

SECTION 6 – POLLUTION PREVENTION /GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS

This minimum control measure is critical to the success of the stormwater management program as it helps to improve or protect receiving water quality by evaluating, altering and maintaining town facility operations.

This measure requires the town to examine and subsequently alter its own actions to help ensure a reduction in the amount and type of pollution that collects on roadways, parking lots, open spaces, storage and vehicle maintenance areas, and all town owned maintained facilities, and any other town owned or leased operation which ultimately discharge into local waterways. This measure will also address pollution that results from actions such as environmentally damaging land development and flood management practices or poor maintenance of storm sewer systems.

6.1 REQUIREMENTS

Department Wide

- 6.1.1 The development and implementation of an operation and maintenance program that includes a training component for public works employees and contractors and has the ultimate goal of preventing or reducing pollutant runoff from town operations.
- 6.1.2 Utilize training materials that are available from the CLA, EPA, the State or other organizations. This program shall include employee training to prevent and reduce stormwater pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and stormwater system maintenance.
- 6.1.3 The development and implementation of a program to sweep all streets at least once a year as soon as possible after snowmelt and sweeping at least four times a year the roads adjacent to Candlewood Lake and Lake Lillinonah.
- 6.1.4 The development and implementation of a program to evaluate and, if necessary, clean catch basins and other stormwater structures that accumulate sediment at least once a year including a provision to identify and prioritize those structures that may require cleaning more than once a year.
- 6.1.5 The development and implementation of a program to evaluate and, if necessary, prioritize for repairing, retrofitting or upgrading the conveyances, structures and outfalls of the MS4.

Urbanized Areas

- 6.1.6 The development and implementation of a program to evaluate and prioritize those streets that may require sweeping more than once a year.

Appropriate BMP's and measurable goals for this minimum control measure must be determined. These must include the persons(s) or position(s) responsible and implementation dates for each BMP.

6.2 BEST MANAGEMENT PRACTICES

The following BMP's will be utilized in the implementation of the program to address the minimum control measure for Pollution Prevention / Good Housekeeping.

6.2.1 Operation and Maintenance Program

Operation and maintenance is an integral component of all storm water management programs. This measure is intended to improve the efficiency of these programs through appropriate maintenance practices, internal procedures and scheduling. Proper development and implementation of these programs reduces the risk of water quality problems. There are several elements that are essential for the success of an operation and maintenance program including, training, record keeping, internal reporting, maintenance and preventative maintenance. The Public Works Department will include the following elements in the development and implementation of their program.

Employee Training

The Public Works Department will continue a program to provide education and training to its employees, regarding stormwater management and how it relates to the Public Works Department design, construction and maintenance operations. The training will focus on pollution prevention, best management practices and good housekeeping. Training may also include topics such as illicit discharge detection, water quality monitoring, inspection, record keeping, internal reporting, general maintenance, preventative maintenance and other topics relating to proper stormwater management and the requirements of the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems. Public Works employee training will be discussed in greater detail in Section 6.2.2.

Record Keeping

The Public Works Department procedures for record keeping will incorporate the documentation of information and data, resulting from the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems procedures. Keeping records of spills, leaks, and other discharges provide useful information for ensuring proper maintenance of facilities and equipment, and improving best management practices to prevent future spills. The following list of topics are essential for a successful records keeping program, some of which are required for General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems annual reports to CTDEP:

- Public Education
- Public Participation
- Illicit Discharges (including corrective measures)
- Water Quality Monitoring
- Employee Training
- Drainage Facility Inspections
- Street Sweeping
- Catch Basin Cleaning

The key to a successful records keeping program is to maintain records through regularly scheduled updates. The town will utilize the following techniques to document and report their data and results:

- Field notebooks
- Timed and dated photographs
- Drawings and maps
- Computer spreadsheets

Record keeping will be coordinated with internal reporting and other BMP's as it is integrated into the development of the Town of Brookfield stormwater pollution prevention plan.

The town will submit annual reports containing records required by the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems, to the CTDEP. These annual reports will include the information as described in the Section 7 "Additional Requirements" of this plan.

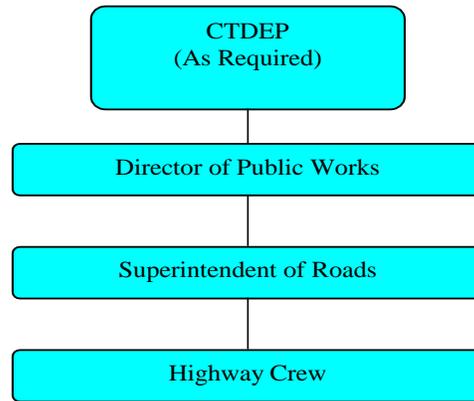
Internal Reporting

Internal reporting provides a framework for "chain-of-command" reporting of stormwater management issues, and is an essential part of any good records keeping program. When properly employed, an internal reporting program can clearly define individual's roles and responsibilities for implementing and maintaining the stormwater pollution prevention program, thereby making it easier to prevent and contain potential stormwater contamination.

The town's internal reporting procedures will incorporate the additional effort needed with this stormwater management program, and the position(s) responsible for each stormwater management task. In general, the position(s) responsible for each BMP are listed in a table at the end of each section of this stormwater management plan. Typically stormwater management issues will follow similar internal routing procedures for the town. Stormwater problems identified in the field will be relayed from the highway crew (field personnel) to the Superintendent of Roads, then the Director of Public Works. If the issue requires special attention, the Public Works Department will notify the CTDEP.

The following figure depicts the typical interdepartmental reporting hierarchy that may be followed for issues relating to stormwater management.

Figure 6.1 Typical Internal Reporting Flow Chart for Maintenance



Maintenance Program

Maintenance involves pollution prevention techniques that reduce or eliminate pollutant loadings from existing roadways, parking lots and facility surfaces as part of the operation and maintenance program. Substantial amounts of sediment and pollutants are generated during daily roadway and facility use, and these pollutant loadings can threaten local water quality by contributing heavy metals, hydrocarbons, sediment, and debris to stormwater runoff. Good cleaning practices including street sweeping and catch basin cleaning can help limit impacts to stormwater runoff. Sweeping of heavily traveled roadways to remove sediment and debris can reduce the amount of pollutants in runoff. Regular cleaning of runoff control structures such as catch basins can help improve the overall quality of stormwater discharges.

The town's maintenance plan for sweeping roadway, parking lot and facility surfaces and cleaning catch basins will meet the requirements of this stormwater management program.

Street sweeping and catch basin cleaning will be discussed in greater detail in Sections 6.2.3 & 6.2.4 respectively.

Preventative Maintenance Program

Preventative maintenance will be utilized by the town for eliminating potential problems associated with drainage systems, facilities and equipment. These measures are intended to reduce the frequency and quantity of pollutants that are discharged to waterbodies as a result of the failure and deterioration of ageing systems. Preventative measures utilized by the town include the following:

- Catch basin inspection during routine maintenance
- Drainage system inspection for new construction / reconstruction projects
- Drainage system inspection for existing roads

Preventative maintenance will be discussed in greater detail in Section 6.2.5.

The measurable goals, target dates and responsible position associated with this BMP are detailed in the following table.

**Table 6.1 Operation and Maintenance BMP
Measurable Goals and Implementation Dates**

Target Date	Activity	Position Responsible
Year 1	Implement Operation and Maintenance requirements	Dir. Of Public Works Ralph Tedesco
Years 2-5	Continue Operation and Maintenance requirements	Dir. Of Public Works Ralph Tedesco

6.2.2 Employee Training Program

The Public Works Department’s education employee training program will add a stormwater management component, discussing potential sources of contaminants, and best management practices. This program will provide personnel with an understanding of the Town of Brookfield’s stormwater management plan, including BMP’s, processes and materials with which they are working, safety hazards and practices for preventing discharges. They will also be informed of the proper procedures for reporting and documenting any potential pollutants discovered.

The program will consist of scheduled training for its design, construction, maintenance, and facility personnel, including both office and field positions. Topics will include sedimentation and erosion control, permanent BMP’s, and permit requirements. A schedule describing the locations and dates for these training sessions will be provided to them.

General

Training seminars will be held to inform Public Work employees of the requirements associated with the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems. Public Work employees will be advised of modifications

to current practices and the incorporation of new procedures along with their anticipated implementation dates. The seminars will be held in the first year of the program.

Highway Crew

The Public Works Department will provide training for the highway crew concerning the latest information and techniques pertaining to stormwater management, BMP’s, permit requirements and water quality issues. The training sessions for this office will be scheduled as follows:

- Semi-Annually

The training sessions will continue in the first year of the program and proceed semi-annually throughout the program.

Building Permits

Information regarding the (MS4 Permit) will be available in the Town of Brookfield’s Library, Post Office, Land Use Office, Public Works Department and inserted in the Building Permit handouts.

The employee-training program is intended to train new employees and remind current employees of operations and procedures.

The measurable goals, target dates and responsible position associated with this BMP are detailed in the following table.

**Table 6.2 Employee Training Program BMP
Measurable Goals and Implementation Dates**

Target Date	Activity	Position Responsible
Year 1	Develop Public Works Employee Training Curriculum	Dir. Of Public Works Ralph Tedesco
Years 2	Implement Public Works Employee Training requirements	Dir. Of Public Works Ralph Tedesco

Years 3-5	Continue Public Works Employee Training requirements	Dir. Of Public Works Ralph Tedesco
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6.2.3 Street Sweeping Program

Street sweeping is practiced in all urban areas, to remove sediment buildup and large debris from curb gutters. Street sweeping is also used during the spring snowmelt to reduce pollutant loads from road salt and to reduce sand export to receiving waters.

The Public Works department will conduct street sweeping on a scheduled basis to minimize pollutant export to town, state and local waterbodies. These cleaning practices will remove sediment, large debris from curb gutters and other pollutants, from roadways, parking lots and facility surfaces, which are a potential source of pollution impacting town, state and local waterbodies. Street sweeping frequency will range from one time per year, to multiple times per year for areas with heavier concentrations of sediment and debris. The Public Works department will utilize the following criteria for street sweeping frequency:

Department Wide

The Public Works department will sweep all roadways, town parking lots and town facilities at least once every year. The sweeping will be performed as soon as possible after snowmelt.

Urbanized Areas

The Public Works department will perform multiple sweeps per year for priority areas, where sediment/debris has been known to accumulate in higher quantities. These priority areas will be based upon the Public Works department’s knowledge and experience of the degree of sediment accumulation during the year. Geographical location, climate, traffic patterns and surface geometry may also be factors in determining priority areas. The first sweep will be performed as soon as possible after snowmelt.

The following locations generally receive multiple sweeps per year:

- Roads Discharging to Candlewood Lake and Lake Lillinonah
- Urbanized Areas within environmentally sensitive areas such as public watershed areas

The measurable goals, target dates and responsible position associated with this BMP are detailed in the following table.

Table 6.4 Street Sweeping Program BMP Measurable Goals and Implementation Dates

Target Date	Activity	Position Responsible
Year 1	Implement Street Sweeping requirements	Dir. Of Public Works Ralph Tedesco
Years 2-5	Continue Street Sweeping requirements	Dir. Of Public Works Ralph Tedesco

6.2.4 Catch Basin Maintenance Program

Catch basins fitted with sumps are intended to retain coarse sediment by trapping this material in a chamber or low area below the invert of the outlet pipe. By trapping sediment, the catch basin prevents solids from clogging the storm sewer and being washed into receiving waters. Catch basins must be cleaned to maintain their ability to trap sediment, and consequently their ability to prevent flooding. The removal of sediment, decaying debris and highly polluted water from catch basins has both aesthetic and water quality benefits. These include reducing foul odors, reducing suspended solids, and reducing the load of oxygen-demanding substances that reach receiving waters.

The Public Works department will institute a catch basin maintenance program that will consist of inspecting and if necessary cleaning catch basins on a regularly scheduled basis. The department will use the following criteria for inspecting and cleaning their catch basins:

- The Town will attempt to annually clean at least one third (1/3) of their catch basins that have reached at least half of the capacity of the sump. These catch basins may be selected based upon routine scheduled field inspections and also inspections resulting from other program requirements. Priority areas will be established to maximize the effectiveness of the town’s available resources for the routine inspections. These priority areas will be developed using the town’s knowledge of problem areas, where sediment/debris has been known to accumulate in higher quantities. Geographical location, climate, traffic patterns and vertical sag locations may also be factors in determining priority areas.
- The department will conduct routine inspections by selecting a representative number of catch basins for each stretch of roadway, parking lot and facility, once every year. If catch basin sump is found to be more than one half (1/2) full, the catch basin will be cleaned. Additional catch basins will be inspected, and cleaned if necessary, for that given stretch to ensure that the cleaning is completed to the maximum extent practicable.

The measurable goals, target dates and responsible position associated with this BMP are detailed in the following table.

Table 6.5 Catch Basin Maintenance Program BMP Measurable Goals and Implementation Dates

Target Date	Activity	Position Responsible
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Year 1	Implement Catch Basin Maintenance requirements	Dir. Of Public Works Ralph Tedesco
Years 2-5	Continue Catch Basin Maintenance requirements	Dir. Of Public Works Ralph Tedesco

6.2.5 Preventative Maintenance Program

Preventative maintenance takes a proactive approach to stormwater management and seeks to prevent problems before they occur. This measure involves the inspection, evaluation and replacement or repair of equipment and operational systems. Inspection can identify cracks, leaks, and other conditions that could cause breakdowns or failures of stormwater structures and equipment, which in turn could result in discharges of pollutants to surface waters either by direct overland flow or through storm drainage systems.

In general, the preventative maintenance of drainage systems is accomplished through visual inspections conducted as a result of new construction projects, routine maintenance such as catch basin cleaning.

- Culvert inspection shall be conducted for existing town culverts to remain in use, as part of a project.
- Existing town drainage facilities including pipes, catch basins, manholes, junction chambers, sedimentation/gross particle separators, cross culverts and ditches/swales, which are scheduled to remain in use as part of a project should be inspected to verify their general condition early in the design process. A condition survey must be conducted for drainage systems, which have been in service for 10 years or more. Available previous condition reports should be reviewed prior to inspection to identify critical areas that may require special attention.

The measurable goals, target dates and responsible position associated with this BMP are detailed in the following table.

**Table 6.6 Preventative Maintenance Program BMP
Measurable Goals and Implementation Dates**

Target Date	Activity	Position Responsible
Year 1	Implement Preventative Maintenance requirements	Dir. Of Public Works Ralph Tedesco
Years 2-5	Continue Preventative Maintenance requirements	Dir. Of Public Works Ralph Tedesco