elements in a maintenance plan are included prior to approval.