

**Municipality/Organization:** Town of Billerica

**EPA NPDES Permit Number:** MA041182

**Mass DEP Transmittal Number:** W-040980

**Annual Report Number** Year 15  
**& Reporting Period:** April 1, 2017 – March 31, 2018

## NPDES PII Small MS4 General Permit Annual Report (Due: May 1, 2018)

### Part I. General Information

**Contact Person:** Kelley Conway **Title:** Town Engineer

**Telephone #:** 978-671-1300 **Email:** kconway@town.billerica.ma.us

**Mailing Address:** DPW – Engineering Division, 365 Boston Road, Billerica, MA 01821

#### Certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

**Signature:** 

**Printed Name:** John C. Curran

**Title:** Town Manager

**Date:** 4/30/2018

## **Part II. Self-Assessment**

The Town of Billerica has completed the required self-assessment and has determined that our municipality is in compliance with permit conditions. During Permit Year 15 (April 1, 2017 through March 31, 2018), the Town of Billerica continued to implement its stormwater management plan. Selected BMPs and associated measurable goals continue to be appropriate. The Town will continue to implement BMPs as budget and staff time allows.

Billerica is part of a regional collaborative including the communities of Burlington, Carlisle, Chelmsford, Dracut, Dunstable, Littleton, Lowell, Pepperell, Tewksbury, Tyngsborough, Westford and Wilmington led by the Northern Middlesex Council of Governments (NMCOG). NMCOG has developed the Northern Middlesex Stormwater Collaborative (NMSC) through funding by the Massachusetts Executive Office for Administration and Finance's Community Innovation Challenge (CIC) Grant Program. The goal of the collaborative is to effectively manage stormwater by utilizing new approaches and resource sharing in order to keep costs at a minimum, improve the quality of service provided to residents, and to better address current and proposed stormwater management requirements. Throughout this past reporting period, NMSC has assisted the Town of Billerica by providing multiple training sessions and collaborative meetings for municipal staff and officials, which included meeting topics such as MS4 permit requirements, preparing stormwater pollution prevention plans, and good housekeeping practices; developing resources for public education and outreach; and representing the community in the Statewide Stormwater Collaborative.

## Part III. Summary of Minimum Control Measures

### 1. Public Education and Outreach

Note that the “Planned Activities” column has been deleted from this Annual Report. In Fiscal Year 2019, the Town of Billerica will focus on compliance with the new requirements of the 2016 MA Small MS4 General Permit, including assessment of existing stormwater practices, policies, and Town-wide stormwater-related programs, preparation of the Notice of Intent, and implementation of Best Management Practices to address the permit requirements for each Minimum Control Measure.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)
1.3.1	Partner with local organization	Engineering	Partner with one organization each year.	Town has continued to work with the Central Massachusetts Mosquito Control Project as part of the Larval Mosquito Control Program and also for stream cleaning and debris removal activities (see BMPs 2.3.6 and 6.3.8).
Revised				As described in Part II. Self-Assessment, the Town is also a member of the Northern Middlesex Stormwater Collaborative and attends regular meetings, trainings, and other events and has taken advantage of the educational materials that the Collaborative has developed.
1.3.2	Public Education Materials	BOH & DPW	Stormwater brochures available at Town offices and booth at Health Fair	Town continued to make a variety of brochures and books available at various town offices including the Water Dept, Conservation, DPW, Engineering, and BOH. Additional brochures were provided to the Town in September 2017 as part of the SuAsCo “Stormwater Matters” public awareness campaign, which included topics such as: What is stormwater, storm drains, litter, lawn care, pet waste, car care, and low impact development. The annual Water Quality Report distributed to all town residents and businesses in 2017 contained information about the NPDES stormwater program and stormwater runoff and pollution. Two stormwater bulletin boards at Town Hall continue to present stormwater information. In August and September 2017, pet waste brochures were made available in various Town Hall offices for distribution.
Revised			Stormwater brochures available at Town offices	
1.3.3	Local schools education program	School Dept.	Present stormwater to two schools each year.	Wastewater Staff annually educate approximately 100 classrooms within six elementary schools about water quality and stormwater pollution. Wastewater Staff participated in World Water Monitoring Day in May of 2017 with more than 50 students and also provided tours of the treatment plant for five 5 <sup>th</sup> grade classrooms.
Revised				
1.3.4	Stormwater Web Page	Engineering	Develop stormwater web page update as needed.	BMP Complete and updates are ongoing. The Town launched a new website in 2013 and continues to maintain the Stormwater Management webpage at <a href="http://www.town.billerica.ma.us/214/Stormwater-Management">http://www.town.billerica.ma.us/214/Stormwater-Management</a> . Town’s MS4 Annual Report, NPDES Project Updates, Stormwater Bylaws, and other educational materials are available on the webpage.
Revised				

<b>BMP ID #</b>	<b>BMP Description</b>	<b>Responsible Dept./Person Name</b>	<b>Measurable Goal(s)</b>	<b>Progress on Goal(s) – Permit Year 15</b> (Reliance on non-municipal partners indicated, if any)
1.3.5	Cable Access TV Show	Engineering	No Goal(s) for Yr. 15. Prior goal: Select a stormwater program for viewing on BATV.	BMP Complete. Northern Middlesex Stormwater Collaborative provided two stormwater pollution public service announcements (PSA)s, which air regularly throughout the day on Billerica Access TV (BATV). Links to both PSAs are provided below. <a href="https://www.youtube.com/watch?v=6vJ2MogJoLo">https://www.youtube.com/watch?v=6vJ2MogJoLo</a> <a href="https://www.youtube.com/watch?v=GshCVwqhK8s">https://www.youtube.com/watch?v=GshCVwqhK8s</a>
Revised				
1.3.6	Public Access GIS Tool	Engineering	Provide public access to maps of streams, rivers, storm drains and water quality data by Year 5.	BMP Complete. Online access to several maps including the Stormwater System, Estimated Habitats, and Green Engineering Flood Plain continued to be provided through the DPW website. Interactive GIS mapping, including drainage utilities, is available from the DPW at <a href="http://www.mapsonline.net/billericama/public.html">http://www.mapsonline.net/billericama/public.html</a>
Revised				
1.4.1	Stormwater flyer to residents	SuAsCo, DPW & BOH	No Goal(s) for Yr. 15	BMP Complete. The Annual Water Quality Report is mailed to residents each year and contains stormwater information (See BMP 1.3.2). Reports are also available online: <a href="https://www.town.billerica.ma.us/243/Water-Quality-Reports">https://www.town.billerica.ma.us/243/Water-Quality-Reports</a> Additionally, Stormwater Flyers are available in various town offices (Water Dept., Conservation, DPW, Engineering, BOH).
Revised				
1.4.2	Stormwater lesson plan	SuAsCo & DPW	No Goal(s) for Yr. 15	BMP Complete. The School Department was provided a copy of the stormwater lesson plan for teachers to use in a prior permit year. See BMP 1.3.3 for ongoing student educational programs.
Revised				
1.4.3	Media toolkit and stormwater PowerPoint program	SuAsCo & DPW	No Goal(s) for Yr. 15	BMP Complete. No activities were planned for Permit Year 15. Stormwater pollution PSAs have been aired by BATV on a regular basis (See BMP 1.3.5).
Revised				
1.4.4	Business Flyer & Storm Drain Marking	SuAsCo & DPW	No Goal(s) for Yr. 15. Prior goal: Stormwater flyer to 50% of Town businesses	BMP Complete. Stormwater Business Flyers are available at various offices around town (Water Dept, Conservation, DPW, Engineering, BOH). In previous permit years, Stormwater Flyers were mailed out and storm drains were marked (See BMP 2.3.2).
Revised				

<b>BMP ID #</b>	<b>BMP Description</b>	<b>Responsible Dept./Person Name</b>	<b>Measurable Goal(s)</b>	<b>Progress on Goal(s) – Permit Year 15</b> (Reliance on non-municipal partners indicated, if any)
1.4.5	Stormwater Outreach Materials	SuAsCo & DPW	No Goal(s) for Yr. 15	BMP Complete. SuAsCo stormwater postcards distributed to different Town departments for handout and display (see BMPs 1.3.2 and 1.4.4). Pet waste flyers were distributed to various Town offices in August and September of 2017 and have been mailed to various neighborhoods around Town to address local complaints. Stormwater Pollution public service announcements have been aired by BATV (See BMP 1.3.5). The Department of Public Works regularly posts stormwater management information on its public Facebook page, where residents and other parties can gather information about rain barrels, yard waste management, trash and recycling, community clean up events, and household hazardous waste collection days.
Revised				

## 2. Public Involvement and Participation

Note that the “Planned Activities” column has been deleted from this Annual Report. In Fiscal Year 2019, the Town of Billerica will focus on compliance with the new requirements of the 2016 MA Small MS4 General Permit, including assessment of existing stormwater practices, policies, and Town-wide stormwater-related programs, preparation of the Notice of Intent, and implementation of Best Management Practices to address the permit requirements for each Minimum Control Measure.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)
2.3.1	Partner / Support a Watershed Organization	Engineering & BOH	Partner with one local organization each year.	Town employees attended training sessions and Northern Middlesex Stormwater Collaborative meetings on the following dates: April 26, August 14, September 11, October 11, 2017, and February 8 and March 20, 2018. Topics at these meetings and trainings included: updates on the State Stormwater Coalition, Notice of Intent training, GIS, preparing SWPPPs, and grant assistance programs.
Revised				
2.3.2	Storm drain stenciling program	Engineering	Develop & Implement drain marking program	BMP Complete. Storm drain markers have been installed in previous years. Markers are a glue-down curbing marker that say “DON’T POLLUTE” and “DRAINS TO WATERWAYS”.
Revised				
2.3.3	Stormwater Public Meetings Program	Engineering	Discuss stormwater at one or more public meetings each year	Stormwater management associated with private and municipal projects is discussed at regular Board of Health, Conservation Commission, and Planning Board public meetings.
Revised				
2.3.4	Substituted 2.3.7 in Permit Year 4	DPW	No Goal(s) for Yr. 15	N/A
Revised				
2.3.5	Recreation Department Public Education Program	Engineering	Involve Recreation Department in stormwater public education program each year.	BMP Complete. Recreation Dept. has stormwater posters and postcards on display. Pet Waste Stations are located at most public parks throughout Billerica and are maintained by the Recreation Dept.
Revised				
2.3.6	Annual “Clean the Stream” program	Recreation	Recruit volunteers for each years’ stormwater cleaning effort	The Annual Town wide “Clean-up/Green-up” event, sponsored by the Billerica Alliance ( <a href="http://www.billerica-alliance.org">http://www.billerica-alliance.org</a> ), was held on May 6, 2017, where participants removed debris and trash from roadway shoulders, stormwater basins, swales, waterways, wetlands, etc. The Town contracted with the Commonwealth of Massachusetts Middlesex Sheriff’s Office for assistance with cleaning and preparations of parks, playgrounds, and the beach. Additionally, the Town continued to partner with the Central Massachusetts Mosquito Control Project for restoration and maintenance of 6,145 feet of wetlands and ditches.
Revised				

<b>BMP ID #</b>	<b>BMP Description</b>	<b>Responsible Dept./Person Name</b>	<b>Measurable Goal(s)</b>	<b>Progress on Goal(s) – Permit Year 15</b> (Reliance on non-municipal partners indicated, if any)
2.3.7	Develop Stormwater By-Law Advisory Group	Stormwater By-Law Working Group	No Goal(s) for Yr. 15	BMP Complete. The Stormwater By-law Advisory group was dissolved when the By-laws were adopted at the Fall 2007 Town Meeting.
Revised				
2.4.1	Stormwater traveling display	SuAsCo & DPW	No Goal(s) for Yr. 15	BMP Complete. ‘Think Green’ display received in Year 6 and various stormwater management pamphlets continue to be exhibited at the Town Hall.
Revised				
2.4.2	Stormwater poster contest	SuAsCo & DPW	No Goal(s) for Yr. 15	Year 3 product eliminated by SuAsCo.
Revised				
2.4.3	Stormwater photo contest	SuAsCo & DPW	No Goal(s) for Yr. 15	Year 3 product eliminated by SuAsCo
Revised				
2.4.4	Stormwater summit special event	SuAsCo & DPW	No Goal(s) for Yr. 15	BMP Completed in Permit Year 5
Revised				
2.4.5	Stormwater super summit	SuAsCo & DPW	No Goal(s) for Yr. 15	BMP Completed in Permit Year 5
Revised				

### 3. Illicit Discharge Detection and Elimination

Note that the “Planned Activities” column has been deleted from this Annual Report. In Fiscal Year 2019, the Town of Billerica will focus on compliance with the new requirements of the 2016 MA Small MS4 General Permit, including assessment of existing stormwater practices, policies, and Town-wide stormwater-related programs, preparation of the Notice of Intent, and implementation of Best Management Practices to address the permit requirements for each Minimum Control Measure.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)
3.4.1	Asset Management Program	Engineering	Implement stormwater Asset Management program.	BMP Complete. No measurable goals planned for Year 15. Asset Management Program is in place to track public complaints, catch basin cleaning efforts, drainage repairs, and more.
Revised				
3.4.2	Storm Drain Map	Engineering	Complete and update Town-wide GIS drainage map	BMP Complete. Town has mapped all of the Town’s outfalls and receiving waters in GIS. Mapping also includes catch basins, manholes, connectivity, and BMPs. Through its drainage system maintenance activities, the Town continues to verify, update, and improve drainage map.
Revised				
3.4.3	TMDL, Critical Habitat, Historic Property	Engineering	Monitor changes in TMDL, Critical Habitat & Historic Site	BMP Complete. No new TMDLs have been noted in Permit Year 15 for Billerica’s receiving waters. There are no changes to the Town’s General Permit eligibility under the Endangered Species Act or National Historic Preservation Act.
Revised				
3.4.4	Stormwater By-Law	Board of Health	Implement approved Stormwater By-law.	BMP Complete. The "By-law Governing Discharges to the Municipal Storm Sewer System" was adopted in Fall 2007 as Article XXVI in the Town's General By-laws and is implemented by the Board of Health. This by-law prohibits non-stormwater discharges and illegal dumping to the drainage system and includes enforcement procedures and actions.
Revised				
3.4.5	Illicit Discharge Detection Program	DPW	Implement IDDE Program.	BMP Complete. Town has implemented an IDDE Program. During the permit term, Town has inspected 100% of its outfalls during dry weather conditions. Town utilizes written IDDE Protocol based on the Center for Watershed Protection <i>Illicit Discharge Detection and Elimination – A Guide Manual for Program Development and Technical Assessments</i> and EPA’s <i>Standard Operating Procedure (SOP) for Surface Water Sampling</i> . Through its drainage system maintenance activities, Town continues to inspect the drainage system. The Town is in the process of updating the IDDE Program Plan for compliance with the 2016 General Permit requirements as well as EPA Region 1 guidance, including updated outfall investigation procedures, catchment delineations, and outfall prioritization.
Revised				



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3.4.6	Illicit Discharge Elimination Program	Board of Health & DPW	Enforce illicit discharges by-law	The "By-law Governing Discharges to the Municipal Storm Sewer System" was adopted in Fall 2007 as Article XXVI in the Town's General By-laws. The town has continued to investigate possible illicit discharges, respond to public complaints, and take action, as needed. In May 2017, the DPW responded to a complaint of paint and other construction materials being dumped into a catch basin, and the BOH notified the resident that illegal dumping was a violation of the Town's By-law. The BOH also notified all residents in a few neighborhoods in the center of town in June 2017 and the southeast portion of town in March 2018 that dumping pet waste bags into catch basins constituted an illicit discharge and is prohibited under the By-law.
Revised				
3.4.7	Resident education program	DPW	No Goal(s) for Yr. 15. Prior goal: Develop and distribute flyers defining illicit discharges and summarizing the Town Stormwater Regulations	BMP Complete. No measurable goal for Permit Year 15. Measurable goal met in Permit Year 5 when by-law was adopted. Town continues to maintain information about Article XXVI, the "By-law Governing Discharges to the Municipal Storm Sewer System" on the DPW website. In addition, information is available at the Board of Health. Brochures about illegal dumping and pet waste management are available in various Town Hall offices.
Revised				

#### 4. Construction Site Stormwater Runoff Control

Note that the “Planned Activities” column has been deleted from this Annual Report. In Fiscal Year 2019, the Town of Billerica will focus on compliance with the new requirements of the 2016 MA Small MS4 General Permit, including assessment of existing stormwater practices, policies, and Town-wide stormwater-related programs, preparation of the Notice of Intent, and implementation of Best Management Practices to address the permit requirements for each Minimum Control Measure.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)
4.2.1	Regulatory Controls	Board of Health	Develop “Erosion & Sediment Control” by-law & enhance as appropriate.	BMP Complete. Town adopted Article XXV, the “Stormwater Management Bylaw”, which requires erosion and sediment controls at construction sites for projects that meet the scope and applicability of the by-law and Wetland Protection By-law. No changes are necessary at this time.
Revised				
4.2.2	Review and site inspection procedures	Board of Health	Review new site plans against the by-law	BMP Complete. Town’s Stormwater Management By-law and Stormwater Management Regulations contain construction site review and site inspection procedures. Town reviews plans that meet the scope and applicability of the by-law and conducts inspections of projects. In Summer 2011, the Town developed numerous application, inspection, and certification forms to facilitate review and inspections as part of the Stormwater Management Permit process. Town has developed methods for tracking Stormwater Management Permitting and long-term operation and maintenance. In Year 15, the Town reviewed and approved 4 Stormwater Management Permits.
Revised				
4.2.3	Enforcement procedures	Board of Health	Develop and implement enforcement procedures and sanctions for stormwater violators	BMP Complete. Enforcement procedures and sanctions to ensure compliance with the By-law are included in the Stormwater Management By-law and in the Stormwater Management Regulations. Enforcement procedures and sanctions are implemented by the Board of Health and Conservation Commission.
Revised				
4.2.4	Procedures for Handling Public Comments	DPW	Develop & implement public comment procedure	Town receives comments from the public via phone calls and through the Town website. The party is directed to the appropriate department, such as the DPW or Board of Health, who investigates the call and completes enforcement procedures or public education if applicable.
Revised				

## 5. Post-Construction Stormwater Management in New Development and Redevelopment

Note that the “Planned Activities” column has been deleted from this Annual Report. In Fiscal Year 2019, the Town of Billerica will focus on compliance with the new requirements of the 2016 MA Small MS4 General Permit, including assessment of existing stormwater practices, policies, and Town-wide stormwater-related programs, preparation of the Notice of Intent, and implementation of Best Management Practices to address the permit requirements for each Minimum Control Measure.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)
5.3.1	Structural stormwater controls	Planning Board	Revise subdivision rules and regulations with new BMP's	BMP Complete. Currently, Section 6 Design Standards refer to the Massachusetts Stormwater Management Policy and provide a number of additional stormwater criteria for construction site runoff control and post-construction stormwater management. Planning Board will continue the process of reviewing the subdivision rules and regulations to make them consistent with the Town's stormwater by-laws and regulations.
Revised				
5.3.2	Local By-Laws	Stormwater By-Law Working Group	No Goal(s) for Yr. 15. Prior goal: Develop General By-Law	BMP Complete. The Stormwater Management By-law was adopted as Article XXV in the Town's General By-laws. By-law and associated Stormwater Management Regulations, adopted by the Board of Health, require new-development and re-development projects to address post-construction stormwater management.
Revised				
5.3.3	Planning Strategies	Engineering	No Goal(s) for Yr. 15. Prior goal: Review Current Town Master Plan	BMP Complete. This BMP was complete in previous years, but the Town's Master Plan was updated in April 2018. It will be reviewed during the development of the Town's Stormwater Management Plan to ensure consistency with town goals.
Revised				
5.3.4	Conditions for private stormwater systems	BOH	Develop maintenance requirements for private stormwater systems	BMP Complete. Article XXV, the Stormwater Management By-law and the Stormwater Management Regulations include operation and maintenance requirements for private stormwater systems. In Summer 2011, the Board of Health and Engineering completed development of forms and guidance to facilitate implementation of the Stormwater Management Permit, including development of a template for Inspection and Maintenance Agreements and an example Annual O&M Inspection Report.
Revised				
5.3.5	Stormwater infrastructure inspection program	Board of Health	Develop technology based inspection program	Continue to implement the asset management program to track maintenance of the MS4. (See BMP 3.4.1) The Board of Health and DPW also keep records of private stormwater infrastructure construction, permit conditions, and O&M needs.
Revised		Board of Health & DPW		

## 6. Pollution Prevention and Good Housekeeping in Municipal Operations

Note that the “Planned Activities” column has been deleted from this Annual Report. In Fiscal Year 2019, the Town of Billerica will focus on compliance with the new requirements of the 2016 MA Small MS4 General Permit, including assessment of existing stormwater practices, policies, and Town-wide stormwater-related programs, preparation of the Notice of Intent, and implementation of Best Management Practices to address the permit requirements for each Minimum Control Measure.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)
6.3.1	Pollution Prevention Planning	Highway Dept.	Develop a Stormwater Pollution Prevention Plan	BMP Complete. Town developed a Town-wide Stormwater Pollution Prevention Plan (SWPPP) for municipal properties and facilities in Permit Year 5. During Permit Year 15, on March 29, 2018, the Town’s consultant inspected the DPW yard and is in the process of preparing a site-specific SWPPP.
Revised				
6.3.2	Employee Training Program	DPW	Implement employee training program	BMP Complete. Town continues to informally train employees on pollution prevention and good housekeeping practices for municipal operations. Additionally, Town employees regularly attend external training sessions. NMSC meetings and trainings are described in BMP 2.3.1. A “Roadway and Roadside Drainage” training was hosted in Tewksbury on March 29, 2018 and attended by multiple DPW staff.
Revised				
6.3.3	Recycling Program	Highway Dept.	Monitor recycling program & enhance if necessary	BMP Complete. Household hazardous waste collection days were held on May 6 and October 21, 2017. Town provided oil recycling program on monthly basis. The 2017 “Recycling and Trash Collection Guide” was distributed to residents and made available on the Town website at <a href="http://www.town.billerica.ma.us/193/Trash-Recycling">http://www.town.billerica.ma.us/193/Trash-Recycling</a> . Rain barrels and composters were also available for Billerica residents to purchase in the spring.
Revised				
6.3.4	Catch Basin Cleaning Program	Highway Dept.	Clean catch basins each year and monitor pounds of sediment removed.	Catch basin cleaning was contracted out in 2017. The contractor cleaned 4,034 catch basins during the reporting period. Highway performed routine inspections and rebuilt basins as needed. 526.76 tons of material were removed from the drainage system in Permit Year 15 and the contractor disposed of material at a regulated facility in accordance with MassDEP’s Management of Catch Basin Cleanings guidance.
Revised				
6.3.5	Street Sweeping Program	Highway Dept.	Sweep streets each year and monitor pounds of sediment removed.	Town roadways were swept throughout the permit year and the Highway Division monitored the amount of sediment removed. In Permit Year 15, approximately 728 cubic yards, or approximately 982.8 tons, of material were removed from streets throughout Town. Waste Management was retained to appropriately dispose of sweepings.
Revised				

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6.3.6	Operations and Maintenance	DPW	Inventory ongoing stormwater maintenance activities	BMP Complete. Municipal facilities and associated stormwater maintenance activities were inventoried as part of development of the SWPPP. (See BMP 3.3.1) The SWPPP details potential stormwater pollutants and their impact on waterbodies, local water quality impairments, and Best Management Practices for: Road Sand/Salt Application & Storage; Snow Stockpiling & Removal; Materials Management; Hazardous Material Storage; Vehicle Fueling, Maintenance & Storage; Vehicle Washing; Spill Prevention & Response; Lawn and Grounds Maintenance; Street & Parking Lot Sweeping; Catch Basin Cleaning; Stormwater Line Maintenance; Pet Waste & Litter; and Mosquito Control. The Town continued to implement SWPPP this permit year.
Revised				
6.3.7	Reporting	DPW	Continue to track stormwater management activities & submit annual report	BMP Complete. Town tracked stormwater management activities and submitted annual report. Documentation of activities organized by permit year are available at the Engineering Department.
Revised				
6.3.8	Mosquito Control Project & Drainage System Maintenance	Engineering	Record of improved drainage system inspection and maintenance.	BMP Complete. Town continued drainage system maintenance through the efforts of the Central Massachusetts Mosquito Control Project. Brush and other accumulated debris were removed from culverts and streams. Efforts also included insertion of larvicides in Town catch basins.
Revised				

## 7. BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA)

Note that the “Planned Activities” column has been deleted from this Annual Report. In Fiscal Year 2019, the Town of Billerica will focus on compliance with the new requirements of the 2016 MA Small MS4 General Permit, including assessment of existing stormwater practices, policies, and Town-wide stormwater-related programs, preparation of the Notice of Intent, and implementation of Best Management Practices to address the permit requirements for each Minimum Control Measure.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)
7.2.1	Monitor Current Impairment Lists	DPW	Continue to monitor TMDL studies annually and develop programs as appropriate.	BMP Complete. In prior permit years, the Town reviewed the <i>Bacteria TMDL for Shawsheen River Basin</i> and the <i>Draft Pathogen TMDL for the Concord River Watershed</i> and created a plan to address TMDL recommendations. In Permit Year 15, the Town reviewed MassDEP’s website for updates to TMDLs and reviewed the Final Massachusetts Year 2014 Integrated List of Waters for updates to list of impairments in Town. No additional TMDLs for waterbodies in Billerica have been noted. See the WLA Assessment provided below for details on BMPs being implemented to address the Shawsheen River Bacteria TMDL.
Revised				

## 7b. WLA Assessment

Billerica's MS4 discharges into the Shawsheen River, which has an approved Final TMDL for Bacteria. Because the TMDL is for a pollutant likely to be found in stormwater discharges from Billerica's MS4, the Town's Stormwater Management Program includes BMPs that address the waste load allocation (WLA) from point sources such as illicit connections to the drainage system and urban stormwater runoff. Billerica is making steady progress towards meeting the Shawsheen River Fecal Coliform WLAs through implementation of a number of existing stormwater control measures, as reported in the above Annual Report, that address pollutants of concern in water quality impaired waters.

BMPs 7.2.2 through 7.2.7 from the Town's NOI were inadvertently not reported on since the 2004 annual report. However, Billerica is meeting all of the NOI's Section 7 BMP measurable goals through other BMPs. See BMPs in above annual report and additional BMP information below.

To address Illicit Sewer Connections WLA in the Shawsheen River TMDL, the Town has implemented the following BMPs under the IDDE MCM:

- Asset Management Program including improvements in Billerica's public complaint response and tracking (BMP 3.4.1);
- Storm Drain Mapping (BMP 3.4.2);
- Stormwater By-law that addresses illicit discharges and illegal dumping, adopted at the October 2007 Town Meeting (BMP 3.4.4);
- Illicit Discharge Detection Program, which is ongoing (BMP 3.4.5);
- Illicit Discharge Elimination Program, enforced by the Board of Health through the stormwater by-law (BMP 3.4.6);
- Annual stream clean-up event, where local streams and roadways are cleaned of debris and trash (BMP 2.3.6); and
- Resident Education (BMP 3.4.7).

To address the Urban Stormwater Runoff WLA in the Shawsheen River TMDL, the Town has implemented the following BMPs in the Stormwater Management Program:

- Construction Site Runoff Control through Billerica's Stormwater Management Bylaw, adopted at the October 2007 Town Meeting (BMPs 4.2.1, 4.2.2 and 4.2.3);
- Post-construction Stormwater Management through Billerica's Stormwater Management Bylaw (BMPs 5.3.2 and 5.3.4); and
- Catch Basin Cleaning and Street Sweeping Programs to keep debris from filling catch basins and maintain proper drainage system function (BMPs 6.3.4 and 6.3.5).

In addition, Billerica has a leash law with "pooper-scooper" provisions in General By-laws, Article VII, Section 2 - Regulation of Dogs, and pet stations for proper pet waste disposal. The Board of Health regulates the design, construction, and inspection of septic systems and leach fields. The Town updated their Comprehensive Wastewater Management Plan (CWMP), and continues to repair existing sewer infrastructure to reduce sewer line leaks and pump station overflows.

The Pathogen TMDL for the Concord River Watershed is still draft and has not been approved. Many BMPs implemented as part of the stormwater program help reduce pathogen loading in local waterbodies, as described above. The Town does not plan to add any additional BMPs to meet TMDL requirements at this time. Billerica's plan to meet watershed-specific TMDL requirements is described in detail in the March 2008 memorandum entitled, *Best Management Practices to Address Shawsheen and Concord River TMDLs*, on file at the Engineering Office. Billerica will reevaluate adding BMPs to meet requirements when the TMDL becomes final.

**Part IV. Summary of Information Collected and Analyzed**

N/A

**Part V. Program Outputs & Accomplishments (OPTIONAL)**

(Since beginning of permit coverage unless specified otherwise by a \*\*, which indicates response is for period covering April 1, 2017 through March 31, 2018)

**Programmatic**

	(Preferred Units)	Response
Stormwater management position created/staffed	(y/n)	Yes
Annual program budget/expenditures **	(\$)	\$ 147,540.10
Total program expenditures since beginning of permit coverage	(\$)	\$ 2,333,042.45
Funding mechanism(s) (General Fund, Enterprise, Utility, etc)		Town Meeting Appropriation, Operational Budget and General Fund

**Education, Involvement, and Training**

Estimated number of property owners reached by education program(s)	(# or %)	100%
Stormwater management committee established	(y/n)	Yes
Stream teams established or supported	(# or y/n)	Yes
Shoreline clean-up participation or quantity of shoreline miles cleaned **	(y/n or mi.)	1.16 mi
Shoreline cleaned since beginning of permit coverage	(mi.)	14.90 mi
Household Hazardous Waste Collection Days		
▪ days sponsored **	(#)	13
▪ community participation **	(# or %)	253 Ea.
▪ material collected **	(tons or gal)	1,206.5 gal
Oil		3.60 tons
Flammables		0.18 tons
Oxidizers		0.75 tons
Pesticides		0.32 tons
Corrosives		0.75 tons
Other		0.01 tons
Mercury		0.00 tons
Asbestos		
School curricula implemented	(y/n)	Yes



## Legal/Regulatory

	In Place Prior to Phase II	Reviewing Existing Authorities	Drafted	Draft in Review	Adopted
Regulatory Mechanism Status (indicate with “X”)					
▪ Illicit Discharge Detection & Elimination					X
▪ Erosion & Sediment Control					X
▪ Post-Development Stormwater Management					X
Accompanying Regulation Status (indicate with “X”)					
▪ Illicit Discharge Detection & Elimination					N/A
▪ Erosion & Sediment Control					X
▪ Post-Development Stormwater Management					X

## Mapping and Illicit Discharges

	(Preferred Units)	Response
Outfall mapping complete	(%)	100
Estimated or actual number of outfalls	(#)	467
System-Wide mapping complete (complete storm sewer infrastructure)	(%)	86
Mapping method(s)		
▪ Paper/Mylar	(%)	
▪ CADD	(%)	
▪ GIS (Note: 75% of structured relocated with GPS. 25% previous GIS from existing maps.)	(%)	100
Outfalls inspected/screened **	(# or %)	0
Outfalls inspected/screened (Since beginning of permit coverage)	(# or %)	100%
Illicit discharges identified **	(#)	3
Illicit discharges identified (Since beginning of permit coverage)	(#)	
Illicit connections removed **	(# ); and (est. gpd)	0
Illicit connections removed (Since beginning of permit coverage)	(#); and (est. gpd)	0
% of population on sewer	(%)	85
% of population on septic systems	(%)	15

## Construction

	(Preferred Units)	Response
Number of construction starts (>1-acre) **	(#)	4
Estimated percentage of construction starts adequately regulated for erosion and sediment control **	(%)	100%
Site inspections completed **	(# or %)	100%
Tickets/Stop work orders issued **	(# or %)	0
Fines collected **	(# and \$)	0
Complaints/concerns received from public **	(#)	0

## Post-Development Stormwater Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(%)	100 %
Site inspections (for proper BMP installation & operation) completed **	(# or %)	100 %
BMP maintenance required through covenants, escrow, deed restrictions, etc.	(y/n)	Yes
Low-impact development (LID) practices permitted and encouraged	(y/n)	Yes

## Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets) **	(times/yr)	0.5/ year
Average frequency of catch basin cleaning (commercial/arterial or other critical streets) **	(times/yr)	1 / year
Qty of structures cleaned **	(#)	4,034
Qty. of storm drain cleaned **	(%, LF or mi.)	
Qty. of screenings/debris removed from storm sewer infrastructure **	(lbs. or tons)	526.75 tons
Disposal or use of screenings (landfill, POTW, compost, beneficial use, etc.) **	(location)	Road Way Maintenance handled disposal

Basin Cleaning Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	\$94,395.60
• Hourly or per basin contract rate **	(\$/hr or \$ per basin)	\$23.40 / basin
• Disposal cost**	(\$)	Included in above expense
Cleaning Equipment		
• Clam shell truck(s) owned/leased	(#)	0
• Vacuum truck(s) owned/leased	(#)	2
• Vacuum trucks specified in contracts	(y/n)	No
• % Structures cleaned with clam shells **	(%)	99
• % Structures cleaned with vactor **	(%)	1

	(Preferred Units)	Response
Average frequency of street sweeping (non-commercial/non-arterial streets) **	(times/yr)	1
Average frequency of street sweeping (commercial/arterial or other critical streets) **	(times/yr)	2-3
Qty. of sand/debris collected by sweeping **	(lbs. or tons)	Approximately 982.8 tons
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.) **	(location)	Waste Management, Inc.
Annual Sweeping Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	
• Hourly or lane mile contract rate **	(\$/hr. or ln mi.)	n/a
• Disposal cost**	(\$)	n/a
Sweeping Equipment		
• Rotary brush street sweepers owned/leased	(#)	1
• Vacuum street sweepers owned/leased	(#)	1
• Vacuum street sweepers specified in contracts	(y/n)	No
• % Roads swept with rotary brush sweepers **	%	50
• % Roads swept with vacuum sweepers **	%	50
Reduction (since beginning of permit coverage) in application on public land of: ("N/A" = never used; "100%" = elimination)		
▪ Fertilizers	(lbs. or %)	
▪ Herbicides	(lbs. or %)	
▪ Pesticides	(lbs. or %)	
Integrated Pest Management (IPM) Practices Implemented	(y/n)	

	(Preferred Units)	Response
Average Ratio of Anti-/De-Icing products used **  (also identify chemicals and ratios used in specific areas, e.g., water supply protection areas)	% NaCl % CaCl <sub>2</sub> % MgCl <sub>2</sub> % CMA % Kac % KCl % Sand	95% 0 0 0 0 0 5%
Pre-wetting techniques utilized **	(y/n or %)	No
Manual control spreaders used **	(y/n or %)	No
Zero-velocity spreaders used **	(y/n or %)	No
Estimated net reduction or increase in typical year salt/chemical application rate	(±lbs/lb mi. or %)	n/a
Estimated net reduction or increase in typical year sand application rate **	(±lbs/lb mi. or %)	n/a
% of salt/chemical pile(s) covered in storage shed(s)	(%)	100
Storage shed(s) in design or under construction	(y/n or #)	No (In place)
100% of salt/chemical pile(s) covered in storage shed(s) by May 2008	(y/n)	Yes

### Water Supply Protection

Storm water outfalls to public water supplies eliminated or relocated	# or y/n	No
Installed or planned treatment BMPs for public drinking water supplies and their protection areas	# or y/n	No
<ul style="list-style-type: none"> <li>Treatment units induce infiltration within 500-feet of a wellhead protection area</li> </ul>	# or y/n	No