Municipal Stormwater Infrastructure Operation and Maintenance Plan

Central Massachusetts Regional Stormwater Coalition

June 30, 2016

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1 Introduction

Instructions: Throughout this document, the symbol '##' has been used to represent locations where community or site-specific information is required.

This Operation and Maintenance (O&M) Plan has been prepared by ##MUNICIPALITY to address stormwater infrastructure O&M requirements[1] of the United States Environmental Protection Agency's (USEPA's) 2016 National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4) in Massachusetts, hereafter referred to as the "2016 Massachusetts MS4 Permit" or "MS4 Permit."

This O&M Plan addresses Minimum Control Measure 6, Good Housekeeping and Pollution Prevention for Permittee Owned Operations, by describing the activities and procedures the ##MUNICIPALITY will implement so that the MS4 infrastructure is maintained in a timely manner to reduce the discharge of pollutants from the MS4. The O&M Plan outlines inspection and maintenance procedures for catch basins, municipally-owned streets and parking lots, and structural stormwater Best Management Practices (BMPs).

The ##AGENCY OR DEPARTMENT is responsible for inspection and maintenance of the stormwater infrastructure in ##MUNICIPALITY. A map of the existing stormwater infrastructure in ##MUNICIPALITY is provided in **Appendix A**.

2 Catch Basins

The ##AGENCY OR DEPARTMENT performs routine inspections, cleaning, and maintenance of the approximately ##NUMBER OF CATCH BASINS catch basins that are located within the MS4 regulated area. The ##MUNICIPALITY will implement the following catch basin inspection and cleaning procedures to reduce the discharge of pollutants from the MS4

- Routine inspection and cleaning of catch basins. Catch basins should be cleaned such that they are no more than 50 percent full[2] at any time. The ##MUNICIPALITY will initially inspect all catch basins within the regulated area within two (2) years of the effective date of the permit to evaluate sediment or debris accumulation and establish optimal inspection and maintenance frequencies to meet the "50 percent" goal. A catch basin inspection/cleaning procedure, inspection form, and log of catch basins cleaned or inspected are included in **Appendix B**.

Instructions: Refer to the CMRSWC Standard Operating Procedure "Catch Basin Inspection and Cleaning" for detailed procedures: http://centralmastormwater.org/Pages/crsc_toolbox/Catch%20Basin%20Inspection%20SOP_FINAL.pdf

[1] See Part 2.3.7.a.iii of the 2016 MS4 Permit for Infrastructure Operation and Maintenance program requirements.

[2] A catch basin sump is more than 50 percent full if the contents within the sump exceed one half the distance between the bottom interior of the catch basin to the invert of the deepest outlet of the catch basin

- If a catch basin sump is more than 50 percent full during two consecutive routine inspections or cleaning events, the finding will be documented, the contributing drainage area will be investigated for sources of excessive sediment loading, and to the extent practicable, contributing sources will be addressed. If no contributing sources are found, the inspection and cleaning frequency will be increased.

- Catch basins located near construction activities (roadway construction, residential, commercial, or industrial development or redevelopment) will be inspected and cleaned more frequently if inspection and maintenance activities indicate excessive sediment or debris loadings (i.e., catch basins more than 50 percent full). Priority will also be given to catch basins that discharge to impaired waters.

- The following information will be included in each annual report:
  - Any action taken in response to excessive sediment or debris loadings
  - Total number of catch basins
  - Number of catch basins inspected
  - Number of catch basins cleaned
  - Total volume or mass of material removed from catch basins.

3 Streets and Parking Lots

Streets and municipally-owned parking lots are swept ###SWEEPING FREQUENCY.

Instructions: Briefly describe the municipality's current street and parking lot sweeping practices (i.e., frequency, time of year, equipment).

The ##MUNICIPALITY will implement the following street and parking lot sweeping procedures to reduce the discharge of pollutants from the MS4:

- All streets with the exception of rural uncurbed roads with no catch basins or high speed limited access highways will be swept and/or cleaned a minimum of once per year in the spring (following winter activities such as sanding).

- More frequent sweeping will be considered for targeted areas based on pollutant load reduction potential, inspections, pollutant loads, catch basin cleaning or inspection results, land use, impaired waters, or other factors.

- More frequent sweeping is required for municipally-owned streets and parking lots in areas that discharge to certain nutrient-impaired waters. Sweeping must be performed in these areas a minimum of two times per year, once in the spring (following winter activities such as sanding) and at least once in the fall (Sept 1 – Dec 1; following leaf fall).

- For rural uncurbed roadways with no catch basins and limited access highways, the ##MUNICIPALITY will either meet the minimum frequencies above, or develop and implement an inspection, documentation, and targeted sweeping plan outlining reduced

frequencies within two (2) year of the effective date of the permit, and submit such plan with its year one annual report.

- The following information will be included in each annual report:
  - Number of miles cleaned or the volume or mass of material removed (see sweeping log in **Appendix C**).

4 Catch Basin Cleanings and Street Sweepings

Catch basin cleanings (i.e., solid materials such as leaves, sand and twigs removed from stormwater collection systems during cleaning operations) and street sweepings will be managed in compliance with current Massachusetts Department of Environmental Protection policies:

- Catch Basin Cleanings
  http://www.mass.gov/eea/agencies/massdep/recycle/regulations/management-of-catch-basin-cleanings.html

- Street Sweepings
  http://www.mass.gov/eea/docs/dep/recycle/laws/stsweep.pdf

Prior to disposal or reuse, catch basin cleanings and street sweepings will be stored indoors or using proper controls such that they do not discharge to receiving waters.

5 Winter Road Maintenance

The ##MUNICIPALITY performs a variety of maintenance activities to ensure safe winter driving conditions on its roads and parking lots.

Instructions: Briefly describe the municipality's current winter road maintenance activities (i.e., use of salt, sand, and/or alternative methods and materials, snow storage and disposal).

The ##MUNICIPALITY will implement the following winter maintenance procedures to reduce the discharge of pollutants from the MS4:

- Minimize the use and optimize the application of sodium chloride and other salt[3] (while maintaining public safety) and consider opportunities for use of alternative materials.

- Optimize sand and/or chemical application rates through the use, where practicable, of automated application equipment (e.g., zero velocity spreaders), anti-icing and pre-wetting techniques, implementation of pavement management systems, and alternate chemicals. Maintain records of the application of sand, anti-icing and/or de-icing chemicals to document the reduction of chemicals to meet established goals.

[3] For purposes of the MS4 Permit, salt means any chloride-containing material used to treat paved surfaces for deicing, including sodium chloride, calcium chloride, magnesium chloride, and brine solutions.

- Prevent exposure of deicing product (salt, sand, or alternative products) storage piles to precipitation by enclosing or covering the storage piles. Implement good housekeeping, diversions, containment or other measures to minimize exposure resulting from adding to or removing materials from the pile. Store piles in such a manner as not to impact surface water resources, groundwater resources, recharge areas, and wells.

- The MS4 Permit prohibits snow disposal into waters of the United States. Snow disposal activities, including selection of appropriate snow disposal sites, will adhere to the Massachusetts Department of Environmental Protection Snow Disposal Guidance, Guideline No. BWR G2015-01 (Effective Date: December 21, 2015), located at: http://www.mass.gov/eea/agencies/massdep/water/regulations/snow-disposal-guidance.html

- Provide training for municipal employees on winter roadway maintenance procedures.

6 Structural Stormwater BMPs

An inventory of structural stormwater Best Management Practices (BMPs) owned and/or maintained by ##MUNICIPALITY is provided in **Appendix D**. The stormwater infrastructure map in **Appendix A** shows the locations of the structural BMPs.

Instructions: List all structural stormwater Best Management practices (BMPs) that the municipality owns or maintains. Also include a map showing the locations of the following types of BMPs and associated maintenance access areas:

- *Bioretention Areas and Rain Gardens*
- *Water Quality Swales*
- *Constructed Stormwater Wetlands*
- *Retention/Detention Basins*
- *Proprietary Treatment Devices*
- *Sand and Organic Filters*
- *Dry Wells*
- *Infiltration Structures*

Structural stormwater BMPs will be inspected annually at a minimum. Recommended inspection procedures and checklists are provided in ***Appendix E***.

Instructions: The CMRSWC "SOP 9: Inspecting Constructed Best Management Practices" provides recommended inspection procedures and checklists for common types of structural BMPs: http://centralmastormwater.org/Pages/crsc_toolbox/Constructed%20BMP%20Inspection%20SOP_FINAL.pdf

Include the applicable procedures and checklists in Appendix D of this O&M Plan.

Appendix A

Stormwater Infrastructure Map

Instructions: Include a copy the municipality's storm system mapping, showing locations of structural stormwater BMPs.

Appendix B

Catch Basin Inspection and Cleaning Procedure
Catch Basin Inspection Form
Catch Basin Cleaning Log

Instructions: Include a copy of the CMRSWC "SOP 3: Catch Basin Inspection and Cleaning," which contains standard operating procedures for catch basin inspection and cleaning.
http://centralmastormwater.org/Pages/crsc_toolbox/Catch%20Basin%20Inspection%20SOP_FINAL.pdf

Maintain a log of catch basins inspected and cleaned, including the following information:
- Date
- Inspector
- Weather conditions
- Number of catch basins inspected and cleaned
- Amount of material removed
- Catch basins observed to be more than 50% full
- Corrective action taken or recommended

Appendix C

Street and Parking Lot Sweeping Log

Instructions: Maintain a street and parking lot sweeping log, including the following information:
- Date
- Operator
- Weather conditions
- Streets/parking lots swept
- Number of miles swept
- Volume or mass of material removed
- Corrective action taken or recommended

Appendix D

Inventory of Structural Stormwater Best Management Practices

Instructions: Provide an inventory of structural stormwater BMPs owned or maintained by the municipality.

Inventory of Structural Stormwater Best Management Practices (BMPs)
##MUNICIPALITY, Massachusetts

BMP ID or Description	Location	BMP Type	Inspection Frequency	Date of Last Inspection	Additional Notes

Appendix E

Structural Stormwater BMP Inspection Procedures and Checklists

Instructions: The CMRSWC "SOP 9: Inspecting Constructed Best Management Practices" provides recommended inspection procedures and checklists for common types of structural BMPs: http://centralmastormwater.org/Pages/crsc_toolbox/Constructed%20BMP%20Inspection%20SOP_FINAL.pdf

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