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Municipality/Organization: Town of Holden, MA

EPA NPDES Permit Number: MAR041121

MA DEP Transmittal Number: W040559

**Annual Report Number
& Reporting Period:** No. 11: April 1, 2015 -March 31, 2016

**NPDES Phase II Small MS4 General Permit
Annual Report**

Part I. General Information

Contact Person: Isabel McCauley **Title:** Senior Civil Engineer

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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: Jacquelyn Kelly

Printed Name: Jacquelyn Kelly

Title: Town Manager

Date: _____

Part II. Self-Assessment

The Town of Holden has successfully implemented or begun implementation of several Measurable Goals noted in Holden's Notice of Intent. Prior to the development of Holden's Comprehensive Stormwater Management Program, including Measurable Goals, the Town had an assessment performed of current activities, programs and regulations that could support the NPDES Phase II Stormwater Program. This assessment became the basis for modifying current activities, recommending new programs, and informing Town boards and departments of their obligation toward successful implementation of Holden's Comprehensive Stormwater Program.

During permit Year 13, the Town continued the implementation of its local stormwater bylaws, adopted and implemented the Massachusetts Stormwater Standards included in Stormwater Policy Handbook, continued implementation of the IDDE program, and coordinated public outreach/participation and construction inspection efforts through its partnership with the Massachusetts Department of Conservation and Recreation (DCR) and the Wachusett Greenways. In Year 13, the Town continued to be an active participant in the Central Massachusetts Regional Stormwater Coalition (the Coalition). The Coalition's work in Year 13 was funded completely by its members -approximately 28 Towns, including Holden- each contributing \$4,000 for fiscal year 2016 (FY2016). This work was focused on implementation of the consultant's time to help develop the Town's rules and regulations for stormwater; and preparation towards the upcoming new permit requirements based on the 2015 draft permit.

Although, this annual report was submitted after the May 1st deadline, the Town is consistently and continuously implementing the stormwater minimum control measurements as indicated below.

Holden is pleased to present the following summary describing the Town's success at implementing the program through the thirteenth year of the Town's Comprehensive Stormwater Program.

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 1 through 13	Planned Activities – Permit Year 14
1	Create a Stormwater Program	Department of Public Works Planning Board Conservation Commission Board of Health Board of Selectmen	Holden will present to the public at public meeting Holden's draft Comprehensive Stormwater Management Program.	Compliant in Year 1- 12. The Town of Holden has completed <i>Stormwater Management Phase II Assessment</i> report. Copies are available for review by town departments and the public. The Town's IDDE Plan was last updated in December 2012 by Environmental Partners Group. Year 13: As a result of the implementation of the Stormwater Program, the Town continues with a systematic implementation of the six minimum control measures as described under BMP #1 - #23.	The Town of Holden will update its Stormwater Program based on the new 2016 MS4 permit and schedule a presentation with the Board of Selectmen and a public meeting to request comments
2	Create a Stormwater Program	Department of Public Works Planning Board Conservation Commission Board of Health Board of Selectmen	Holden will identify appropriate sources of funding assistance (SRF, 319 Grant Program, 604(b) Grant Program, Lakes and Ponds Grant Program, Source Water Protection Grant Program, Recycling Grant Program) and apply for assistance in implementing portions of Holden's Comprehensive Stormwater Management Program, including public education and outreach.	Year 9: The Town of Holden received funding from the Department of Conservation and Recreation (DCR), for regulations development related to stormwater management. Through this funding, the Town of Holden finalized and adopted a new Stormwater Management bylaw. Year 10: The Town of Holden and 12 other communities within Central Massachusetts have established the Central Massachusetts Regional Stormwater Coalition (Coalition) using a Community Innovation Challenge (CIC) grant to develop a regional municipal stormwater program. Year 11 and 12: Holden, as a member of the Coalition implemented a regional municipal stormwater management program along with 27 other towns. Year 13: Holden continued the implementation of the regional municipal stormwater management program, fully funded by the 28 communities, each contributing \$4,000.00. Additionally, the MassDEP provided \$50,000 to the Coalition for technical assistance.	In February 2013, the CIC grant program has awarded \$115,000 to allow 17 additional communities to join the Coalition and to continue with the implementation of the Central Massachusetts regional stormwater program. In February 2014, the CIC grant program awarded \$80,000 to the Coalition to aid the member communities in the preparation of the upcoming permit. For Year 14, the Town plans to support the continuance of the Coalition with Town funds. The Coalition is working with USEPA and MassDEP to identify available grants.

1. Public Education and Outreach (Continued)

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 1 through 13	Planned Activities – Permit Year 14
3	Address specific groups	Department of Public Works Board of Health	Distribute EPA and other relevant educational brochures to targeted audiences. Distribution points include Town hall, Library, and Transfer Station	Year 8: The Town is in receipt of EPA educational materials on disk for easy printing and distribution. Year 9: The Town provided several informational brochures to the public including Recycling Information, Requirements for Construction over 1 acre, Earth Day events, Mercury Collection by the Massachusetts Board of Health. Holden partnered with Rangers from the DCR to educate 1,788 persons at over 20 separate events on the local watershed and stormwater protection. Letters explaining the MS4 permit and a flyer on BMPs for the Food Service Industry were mailed to each food establishment licensed by the Board of Health. The DEP's Horsekeepers' BMPs Guidelines were sent to owners in Holden that have horses. Year 10, 11 and 12: The Town provided informational brochures to the public including Recycling Calendar, Earth Day events, Mercury Collection by the Massachusetts Board of Health. Holden partnered with Rangers from the DCR to educate on local watershed and stormwater protection. Year 11 and 12: In addition, Hazardous Waste, Dog Waste and Surface Water Quality brochures were provided. Year 12: Holden partnered with DCR Rangers to educate 524 students at 5 events on local watershed protection. DCR provided brochures on "General Construction Site Supervision and Importance of Stormwater Maintenance Basin". Year 13: Holden partnered with DCR Rangers to educate 1285 students/staff on 16 separate events on stormwater issues at Davis Hill Elementary (4th and 5th graders).	Relevant educational brochures will continue to be printed and made available at town buildings. A box deposit for "Button Cell Battery Recycling Program" will continue to be present in the Town Hall through the Board of Health. For Year 14, the Town will continue to use the SOP 5 Construction Site Inspection created through the Coalition for compliance with the 2012 CGP to ensure compliance with the MS4. A draft 2017 CGP was released on April 6, 2016 and is under public comment period. The Town will review the proposed changes and update inspection procedures accordingly.

1. Public Education and Outreach (Continued)

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 1 through 13	Planned Activities – Permit Year 14
4	Address specific groups	Department of Public Works Board of Health Planning Department	The Town of Holden will compile a library of educational materials that can be distributed to youth organizations, the Garden Club, etc. EPA stormwater BMP's targeting specific activities and audiences will be included	Year 9: The Town offered brochures described in BMP #3 as well as information listed on the Town website and brochures enclosed with the monthly utility bill. Brochures sent to residents include: "Wachusett Earthday Collection" a yearly brochure describing the Household Hazardous Product and Recycling Event; Town of Holden, a Resident's Guide to DPW Snow Removal OP; "2012 Recycling Calendar". Information on the Town website includes: "Trash and Recycling Calendar"; "Leaf Composting and Brush Chipping"; "Septic System Maintenance."; "Trash Collection by Street". Year 10: same as Year 9. Also, the Town received the following cable ready DVD's from the DCR: "After the Storm"; "Reduce Runoff, Slow it Down, Spread it Out, Soak It In"; "Think Again, Think Blue MA" and "Cityscope Clean Water Act and SW". The documentary "Liquid Assets: The story of our water infrastructure" produced by Penn State University was obtained through the Coalition. Year 12: Similar to Year 9, 10 and 11, the Town continued to provide informational brochures. Year 13: Similar to previous years, the Town provided target informational brochures and posted this information in the Town's website. A "Residential Stormwater Management" brochure was mailed (with the light bill) to all residents. As described in BMP #8, The documentaries "Liquid Assets" and "Water Blues, Green Solutions" were broadcasted throughout the permit year on our local channels. The Town performed presentations at Mayo and Dawson Elementary Schools to educate 1st and 2nd graders on stormwater issues and the importance of keeping catch basins clean.	Relevant educational brochures/information will continue to be made available to the public. Relevant information will continue to be made available on the Town website. Year 14, we will continue to broadcast the acquired documentaries. We will continue to use the Enviroscope Stormwater Model table to educate our elementary school students at the schools and other forums.

1. Public Education and Outreach (Continued)

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 1 through 13	Planned Activities – Permit Year 14
5	Target groups likely to impact stormwater	Department of Public Works Board of Health Planning Department	Brochures targeting specific audiences and activities will be available. These target groups include homeowner and lawn maintenance activities, disposal of household waste, and pet maintenance. Other groups include commercial business and waste disposal, parking lot maintenance, and floor drains. Educational brochures on the proper disposal of household hazardous wastes will be attached to transfer station permits.	Year 8: The Town of Holden presented several brochure/information to the public. The Town offered brochures/information described in BMPs #3 and #4. Also, the DPW provided written notice to residents for practices that violate Town regulations. Year 9: All newly permitted parking lots have been reviewed and included structural and non-structural BMP's including regular street sweeping and maintenance requirements. Year 10: The Town has continued to make available the information/brochures described in BMPs #3 and #4. Also, the Town has received the documentaries described in BMP #4. Through the Coalition, the Town has access to water quality monitoring kits from the World Water Monitoring Challenge program which engages citizens to conduct basic monitoring of their local water bodies. Year 11: The Town made available the information described in BMPs #3 and #4. "Liquid Assets: The story of our water infrastructure" was broadcasted several times. Year 12: In addition to the brochures described in BMPs #3 and #4, the Town made available a "pet waste management" brochure. The Town has a link to the Coalition's website which addresses target groups including homeowners, kids, and educators providing information on car care, fertilizing application, agricultural, septic system maintenance, landscape, residential runoff, etc. Year 13: See BMP#3 and #4. The Town added to its Annual Truck Day a Stormwater education section using the EnviroScape model table. Approx. 150 people attended this event.	The Town DPW will continue to inform the public regarding stormwater protection practices. The Town will coordinate the broadcasting and advertisement of the documentaries on Holden's Local Access Cable Station. The Town will investigate opportunities to present the water quality monitoring kits to targeted audience. For Year 14: The Town plans to continue to host a stormwater education section on Truck Day (July) and possibly on Holden Days (August). The Town plans to implement the requirements included in the 2016 MS4 permit.

1. Public Education and Outreach (Continued)

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 1 through 13	Planned Activities – Permit Year 14
6	Promote household waste recycling	Department of Public Works Board of Health MIS Department	The Town of Holden and the Board of Health will promote recycling and hazardous waste collection opportunities through brochures and postings on the Town's website and local access channel.	Year 8 and 9: The Town of Holden advertised the yearly hazardous waste collection event via brochures (enclosed in the Holden Municipal Light Bill), website and public access television Year 10, 11 and 12: The Town advertised the hazardous waste collection events via brochures (enclosed in the Holden Municipal Light Bill), website, and public access television. Year 13: Same as Year 12. Additionally, the Town's electronic sign boards located in conspicuous places advertised the dates for household hazardous waste recycling. The Town also uses Facebook to promote recycling.	Brochures/information will continue to be made available to the public. In partnership with the Wachusett Watershed Regional Recycling Center the Town will continue to advertise the hazardous waste collection events.

1. Public Education and Outreach (Continued)

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 1 through 13	Planned Activities – Permit Year 14
7	Utilize local public access channel	Department of Public Works Board of Health	Links to stormwater BMP's and other water quality education resources, including EPA and DEP will be posted on the Town of Holden's website: http://www.townofholden.net/	Year 8 and 9: The Town of Holden website has several web links to environmental and public health organizations and other environmental information, including the DEP and the EPA. Year 10: As previously described in BMP #4, the Town has received 5 documentaries for broadcasting on the local access channel. The Coalition developed an educational website, www.centralmastormwater.org focused on providing information about the project to a number of audiences including the general public, educators and kits. Through the Coalition, the Town has access to an EnviroScape table. This is a portable interactive environmental education model intended for use in schools and community education on non-point source issues that affect the environment. Year 11 and 12: "Liquid Assets: The story of our water infrastructure" was broadcasted several times. Year 13: "Liquid Assets" and "Water Blues, Green Solutions" were broadcasted throughout the permit year. As indicated in BMP#4, the Town used the EnviroScape table to educate 1st and 2nd graders on the stormwater pollution prevention.	The Town will coordinate the broadcasting and advertisement of the documentaries recently acquired on Holden's Local Access Cable Station. The town will continue to investigate opportunities to partnership with schools for the presentation of the EnviroScape model to various audiences.

1. Public Education and Outreach (Continued)

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 1 through 13	Planned Activities – Permit Year 14
8	Utilize local public access channel	Department of Public Works Board of Health	Stormwater BMP's, solicitation for stream team cleanup volunteers, and EPA produced water quality videos will be considered for presentation on Holden's public access channel.	Year 8 and 9: DCR was contacted to use their copy of the EPA presentation, "<i>After the Storm</i>" that is in cable-ready format. Year 10: As described under BMP #4, the Town received copies of 4 cable ready DVD's from the DCR and a copy of a documentary from Penn State University. All of these videos are aimed to educate the public on stormwater management. Year 11: the Town has the documentaries listed in BMP #4. "Liquid Assets: The story of our water infrastructure" was broadcasted several times.. Year 12 and 13: the Town broadcasted the following videos throughout the year: - Reigning in the Storm - Think Again Think Blue - Nonpoint Source Pollution - Reduce Runoff Slow it Down, Spread it Out, Soak it In! - Cityscope Clean Water Act - After the Storm EPA Year 13: - Liquid Assets - Water Blues, Green Solutions	The Town will continue the broadcasting and advertisement of the documentaries on Holden's Local Access Cable Station.

1. Public Education and Outreach (Continued)

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 1 through 13	Planned Activities – Permit Year 14
9	Develop, conduct and document educational programs	Department of Public Works	The Town of Holden Water Department will apply for funding assistance from DEP's Source Water Protection Program for grant assistance to develop wellhead protection plans and stormwater management plans within Zones II. The proposed tasks will include education component.	Year 10: As described above, the DCR worked with Holden education staff and conducted training and workshops related to forest succession, watershed history and mapping. There were several watershed field trips conducted. A total of 14 events were performed which engaged 1,341 4th grade students. Year 11: The DCR worked with Holden school staff and conducted 22 events including classes and field trips focusing on topics related to watershed history, watershed model, watershed mapping, reservoir history, and forest succession which engaged 2,063 4th and 5th grade students. Through the Coalition, the Town assisted WPI students on their Interactive Qualifying Project (IQP) related to the development of a catchment ranking tool which processes user input data or other criteria to suggest ranking into one of the four catchment categories defined in the Draft 2013 New Hampshire MS4 Permit. Year 12: The DCR conducted 5 events including classes and field trips focusing on topics related to watershed model and water mapping which engaged 524 students. Through the Coalition, the Town worked with WPI students on their IQP related to evaluation cost for compliance with the new draft 2014 MS4 permit. The project was presented to the public at the 495/Metrowest Partnership in Spring 2015. Year 13: the DCR conducted 16 separate events (primarily in the 4th and 5th grade classes at Davis Hill) and engaged 1285 individuals. The MassDEP provided a \$50,000.00 stormwater technical assistance grant to the Coalition to develop training material and outreach tools.	The Town of Holden will continue to work on a combined effort with the DCR to educate students and the public. The Town as a member of the coalition will work on developing the new training materials and outreach tools to meet the requirements of the 2016 MS4 permit.

1. Public Education and Outreach (Continued)

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 1 through 13	Planned Activities – Permit Year 14
10	Conduct public meetings/create citizen panels	Board of Selectmen Department of Public Works	The Town of Holden will contact the Nashua River Watershed Association to review opportunities in Holden. These opportunities include hosting a watershed association meeting in Holden with notice on website and local access channel, and televising a meeting reviewing watershed activities or needs specific to Holden	Year 8, 9, 10, 11 and 12: The Wachusett Greenways provided recreational trail maintenance within the Town of Holden. The DCR has regulatory jurisdiction (350CMR 11) over much of the land bordering waterways in Holden (within 400 feet of water) including regulating land use and density. Through the Town's partnership, the Nashua River Watershed Association has included sw related protection for Holden in its 5 (five) year action plan. The plan includes acquiring GIS capacity, recreation, open space protection, and water quality. The Association also suggests potential funding sources. Year 11 and 12: Representatives of the Coalition presented its work at two public conferences one in Woonsocket, RI and one in Worcester, MA. Through the Coalition, the Town has collaborated with other groups with a similar sw focus, sharing the tools developed by the Coalition in a reciprocate manner. Year 12: The DPW Director gave a presentation called "MA MS4 Permits: A Municipal Perspective – Implementing Stormwater Programs" at the Environmental Business Council's Water Resource Management Program. Other presentations by the Coalition. Year 13: Through the Coalition, the Town met twice with other sister groups with a similar sw focus, including the Merrimack Valley Stormwater Collaborative, Neponset Stormwater Partnership, Northern Middlesex Stormwater Collaborative, Connecticut River Stormwater Committee, and Southeastern Massachusetts Collaborative, sharing tools and ideas. Holden attended a workshop by Keith Readling hosted by the Coalition related to stormwater funding. See more detailed information on the Coalition activities report attached.	The Town of Holden will continue to work with the Wachusett Greenways, DCR, and Nashua River Watershed Association to determine opportunities for collaboration. The Town's DPW will review the new permit and provide recommendations to the Stormwater Committee on how to address the new requirements, residents and stakeholders will be invited to provide comments. The Town will continue to collaborate with other stormwater groups through the Coalition.

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 1 through 13	Planned Activities – Permit Year 14
11	Community cleanups	Department of Public Works MIS Department Board of Selectmen	Town of Holden will coordinate local stream team cleanups with area Scout groups. Town will provide notice of event on local access channel and website.	Year 8 and 9: Wachusett Greenways is a volunteer based organization that provides trail development in several communities, including Holden. The Holden DPW worked with Wachusett Greenways on trail construction, which includes proper drainage. The DCR has regulatory jurisdiction (350CMR 11) over much of the land bordering waterways in Holden (within 400 feet of the water) including regulating land use and density. Year 10: The Wachusett Greenways provided maintenance to the Central Mass Rail Trail. The Town was provided with a stencil for catch basins from the DCR. Through the Coalition's website public in general is encouraged to become volunteers to help address stormwater concerns. The Coalition developed a presentation on stormwater management focused on educating elected officials and municipal department head on the requirements of the MS4 General Permit. Year 11: Wachusett Greenways re-routed a section of the White Oak Trail. Year 11 and 12: The DPW street sweeping's schedules are posted on the Town's website by street which allows residents and business owners to remove winter sand from their front yards into the street to be removed by the sweepers. . Year 13: The DPW continue the street sweeping program similar to previous years.	The Town of Holden will continue to work with the DCR and Wachusett Greenways to protect the quality of waterways within Holden and to provide environmentally safe public recreation opportunities.

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 1 through 13	Planned Activities – Permit Year 14
12	Mapping of storm water management infrastructure	Department of Public Works Planning Department	Holden will develop a multi-year plan to complete mapping of entire storm drain system. Development of plan will include review of water, sewer, and other infrastructure.	Year 8: Holden completed mapping under the IDDE of UA. The outfalls within the UA were surveyed. Survey information included condition, presence of dry weather flows, location, source of flow, and receiving water body. The outlet locations were mapped using AutoCAD and MassGIS. Year 10: The Coalition had created an integrated mapping and inspection database. The database can be access by all members into a single GIS-based system, accessible online. The Town's mapping system has been integrated to the Coalition's database. Year 11 and 12: The Town added to its stormwater mapping system the new subdivision's stormwater structures using the share RTK GPS surveying device provided through the Coalition. The Town stormwater mapping is available on the Town's website. Also, the Coalition provides an integrated online mapping and inspection database. The database is cloud-base and can be accessed by desktop or tablet computer. Year 12: Through the Coalition, the Town obtained an additional Samsung tablet to be used in the field during catch basin cleaning and outfall inspections. Cleaning of catch basins were logged into the Coalition's online mapping system. Year 13: The Town updated its stormwater system to map new roadways and attributes using the Coalition's GPS surveying device. The Town used a tablet during inspections of the sw system to log maintenance records.	The Town of Holden will continue to refine the details of the stormwater management infrastructure and database during Operations and Maintenance (O&M) and IDDE activities. On a rotating schedule, the Town will use the GPS surveying unit to continue to map the stormwater system. Connecting pipes, BMPs and beaver dams, can now be mapped and identified through the Coalition's stormwater mapping system. The Town intends to utilize the tablet computer during stormwater maintenance operations.

3. Illicit Discharge Detection and Elimination (Continued)

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 1 through 13	Planned Activities – Permit Year 14
13	Identification/description of problem areas	Department of Public Works	Holden will develop and implement an Illicit Discharge Detection and Elimination (IDDE) plan.	Year 9: Follow up activities from Permit Year 8 were conducted. Outfalls exhibiting elevated /anomalous conditions were resampled with clean results. As part required by the IDDE plan. Year 10: The Town contracted the services of an environmental consultant to update its IDDE plan. The Town has an updated IDDE plan that includes the requirements of the 2010 MS4 Draft Permit. The Coalition developed a Standard Operating Practice (SOP) "Locating Illicit Discharges" intended to define the types of illicit discharges and provide tools to identify each. The Coalition developed an IDDE Documentation Packet, which specifies how illicit discharges are detected and what department or person is responsible for ensuring elimination. The Coalition developed a Sump Pump Discharge policy. Through the Coalition, the Town has access to water quality field kits and meters which are focused on identifying illicit discharges. Year 11: Through the coalition, the Town assisted WPI students on developing a web-based program that will facilitate the ranking of catchment areas based on the requirements of the New Hampshire 2013 draft permit. See BMP #9. Year 12: Through the Coalition, the Town and WPI students sample outfalls to Chapin Pond from the Industrial Park parking lot area and from Gail Drive. As well as outfalls to a stream that ultimately discharges to Unionville Pond. Year 13: The Town implemented the IDDE plan. Stormwater inspections of key outfalls during wet and dry weather conditions were conducted. There were not illicit discharges found during the permit year.	The Town will continue to implement the requirements of the updated IDDE plan. The Town is studying available options to best implement the recommendations and policies identified in the SOP, IDDE Document Packet and Sump Pump policy. The Town plans to work with the Coalition members to refine and test the developed software and use it as a tool for compliance with the upcoming permit. The Town has established a way of communication with DCR to combined efforts in the detection of illicit discharges. DCR now shares the results of samples collected within the Wachusett Watershed. The Town plans to meet the requirements of the new 2016 MS4 permit.

3. Illicit Discharge Detection and Elimination (continued)

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 1 through 13	Planned Activities – Permit Year 14
14	Enforcement procedures addressing illicit discharges	Department of Public Works Planning Department	Holden will review whether local authority is appropriate and able to respond to potential illicit discharges. New by-laws, if necessary, will be proposed. DCR grant will support this effort.	Year 9: The Town was in the process of finalizing a new IDDE bylaw that went before Town Meeting in Spring 2012. Year 10: The Town has adopted a new Illicit Discharge Control bylaw on May 21, 2012. Year 11 and 12: In addition to the scheduled maintenance of stormwater structures throughout the Town, the Town emphasized the inspection of the stormwater structures within areas of higher industrial activity. No signs of illicit discharges were found. These areas included the Industrial Park Complex and Oriol Medical Building Complex, and denser neighborhoods. Year 13: The DPW routinely inspected on-going construction sites for operation and maintenance of existing stormwater systems including BMP. The DCR performed weekly samples for bacteria at four tributaries in Holden and monthly nutrient samples were collected at two locations. No problems were identified.	The Town will continue to implement the requirements of the Illicit Discharge Control bylaw. The Town will implement the recommendations provided in the 2013 IDDE program.
					The Town will update the IDDE program to include the requirements of the new 2016 permit.
15	Initiation of recycling programs	Department of Public Works Board of Health	Holden will apply for funding assistance from DEP's Recycling Grant Program for assistance in public education and the purchase of recycling materials.	Year 10: The Town continued to advertise the Recycling and Household Hazardous Product Collection events via brochures (enclosed in the Holden Municipal Light bill), website and public access television. Year 11, 12 and 13: The Town continued its recycling program as described in Year 10. As describes in BMP#6, the Town uses two electronic sign boards to publicize the various recycling events.	The Town in collaboration with the Wachusett Watershed Regional Recycling Center will continue to advertise the Hazardous Product Collection Events. The Town will continue to monitor funding sources for applicability for recycling.

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 1 through 13	Planned Activities – Permit Year 14
16	Bylaw: Storm water management regulations for construction sites 1 acre or larger	Planning Board Conservation Commission Town Counsel Board of Health Zoning Board of Appeals	Holden will review model by-law developed by DEP in consultation with the Attorney General's Office.	Year 9: The DPW placed a poster titled "Is <i>your construction project disturbing 1 or more acres of land...</i>" within the Town Hall for public viewing. This poster describes EPA regulations; The Town of Holden drafted and Town Meeting passed a new local ordinance: Stormwater Management and Erosion Control Bylaw which regulates construction in areas 20,000 square feet and larger or more or disturbs land with 15% or greater slope where the land disturbance is greater than or equal to 400 square feet within the sloped area. Year 10: The Town has continued to enforce the State and Federal stormwater regulations on new and redevelopment. The Coalition developed a SOP "Erosion and Sedimentation Control" intended to help communities minimize land disturbance addressing design, planning, construction, and inspection tools. The SOP outlines inspection requirements for BMPs for long-term purpose. Year 11, 12 and 13: The Town required compliance with the Massachusetts Stormwater Handbook on all applicable BMP proposed to be constructed. During construction, the Town in as far as possible oversaw the installation of new BMPs to ensure its construction is in accordance with the design specification. The Town patrols existing construction sites on a regular basis and a notification was sent to the developers if sediments extended outside the disturbed areas.	The Town will work on implementing the stormwater regulations related to the new bylaw. The Town intends to incorporate the SOP "Erosion and Sedimentation Control" in the implementation of the new bylaw as applicable. The Town plans to develop rules and regulations for the implementation of the sw and illicit discharge control bylaws. The rules and regulations will incorporate the requirements of the new 2016 MS4 permit.

4. Construction Site Stormwater Runoff Control (continued)

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 1 through 13	Planned Activities – Permit Year 14
17	Bylaw: Procedures for creating a Storm Water Pollution Prevention Plan (SWPPP)	Planning Board Conservation Commission Town Counsel Board of Health Zoning Board of Appeals	Utilizing funding assistance from MDC grant, Holden will review current by-laws and develop and recommend approval for by-laws responding to MM4.	Year 9: The Town of Holden drafted and Town Meeting passed a new local ordinance: Stormwater Management and Erosion Control Bylaw. Year 10: The Town has continued to enforce the State and Federal stormwater regulations on new and/or redevelopments. Year 11 and 12: Through the Coalition, the Town has a list of existing facilities that have coverage under the MSGP and prepared a SWPPP for their sites. The Town completed a review of industrial facilities located in Holden that applied for coverage under the MSGP and the compliance status of each. Year 13: The Town inspected construction sites including Stoney Brook, Oak Hill, St. Mary's, and others, on a regular basis and requested contractors, when needed, to implement mitigation measurements. Contractors were notified via email when issues occurred and were asked to report on correction measures implemented.	The Town will work on implementing the stormwater regulations related to the new bylaw. The Town will make an effort to contact industrial facilities that should be complying with the MSGP permit and have not applied for it. The Town will inspect on-going construction sites on regular basis for compliance with stormwater regulations.

Additional Activities: DCR, in partnership with the Town of Holden, inspected a total of 98 dry weather and 8 wet weather inspection at 15 different construction sites in the Town of Holden. Only a few minor issues were noted and all were quickly addressed.

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 1 through 13	Planned Activities – Permit Year 14
18	Bylaw: Require post-construction runoff controls	Planning Board Conservation Commission Town Counsel Board of Health Zoning Board of Appeals	Holden will review model by-law developed by DEP in consultation with the Attorney General's Office	Year 9: The DPW placed a poster titled "Is your construction project disturbing 1 or more acres of land..." within the Town Hall for public viewing. This poster describes EPA regulations; The Town of Holden drafted and Town Meeting passed a new local ordinance: Stormwater Management and Erosion Control Bylaw which regulates construction in areas 20,000 square feet and larger or more or disturbs land with 15% or greater slope where the land disturbance is greater than or equal to 400 square feet within the sloped area. Year 10: The Town has continued to enforce the State and Federal stormwater regulations on new and/or redevelopments. The DCR staff constantly monitors agricultural sites for stormwater and manure run off. The Coalition's website includes a BMP Toolbox section which is intended to compile the stormwater post-development tools currently permitted for small development or redevelopment. Year 11, 12 and 13: It is the Town's policy to request new development and redevelopments to provide an O&M program for the maintenance of BPM that are privately owned. The Town requests that a Homeowners Association be established to provide the economic means and set a maintenance schedule. This policy was implemented during the compliance year. In Year 13, Similar to previous years, DCR monitored 25 small hobby farm sites for stormwater related issues, minor issues were found and corrections were implemented promptly.	The Town will work on implementing the stormwater regulations related to the new bylaw. The Town will work with the Coalition to communicate the BMP Toolbox section to developers. The Town plans to meet the requirements of the new 2016 MS4 permit.

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

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 1 through 13	Planned Activities – Permit Year 14
-19	Identify structural and non-structural long-term runoff control strategies BMPs	Planning Board Conservation Commission Town Counsel Board of Health Zoning Board of Appeals	Utilizing funding assistance from MDC grant, Holden will review current by-laws and develop and recommend approval for by-laws responding to MM5.	Year 9: The Town of Holden drafted and Town Meeting passed a new local ordinance: Stormwater Management and Erosion Control Bylaw. Year 10: The Town has continued to enforce the State and Federal stormwater regulations on new and/or redevelopments. Year 11: The Town continued to enforce the State and Federal stormwater regulation on new and/ redevelopments through its SW Management and Erosion Control Bylaw. Year 12 and 13: As described in BMP #16, the Town required compliance with the Massachusetts Stormwater Management Standards. A long term O&M plan was required for all new developments as applicable. For single lot construction site the Town requested developers to meet the Stormwater Management and Erosion Control bylaw in as far as possible. Also, the Town used the BMP provided by the Coalition for small development and redevelopements projects.	The Town will work on implementing the stormwater regulations related to the sw and illicit discharge control bylaws. The Town will update the sw and illicit discharge control bylaws in accordance with the requirements of the new 2016 MS4 permit.

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 1 through 13	Planned Activities – Permit Year 14
20	Develop a municipal Operations and Maintenance Plan	Department of Public Works	Using regulations and recommendations from DEP and EPA, Holden will develop and update an operations and maintenance plan to include proper disposal of street sweepings, catchbasin cleanout, snow disposal, roadway deicing procedures, vehicle washing, and outside storage of materials.	Year 1-10: The Town of Holden DPW cleans catch basins and sweeps all streets yearly. The Town notifies residents of the street sweeping schedule in the newspaper and on the Town website. Year 10: The Town has stopped using sand except for ice storms and began using a treated salt (enhanced de-icing salt containing a pre-wetting agent, coloring agent and a corrosion inhibitor) for snow treatment. The Town contracted the services of an environmental consultant to perform an audit of municipal buildings focused on pollution prevention and good housekeeping. Fourteen buildings were audited. The Town has implemented all viable recommendations that resulted from the audit. Through the Coalition, the Town has prepared Stormwater Pollution Prevention Site Plans for each of the DPW garages. Year 11: The Spill Prevention Control and Countermeasure Plan (SPCC) for the DPW garage was completed. The Town implemented viable recommendations provided in the 2013 audit of municipal buildings and the SPCC Plan for the Highway Garages. Also see BMP #22.	The Town will continue to implement the O&M plan regarding catch basins and street maintenance. The Town will review BMPs for applicable O&M practices. The Town plans on continue to implement recommendations provided in the IDDE audit and SPCC Plan. The Town is evaluating viable solutions for the collection and management of runoff from vehicle washing.
				Year 12 and 13: The Town hired an environmental cleaning company to clean all floor drains and oil water separator for both highway garages and Public Safety Building. This process will be maintained annually.	

6. Pollution Prevention and Good Housekeeping in Municipal Operations (cont'd)

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 1 through 13	Planned Activities – Permit Year 14
21	Develop and implement training programs for municipal employees	Department of Public Works	Holden will send a minimum of 5 public works employees annually to training seminars sponsored by MassHighway, BayState Roads, and other relevant agencies or vendors.	Year 1-10: Town employees attended several trainings on a yearly basis. Year 11: The Town provided to the DPW employees a Spill Prevention Control and Countermeasure training. Hazardous Communications and Right to Know Act was provided to DPW and Light Department employees. Year 12 and 13: Town employees attended BayState Roads training seminars related to Safety and Environmental Sustainability.	The Town of Holden will continue to provide training and educational development opportunities to its employees regarding stormwater pollution prevention.

6. Pollution Prevention and Good Housekeeping in Municipal Operations (cont'd)

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 1 through 12	Planned Activities – Permit Year 13
22	Develop a municipal Operations and Maintenance Plan	Department of Public Works	Holden will implement a formal inspection program, including maintenance logs and scheduling, for catchbasin cleaning, repairs, and new installation.	Year 1-10: The Town of Holden DPW cleans catch basins and sweeps all streets yearly. The Town notifies residents of the street sweeping schedule in the newspaper and on the Town website. As previously mentioned, the Town has acquired a field tablet computer provided with an online database of the Town's stormwater infrastructure to be used during system cleaning and maintenance. Year 12: The Town replaced a deteriorated and undersized culvert on Reservoir St following the Massachusetts Crossing Standards. This work included the installation of 40-feet of 60" HDPE and reconstruction of headwalls. Also, a culvert on South Road was improved using slip lining technology. This work included the lining of 70-feet of pipe and reconstruction of headwalls. Year 11, 12 and 13: The Town performed maintenance of the sw infrastructure including cleaning of existing catch basins, drainage pipes and BMPs, and repair/replacement of aging structures. Most of these activities are being recorded in the database. This is the fourth year that the Town has been using green salt for the deicing operations resulting in a significant reduction of sediment accumulation within CB. Year 13: The Town performed upgrades to bridge culvert crossing on Reservoir St. including new cast-in-place approach slabs, sleeper pad, reinforced deck, and crash barrier; and ~400-ft highway guard rail. Reconstruction of the Shrewsbury St drainage system from Arizona to Doyle Rd. The design for replacement of 500-ft of 30-in drainage pipe at Wyoming Dr.	The Town will continue to implement the O&M plan regarding catch basins and street maintenance. The Town will review BMPs for applicable O&M practices. The Town will continue the implementation of using the field tablet to establish a web-based data management system for the cleaning and inspection activities of the stormwater infrastructure.

6. Pollution Prevention and Good Housekeeping in Municipal Operations (cont'd)

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 1 through 13	Planned Activities – Permit Year 14
23	Review storm drainage infrastructure needs	Department of Public Works	Holden will consider storm drain improvements in development of annual road maintenance plan subject to funding from Chapter 90	Year 1-10: The Town of Holden DPW performs maintenance to the storm drain infrastructure as needed. Year 10: The Town performed significant drainage improvements on Quinapoxet Street including the adjustment of drainage structures and replacement of 18-inch metal drain pipeline. Other drainage work include the installation, replacement and/or repair of 87 structures and 1,185 feet of piping on various streets as reported in the 2012 Annual Town Report posted on the website. Year 11: The Town performed drainage improvements to a culvert crossing on Newell Road which included the addition of two deep sump catch basins and installation of riprap for erosion control on the banks of the culvert. Numerous catch basins were repaired on an as needed basis. Year 12: The Town made repairs and/or replacement of catch basins and other storm drain structures within several streets as part of the annual highway maintenance. A total of 122 structures and 100 feet of pipe were improved. Year 13: The Town made repairs and/or replacement of catch basins and other storm drain structures within several streets as part of the annual highway maintenance. A total of 88 structures and 80 feet of pipe were improved.	The Town's DPW will continue to perform maintenance to the storm drain infrastructure as needed.

7. BMPs for Meeting Total Maximum Daily Load (TMDL) waste Load Allocations (WLA) – NOT APPLICABLE

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 13 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 14
				No TMDLs in the Town of Holden	

7b. WLA Assessment

To date, the Town has focused on completing GIS mapping of the drainage system and receiving waters, as approved by the DEP. The Town is incorporating additional mapping information including BMPs, piping and outfall physical characteristics as described in the 2014, 2010 and 2004 Draft permits. When applicable, the Town will comply with the requirements to meet WLA.