

Town of Billerica



**NPDES PII Small MS4 General Permit
Annual Report
(MA041182)
(W-040980)**

**YEAR 14
(Due May 1, 2017)**

Prepared by:
**The Town of Billerica
Department of Public Works
Engineering Division
365 Boston Road
Billerica, Massachusetts 01821**

Municipality/Organization: Town of Billerica

EPA NPDES Permit Number: MA041182

Mass DEP Transmittal Number: W-040980

Annual Report Number & Reporting Period: Year 14
April 1, 2016 – March 31, 2017

NPDES PII Small MS4 General Permit Annual Report (Due: May 1, 2017)

Part I. General Information

Contact Person: Kelley Conway Title: Town Engineer

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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: April 28, 2017

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 14 (April 1, 2016 through March 31, 2017), 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 in the following ways: provided multiple training sessions for municipal staff and officials; developed resources for public education and outreach; provided training for good housekeeping practices, IDDE, and GIS tracking of catch basin inspections; organized and conducted collaborative meetings; and represented the community in the Statewide Stormwater Collaborative.

Part III. Summary of Minimum Control Measures

1. Public Education and Outreach

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Interim Period
1.3.1 Revised	Partner with local organization	Engineering	Partner with one organization each year.	Town continued to partner with the Central Massachusetts Mosquito Control Project for stream cleaning, sediment removal, and mosquito control activities (see BMPs 2.3.6 and 6.3.8).	Continue to implement BMP as budget and staff time allows.
1.3.2 Revised	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, and BOH. The annual 2015 Water Quality Report distributed to all town residents and businesses contained stormwater information. Two stormwater bulletin boards at Town Hall continue to present stormwater information.	Continue display educational bulletin boards at Town Hall; to have educational brochures available at various Town offices; to include stormwater information in the Water Quality Report that is distributed to annually.
1.3.3 Revised	Local schools education program	School Dept.	Present stormwater to two schools each year.	Wastewater Staff annually educate almost 100 classrooms in six elementary schools about water quality. Wastewater Staff participated in World Water Monitoring Day in May of 2016.	Continue classroom education and participation in World Water Monitoring Day.
1.3.4 Revised	Stormwater Web Page	Engineering	Develop stormwater web page update as needed.	The Town launched a new website in 2013 and continued to maintain the Stormwater Management webpage at http://www.town.billerica.ma.us/214/Stormwater-Management . Town's MS4 Annual Report continued to be made available for viewing on DPW webpage.	Continue maintain stormwater information on the Town's website.

1.3.5	Cable Access TV Show	Engineering	No Goal(s) for Yr. 14. Prior goal: Select a stormwater program for viewing on BATV.	No planned activities for Permit Year 14. Through the Northern Middlesex Stormwater Collaborative, two stormwater pollution public service announcements (PSA)s were created and have been supplied to Billerica Access TV (BATV). These PSAs have aired numerous times throughout the year. Links to both PSAs are provided below. https://www.youtube.com/watch?v=6vJ2MogJoLo https://www.youtube.com/watch?v=GshCVwqhk8s	BMP Complete. Follow up with BATV to verify airing of NMSC's public service announcement.
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.	Online access to several maps including the Stormwater System, Estimated Habitats, and Green Engineering Flood Plain continued to be provided through the DPW website and recently GIS mapping of drainage utilities was made available at http://www.town.billerica.ma.us/207/Geographic-Information-Systems	Continue to maintain access to existing maps and GIS mapping through the website and/or Engineering Division office. Continue to update GIS system.
Revised					
1.4.1	Stormwater flyer to residents	SuAsCo, DPW & BOH	No Goal(s) for Yr. 14	Various town offices (Water Dept., Conservation, DPW, BOH) continued to make Stormwater Flyers available. Annual Water Quality Report is mailed to residents and contains stormwater information each year (See BMP 1.3.2)	Continue to implement BMP as budget and staff time allows.
Revised					
1.4.2	Stormwater lesson plan	SuAsCo & DPW	No Goal(s) for Yr. 14	The School Department has a copy of the stormwater lesson plan available for the teachers to use. Wastewater Staff annually educate almost 100 classrooms in six elementary schools about water quality and stormwater pollution.	Continue to implement BMP as budget and staff time allows.
Revised					
1.4.3	Media toolkit and stormwater PowerPoint program	SuAsCo & DPW	No Goal(s) for Yr. 14	No activities were planned for Permit Year 14. As previously mentioned, stormwater pollution PSAs have been supplied to and aired by BATV.	BMP Complete. Follow up with BATV to verify airing of NMSC's public service announcement.
Revised					
1.4.4	Business Flyer & Storm Drain Marking	SuAsCo & DPW	No Goal(s) for Yr. 14. Prior goal: Stormwater flyer to 50% of Town businesses	Stormwater Business Flyers are available at various offices around town (Water Dept, Conservation, DPW, BOH). Stormwater Flyers were mailed out in previous years. Storm drains had been marked in previous years (See BMP 2.3.2).	BMP Complete. Continue to implement BMP as budget and staff time allows.
Revised					
1.4.5	Stormwater Outreach Materials	SuAsCo & DPW	No Goal(s) for Yr. 14	Stormwater postcards distributed to different Town departments for handout and display (see BMPs	BMP Complete

Revised				1.3.2 and 1.4.4). Pet waste flyers were available with new dog licenses at the Town Clerk's Office. Stormwater Pollution public service announcements have been aired by Billerica Access TV.	
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2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Interim Period
2.3.1 Revised	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: 4/7/16, 5/24/16, 10/28/16, 2/1/17, and 3/29/17.	Continue to implement BMP as budget and staff time allows.
2.3.2 Revised	Storm drain stenciling program	Engineering	Develop & Implement drain marking program	In previous years, storm drain markers had been installed. Markers are a glue-down curbing marker that says “DON'T POLLUTE” and “DRAINS TO WATERWAYS”.	Continue to implement BMP as budget and staff time allows.
2.3.3 Revised	Stormwater Public Meetings Program	Engineering	Discuss stormwater at one or more public meetings each year	Stormwater Management is discussed at Board of Health, Conservation Commission, and Planning Board meetings.	Continue to implement BMP as budget and staff time allows.
2.3.4 Revised	Substituted 2.3.7 in Permit Year 4	DPW	No Goal(s) for Yr. 14	N/A	N/A
2.3.5 Revised	Recreation Department Public Education Program	Engineering	Involve Recreation Department in stormwater public education program each year.	Recreation Dept has stormwater posters and postcards on display. Pet Waste Stations are installed and maintained at most public parks throughout Billerica.	Continue to implement BMP as budget and staff time allows.
2.3.6	Annual “Clean the Stream” program	Recreation	Recruit volunteers for each years’ stormwater cleaning effort	Annual Town wide “Clean-up/ Green-up” event held on May 14, 2016 in which participants remove debris and trash from	Working with Billerica Community Alliance for Clean-up/Green-up for May 6, 2017.

Revised				roadway shoulders, stormwater basins and swales, waterways, wetlands, etc. Contracted with the Commonwealth of Massachusetts Middlesex Sheriffs Office for assistance with cleaning and preparations of parks, playgrounds, and beach. Contracted with Central Massachusetts Mosquito Control Project for restoration and maintenance of 8,935 feet of wetlands and ditches.	
2.3.7	Develop Stormwater By-Law Advisory Group	Stormwater By-Law Working Group	No Goal(s) for Yr. 14	BMP Complete – By-law adopted.	BMP Complete
Revised					
2.4.1	Stormwater traveling display	SuAsCo & DPW	No Goal(s) for Yr. 14	‘Think Green’ display received in Year 6 continues to be exhibited at the Town Hall.	BMP Complete. Continue to maintain the stormwater display and educational material.
Revised					
2.4.2	Stormwater poster contest	SuAsCo & DPW	No Goal(s) for Yr. 14	Year 3 product eliminated by SuAsCo	N/A
Revised					
2.4.3	Stormwater photo contest	SuAsCo & DPW	No Goal(s) for Yr. 14	Year 3 product eliminated by SuAsCo	N/A
Revised					
2.4.4	Stormwater summit special event	SuAsCo & DPW	No Goal(s) for Yr. 14	BMP Complete in Permit Year 5	BMP Complete
Revised					
2.4.5	Stormwater super summit	SuAsCo & DPW	No Goal(s) for Yr. 14	BMP Complete in Permit Year 5	BMP Complete
Revised					

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Interim Period
3.4.1 Revised	Asset Management Program	Engineering	Implement stormwater Asset Management program.	No measurable goals planned for Year 14. Asset Management Program is in place to track public complaints, catch basin cleaning efforts, and drainage repairs.	BMP Complete. Continue to implement Asset Management Program.
3.4.2 Revised	Storm Drain Map	Engineering	Complete and update Town-wide GIS drainage map	Town has mapped all of the Town's outfalls and receiving waters in GIS. Mapping includes catch basins, manholes, and connectivity. Through its drainage system maintenance activities, Town continues to verify accuracy and completeness of drainage map and improve map.	Continue on going review of and updates to drain map.
3.4.3 Revised	TMDL, Critical Habitat, Historic Property	Engineering	Monitor changes in TMDL, Critical Habitat & Historic Site	No new TMDLs have been noted in Permit Year 14 for Billerica's receiving waters. There are no changes to the Town's General Permit eligibility under the ESA or National Historic Preservation Act.	BMP Complete. Continue to implement BMP as budget and staff time allows.
3.4.4 Revised	Stormwater By-Law	Board of Health	Implement approved Stormwater By-law.	The "By-law Governing Discharges to the Municipal Storm Sewer System" was adopted 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.	BMP Complete. Continue to implement by-law.
3.4.5	Illicit Discharge Detection Program	DPW	Implement IDDE Program.	Town has implemented an IDDE Program. During the permit term, Town has inspected 100% of its outfalls during dry weather conditions. Town utilizes	Measurable goals met. Continue to implement BMP as budget and staff time allows.

Revised				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.	
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 as Article XXVI in the Town's General By-laws. Continue to investigate possible illicit discharges, respond to public complaints, and take appropriate action.	Enforce the by-law by responding to public complaints and through ongoing illicit discharge detection activities by the DPW.
Revised					
3.4.7	Resident education program	DPW	No Goal(s) for Yr. 14. Prior goal: Develop and distribute flyers defining illicit discharges and summarizing the Town Stormwater Regulations	No measurable goal for Permit Year 14. Measurable goal met in previous permit year 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.	BMP Complete. Continue updates to and maintenance of information provided on website. Continue to provide informational flyers
Revised					

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Interim Period
4.2.1	Regulatory Controls	Board of Health	Develop “Erosion & Sediment Control” by-law & enhance as appropriate.	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.	BMP Complete. Continue to implement regulatory controls.
Revised					
4.2.2	Review and site inspection procedures	Board of Health	Review new site plans against the by-law	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 inspections of projects are conducted. In Summer 2011, the Town completed development of numerous applications, inspection and certification forms to facilitate review and site inspections as part of the Stormwater Management Permit process. Town also developed methods to track Stormwater Management Permitting and long-term operation and maintenance.	Continue to implement BMP
Revised					
4.2.3	Enforcement procedures	Board of Health	Develop and implement enforcement procedures and sanctions for stormwater violators	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. These procedures and sanctions are implemented and enforced by the Board of Health and Conservation Commission.	BMP Complete. Continue to implement enforcement procedures and sanctions as needed.
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. Town considers and addresses public comments.	Continue to coordinate with other Departments to track and address comments from public.
Revised					

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

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Interim Period
5.3.1 Revised	Structural stormwater controls	Planning Board	Revise subdivision rules and regulations with new BMP's	Planning Board continues the process of reviewing the subdivision rules and regulations to make them consistent with the Town's new stormwater by-laws and regulations and incorporate LID features into the regulations.	BMP Complete. Review and revised regulations as needed.
5.3.2 Revised	Local By-Laws	Stormwater By-Law Working Group	No Goal(s) for Yr. 14. Prior goal: Develop General By-Law	The Stormwater Management By-law was adopted as Article XXV in the Town's General By-laws. By-law and associated Stormwater Management Regulations require new-development and re-development projects to address post-construction stormwater management.	BMP Complete. Continue to implement By-law.
5.3.3 Revised	Planning Strategies	Engineering	No Goal(s) for Yr. 14. Prior goal: Review Current Town Master Plan	No activities planned for this Permit Year.	BMP Complete
5.3.4 Revised	Conditions for private stormwater systems	BOH	Develop maintenance requirements for private stormwater systems	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.	BMP Complete. Continue to enforce requirements.
5.3.5 Revised	Stormwater infrastructure inspection program	Board of Health	Develop technology based inspection program	Continue to implement the asset management program to track BMP maintenance. (See BMP 3.4.1)	BMP Complete

6. Pollution Prevention and Good Housekeeping in Municipal Operations

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Interim Period
6.3.1 Revised	Pollution Prevention Planning	Highway Dept.	Develop a Stormwater Pollution Prevention Plan	Town has developed a Stormwater Pollution Prevention Plan (SWPPP) for the Highway Facility. Continued with vehicle washing program for DPW.	BMP Complete. Continue to implement SWPPP activities.
6.3.2 Revised	Employee Training Program	DPW	Implement employee training program	Town continues to informally train employees on pollution prevention and good housekeeping practices for municipal operations. c	BMP Complete. Continue to implement BMP.
6.3.3 Revised	Recycling Program	Highway Dept.	Monitor recycling program & enhance if necessary	Annual hazardous waste day was held on October 15, 2016. Town provided oil recycling program on monthly basis. The “2016 Recycling and Trash Collection Guide” was distributed to residents and made available on the Town website at http://www.town.billerica.ma.us/193/Trash-Recycling . Rain barrels and composters were again made available for Billerica residents to purchase in the spring.	BMP Complete.
6.3.4 Revised	Catch Basin Cleaning Program	Highway Dept.	Clean catch basins each year and monitor pounds of sediment removed.	Catch basin cleaning was contracted out in 2016. The contractor cleaned 1,966 catch basins during the reporting period. Highway performed routine inspections and rebuilt basins as needed. 238.27 tons of material was removed from the drainage system in Permit Year 14 and contractor disposed of material at a regulated facility in accordance with MassDEP’s Management of Catch Basin Cleanings.	Continue to clean catch basins each year as needed, and as budget allows.

6.3.5	Street Sweeping Program	Highway Dept.	Sweep streets each year and monitor pounds of sediment removed.	Town roadways were swept from April 2016 through March 2017. The Town bought a new Vac/sweeper in April 2015. Highway Division monitored sediment removed. In Permit Year 14, approximately 711 cubic yards or approximately 959.2 tons of material was removed from streets throughout Town. Waste Management was retained to appropriately dispose of sweepings.	Continue to sweep streets as needed
Revised					
6.3.6	Operations and Maintenance	DPW	Inventory ongoing stormwater maintenance activities	Municipal facilities and associated stormwater maintenance activities were inventoried as part of development of SWPPP. Facilities include DPW (Engineering, Highway, Cemetery, Parks, Trees, Water and wastewater), Recreation, Police, Fire, and School Departments. SWPPP details stormwater pollutants and potential impacts to waterbodies, and local water quality impairments. SWPPP also lists 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. Town continued to implement SWPPP as needed.	BMP Complete
Revised					
6.3.7	Reporting	DPW	Continue to track stormwater management activities & submit annual report	Town tracked stormwater management activities and submitted annual report.	BMP Complete
Revised					

6.3.8	Mosquito Control Project & Drainage System Maintenance	Engineering	Record of improved drainage system inspection and maintenance.	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 larvacides in Town catch basins.	BMP Complete. Continue to implement BMP as budget and staff time allows.
Revised					

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

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Interim Period
7.2.1	Monitor Current Impairment Lists	DPW	Continue to monitor TMDL studies annually and develop programs as appropriate.	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 14, 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.	BMP Complete. Continue to monitor changes to TMDLs and impairments.
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, their Stormwater Management Program includes BMPs that address the waste load allocation (WLA) from point sources that include 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.

To address Illicit Sewer Connections WLA, the Town has implemented the following BMPs under the Illicit Discharge Detection and Elimination Minimum Control Measure:

- 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, now enforceable by the Board of Health through the new stormwater by-law (BMP 3.4.6); and
- Resident Education (BMP 3.4.7).

To address the Urban Stormwater Runoff WLA, 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. Postcards concerning proper disposal of pet waste had been distributed with new dog licenses in prior years. The Board of Health regulates the design, construction, and inspection of septic systems and leach fields. The Town recently updated their Comprehensive Wastewater Management Plan (CWMP), and has continued 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. 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.

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, 2016 through March 31, 2017)

Programmatic

	(Preferred Units)	Response
Stormwater management position created/staffed	(y/n)	Yes
Annual program budget/expenditures **	(\$)	\$ 96,895.40
Total program expenditures since beginning of permit coverage	(\$)	\$ 2,185,502.35
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.)	1.69 mi
Shoreline cleaned since beginning of permit coverage	(mi.)	13.74 mi
Household Hazardous Waste Collection Days		
▪ days sponsored **	(#)	10
▪ community participation **	(# or %)	179 Ea.
▪ material collected **	(tons or gal)	861.5 gal
		3.16 tons
		0.08 tons
		0.75 tons
		0.12 tons
		3.07 tons
		0.01 tons

	Asbestos		0.00 tons
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 **	(#)	0
Illicit discharges identified (Since beginning of permit coverage)	(#)	0
Illicit connections removed **	(#); and (est. gpd)	0
Illicit connections removed (Since beginning of permit coverage)	(#); and (est. gpd)	0
% of population on sewer (Sewer is available to approximately 83% actual. % connected is lower.)	(%)	83

% of population on septic systems	(%)	17
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Construction

	(Preferred Units)	Response
Number of construction starts (>1-acre) **	(#)	3
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 **	(#)	3

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 **	(#)	1,966
Qty. of storm drain cleaned **	(%, LF or mi.)	
Qty. of screenings/debris removed from storm sewer infrastructure **	(lbs. or tons)	238.27 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)**	(\$)	\$46,004.40
• 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 **	(%)	
• % Structures cleaned with vector **	(%)	

(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 959.2 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	(#)	2
• Vacuum street sweepers owned/leased	(#)	1
• Vacuum street sweepers specified in contracts	(y/n)	No
• % Roads swept with rotary brush sweepers **	%	100
• % Roads swept with vacuum sweepers **	%	0

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 ₂ % MgCl ₂ % CMA % Kac % KCl % Sand	100% 0 0 0 0 0 0%
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/l _n mi. or %)	n/a
Estimated net reduction or increase in typical year sand application rate **	(±lbs/l _n 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"> Treatment units induce infiltration within 500-feet of a wellhead protection area 	# or y/n	No

