

BACKGROUND AND SUMMARY

In 1987, the Environmental Protection Agency (EPA) amended the Clean Water Act to require a two-phased national program to address water pollution created from storm water. Phase I, promulgated in 1990, addressed storm water discharges in approximately 900 of the nation's largest cities.

Phase II of the storm water program was published in the Federal Register on December 8, 1999. The Phase II regulations require operators of municipal separate storm sewer systems (MS4s) located in urbanized areas and having a population of fewer than 100,000 to obtain an NPDES permit for their storm water discharges. Within the Town of Tyngsborough, much of the land lies within the urbanized area, and hence this area is regulated as a small MS4 and is required to comply with Phase II regulations.

The Town's Storm Water Management Plan (SWMP) for Phase II permitting must be designed to reduce the discharge of pollutants from the storm water drainage system to the maximum extent practicable (MEP) in order to protect water quality. The town has already selected storm water management controls and best management practices (BMPs) to address each of the six minimum control measures and potential activities for EPA compliance. These control measures are:

- Public Education and Outreach on Storm Water Impacts
- Public Participation and Involvement
- Illicit Discharge Detection and Elimination
- Construction Site Runoff Control
- Post-construction Storm Water Management in New Development and Redevelopment
- Pollution Prevention/Good Housekeeping for Municipal Operations

A municipality is considered to be in compliance with the MEP technical standard when the BMPs are approved by the NPDES permitting authority and implemented by the Town. The Town must implement each of the BMPs contained in the Notice of Intent (NOI) by March 2008, although EPA and DEP will allow adjustments to the NOI/SWMP, so the town may replace a failing program with an alternative program if necessary. The Town may be considered in violation of its NPDES Phase II permit if it fails to complete any of the BMPs. It is important to note that EPA requires each Phase II permittee to maintain the data, records, and other documents used to develop the SWMP.

A Notice of Intent (NOI) was previously filed with DEP and EPA Region I summarizing the BMPs that the Town has agreed to implement. After the NOI is filed, the Town is required to develop this SWMP as part of the enumerated BMP 2.8. The Town has filed annual reports with DEP outlining the progress made to date in implementing the BMPs contained in the NOI. A copy of the original NOI and the most recent annual report is attached.

MINIMUM CONTROL MEASURE 1

PUBLIC EDUCATION AND OUTREACH ON STORM WATER IMPACTS

GOAL: The Town of Tyngsborough will implement a public education program and distribute educational materials to the residents and businesses in the community concerning the impacts of storm water discharges and associated pollutants on water bodies. This will include, but is not limited to, outreach activities (e.g. flyers, public hearings) and is designed to help the public better understand the steps that can be implemented to reduce the impacts of storm water and pollution run-off.

BMP 1.1: Educational Pamphlet on Storm Water

The Town will mail a pamphlet or flyer about the municipal SWMP with a common mailing (e.g. tax bills, utility bills) each year. This publication will also be made available at designated public buildings, such as the library/town hall, and will explain what is being done to manage storm water. There will also be an explanation of what the residents can do in this endeavor, to encourage participation and to report illicit connections to the storm water distribution system.

Estimated cost: \$1,500 printing
Responsible party: Storm Water Committee/ Conservation Department
Frequency: Annually
Measurable Goal: Preparation and distribution according to timeline

BMP 1.2: Develop Storm Water Poster Design Program

Undertake a program in the local schools to develop posters depicting the issues surrounding storm water/pollution issues. These posters will then be displayed in the town hall/library.

Estimated cost: In-kind services
Responsible party: Conservation Department; School Department; Storm Water Committee
Frequency: Annually
Measurable Goal: Posters created and displayed as per schedule

BMP 1.3: Educational Pamphlet on Household Waste Disposal

Develop and distribute an informational pamphlet on household hazardous wastes and their proper disposal so as to keep these materials segregated from the everyday waste stream.

Estimated cost: \$1,500 printing
Responsible party: Board of Health
Frequency: Annually at Hazardous Waste Day
Measurable Goal: Preparation and distribution according to timeline

BMP 1.4: Guide of home, school, restaurant grease traps

Develop and distribute an informational pamphlet on the function and proper installation and maintenance of grease traps so as to keep the grease and other trapped pollutants segregated from the sanitary/storm water collection systems.

Estimated cost: \$1,500 printing
Responsible party: Board of Health
Frequency: With License renewals
Measurable Goal: Preparation and distribution according to timeline

BMP 1.5 and 1.7A: Articles in Newspaper and on Cable

The Conservation Commission/Agent shall publish in a newspaper of general circulation in the town, and air on local cable public access channel, articles germane to the topic of storm water.

Estimated cost: In-kind services
Responsible party: Conservation Department
Frequency: Four times per year
Measurable Goal: Articles published/aired as per schedule

BMP 1.6: Health Fair

Conduct Health Fairs to explain issues under the jurisdiction of the Board of Health and their relationships to storm water management.

Estimated cost: In-kind services
Responsible party: Board of Health
Frequency: As needed
Measurable goal: Conduct Fair according to schedule

BMP 1.7: Catch Basin Stencil Program

Signage has been shown to be an effective way to raise public awareness of storm water and other environmental issues. The Northern Middlesex council of governments (NMCOG), under contract to the Town, shall undertake a program of stenciling all of the publicly maintained storm water catch basins to indicate that the water entering these structures flow directly into streams, ponds, rivers etc. and thus carry pollutants to these waterways.

Estimated cost: \$5,000
Responsible party: NMCOG, under contract to the Town
Frequency: Annually
Measurable goal: Stencil all catch basins in place as of 3/2003 by 3/2008 and all basins installed after 3/2003 by 3/2009

MINIMUM CONTROL MEASURE 2

PUBLIC PARTICIPATION/INVOLVEMENT

Goal: The Town will actively promote public involvement in implementing the SWMP and will comply with state and local public notice requirements on all meetings related to the Town's Storm Water Phase II SWMP. (NOTE: This is the only requirement for this control measure. However, EPA encourages other BMPs that involve the public.)

BMP 2.8: Public hearing(s) on SWMP

The Town will develop a SWMP. This Plan will be distributed to interested parties and presented at a public hearing. Input will be incorporated into the Plan as appropriate. The Plan will be reviewed and a public hearing held on an annual basis.

Estimated cost: \$1,000
Responsible party: Board of Selectmen; Storm Water Committee
Frequency: Annually (portions)
Measurable goal: Preparation and distribution according to timeline

BMP 2.9: Create Storm Water Advisory committee

A Storm Water Advisory committee, composed of volunteers appointed by the Selectmen will meet bi-annually to review the program.

Estimated cost: In-kind services
Responsible party: Board of Selectmen; Storm Water Committee
Frequency: Semi-Annually after establishment
Measurable goal: Appoint members, establish meeting schedule and meet according to schedule

BMP 2.10: Volunteer Water Quality Monitoring Program

Develop a water quality monitoring program for the lakes, ponds and rivers within the Town.

Estimated cost: In-kind services plus cost of testing based on sampling requirement
Responsible party: Conservation Department
Frequency: Annual
Measurable Goal: Identify waters to be tested and program for testing; conduct tests

BMP 2.11: Volunteer Stream clean-up Days

Create a program similar to the successful "Adopt-A-Highway" program to help foster a sense of pride, ownership and involvement in the quality and cleanliness of a water body.

Estimated cost: In-kind services
Responsible party: Conservation Department
Frequency: Annual
Measurable Goal: Identify linkages between volunteers and waters to be cleaned and annual participation in program

BMP 2.12: Hazardous Waste Collection Day

Provide a specific date, time and place for the collection of hazardous wastes and their proper disposal so as to keep these materials segregated from the everyday waste stream.

Estimated cost: In-kind services plus collection and disposal costs
Responsible party: Board of Health
Frequency: Annually
Measurable goal: Conduct collection according to published schedule

MINIMUM CONTROL MEASURE 3

ILLICIT DISCHARGE DETECTION AND ELIMINATION

GOAL: To map all storm drain outfalls and eliminate connections from the storm sewer drainage system. In order to meet this Minimum Control Measure, the town will develop a program to accomplish the following:

- Create a storm sewer system map showing all outfalls and the names and location of all receiving waters.
- Develop regulatory mechanisms, including enforcement procedures, to prohibit illicit discharges into the storm sewer system.
- Develop and implement a plan to detect and address the illicit discharges.
- Develop and implement an information program addressing the hazards associated with illicit discharges. (NOTE: this may be accomplished under BMP 1.1 et seq.)

BMP 3.13: Mapping of Outfalls and Receiving Waters

Create a GIS based mapping system to locate the outfalls and receiving waters.

Estimated cost: \$55,000
Responsible party: Conservation Department and NMCOG under contract to the Town
Frequency: complete by 3/2008; amend annually as necessary
Measurable Goal: Identify waters and outfalls and map

BMP 3.14: Employee training on Spill Prevention

To develop and conduct educational meetings on spill prevention

Estimated cost: In-kind services
Responsible party: Fire Department
Frequency: Annually if needed
Measurable Goal: Certification for all employees when complete

BMP 3.15: Response Plan for Hazardous Spills

Develop and distribute, as appropriate, an emergency response and containment plan

Estimated cost: In-kind services
Responsible party: Fire Department, Emergency Manager
Frequency: Annual review and update if necessary
Measurable Goal: Developed plan

BMP 3.16: Inspection of and for Priority Outfalls

Inspect, under both wet and dry conditions, all suspected and known priority outfall locations

Estimated cost: In-kind services
Responsible party: Highway department
Frequency: Annual update
Measurable Goal: Developed Inventory

BMP 3.17: Modify local by-laws

Review all local regulatory by-laws and regulations to ensure compliance with Phase II Storm Water Regulations.

Estimated cost: \$20,000
Responsible party: NMCOG, under contract to the Town for review. All departments having regulatory by laws and regulations will have responsibility for approval and implementation.
Frequency: By 3/2008
Measurable Goal: Adoption of necessary amendments by town meeting

BMP 3-18: Monitor Illicit Discharges in Sanitary and Storm Sewer Systems

Build upon the BMPs in Minimum Control Measure 1 and BMP 3.17 and develop an inventory and enforcement mechanism.

Estimated cost: In-kind services
Responsible party: Sewer Commission
Frequency: Annual review and update as necessary
Measurable Goal: Development of Inventory

BMP 3-19 and 3-19A: Detection of Failed Septic Systems

Develop a system of identification and reporting of failed systems via telephone hotlines and distribute informational material with annual sewer bills on the issues concerning the failure of a septic system.

Estimated cost: In-kind services and cost of telephone lines
Responsible party: Sewer Commission; Board of Health
Frequency: Annual review and update as necessary
Measurable Goal: Development of Inventory and educational material

MINIMUM CONTROL MEASURE 4

CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

GOAL: Develop, implement and enforce a written policy and program to reduce or eliminate storm water transported pollutants that originate from construction activities that result in a cumulative land disturbance of greater than or equal to one acre. This Measurable Control has four main components:

- A regulatory and enforcement mechanism that requires the installation and maintenance of adequate erosion control(s);
- A regulatory and enforcement mechanism that requires construction site operators to implement BMPs to ensure proper erosion control;
- A regulatory and enforcement mechanism that requires construction site operators to control and dispose of waste, including sanitary waste, in a manner that ensures that downstream water quality will be maintained;
- Adequate regulatory criteria in land use regulations (e.g. subdivision control, wetlands permits) that require consideration of water quality and the impact on water bodies and wetlands.

BMPs 4.20 through 4.24: Enhanced Zoning for Sediment and Erosion Control

Review and if necessary modify land use by laws and regulations to meet water quality and erosion control requirements.

Estimated cost: \$20,000 (NOTE: this is the same one-time cost reflected in BMP 3.17)
Responsible party: NMCOG and all departments having Land use regulations and by laws
Frequency: By 3/2008
Measurable Goal: Adoption of necessary amendments by town meeting

(NOTE: BMPs 4.20 – 4.24, are very closely related to BMP 3.17 but with an emphasis on erosion control. While all of these regulations and by laws will be reviewed at the same time by NMCOG for all required modifications, the adoption of the amendments may occur at different times and responsibility will be given to the individual departments, e.g. Wetland issues to Conservation.)

MINIMUM CONTROL MEASURE 5
POST CONSTRUCTION STORM WATER MANAGEMENT IN
NEW DEVELOPMENT AND REDEVELOPMENT

GOAL: Develop, implement and enforce a written policy and program concerning storm water runoff for post construction development and redevelopment that resulted in a cumulative land disturbance of greater than or equal to one acre, to ensure long-term operation and maintenance of required BMPs.

BMPs 5.20 through 5.27: Modify zoning, Site Plan and Subdivision Regulations for runoff, Maintenance and Water Quality.

Review and if necessary modify land use by laws and regulations to meet water quality, runoff and maintenance requirements

Estimated cost:	\$20,000 (NOTE: This is the same one-time cost reflected in BMP 3.17)
Responsible party:	NMCOG and all departments having Land use regulations and by laws
Frequency:	By 3/2008
Measurable Goal:	Adoption of necessary amendments by town meeting

(NOTE: BMPs 5.20 – 5.27, are very closely related to BMP 3.17 and BMPs 4-20 – 4.24 but with an emphasis on post development issues. While all of these regulations and by laws will be reviewed by NMCOG at the same time for all required modifications, the adoption of the amendments may occur at different times and responsibility will be given to the individual departments, e.g. subdivision issues to Planning Board.)

MINIMUM CONTROL MEASURE 6
POLLUTION PREVENTION AND GOOD HOUSEKEEPING
IN MUNICIPAL OPERATIONS

GOAL: Develop, implement and enforce a written policy and program, in accordance with all applicable public meeting laws, a Operation and Maintenance Plan (OPM) that will eliminate or prevent storm water runoff transported pollutants from entering the municipal storm water system. This program will include on-going training for municipal staff and contractors and will be applicable to new construction that resulted in a cumulative land disturbance of greater than or equal to one acre, to ensure long-term operation and maintenance and routine and/or required maintenance.

BMP 6.28: Training Program for Town Employees

Annual training for snow removal and dumping, use of fertilizers and pesticides and waste removal. This training may be done in accordance with BMP 3-14.

Estimated cost: In-kind services
Responsible party: All municipal departments
Frequency: Annually
Measurable Goal: Certification for all employees when training is complete

BMP 6.29: Street Sweeping

Annual sweeping of streets within the town.

Estimated cost: TBD
Responsible party: Highway Department
Frequency: Annually in the spring
Measurable Goal: Completion of annual program

BMP 6.30: Catch Basin Cleaning

Annual cleaning of municipally controlled catch basins and outfalls

Estimated cost: TBD
Responsible party: Highway Department
Frequency: Annually in the spring
Measurable Goal: Completion of annual program

BMP 6.31: Water Main Flushing

Annual flushing and dechlorination of municipally controlled water mains

Estimated cost: TBD
Responsible party: Water Department
Frequency: Annually in the spring AFTER the completion of BMP 6.29
Measurable Goal: Completion of annual program

BMP 6.32: Spill Kits at Municipal Facilities

Placement of hazardous spill kits at all municipal facilities (NOTE: This BMP can be done in conjunction with BMP 3.14.)

Estimated cost: \$250 - \$300/kit
Responsible party: Fire Department
Frequency: Annually training or retraining
Measurable Goal: Placement of kits in all facilities

BMP 6.33: TV/Inspect all Sanitary Sewer Lines

Inspect and/or TV all sanitary sewer lines to detect any illegal connections between the sanitary and storm sewer systems. To be done in conjunction with BMP 3.18.

Estimated cost: TBD (Dependent on possible subcontracting for work.)
Responsible party: Sewer Department
Frequency: As needed; annual review to determine need
Measurable Goal: Completion of set number of feet of sewer pipe in designated area(s) on an annual basis

BMP 6.34: Develop Alternatives for Salt Sensitive Areas

Identify salt sensitive areas of the Town and develop a plan for treating those areas in a manner that ensure public safety while reducing the impact of salt application to the receiving waters from storm water and snow melt runoff.

Estimated cost: TBD
Responsible party: Highway Department
Frequency: Annually
Measurable Goal: Identification of geographic areas and plan

BMP 6.35: Inspect and Maintain Salt Shed

Ensure, via bi-annual inspections, that the salt shed integrity is being maintained.

Estimated cost: In-kind staff
Responsible party: Highway Department
Frequency: Bi-annually in fall and spring
Measurable Goal: Completion of inspection reports and completion of any needed repairs

Revision 1: 8/6/07