

Municipality/Organization: Town of Wellesley

EPA NPDES Permit Number: MA041067

MassDEP Transmittal Number: W-036293

**Annual Report Number
& Reporting Period:** No. 15 April 1, 2017 – March 31, 2018

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

Part I. General Information

Contact Person: David J Hickey, P.E. **Title:** Town Engineer

Telephone #: (781) 235-7600 ex. 3310 **Email:** dhickey@wellesleyma.gov

Mailing Address: 20 Municipal Way, Wellesley, MA 02481

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: David J Hickey, P.E.

Title: Town Engineer

Date: April 30, 2018

Part II. Self-Assessment

The Town of Wellesley has completed the required self-assessment and has determined that our municipality is in compliance with all permit conditions.

The Fuller Brook Preservation Project (including installation of biofiltration systems, dredging, bank stabilization, drainage system upgrades and invasive species management) was completed last year. A sampling plan has been designed for implementation this year, to evaluate the impact of the project on water quality in the brook and determine whether Fuller Brook can be removed from the state list of impaired waters. The Town has prepared a comprehensive Pond Management Plan for eight ponds in Wellesley to help improve water quality within the watershed. The comprehensive Pond Management Plan, which provides management recommendations for each pond, is under review by the DPW and NRC for prioritization of which ponds require immediate attention. The Town has proposed a Morses Pond Shoreline Stabilization Project for 11 locations around Morses Pond to improve sediment and erosion controls. The project is currently under review by the Wellesley Wetlands Protection Committee.

The Town, both through education and regulatory review, continues to require all projects disturbing more than one acre to undergo drainage review, and to encourage private development projects to adopt low-impact development (LID) techniques where feasible. For private construction projects that are regulated by the Town, there were a total of 20 on-site stormwater BMPs installed this year, including sub-surface infiltration, rain gardens, bioswales, porous pavement and other LID techniques. The Town continues to require builders to provide as-built plans for private drainage systems and to produce annual inspection and maintenance reports to the DPW, which we are adding to our GIS system. The key public project this year was a new track and field, for which 3 pre-treatment bio-basins were installed. We are including information on managing sediment and erosion control for single family residential construction sites in our current newsletter that will be mailed out to residents.

The Town continues to field verify the Town's drainage network map and is approximately 85% complete. All inspection findings and inventory corrections are being input directly to our GIS system. We have completed 100% of our dry weather outfall inspections of every accessible location. This year, a total of 44 outfalls were inspected for dry weather flow. There are approximately 5% of our outlets with dry weather flow, which laboratory analysis has indicated is from natural causes such as high groundwater. We continue to manage and update the Town's Stormwater Management webpage, which includes copies of our annual reports, stormwater mapping, stormwater brochure, watershed maps, a stormwater hotline and other information that provides residents with the latest information on stormwater. We continue to attend stormwater seminars and local stormwater coalition meetings to stay informed and collaborate on stormwater related issues. We have recently attended the Massachusetts Statewide Municipal Stormwater Coalition, which meets to help communities meet the MS4 permit. The Town has partnered with other communities and formed the Charles River Stormwater Coalition to discuss and share information in preparation for the new MS4 permit.

The Town hosted a rain barrel and composting event to help the community collect and save stormwater, which helps to reduce runoff from homes and developments. Approximately 50 rain barrels were given away.

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 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities
1.1	Inform the general public about their role in stormwater management.	Town Engineer/ Department of Public Works (DPW) and Natural Resources Commission (NRC)	Brochures mailed to every residence by fall 2006.	The original measurable goal was accomplished in June 2007; public outreach efforts are ongoing. The Town performed a stormwater presentation for the Town of Wellesley Middle School students and posts stormwater awareness material in several public buildings and on the web site. Informational meetings on pesticide use and benefits of rain barrels were conducted. The Town installed two interpretive signs along Fuller Brook highlighting constructed bioretention basins and flood plain restoration, with QPC links to a website for further information.	NRC to continue to distribute healthy lawn care and stormwater brochures in public buildings. DPW to continue to keep stormwater management website updated, provide updates on stormwater management in future DPW newsletters, and explore additional opportunities for in-field education. Town staff and residents to participate in the Charles River Watershed Association Earth Day Charles River Cleanup on April 28, 2018.
1.2	Inform residents about catch basin stenciling.	Town Engineer/ DPW	Updates published in newsletter and on website.	Catch basin marking has become a part of 8 th grade community service day and Boy Scout Eagle Scout projects. Markers are being placed by students. The Town provided maps, training and materials for the program. Electronic forms with mobile device enabled fields are used to make the project more interesting and effective.	DPW will present catch basin marking project and outreach program on May 2nd, 2018 as part of the 8 th grade Community Service Day.
Revised			Include catch basin marking as part of 8 th grade community service day and other community efforts; publicize.		

1.3	Continue ongoing pesticide awareness campaign.	NRC	Reach as many residences as possible. Improve the condition of the Town's athletic field turf so that the use of pesticides is reduced or eliminated.	An athletic field natural turf management plan for Town owned playing fields was implemented in 2010. The Town of Wellesley currently maintains all public land without harmful chemicals. An integrated pesticide management program at Wellesley Country Club (golf course) is ongoing. The NRC distributes pesticide awareness materials campaign to landscapers and others and promotes the "Grow Green Wellesley" initiative.	Continue with outreach program and monitor results.
1.4	Continue annual household hazardous waste collection day.	DPW Recycling & Disposal Facility (RDF)	Significant amounts of materials collected and number of vehicles entering site.	Annual collection was held on the 1st Sunday in May, more info is listed in Part V.	Annual collection to continue on or about the first Sunday in May every year. This year it's May 6, 2018.
1.5	Pond Restoration Program - Public Awareness	Town Engineer/ DPW and NRC	Notable reduction of nutrient concentrations in ponds, particularly P and N.	A phosphorus inactivation system for Morses Pond was installed in 2008 and continues operation. Dredging of Morses Pond was completed in 2013. The dredging project improved detention times and water quality throughout the pond. The water quality improvement, particularly over the last few years, is very encouraging. Annual reports and pollution prevention information are posted on the Town's website at https://www.wellesleyma.gov/788/About-Morses-Pond .	The Town has prepared a Morses Pond Shoreline Stabilization Project to improve erosion control. The phosphorous inactivation system at Morses Pond is still active. State Street Pond was dredged as part of the Fuller Brook restoration project. The Town has completed an assessment of all of the major ponds in the community and is working on a prioritization schedule. The report is available at https://www.wellesleyma.gov/1008/Pond-Management .
1.6	Brochures mailed to businesses to promote good housekeeping measures at commercial and industrial activities.	Town Engineer/ DPW	Completed in the fall 2006, defer development of additional brochures next general permit..	Ongoing. Using the web site for this task.	The town currently uses its web site to disseminate this information and reduce the use of printed material. The Town is preparing material to target businesses and institutions.

1.7	Continue program to discourage feeding of waterfowl at Town Hall Duck Pond.	NRC and DPW	Reduction in duck population to 8 breeding pairs, reduction of fecal coliform measured in Fuller Brook.	Signs are posted at feeding areas. Due to public awareness, duck population has diminished and remained consistently low. Similar signs are now posted at Longfellow Pond. Installed a rain garden to treat stormwater runoff.	Continue program and periodic monitoring of water quality in Fuller Brook. The Town is in the process of delisting Fuller Brook as an impaired waterway, which will require continued water quality monitoring.
1.9	Coordinate with local groups for assistance in outreach.	NRC and DPW	Participation by at least one local group in catch basin stenciling program.	Local citizens groups (Friends of Morse's Pond, Friends of Fuller Brook and the Wellesley Trails Committee) participate in programs to be aware of water quality issues, and Wellesley Cancer Prevention Project participates in pesticide awareness.	Use newsletters, web pages and email blasts to encourage participation by neighborhood groups. Continue outreach. No idling program/ campaign with Middle School students.
1.9	Institute a program for pet waste management	Town Engineer/ DPW	Notable reduction in measured fecal coliform from previous samplings.	Pet waste containers have been placed at public locations and mentioned in annual DPW newsletter.	Continue program with periodic public coverage on web page, newspaper and DPW newsletter.

2. Public Involvement and Participation

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)	Planned Activities
2.1	Hold public hearings for new regulations.	Town Engineer/ DPW	BMP COMPLETED		
2.2	Hold public hearings for new site plan bylaw.	Planning Board/ DPW	BMP COMPLETED		
2.3	Seek volunteers for catch basin stenciling program and stream clean up.	Town Engineer/ DPW and NRC	Volunteer groups formed, stream clean up and stenciling in progress.	8 th grade students installing markers on an annual basis during Community Service Day; this year, this took place on May 3, 2017. Boy Scouts also helping to install markers. Annual stream clean up day along Charles River and Fuller Brook held on April 29, 2017.	Continue with catch basin marking program and Charles River clean up days.
2.4	Establish hot line to report illegal dumping.	DPW	Number of incidents of illegal dumping being reported.	No incidents to report.	Continue to publicize hotline.

3. Illicit Discharge Detection and Elimination

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)	Planned Activities
3.1	Develop stormwater system layer on GIS.	Town Engineer/DPW	Map completed and showing 100% of outfalls.	This measurable goal was achieved by Permit Year 2. Since then, the Town has worked on field verifying the GIS information. As of Permit Year 15, the Town has completed inspection and inventorying of the network for approximately 85% of the Town's drain system.	Continue to field verify drain network and update GIS as required.
3.2	Develop stormwater regulations.	Town Engineer/DPW	BMP COMPLETED		
3.3	Inspect outfalls, sample and test dry weather discharges.	Town Engineer/DPW	All 330 outfalls visually inspected by summer 2012.	Continued outfall observation, 44 outfalls inspected with no dry weather flow observed. A total of 327 outfalls have been inspected over the last 4 years.	With the exception of difficult access locations, outfall inspections for dry weather flow is complete. However, we will continue to assess and monitor outfalls with dry weather flow.
3.4	Trace identified illicit discharges.	Town Engineer/DPW	Most illicit discharges eliminated by summer 2007.	No illicit discharges identified this year.	Continue implementation of IDDE in areas of suspected problems, conduct water sampling and follow IDDE policy for correction.
3.5	Establish catch basin stenciling program.	Town Engineer/DPW		We are moving to more permanent stenciling on catch basin grates.	Continue program. Embed cast iron curb markers in new concrete sidewalk during street reconstruction projects.
Revised	Use plastic or cast iron markers instead of stencils.		At least one marker on every street and every 500' on major streets.		
3.6	Training for public employees to report illicit discharges.	Town Engineer/DPW	Public employees observing and reporting illegal dumping.	Refresher training conducted for DPW highway maintenance, water and sewer, and RDF employees.	Continue providing this training as part of the SPCC training that we perform annually.

4. Construction Site Stormwater Runoff Control

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)	Planned Activities – Future Permits
4.1	Develop erosion and sedimentation control measures.	Town Engineer/ DPW	Continue to assess effectiveness and potential to include in next permit phase.	DPW continues to implement state (MassDEP) and federal (NPDES) erosion control standards and monitor effectiveness.	Continue to assess control and effectiveness of existing review process and standards. Continue to respond to erosion and sediment control issues from land owners.
Revised			Assess effectiveness of current review process and standards.		
4.2	Require erosion and sedimentation controls in site plan review.	Planning Board	Amendment to zoning bylaw adopted and 100% permitting compliance.	The Town adopted a Zoning Bylaw amendment achieving compliance with Section II.B.4.(a) of the 2003 MS4 Permit in 2005. Town staff review stormwater management and erosion control measures for all projects disturbing one or more acres of land (as well as all other projects subject to the Town's broadly applicable site plan review requirements). Also, most projects within 100' of a wetland or 200' of a stream require stormwater and erosion control review by the Wetlands Protection Committee..	This year, 10 projects required erosion and sedimentation control review as part of the approval process for a building permit. This trend will continue through FY18.
Revised	Adopt regulatory mechanism requiring sediment and erosion control at construction sites disturbing one acre or more.	Zoning Board of Appeals, Planning Board, Town Meeting	Zoning Bylaw amended in 2005 to add Section XVIC, Drainage Review, to require grading and drainage review for all projects disturbing one acre or more that are not subject to site plan review (in which drainage review is already included).		
4.3	Establish procedures for inspections and enforcement of regulations.	Town Engineer/ DPW	Inspections being conducted, achieve 80% compliance rate.	Building Inspector and Street Occupancy Permit Inspector notify contractors of erosion and sedimentation control requirements. Inspections and corrections are usually completed by DPW.	Continue to inspect projects and enforce erosion and sediment control requirements as part of project permitting and approval process. Require concrete wash stations as a control measure for all projects requiring concrete.

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 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities
5.1	Amend zoning bylaw (Site Plan Review) to address post construction runoff.	Planning Board/ Zoning Board of Appeals (ZBA)	BMP COMPLETED		
5.2	Monitor inspections and maintenance of privately owned BMPs.	Town Engineer/ DPW/Wetlands Protection Committee/ZBA	Inspection and maintenance of BMPs is performed, town receiving annual reports.	The DPW continues to track the locations of private BMPs for residential, commercial and institutional properties, which are largely infiltration systems. O&M plans are required as part of permitting and DPW staff inspect the installation. Permit conditions require system owners to report on O&M activities annually.	Ongoing – update private BMPs on GIS system, continue tracking, installation and requiring owners to perform O&M activities and provide annual inspection report. Consider sending annual reminder letters to system owners.
5.3	Review and approve selected water quality BMPs and supervise installation.	Planning Board/Town Engineer	Approved water quality BMPs installed and functioning.	Ongoing under site plan review, drainage review, and Project of Significant Impact review. LID techniques are being encouraged in proposed developments. 33 private BMP's were installed this permit period.	Inspection of water quality BMPs are complete for the Fuller Brook Preservation project and Morses Pond project. The Town is inspecting private BMPs during installation and is conditioning developers to complete and report on maintenance activities.

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 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities
----------	-----------------	-------------------------------	--------------------	--	--------------------

6.1	Evaluate existing controls for preventing runoff from municipal operations.	DPW	Storage facilities constructed and employees trained in spill prevention.	BMPs have been included in all re-development or new Town building projects including the new W/S building, DPW Operations Building, High School, salt shed, Council on Aging and redevelopment at the transfer station. All employees were educated about benefits and trained on function and maintenance of several Town owned facilities.	Continue to implement recommendations from SWPPP and expand use of BMPs where appropriate. SWPPPs are reviewed annually for updates. MSGP requires review of stormwater runoff, update of SWPPP if needed.
6.2	Conduct employee training for hazardous materials, vehicle refueling and washing, and preventative maintenance.	DPW	100% attendance by DPW employees.	Right to Know training was conducted for DPW employees. Training for vehicle refueling, washing, and preventative maintenance for new Highway Division employees was conducted.	Scheduled video training for vehicle refueling, washing, and preventative maintenance for Highway Division employees.
6.3	Remove aquatic weeds from Moses Pond and expand where possible to other ponds.	DPW and NRC	Visual observation of reduction in invasive and nuisance aquatic weeds.	Mechanical weed harvesting conducted at Morse's Pond and Longfellow Pond.	Continue program, plan and budget for dredging of Reed's Pond fore bay. As part of the Fuller Brook Preservation project, dredging was completed at State Street Pond. Reeds Pond forebay was dredged this year.
6.4	Dredge and remove silt, organic sediments and aquatic weeds from selected ponds.	DPW and NRC	Reduction in nutrients and elimination of algal blooms and fish kills.	Weed harvesting was conducted on a routine basis. State Street Pond and Caroline Brook was dredged two years ago.	Continue weed harvesting and a feasibility studies for two more ponds to be conducted.
6.5	Conduct training in spill prevention procedures and conduct annual deployment exercise.	DPW and Fire Department.	All spill response personnel are trained and have participated in at least one deployment exercise.	Spill response training video presentations are conducted annually.	Continue annual training and schedule deployment exercise. SPCC manuals are updated when a spill occurs. SPCC training was completed this year.
6.6	Construct vehicle washing facility at the DPW highway yard.	DPW	BMP COMPLETED		

6.7	Conduct training for Park & Tree workers on reduced pesticide use.	DPW and Pesticide Awareness Coordinator (NRC)	Workers are trained and toxic chemicals are not being detected in water bodies.	The Town has in place an Integrated Management Plan for all outdoor public spaces. The IMP prohibits the use of pesticides, excepting limited and specific applications such as winter moth or rodent control. The DPW employs 12 MA certified licensed pesticide applicators who have satisfied the annual training requirements of the state.	Continue compliance with MA license requirement and the Wellesley IMP.
6.8	Review procedures for handling and storage of hazardous materials.	DPW	Minimize exposure of hazardous materials to stormwater.	Right to Know, Hazardous Waste Handling, Asbestos Management and SPCC training was conducted for most DPW employees.	Continue training programs.
6.9	Conduct training for DPW employees on new construction and land disturbance.	DPW	Training is conducted every other year. 100% attendance by DPW employees.	Informal training conducted on use of erosion and sedimentation controls.	Ongoing as determined by supervisors.
6.10	Continue ongoing program to clean catch basins.	DPW	Clean critical catch basins annually, others when 60% full.	81 catch basins cleaned this permit period. Material is being tested and transported to landfill to use as a cover.	Continue with catch basin cleaning program.
6.11	Continue ongoing program for street sweeping.	DPW	Sweep commercial areas weekly, residential streets annually.	Street sweeping the roads town wide once a year. Commercial areas are swept several times per year.	Continue with street sweeping program.
6.12	Review and revise schedules for municipal maintenance activities.	DPW	Revised schedules have improved efficiency of operations.	Maintenance SOPs are completed and will be reviewed and revised as necessary.	Continue with program. Plan will be revised as needed.
6.13	Inventory, inspect and maintain town owned structural controls.	DPW	Volume of material being removed.	The Town continues to inspect all Town owned structural controls, including oil/water separators and clean when necessary. Additionally, the Town cleaned bio-swales located at the Wellesley High School.	Continue periodic inspection and cleaning.

6.14	Evaluate public sites for retrofitting of LID techniques.	NRC Pond Manager	Improved quality of runoff in watershed. Design and install one facility per year.	Bioswales installed at Centennial Park parking lot project and Wellesley Senior Center.	Continue to pursue LID applications at any substantially remodeled or renovated Town facility. Town plans to incorporate bioswales and/or infiltration systems at the Middle School and the Police Station parking lot project. LID Audit Presentation by the Mass Audubon Society completed.
------	---	------------------	--	---	---

7. BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA) <<if applicable>>

7.1	Monitor MassDEP web site for 303(d) list, draft TMDL's and final TMDL's.	Town Engineer	The Town is aware of its requirements under the TMDL report and has established BMPs for meeting the WLA.	MassDEP has established a TMDL for pathogens for the Charles River and Fuller Brook. MassDEP has established a TMDL for nutrients for upper/middle Charles River watershed. MassDEP has established a TMDL for phosphorus for the lower Charles River watershed.	Continue to monitor MassDEP website for updates; establish additional BMPs as necessary.
-----	--	---------------	---	--	--

A TMDL HAS BEEN ESTABLISHED FOR THE CHARLES RIVER WATERSHED FOR PATHOGENS

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)	Planned Activities
7.2	Perform analytical testing for e-coli at various outfalls.	Town Engineer	WLA are not being exceeded.	The Town did not perform any E. coli testing at outfalls as no dry weather flows indicated illicit discharges after field testing.	The Town is conducting sampling of Fuller Brook to determine whether the impairment has been addressed.
7.3	Continue T.V. inspection of sanitary sewer system.	DPW Water & Sewer Division	100% inspection of system by 2014, all leaks repaired.	90 % of system now inspected or approximately 118 miles of sanitary sewer. Approximately 11,192 linear feet of sewer pipe was tested and sealed. Approximately 2.11 miles of sanitary sewer was tested and sealed this permit year.	Inspect 10% per year until completion.

**A TMDL HAS BEEN ESTABLISHED FOR THE LOWER CHARLES RIVER WATERSHED FOR PHOSPHORUS.
A TMDL HAS BEEN ESTABLISHED FOR NUTRIENTS FOR THE UPPER/MIDDLE CHARLES RIVER WATERSHED.**

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)	Planned Activities
7.4	Install and operate phosphorus inactivation system in Morses Pond.	Town Engineer/ DPW and NRC	Notable reduction of nutrient concentrations in ponds, particularly P and N.	A phosphorus inactivation system for Morses Pond was installed in 2008 and continue operation through this year. The results have been encouraging particularly over the last few years. An annual report is posted on the Town's web site.	The Town has a consultant working on the Morses Pond Management Plan project, including operating the phosphorus inactivation system this summer. The consultant is also working on managing other ponds within the Town.
7.5	Promote proper lawn and garden care to reduce the use of pesticides and fertilizers	Town Engineer/ DPW and NRC	Notable reduction of nutrient concentrations in ponds, particularly P and N.	NRC continued to promote Wellesley's Grow Green Campaign, with information on the Town's website and Facebook page.	NRC to continue to promote organiz and zero phosphorus fertilizer and to distribute healthy lawn care and stormwater brochures in public buildings. The Town plans to work more closely with the Wellesley Country Club regarding fertilizer use.
7.6	Evaluate public sites for retrofitting of LID techniques.	NRC Pond Manager	Improved quality of runoff in watershed. Design and install one facility per year.	Nothing new to report this permit year.	Design and install bio-filtration swale or rain garden at additional sites, continue to promote LID technology.

7b. WLA Assessment

1. Pathogens

The 2012 303(d) list identifies two waterbodies within the jurisdiction of the Town of Wellesley that are impaired by pathogens, specifically e-coli. Portions of a segment of the Charles River, MA 72-07, form the boundary between Wellesley and several other towns. Fuller Brook, MA72-18, has headwaters in Needham, but its confluence with Waban Brook is in Wellesley about 250' yards upstream from the Charles River at mile 40.

A pathogen TMDL for the Charles River Watershed was issued jointly by MassDEP and USEP in January 2007. Based on the guidance provided in the Implementation Guidance Manual accompanying the TMDL, the town has focused on stormwater runoff, leaking sewer pipes, illicit sanitary sewer connections, pet waste and waterfowl contamination as potential sources of pathogens. Due to the urbanized nature of the Town, failing septic systems and agriculture are not considered to be significant sources of pathogens. There are no known CSOs nor are there any wastewater treatments plants operating within the Town. However, the Town did locate 1 sanitary sewer overflow that developed from a sewer main backup, which was repaired and cleaned up by the Town. The Town has completed about 90% of a program to inspect its sanitary sewer system and repair leaking pipes and manholes. The Town responded to storm that caused sanitary sewer overflows during this permit period, which were immediately cleaned up and included sampling of adjacent streams. Pet waste is being addressed in BMP 1.9. It is suspected that pet waste is a significant cause of pathogens in storm water runoff. The Town is considering providing more pet waste containers and increasing public awareness of the problem.

Bacterial impairment in Fuller Brook has been addressed via two primary efforts. First, the town has taken steps to improve the water quality at the Town Hall Duck Pond by removing sediment, increasing flow through the stagnated basins of the pond and reducing the duck population and adding rain gardens. See BMP 1.7. Second, in Permit Year 15, the Town completed the Fuller Brook Park Restoration project. This project included the installation of wetlands meadows and bio-retention areas, removal of sediment in the stream bed, bank stabilization, dredging of State Street Pond and Caroline Brook, and storm drain improvements, all of which will improve water quality.

2. Nutrients

The 2014 303(d) list identifies four waterbodies within the jurisdiction of the Town of Wellesley that are impaired by nutrients (i.e., nitrogen and/or phosphorus). Portions of two segments of the Charles River, MA 72-06 and MA 72-07, form the boundary between Wellesley and several other towns. Fuller Brook, MA72-18, has headwaters in Needham, but its confluence with Waban Brook is in Wellesley and empties into the Charles River at mile 40. Rosemary Brook, MA 72-25, flows from Needham through Wellesley and empties into the Charles River at mile 60. Most of the portions of Rosemary Brook within Wellesley are within a water supply area and are protected by Town forest and water works land.

A TMDL for nutrients in the Lower Charles River was issued by MassDEP and USEPA in June 2007. A TMDL for nutrients in the Upper/Middle Charles River was issued by MassDEP and USEPA in May 2011. The implementation plans for both TMDLs recommend that municipalities reduce phosphorus loadings by employing a combination of good housekeeping practices, structural and nonstructural Best Management Practices (BMPs), reductions in impervious cover, and other Low Impact Development (LID) techniques.

The NRC will continue to investigate rain gardens and other LID installations, see BMP 6.14. There is an active BMP and LID program that encourages private property owners to adopt similar techniques. The Town encourages reductions in the use of fertilizers and pesticides through various public awareness programs that were conducted in 2016. An athletic field natural turf management

plan was developed by a consultant in October 2009 and implemented in 2010. The purpose of the plan is to improve the condition of the Town's playing fields so that the use of fertilizers and pesticides are reduced or eliminated. The Town competed the installation of a synthetic turf field at the High School, which reduces the need for fertilizers and pesticides. As stated above, pet waste is being addressed in BMP 1.9.

Since 2008, a phosphorus inactivation system is in use at Morses Pond. Although the purpose of this system is to control the growth of algae within the pond itself, Morses Pond is a tributary of the Charles River through Waban Brook, MA72-17. In this manner, the phosphorus inactivation system also provides treatment to the stormwaters that discharge to the Charles River.

The Town has substantially completed the Fuller Brook Park Restoration project, which included the installation of wetland meadows, bio retention areas, removed sediment in the stream bed, bank stabilization, dredging of State Street Pond and removal of invasive species, which will improve water quality.

Part IV. Summary of Information Collected and Analyzed

44 outfalls were inspected this permit period. The Town will continue inspecting outfalls during dry weather conditions. The Town continues to implement the IDDE program as dry weather flows are discovered. The Town continues to monitor 2 outfalls at the Recycling Disposal Facility (RDF) as part of the EPA Multi-Sector General Permit (MSGP).

The Town continues to perform field inspections of outfalls, catch basins and manholes as part of the stormwater drainage system to remove sediments and update the GIS system.

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, 2014 through March 31, 2017)

Education, Involvement, and Training

	(Preferred Units)	Response
Household Hazardous Waste Collection Days		
▪ days sponsored**	(#)	1
▪ community participation**	(# or %)	< 5%
▪ material collected**	(tons or gal)	8 tons
Waste oil collected FY17		1 tons
Hazardous material collected FY17		5 tons

School curricula implemented	(y/n)	no
Catch basin markers placed	(#)	0

Legal/Regulatory

	In Place Prior to Phase II	Under Review	Drafted	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				X
▪ 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	(#)	412
System-Wide mapping complete (complete storm sewer infrastructure)	(%)	100%
Mapping method(s)		
▪ Paper/Mylar	(%)	100
▪ CADD	(%)	0
▪ GIS	(%)	100
Outfalls inspected/screened ** (including in waterways)	(# or %)	44
Outfalls inspected/screened (Since beginning of permit coverage) (includes waterways and retesting)	(# or %)	327
Illicit discharges identified **	(#)	
Illicit discharges identified (Since beginning of permit coverage)	(#)	12
Illicit connections removed **	(%); est.gpd	
Illicit connections removed (Since beginning of permit coverage)	(%); est.gpd	12; 200 gpd
% of population on sewer	(%)	98%

% of population on septic systems	(%)	2%
-----------------------------------	-----	----

Post-Development Stormwater Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(%)	90%
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)	Every 2 years
Average frequency of catch basin cleaning (commercial/arterial or other critical streets) **	(times/yr)	Every year
Qty of structures cleaned **	(#)	81
Qty. of storm drain cleaned **	(l.f.)	3,319 l.f.
Qty. of screenings/debris removed from storm sewer infrastructure **	(lbs. or tons)	108 c.y ≈ 175 tons.
Disposal or use of screenings (landfill, POTW, compost, beneficial use, etc.) **	(location)	Crapo Hill Landfill

Basin Cleaning Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	\$25,500
• Hourly or per basin contract rate **	(\$/hr or \$ per basin)	\$25.50 per basin
• Disposal cost** (Amount includes truck fee and disposal)	(\$)	\$46.98/ton
Cleaning Equipment		
• Clam shell truck(s) owned/leased	(#)	1 owned
• Vacuum truck(s) owned/leased	(#)	1 owned
• Vacuum trucks specified in contracts	(y/n)	n/a
• % Structures cleaned with clam shells **	(%)	75%
• % Structures cleaned with vector **	(%)	25%

(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)	Wkly= 12+/-
Qty. of sand/debris collected by sweeping **	(lbs. or tons)	310 c.y ≈ 502 tons.
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.) **	(location)	Landfill
Annual Sweeping Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	\$25,000
• Hourly or lane mile contract rate **	(\$/hr. or ln. mi.)	\$63/ ln. mi.
• Disposal cost** (Amount includes truck fee and disposal)	(\$)	\$37.61/ton
Sweeping Equipment		
• Rotary brush street sweepers owned/leased	(#)	2 owned
• Vacuum street sweepers owned/leased	(#)	none
• Vacuum street sweepers specified in contracts	(y/n)	n/a
• % Roads swept with rotary brush sweepers **	%	100%
• % Roads swept with vacuum sweepers **	%	0%
Number of municipal oil-water separators cleaned.		3
Tons of sludge and sediment removed		4
Gallons of oily water removed		0

Reduction (since beginning of permit coverage) in application on public land of:
 (“N/A” = never used; “100%” = elimination)

▪ Fertilizers	(lbs. or %)	10%
▪ Herbicides	(lbs. or %)	0
▪ Pesticides	(lbs. or %)	0
Integrated Pest Management (IPM) Practices Implemented	(y/n)	yes

Average Ratio of Anti-/De-Icing products used **

(also identify chemicals and ratios used in specific areas, e.g., water supply protection areas)

Calcium Chloride 37% - 39% CaCl₂ Solution

Pre-wetting techniques utilized **	(y/n or #)	yes
Manual control spreaders used **	(y/n or #)	yes
Zero-velocity spreaders used **	(y/n or #)	no
Estimated net reduction or increase in typical year salt/chemical application rate	(±lbs/lm mi. or %)	With the DPW's salt shed project, a liquid brine station was installed that has resulted in a 10-15% reduction of salt use per inch of snow over the last two winters.
Estimated net reduction or increase in typical year sand application rate **	(±lbs/lm mi. or %)	N/A No sand application
% of salt/chemical pile(s) covered in storage shed. Some mixed sand/salt stored outside under cover.	(%)	100% covered
Storage shed(s) in design or under construction	(y/n or #)	In use (new)
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	N/A
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