

BMP Annual Maintenance Certification Protocol
for
All Regulated Stormwater BMPs in the City of Durham

City of Durham
DEPARTMENT OF PUBLIC WORKS
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<http://durhamnc.gov/ich/op/pwd/storm/Pages/Home.aspx>

Background

The City of Durham (City) recognizes the importance of controlling stormwater, both quality and quantity, to preserve the City's natural resources, provide public safety, and ensure the overall well-being of its citizens. The techniques developed to improve stormwater quality and quantity are referred to most commonly as "Best Management Practices" (BMPs). While it is recognized that the term "Stormwater Control Measure (SCM)" is used primarily in Durham and "Best Management Practice (BMP)" is used more commonly, for the purposes of continuity, the City's Maintenance Program will continue to be referred to as the BMC Program. Also note that, throughout the BMC documents, the terms "BMP" and "SCM" may be used interchangeably.

The proper design and construction of an engineered stormwater BMP is essential to its ability to adequately remove pollutants from stormwater runoff. Equally important is the proper operation and upkeep of such a facility. Without proper maintenance, a BMP will not function as it is intended and, in some instances, may cause a host of problems from endangering the public to nuisance odors to reduced property values.

Like many jurisdictions in North Carolina, the City of Durham Stormwater Services & GIS Division (SSD) requires annual inspections (e.g., maintenance certifications) of all BMPs in operation within the City limits. The City of Durham Ordinance Sec.70-743 requires that an annual inspection report that meets City Stormwater Standards be provided for each SCM by the persons or entities responsible for such facility. In addition, such persons or entities shall maintain inspection and repair reports regarding the SCMs as required by City Stormwater Standards. It shall also be noted that these annual maintenance certifications are required under the recorded agreement executed by the owner and the City during the construction drawing and permitting process for each Stormwater BMP. Noncompliance with the above requirements may subject the owner to specific enforcement actions by the City, as outlined in the agreement and in the City's Code of Ordinances Sec. 70-744 found at: <http://library.municode.com/index.aspx?clientID=19967&stateID=33&statename=North%20Carolina>.

The purpose of this document is to specify the annual maintenance certification requirements and procedures that are to be followed by all those who own and operate BMPs in the City.

Certification Procedures: A Step-by-Step Process for BMP Owners

Provided below is a summary of recommended steps that you, as a BMP owner in the City of Durham, should follow to have the BMP you own certified in the most cost-effective manner:

1. Determine the annual anniversary month (AAM) for your BMP. Much like the month each year when the safety inspection for your car is due, the AAM is the month each year during which the BMP you own (or are responsible for) is to be certified by a qualified professional. If you are unsure as to what the AAM is for your BMP, please contact the City of Durham Stormwater Services Division at 919/560-4326 or e-mail stormwaterbmpps@durhamnc.gov for assistance.
2. Use the "Protocol Reference Sheet" to help you access important information about the BMP you own, such as, where to find a copy of the recorded maintenance agreement for your BMP, how to download a copy of the City's "Owner's Guide for the Operation and Maintenance of Stormwater BMPs Constructed in the City," and how to access sample BMP certification inspection forms. The "Protocol Reference Sheet" can be viewed or downloaded from the City's website at http://durhamnc.gov/ich/op/pwd/storm/Documents/BMP/doc9_protocol_sheet.pdf.
3. Contact and interview one or more qualified professionals who have been certified by the City of Durham to provide annual maintenance certifications in Durham. Stormwater Services Division maintains a comprehensive list of all professionals certified as BMP Maintenance Certifiers (BMCs) in the City of Durham. This list can be viewed or downloaded from the City's website at: <http://durhamnc.gov/ich/op/pwd/storm/Pages/BMP-Annual-Maintenance-Certification-and-As-Built-Certification-Programs.aspx>
4. Once you have selected a qualified BMC, that individual will be able to walk you through the technical steps of having your BMP inspected and, eventually, certified. BMCs certified in the City of Durham are not just familiar with the operational and maintenance requirements for a wide variety of stormwater BMPs, but are also very familiar with the BMP certification requirements unique to the City of Durham. It is recommended that you work closely with the BMC working for you as this will enable them to best serve your needs while meeting the City's certification requirements as effortlessly as possible.

Certification Package: The Elements of a Complete BMP Certification Package

Provided below are the essential elements of a complete BMP Annual Maintenance Certification Package. All inspection reports must be submitted to the City electronically by the end of the Annual Anniversary Month (AAM), i.e. the month when the inspection is due. If you have questions on the AAM or need to find out the AAM for a particular facility, please e-mail stormwaterBMPs@durhamnc.gov.

- Project Information Form (please use one project information form for the entire site)
- SCM Inspection Checklist(s) with executed certification statement
- Digital low-resolution digital color photos as appropriate, showing areas of interest or areas that need attention
- Sealed Operation and Maintenance (O&M) Manual specifically prepared for the particular SCM facility
- Additional items required, as needed for Failed Inspections

Note: For Inspections that do not pass, i.e. Fail, items in addition to those mentioned above will be required. For a discussion of these additional items, please refer to the below sections.

BMP Annual Maintenance Certification: A BMP Annual Maintenance Certification, herein referred to as “Certification,” is a sealed (e.g., stamped, signed, and dated) statement provided by a Qualified Professional that certifies that a particular BMP is functioning properly, that all components are in good working condition, and that all safety aspects of the facility are in compliance with the operational requirements of the City.

The initial BMP inspection can have one of the outcomes listed below:

- PASS/CERTIFIED/ MINOR ISSUES WHICH CAN BE CORRECTED THROUGH ROUTINE YEAR ROUND MAINTENANCE
- FAIL –REPAIRS CAN BE COMPLETED WITHIN 90 DAYS
- FAIL –REPAIRS CANNOT BE COMPLETED WITHIN 90 DAYS

1. “PASS/CERTIFIED/ MINOR ISSUES WHICH CAN BE CORRECTED THROUGH ROUTINE YEAR ROUND MAINTENANCE ” : In this case, the particular BMP is functioning properly with no problems that affect the current functionality of the facility, all components are in good working condition, and all safety aspects of the facility are in compliance with the operational requirements of the City. The certification package is to include the following items:

- Project Information Form (please use one project information form for the entire site)
- SCM Inspection Checklist(s) with executed certification statement
- Digital low-resolution digital color photos as appropriate, showing areas of interest or areas that need attention
- Sealed Operation and Maintenance (O&M) Manual specifically prepared for the particular SCM facility

Only items that can be corrected through routine year round maintenance shall be identified as Minor Functional Issues (MFI) during an inspection. Issues that are not minor ,or which cannot corrected through routine maintenance shall result in a “Fail” inspection , and would fall under numbers 2 or 3 below, as appropriate . When MFI are noted, BMCs shall revise the facility’s operation and maintenance (O&M) manual

accordingly to address each MFI. BMCs shall verify whether each MFI was resolved during subsequent annual inspections and indicate results on next year's annual inspections report. For items checked Monitor (MON), BMCs shall revise the facility's O&M manual with frequency of monitoring needed and include actions to be taken (if any).

2. FAIL – REPAIRS CAN BE COMPLETED WITHIN 90 DAYS: In this case, the inspection found issues/problems, which need to be completed by the BMP Owner/Permittee in accordance with a sealed Implementation Schedule (not to exceed 90 days from the date of the initial inspection) that has been approved by the City. The certification package is to include the following items:

- Project Information Form (please use one project information form for the whole site)
- SCM Inspection Checklist(s) with executed certification statement
- Digital low-resolution digital color photos as appropriate, showing areas of interest or areas that need attention
- Sealed Operation and Maintenance (O&M) Manual specifically prepared for the particular SCM facility
- Sealed Implementation Schedule (maximum 90 days)

Once all remedial items have been completed, a Certification (see all items under Number 1) will be required to be submitted.

3. FAIL – REPAIRS CANNOT BE COMPLETED WITHIN 90 DAYS: In this case, an Engineering Modification Report (EMR) is required. EMR, is an inspection report of a facility that was either not completed, or was "completed" in a manner that significantly differs (negatively) from that detailed in the original design plans, or is in such a state of disrepair or functional failure that a Certification cannot be provided reasonably within the 90-day threshold specified in Number 2 above. An EMR must include the following:

- One(1) copy of the project Information form
- One (1) copy of the sealed Inspection Report.
- Digital low-resolution digital color photos as appropriate, showing areas of interest or areas that need attention
- One (1) copy of a sealed Engineering Modification Plan (EMP), submitted for City of Durham review and approval, to bring the BMP facility into compliance with the intent of the original design plans and into compliance with City of Durham operation and maintenance standards and requirements.
- One (1) copy of a sealed Implementation Schedule (or a revised Implementation Schedule), submitted for City of Durham review and approval.

In no instance will the length of an EMP Implementation Schedule exceed two years from the date of the "first" EMR. Until the BMP obtains Certification, an EMR will be required every 90 days to monitor and report on the progress of the Implementation

Schedule. Each EMR will include a Photographic Journal, an updated Implementation Schedule, to be reviewed and approved by SSD, any proposed revisions to the EMP, also to be reviewed and approved by SSD, and an updated Owner's Financial Disclosure. It should be noted that only a registered North Carolina Professional Engineer (NCPE) will be permitted to submit an EMP in the City of Durham. Upon completion of the work outlined in the Engineering Modification Plan and Implementation Schedule, a Certification (including all items under Number 1 Annual BMP Maintenance Certification) is required to be submitted. In addition, the eventual Certification of such a "modified" BMP requires the inclusion of an as-built plan of the modified BMP in the Certification Package. Consultation with SSD regarding the extent and detail required for such an as-built plan is required.

Enforcement Actions

Owner/Responsible Party Inactions that Necessitate Enforcement Actions:

- 1) When an annual inspection is 30 days past due and no efforts have been documented (submitted) to the City indicating that the inspection has taken place; or
- 2) When a site inspection does take place but does not pass (i.e. fails), and the follow up 90-day repair time period outlined above elapses and no repairs and/or follow-on certification is received by the City.
- 3) When a site inspection does take place but does not pass (i.e. fails) and then, after 90-days, only some (but not all) of the necessary repairs have been rectified.
- 4) When the owner fails to perform the work outlined in the EMR, i.e. per the sealed implementation schedule, or fails to provide a progress report every 90 days to monitor and report on the progress of the Implementation Schedule.

The City of Durham Ordinance Sec. 70-743 requires that an annual inspection report that meets City Stormwater Standards be provided for each Stormwater Control Measure (SCM) by the persons or entities responsible for such facility. In addition, such persons or entities shall maintain inspection and repair reports regarding the SCMs as required by City Stormwater Standards. It shall also be noted that these annual maintenance certifications are required under the recorded agreement executed by the owner and the City during the construction drawing and permitting process for each Stormwater BMP.

Noncompliant owners and responsible parties failing to meet the requirements of Sec. 70-743 of the Code of Ordinances may subject themselves/owner to specific enforcement actions by the City as outlined in the agreement and in Sec. 70-744 of the Code of Ordinances: <http://library.municode.com/index.aspx?clientID=19967&stateID=33&statename=North%20Carolina>. A violation of the City Code is subject to all civil and criminal penalties allowed under law, in addition to those specifically set forth below. Persons and entities identified in Sec. 70-742 and 70-743(a) as responsible for completion of the SCMs and stormwater conveyances or the inspection, maintenance, repair, and reconstruction, as appropriate, shall be responsible for the violation. Remedies are cumulative, and may be exercised separately, together, or in any order.

(a) *Withholding of Permits, Approvals, and Certificates of Occupancy/Compliance.* In the event of violation of this Article, the City may withhold any approval or permit for any development activity occurring on the property or in the development where the violation exists, including but not limited to withholding any permit or certificate of occupancy/compliance for any structure served by an actual or proposed SCM or stormwater conveyance that is in violation.

(b) *Stop work order.* The City may issue a stop work order to any person or entity performing work on property and/or in a development where there is a violation of this Article.

(c) *Injunction; Nuisance; Costs as Lien.* The City may institute an action in a court of competent jurisdiction for an injunction, order of abatement, or any other equitable remedy not prohibited by law to remediate a violation of this Article. The City may also maintain an action under GS 160A-193 to remedy a condition prejudicial to the public health and safety. Costs of correction sustained by the City may be assessed as a lien against property, as allowed by law.

(d) *Incorporation of 70-538 et seq.* In addition, all remedies and procedures set forth in Sections 70-538 through 70-542 of the City Code shall apply to violations whether or not such violations are also violations of City Code Section 70, Article V.

Definitions of items in above submittal packages:

Annual Anniversary Month: The Annual Anniversary Month (AAM) of a BMP is the month the construction of the BMP was deemed complete by the City of Durham. For example, if a BMP was deemed complete on April 11, 2004, the AAM is April, and the BMP Annual Maintenance Certification will be due by April 30 each year. It should be noted, that there are a number of older BMP facilities in Durham that have been assigned an AAM even though construction “completeness” documentation is limited.

Engineering Modification Plan: An Engineering Modification Plan, herein referred to as and “EMP,” is an engineering plan for the construction, reconstruction, significant modification, or rehabilitation of a BMP that was either not completed, or was “completed” in a manner that significantly differs (negatively) from that detailed in the original design plans, or is in such a state of disrepair or functional failure that a Certification cannot be provided reasonably within the 90-day threshold. The EMP is submitted as part of an Engineering Modification Report submittal package. It should be noted that an EMP is a scaled drawing that details the construction, reconstruction, or modification items required to bring a BMP facility into reasonable compliance with the original construction drawings and that only a registered NCPE will be permitted to submit an EMP in the City of Durham. It is recommended that an NCPE preparing an EMP consult the City’s *Reference Guide for Development* for general requirements concerning construction drawing submittals in the City of Durham. Since an EMP submittal will be different from a new development construction drawing submittal, consultation with SSD regarding the extent and detail required for an EMP is required. The eventual Certification of such a “modified” BMP will require the inclusion of an as-built plan of the modified BMP, unless waived. Consultation with SSD regarding the extent and detail required for such an as-built plan is required.

Implementation Schedule: An Implementation Schedule is a sealed schedule, to be reviewed and approved by SSD, which specifically details the timeline a BMP Owner/Permittee is to follow in completing the corrective items required for their BMP. It is submitted as part of all “Fail” Inspections.

Inspection Report: An Inspection Report is a report or checklist, sealed by a Qualified Professional, which documents specifically the professional’s inspection of the functional elements and safety aspects of a particular BMP. An Inspection Report is to be attached to any Certification, EMR submitted to SSD. SSD has prepared generic inspection reporting forms that can be used when inspecting BMPs in the City of Durham. These forms can be obtained from SSD directly or can be downloaded from the City’s webpage. Other inspection reporting forms can be used if approved by SSD.

Operation and Maintenance Manual: An Operation and Maintenance Manual, herein referred to as “O&M Manual,” is a set of specific guidelines, sealed by a Qualified Professional, to be followed by a BMP Owner/Permittee with regards to the operation and maintenance items to be conducted during the year following each annual Certification. If there is no O&M Manual of record, a new manual shall be prepared. If there is an existing O&M Manual, the manual shall be updated and modified as appropriate for the activities to be accomplished and/or monitored in the upcoming year.

Other Definitions:

Owner/Permittee/Responsible Party: In accordance with the City’s stormwater ordinance, the Owner of the property on which a BMP is located is required to enter into Stormwater Facility Agreement and Covenants, herein referred to as “Agreement,” with the City of Durham regarding the perpetual ownership, operation, and maintenance of the BMP. The Owner of the property is to be the Permittee or Responsible Party on the Agreement. The Permittee on the Agreement is responsible for all aspects of the inspection, operation, maintenance, and liability of the BMP on their property.

“Owner’s Maintenance Guide for Stormwater BMPs Constructed in the City of Durham”: SSD has prepared an “Owner’s Maintenance Guide for Stormwater BMPs Constructed in the City of Durham,” herein referred to as “Maintenance Guide,” that can be used by BMP Owners/Permittees, PEs, RLAs, and other individuals to aid in the maintenance of BMPs. The purpose of the Maintenance Guide is three-fold: (1) To acquaint BMP Owners/Permittees with the essential functional elements of the BMP on their property; (2) To help BMP Owners/Permittees identify the maintenance requirements for the BMP on their property; and (3) To help BMP Owners/Permittees establish and implement an effective BMP maintenance and inspection program for the BMP on their property. Each section of the Maintenance Guide addresses the functional elements and typical maintenance requirements for each type of structural BMP used in the City of Durham. It should be noted that this Maintenance Guide is intended to provide a general overview of the common maintenance items that will or may arise in the course of operating a particular type of BMP. While this Maintenance Guide can be used as a basis for the preparation of an O&M Manual for an actual constructed BMP, it should not be confused with an actual O&M Manual for such a BMP. A copy of the Maintenance Guide

can be obtained from SSD directly or can be downloaded from http://durhamnc.gov/ich/op/pwd/storm/Documents/BMP/doc11_maint_guide.pdf.

Qualified Professional: A Qualified Professional is either a registered North Carolina Professional Engineer (PE) or a North Carolina Registered Landscape Architect (RLA) who has been certified as a “BMP Maintenance Certifier,” or “BMC,” by the City of Durham. Please refer to the “BMP Maintenance Certifier (BMC) Program” document for the specifics regarding the BMC program.

Stormwater Facility Operation and Maintenance Agreement/Stormwater Facility Agreement and Covenants: In accordance with the City’s stormwater ordinance, the Owner of the property on which a BMP is located is required to enter into a Stormwater Facility Operation and Maintenance Permit Agreement/Stormwater Facility Agreement and Covenants, herein referred to as “Agreement,” with the City of Durham regarding the perpetual ownership, construction, operation, inspection, and maintenance of the BMP. The Owner is the Permittee and Responsible Party on the Agreement. The Owner/Permittee/Responsible Party on the Agreement is responsible for all aspects of the construction, operation, inspection, and maintenance of the BMP on their property and assumes all liability for such activities.

Protocol Application

For all Owners/Permittees of regulated BMPs in the City of Durham, compliance with this protocol is mandatory.

Protocol Implementation

This protocol will go into effect at 12:01 a.m., on October 01, 2013 and will apply to all regulated BMPs in the City of Durham.