

Municipality/Organization: MassDOT - Highway Division

EPA NPDES Permit Number: MA043025

MaDEP Transmittal Number: _____

**Annual Report Number
& Reporting Period:** No. 11: April 2013-March 2014

NPDES Phase II Small MS4 General Permit Annual Report

Part I. General Information

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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: 

Printed Name: Frank A. DePaola, P.E.

Title: Highway Administrator – MassDOT, Highway Division

Date: 05/01/2014

Part II. Self-Assessment

MassDOT – Highway Division has completed the required self-assessment and determines that the Municipal Separate Storm Sewer Systems (MS4) continues to be in full compliance with the permit conditions. MassDOT has spent significant time, effort and funds focusing on the potential impacts of stormwater from its roads and properties this year. MassDOT has educated its staff and presented at numerous seminars regarding the latest efforts of the MassDOT stormwater program. The staff continues to focus on identifying and removing illicit connections although MassDOT has found that the linear controlled nature of MassDOT's roads result in very few illicit connections. The Impaired Waters Program continues to review the impacts from MassDOT road stormwater to impaired waters and design and construct treatment to address the impairments when possible and appropriate. The program has moved many assessments in to design this year, and many projects reached the construction stage this year. Furthermore, MassDOT spends significant budget maintaining their roads and drainage system.

MassDOT, with our consultants support, has continued to implement the "Impaired Waters Program" to address discharges to impaired waters from the highway stormwater system as part of compliance with the MS4 general permit, and has completed a significant number of specific water quality treatment projects. MassDOT has expended a significant amount of external and internal resources to implement this aggressive program. MassDOT's program includes two components: the Retrofit Initiative and the Programmed Projects Initiative. Through the Retrofit Initiative MassDOT identifies locations where adding stormwater Best Management Practices (BMPs) along existing roadways is warranted, and through the Programmed Projects Initiative MassDOT adds stormwater BMPs in to programmed (planned) roadway construction projects.

During Permit Year 11 through the Impaired Waters Program (IWP), MassDOT completed assessments of 151 water bodies. MassDOT included 59 impaired water bodies in its semi-annual submittal on June 8, 2013 to EPA and another 72 water bodies in its semi-annual submittal on December 8, 2013, all of which count toward the water bodies on Appendix L-1 as part of MassDOT's commitment to the court. MassDOT also assessed water bodies that were not required for the court but that needed assessment based on the goals of the IWP. These additional assessments illustrate MassDOT's commitment to improving stormwater runoff quality from its highways. Since 2010, more than 70% of water bodies with TMDLs based on Appendix L-1 have been assessed. MassDOT is on track to meet their commitment to review approximately 20% of impaired waters in watersheds with TMDLs each year.

MassDOT has been working diligently this year to move the many assessments where design of BMPs was warranted forward through design contracts with five consultants. There are currently 60 retrofit projects in the design process to construct stormwater BMPs. These projects, in addition to on-going projects from Permit Years 8 through 10, currently include the design of stormwater infiltration BMPs, stormwater wetland retrofits, and leaching catch basins. BMPs included in final design in Permit Year 11 are estimated to remove 101 acres of effective impervious cover (IC) and 98 lbs/yr of phosphorus. Twelve projects are either awaiting construction advertisement or are currently under construction and 16 have been completed since the program began.

In order to alert designers working on projects that potentially impact impaired waters, and to capture information regarding stormwater improvements incorporated into designs to address MassDOT stormwater, MassDOT developed a water quality data form (WQDF) which is submitted by design

consultants at the 25% and 75% design stage. This year, MassDOT has received more than 222 water quality data forms; 112 at the 25% design phase and 110 forms at the 75% design phase. Of the 25% forms, 102 affected an impaired water body without a TMDL, 26 were in a watershed covered by a TMDL but the receiving water itself was not identified in the TMDL, and 10 drain to a water body included in a TMDL. The 75% forms documented a total of 93 stormwater BMPs (existing and proposed) and at least 134 deep sump catch basins. Additionally, non-structural BMPs implemented for these projects were documented and included measures such as street sweeping, protecting sensitive areas, inspection and cleaning of stormwater structures, catch basin cleaning, snow removal and deicing controls, and use of sediment and erosion controls during construction. A summary of the Impaired Waters Program is included in BMPs 7R and 7U, along with Appendix D.

This past year, the updated water quality data form was used by designers to document BMPs implemented in impaired waters contributing areas, leading to more comprehensive and accurate data collection regarding stormwater BMPs. MassDOT is also continuing efforts to convert the updated water quality data form into an online form. In the past year MassDOT has launched an in-house database to comprehensively track assessment and project information.

MassDOT has developed the IWP geospatial database to track the many structural BMPs being designed and constructed by its design consultants and the status of water body assessments. This IWP geospatial database is a powerful tool in the analysis of MassDOT's program and future planning/ water quality analysis.

MassDOT continues to follow up on potential illicit connections identified in its drainage systems while working on a more targeted and efficient Illicit Discharge Detection and Elimination (IDDE) program. The program is in draft stages and considers IDDE required program elements in the draft NPDES New Hampshire Small MS4 General permit.

MassDOT implemented a critical review of the Appendix A (IDDE Status Permit) and Appendix B (Status of Drainage Tie-In Permits) Tables that have been submitted in previous Annual Reports. This included revising the tables, including more specific information on the Property Owner and Action Items. Additionally, this critical review included contacting each District to determine if any of the Illicit Discharges were permitted; and therefore removed from the IDDE Tables.

During this Permit Year, it was recognized that the methodology and approach for the existing IDDE program was not effective. MassDOT would try to contact the Property Owners, the Property Owners typically were unresponsive and the same properties continued to be on the IDDE list each Permit Year, with no resolution. MassDOT is approaching the IDDE program in two ways:

- Confirm stormwater flows into the MassDOT system are not currently permitted. Local MassDOT Districts work with the Property Owner to obtain required stormwater permit. The permit only allows for allowable stormwater flows under MassDOT NPDES permit.
- MassDOT has distributed to each of the six (6) MassDOT Districts, a generic Notice of Violation (NOV) letter (see attached in Appendix C), that has been approved by legal and can be sent out as violations (and are confirmed to not be permitted) are encountered. This is an Action item on the Appendix A Table.

MassDOT has drafted a NOV letter to specific municipalities that have IDDE's into the MassDOT system. This letter will be reviewed by legal and sent out in the Summer of 2014.

The Drainage Tie-In Standard Operating Procedure (SOP), issued in 2012, has been utilized this past year to confirm that property owners with stormwater discharges that want to tie into the system are in compliance with the NPDES general permit and that non-stormwater discharges are not allowed. Additionally, when existing connections to the drainage system are identified, the Drainage Tie-In SOP is later referenced in letters to property owners so that property owners can either permit their stormwater connections to the drainage system or remove the connection. This process helps implement the IDDE program and is a way to remove illicit connections that have intermittent flow that would not necessarily be identified in the field.

Part III. Summary of Minimum Control Measures

The BMPs included in MassDOT's Stormwater Management Plan (SWMP) are summarized in each of the Minimum Control Measure sections below.

1. Public Education and Outreach

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/ 2015
1A	MassDOT Training Assistance Program (MTAP)	MTAP	Facilitate one training program related to stormwater and /or snow and ice control as a means of reducing source pollution. Document attendance numbers.	Because this training is for MassDOT staff and contractors, this BMP is reported under 6B-1 (Pollution Prevention/Good Housekeeping).	BMP Revised.
1B	Baystate Roads	Baystate Roads	Provide one training program for MassDOT employees and one for municipal DPW snowplow drivers related to snow and ice control as a means of reducing source pollution. Document attendance numbers.	Snow and ice operations training classes were held September through November 2013. Attendees included municipal DPW snowplow drivers and there were 544 attendees in total. Topics covered included: <ul style="list-style-type: none"> • Anti-icing • Department operations • Salt and environmental considerations 	Provide one training program for municipal DPW snowplow drivers related to snow and ice control as a means of reducing source pollution. Document attendance numbers.
1C-1	MassDOT Web Site	IT/Environmental	Add Environmental Section web page to web site.	Measurable goal completed in Permit Year 1.	Measurable goal complete.
1C-2	MassDOT Web Site	IT/ Environmental	Include link for contacting Highway Department via email. Review emails and direct to appropriate department.	The MassDOT web site includes a link for contacting the Highway Division via email. Emails received are reviewed and directed to the appropriate department.	Measurable goal complete.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/ 2015
1C-3	MassDOT Web Site	IT/ Environmental	Evaluate web page annually and revise as necessary.	The Environmental web page was reviewed and updated. Annual Report 10 was added this year. The Impaired Waters Assessment Reports were added, one in June and the other in December. The Water Quality Data Form was updated.	Add the PY11 Annual Report. Post 2 semi-annual Impaired Waters Assessment Reports. Roll out the updated Water Quality Data Form.
1D-1 Removed	Storm Water Training Workshop	Environmental/ MTAP	Conduct training for MassDOT personnel every two years. Summarize date of meeting, topics covered, and #of attendees in annual report. Also include # of Snow& Ice training classes, and # of “tailgate” meetings.	This BMP is duplicative since stormwater training is addressed through the BMP 1A program above. The BMP 1D-1 is replaced by the additional commitments made in BMP 1A in the January 2008 SWMP.	BMP Removed
1D-2 Removed	Storm Water Training Workshop	Environmental/ Baystate Roads	Conduct stormwater training workshop for municipal DPW personnel every two years. Summarize training programs similarly to above.	This BMP is duplicative since stormwater training is addressed through the BMP 1B program above. The BMP 1D-2 is replaced by the additional commitments made in BMP 1B in the January 2008 SWMP.	BMP Removed
1E	Educational Seminars for CIM members	Construction Section	Provide educational seminars for CIM members on CGP Permit coverage and environmental compliance in Permit Year 1.	Measurable goal complete in Permit Year 1.	Measurable goal complete.
1F Removed	MassDOT/ Municipal Tie-In Review Process	Environmental/ Districts	Develop communication mechanism re: MassDOT drainage that discharges to a local MS4. Develop review process for addressing those concerns. Notify other MS4s of process.	BMP Revised – see 1F below	MP Revised

B

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/ 2015
1F Revised	Post Contact Names for Municipal Drainage Concerns on MassDOT Web Site	Environmental/ Districts/ GIS	1) Distribute a flyer with contact names to municipalities during May 2007 Baystate Roads NPDES Phase II General Permit seminar. 2) Post DHD contact name for each district on website for municipalities to contact and maintain link. 3) GIS group will develop a program to provide easy to use access and allow the public to identify a selected area and review the MassDOT owned roads and outfalls. MassDOT will then review alternatives for alerting towns and the public to the availability of this information.	1) Completed in Year 5. 2) DHD contact names continue to be updated on the web site. Go to http://www.mhd.state.ma.us/default.asp?pgid=dist/distRoot&sid=wrapper&iid=dist/dist.asp 3) MassDOT has posted the drainage outfall inventory on the web site at this location: http://www.massdot.state.ma.us/planning/Main/MapsDataandReports/Data/GISData/Outfalls.aspx	1) Completed in Year 5. 2) Continue to maintain contact names. 3) Share drainage inventory information as requested.
1G	River and Stream Signs	Traffic Operations	Maintain signs identifying rivers and streams crossed by MassDOT roads, until crossing of all named rivers and streams are signposted.	MassDOT installed 18 signs identifying river and stream crossings. The locations were identified by the MassRiverways Program and installed by MassDOT personnel. A list of the locations is included in Appendix E of this report.	MassDOT will continue to install signs in areas identified by MassRiverways Program.
1H Removed	Anti-litter/ Dumping Messages on Variable Message Boards	Operations	Maintain anti-litter message in the message mix on permanent Variable Message Boards (VMBs).	Messages on permanent Variable Message Boards are restricted to traffic and safety issues.	No further action.
1I Removed	Anti-litter/ Dumping Literature at Visitors Centers	Operations	Work with EOEEA's Think Blue Campaign to identify appropriate brochures for use in Visitor's Centers. Distribute literature to appropriate visitor centers and track number of brochures distributed annually.	It was determined in Permit Year 7, that the Think Blue Campaign was not the right program for providing stormwater literature to the public. The BMP was revised – see 1I below.	BMP Revised.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/ 2015
1I Revised	Highway Stewardship Literature	Operations / Environment	Educate the public on the Impaired Waters Program, proper stormwater management, and other environmental stewardship measures.	MassDOT distributed approximately 300 MassDOT stormwater brochures at appropriate venues over the past year. <u>Stormwater Program Webpage</u> – MassDOT stormwater program webpage is awaiting posting. The content for the webpage had been finalized; however MassDOT then determined that the overall Department website required re-design.	Distribute brochure at appropriate venues and track # distributed. The previously prepared storm water program webpage will be updated to reflect current status, and once the Department webpage re-design is complete, the storm water webpage will be posted. Continue to inform others about the Impaired Waters Program through public outreach.
1J	New England DOT Meetings	Environmental	Coordinate with New England DOTs to discuss on-going issues and programs being faced by the DOTs including wetland mitigation, stormwater, and erosion controls.	MassDOT communicated with other DOTs when the need developed. A MassDOT stormwater staff member is on two National Cooperative Highway Research Program (NCHRP) committees, and in the past year contributed technical review and advice regarding the following two publications: <i>Long-Term Performance and Life-Cycle Costs of Stormwater BMPs</i> and <i>Nutrient (Nitrogen/Phosphorous) Management and Source Control</i> . In November 2013, MassDOT stormwater staff, in coordination with Maine DOT, delivered a presentation to the Cumberland County Maine Soil Conservation District regarding stormwater benefits of trees. A MassDOT stormwater staff member is on a NCHRP committee evaluating Bridge Deck Runoff Control, which is evaluating phosphorous loading. As part of this committee's work, in the last year MassDOT engaged USGS to install water quality monitoring equipment to assess phosphorous loading to receiving waters.	MassDOT will continue to communicate with other DOTs as the need develops. MassDOT will attend the biannual AASHTO meeting in July of 2014.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/ 2015
1K	Storm Water Coordinator	Environmental	Fund a full-time stormwater coordinator position each year.	<p>The Environmental Section stormwater staff continues to coordinate illicit discharge compliance within the NPDES stormwater program. They have completed many tasks under these roles throughout the year.</p> <p>Stormwater staff members also continue to coordinate the Impaired Waters Program implementation. They work with consultants to perform assessments, select appropriate stormwater BMPS as part of the Retrofit Initiative and Programmed Project Initiative, and is responsible for maintenance contracts in each of the districts to construct the BMPs once designed.</p> <p>MassDOT hired an intern in the summer of 2013 to work on stormwater related tasks.</p>	Continue to fund a stormwater coordinator and an Impaired Waters Program coordinator. Hire a summer intern for the summer of 2014 to provide stormwater related assistance. Hire an additional stormwater analyst.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/ 2015
Addn.	Environmental Site Data Form	Environmental	Develop an environmental site data form for review by designers with Environmental staff at 25% Design. Implement on all projects.	<p>The Water Quality Data Form (WQDF) is being used for submittal at 25% Design and 75% Design stage to MassDOT by internal designers and consultants. In PY 11 an updated WQDF was launched, which includes additional features such as data verification, to facilitate more accurate data reporting. MassDOT is in the process of establishing an on-line WQDF, to further increase accuracy and speed at which data is integrated into the MassDOT impaired waters database. In the past year MassDOT also launched an in-house database and uploaded historic assessment and project data into the database in order to more accurately track impaired waters assessment and BMP design data.</p> <p>MassDOT has received more than 222 water quality data forms; 112 at the 25% design phase and 110 forms at the 75% design phase. Of the 25% forms, 102 affected an impaired water body without a TMDL, 26 were in a watershed covered by a TMDL but the receiving water itself was not identified in the TMDL, and 10 drain to a water body included in a TMDL. The 75% forms documented a total of 93 stormwater BMPs (existing and proposed) and at least 134 deep sump catch basins. Additionally, non-structural BMPs for these projects were documented.</p>	<p>Internal designers and consultants will continue to submit the forms at 25% and 75% Design Submittals.</p> <p>Complete efforts to convert the modified form into an online form, and continue to update MassDOT database to accurately track assessment and BMP design data.</p> <p>Continue to educate designers on how to accurately and comprehensively complete the WQDF.</p>

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/ 2015
Addn	Stormwater Related Presentations	Environmental		<p>MassDOT stormwater staff delivers educational stormwater presentations to interested groups throughout the year. In November 2013, staff, in coordination with Maine DOT, delivered a presentation to the Cumberland County Maine Soil Conservation District regarding stormwater benefits of trees. As part of the Women in Transportation Brown Bag Luncheon Series, MassDOT stormwater staff also delivered a March 2014 presentation entitled Regulatory Review of Roadway and Bridge Projects: Stormwater and Water Quality Best Management Practices, which outlined many standard and innovative stormwater BMP practices implemented by MassDOT to improve stormwater quality and reduce impacts on receiving waters. MassDOT stormwater staff also provided a stormwater management internal presentation to MassDOT District Engineers state-wide on December 4, 2013. The presentation included discussion of the updated Water Quality Data Forms, anticipated Individual NPDES permit for Stormwater Discharges, discussion of proprietary stormwater BMPs, drainage tie-in permits, and identification of illicit drainage connections.</p>	Continue to present relevant topics at conferences. A MassDOT stormwater staff member will present at the April 2014 NEIWPCC conference on trees as stormwater controls.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/ 2015
Addn	TRB NCHRP Committee(s)	Environmental		MassDOT stormwater staff are on two National Cooperative Highway Research Program (NCHRP) committees, and in the past year contributed technical review and advice regarding the following two publications: Long-Term Performance and Life-Cycle Costs of Stormwater BMPs and Nutrient (Nitrogen/Phosphorous) Management and Source Control. Similarly, a MassDOT stormwater staff member is on a NCHRP committee evaluating Bridge Deck Runoff Control, which is evaluating phosphorous loading.	Continue participation in study panels. Continue USGS phosphorus loading study.
Addn	FHWA stormwater survey	Environmental		MassDOT staff participated in a survey about stormwater practices and programs being performed on behalf of the Federal Highway Association (FHWA). MassDOT participated in a follow up telephone interview to gain additional information on their stormwater programs.	No further action anticipated.

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/ 2015
2A	Project Related Public Notification and Public Participation Requirements	Environmental	Continue compliance with federal and state public notification and public participation requirements including but not limited to Wetlands Protection Act, Clean Water Act 401 Water Quality Certification, Army Corps of Engineers 404 Permit, and MEPA/NEPA.	MassDOT continues to comply with federal and state public notification and public participation requirements. MassDOT conducted 64 design public hearings in this permit year. See Appendix F.	MassDOT will continue to comply with federal and state public notification and public participation requirements.
2B	Adopt-a-Highway	Adopt-a-Highway	Continue to support program.	MassDOT maintained, repaired, and replaced program signs as needed. 750 lane miles are covered by the Adopt and Sponsor programs.	MassDOT will continue to support and promote this program.
2C Removed	511 Massachusetts Traveler Information System	Operations	Maintain 511 System	Revised – see 2C below	BMP Removed.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/ 2015
2C Revised	Call-In Numbers for Roadway Debris	Operations	Maintain Call-In Numbers for Roadway Debris	<p>Each District and Headquarters has a general call-in number for the public to use to alert MassDOT of roadway debris. If Headquarter receives the call, then the information is forwarded to the appropriate District. The information is then forwarded to the Maintenance Department Foreman, who coordinates with the workers to alleviate the situation. Call-in numbers are listed below.</p> <ul style="list-style-type: none"> • Headquarters: (857) 368-4636 • District 1: (413)-637-5700 • District 2: (413) 582-0599 • District 3: (508) 929-3800 • District 4: (781) 641-8300 • District 5: (508) 824-6633 • District 6: (857) 368-6100 	Maintain call-in numbers and providing active responses.
2D-1	MassDOT Web Site	IT/ Environmental	Post Storm Water Management Plan (SWMP) to web site.	The most recent SWMP submitted to EPA (December 2009) is posted on MassDOT's web site.	Post information about individual permit when issued.
2D-2	MassDOT Web Site	IT/ Environmental	Post annual reports to the web site.	Annual Reports for Permit Year 1-10 are posted on the Environmental Section's web page.	Permit Year 11's Annual Report will be posted to the Environmental Section web page for public access within 30 days of submittal to EPA and DEP.

BMPID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/ 2015
2E	Complete AASHTO's Center for Environmental Excellence on "Strategies & Approaches to Complying with NPDES Phase II Survey"	Environmental	Complete survey.	Completed survey in Permit Year 3.	Measurable goal complete.

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/2015
3A-1	Rest Area Leases	Environmental/ Right-of-Way	Include drainage system submittal requirements in all new rest area leases where the site is to be redeveloped. Summarize in annual reports.	Submission of drainage information is a standard condition on all new rest area leases.	Measurable goal complete.
3A -2	Rest Area Leases	Right-of-Way	Summarize new rest area leases issued each year in the annual report.	No new rest area leases were issued during Permit Year 11.	Any new rest area leases will be summarized in the Annual Report.
3B-1	Drainage Inventory	Environmental/ Construction/ Planning/ IT Section	Develop and implement specification for securing drainage information from future construction and redevelopment projects.	As part of the Impaired Waters Program Retrofit Initiative, MassDOT consultants have continued to improve upon MassDOT's drainage components electronic inventory. MassDOT has developed a geospatial database to inventory the improvements being identified, designed and installed as part of the Impaired Waters Program. This database is updated at milestones within the project design. MassDOT has also been working on revisions to the Water Quality Data Form submitted as part of 75% Design for programmed projects to provide geospatial information on existing and proposed stormwater improvements to continue to develop the database.	The database will continue to be updated as projects reach milestones. MassDOT will also continue to refine the Water Quality Data Form to capture information from programmed projects.
3B-2	Drainage Inventory	Environmental/ IT/ Districts	Map drainage discharges within urbanized areas. By the end of the permit term complete inventory of urbanized areas and include summary of resource areas with outfalls. Review methods to make outfall inventory available to the public for ease of access.	Outfall inventory was completed in Permit Year 5 and is posted on MassDOT's website at http://www.massdot.state.ma.us/planning/Main/MapsDataandReports/Data/GISData/Outfalls.aspx . MassDOT has received a number of requests for information and have been able to respond relatively quickly.	Continue to maintain outfall inventory on website.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/2015
3C-1	Drainage Connection Policy	Environmental	1) Issue Drainage Connection Policy. 2) Post copy of policy on MassDOT web site. 3) Enforce the provision through referrals to the Attorney General office. 4) Summarize actions taken in the annual report.	1) Policy issued on June 26, 2006 by the Chief Engineer – measurable goal complete. 2) Policy posted at http://www.massdot.state.ma.us/Portals/8/docs/engineeringDirectives/policy/p-06-002.pdf 3 and 4) See Appendix A for illicit connection/discharge issues and actions during this permit year.	The drainage tie-in policy is now a formal MassDOT Policy and will be implemented when necessary.
3C-2	Drainage Tie-In Standard Operation Procedure (SOP)	Environmental/ Legal	Issue a revised Drainage Tie-In SOP. Annual reports will summarize drainage tie-in permits applications and permits issued.	The Drainage Tie-In SOP has been finalized. It was officially issued on March 19, 2012. The SOP continues to be utilized for tie-in issues and procedures. Appendix B summarizes the status of drainage tie-in permits that have been received or are still in the application process as of this permit year.	The Drainage Tie-In SOP will be utilized for tie-in issues and procedures. MassDOT will also continue to update Appendix B as needed.
3D Removed	Revised Illicit Connection Review	Environmental/ Districts	Review twenty discharges each permit year for potential illicit connections.	BMP Revised	BMP Revised

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/2015
3D Revised	Illicit Connection Review	Environmental/ Districts	Develop prioritized list for IDDE and include in Permit Year 5 Annual Report. Release RFR for development and implementation of IDDE program for watersheds on prioritized list. Field review complaints/ potential IDDEs identified by District personnel, during the drainage inventory, in response to municipal email requesting suspect areas and/ or from public throughout the year.	<p>MassDOT and AECOM spent time following up on legacy potential illicit discharges. Appendix A provides a table listing potential illicit discharges and their current status of follow up.</p> <p>Appendix B provides a table of locations that require MassDOT stormwater permits.</p> <p>MassDOT confirmed with local MassDOT Districts on the IDDE locations to determine if the connections were previously permitted or required stormwater permits.</p> <p>MassDOT has prioritized IDDE locations. In this permit year, this included working with the property in Orange, MA to remove the natural spring from Appendix A to Appendix B and work with the property owner to obtain a stormwater permit.</p> <p>MassDOT has initiated a draft letter to send to municipalities that were identified to have potential IDDE connections to the MassDOT stormwater system.</p>	<p>MassDOT will proactively address complaints/ potential IDDEs identified by District personnel, during the Impaired Waters Program work, in response to municipal email requesting suspect areas and/ or from public throughout the year. We will provide summary of IDDE activity in annual report.</p> <p>MassDOT does not plan to implement a broader illicit discharge review until the criteria for illicit discharge review is issued in an individual permit to MassDOT, in order to be most effective with limited consultant and MassDOT budgets. Work to date has not found the broad scale review to be effective in identifying illicit discharges versus focus on those identified by other sources.</p>

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/2015
3E	Resident Engineer Illicit Connection Training	Construction	Provide training on illicit connection policy, illicit connection identification, and protocol for reporting during annual Resident Engineer training seminars. Summarize # of attendees in annual report.	Action completed in Permit Year 4. MassDOT stormwater staff provided a stormwater management internal presentation to MassDOT District Engineers state-wide on December 4, 2013. The presentation included discussion of the updated Water Quality Data Forms, anticipated Individual NPDES permit for Stormwater Discharges, discussion on proprietary stormwater BMPs, drainage tie-in permits, and identification of illicit drainage connections.	No action required.
3F	Maintenance Staff Illicit Connection Training	Environmental	Provide training on illicit connection policy, illicit connection identification, and protocol for reporting during annual training seminars for maintenance personnel.	Action completed in Permit Year 4.	MassDOT is working on providing training on illicit connection policy, illicit connection identification, and protocol for reporting.
Addn.	Standard IDDE Letter	Environmental/Legal	Create a standardized letter to make the early stage of the IDDE procedure more efficient. The letter will alert property owners of illicit and/or unauthorized discharges and connections from their property that tie-in to MassDOT's drainage system. The letter will also recommend that the property owners apply for a non-vehicular access permit in accordance with the MassDOT Drainage Tie-in SOP (as an alternative to discontinuing the process).	MassDOT has distributed to each of the six (6) MassDOT Districts, a generic Notice of Violation (NOV) letter (see attached in Appendix C), that has been approved by legal and can be sent out as violations (and are confirmed to not be permitted) are encountered.	Send the standardized NOV letter to property owners for any new event involving illicit and/or unauthorized discharges and connections that tie-in to MassDOT's drainage system.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/2015
Addn.	NOV Letter for Municipalities	Environmental/Legal	Create a standardized NOV letter to specific municipalities that have IDDE's into the MassDOT system.	MassDOT has initiated a draft letter to send to municipalities that were identified to have potential IDDE connections to the MassDOT stormwater system.	Finalize municipal letter and send as needed. Track letters sent and responses in annual reports.

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/ 2015
4A	MassDOT Department Project Development & Design Guide	Environmental/ Construction/ Projects	Drainage systems for MassDOT roadways will be designed in accordance with Chapter 8 of the MHD Highway Design Guide and companion manuals.	All MassDOT projects will continue to be designed in compliance with the erosion and sediment control requirements in the design guide.	All MassDOT projects will continue to be designed in compliance with the erosion and sediment control requirements in the design guide.
4B	MA DEP Stormwater Management Policy	Environmental/ Construction/ Projects	New construction and redevelopment activities will comply with Massachusetts DEP's Stormwater Management Policy and Performance Standards under the Wetlands Protection Act (WPA) and Clean Water Act Section 401.	MassDOT designs continue to comply with the Stormwater Management Policy when projects are subject to the WPA or within urbanized areas.	MassDOT designs will continue to comply with the Stormwater Management Policy when projects are subject to the WPA or within urbanized areas.
4C	NPDES Construction General Permit	Construction	1) File NOIs for new projects which disturb more than one acre. 2) Summarize NOIs issued to MassDOT in annual report.	30 MassDOT projects included submittal of NOIs and development of SWPPPs for compliance with NPDES construction general permit during Permit Year 11. The permits are listed in Appendix G.	Continue to file NOIs for new projects which disturb more than an acre.
4D	Other State Environmental Regulations or Policy	Environmental/ Construction/ Projects	Projects will continue to be designed and constructed in accordance with all applicable state and federal environmental regulations or policy (e.g. Wetlands Protection Act, 404).	The Environmental Section reviews all projects at the 25% design stage to determine what environmental permits are required. The District Environmental Engineer or equivalent District construction staff person attends all pre-construction meetings with the selected contractor to review permit requirements for the project.	The process of design review and pre-construction coordination will continue.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/ 2015
4E	MassDOT Storm Water Handbook	Environmental/ Construction/ Projects	Design projects in urbanized areas in compliance with Handbook	<p>MassDOT requires that all new construction and redevelopment activities undertaken by MassDOT, or by others that are funded in whole or in part by MassDOT, comply with the Handbook.</p> <p>MassDOT completed revisions to Chapters 1, 2, and 3 and provided these to MassDEP for review. Revision to address policy changes and TMDL requirements in the remaining sections of the Handbook is underway, and MassDOT is working with MassDEP on a timeline for ratification of the revised chapters.</p>	MassDOT will continue to require compliance with the Handbook and will continue the process of revising the Handbook and working with MassDEP on a timeline for ratification of the revised Storm Water Handbook.
4F	Standard Specification for Highways and Bridges	Environmental/ Construction/ Projects	Continue to include erosion and pollution prevention controls in construction contracts	<p>Inclusion of such controls is standard practice for construction contracts issued by MassDOT.</p> <p>A revised contract item/ specification is now included in each contract which requires a detailed Storm Water Pollution Prevention Plan (SWPPP)/ Erosion Control Plan (ECP) for all projects (except minor - such as signage, grass mowing, etc.). Having the contractor develop the SWPPP and ECP (rather than the designer) has been accepted by the Conservation Commissions and DEP on a project by project basis.</p>	Such controls will continue to be included in construction contracts issued by MassDOT.
4G Revised	MassDOT Research Needs Program	Environmental/ Construction	Continue funding the MassDOT Research Needs Program	Moved to MCM 6 since the focus of the research program is no longer construction controls.	

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/ 2015
4H	Pre-Construction Meeting Review of NPDES Construction GP requirements	District Environmental Staff/ Construction	District Environmental Staff Review NPDES requirements at the applicable pre-construction meetings. These meetings include outlining the requirements of the Construction General Permit and identify the roles and responsibilities of MassDOT and the Contractor.	MassDOT reviews the NPDES Construction GP requirements (i.e. SWPPP) with Contractors at the pre-construction meeting. MassDOT Environmental Engineers attend all pre-construction meetings which involve environmental permits, not limited to NPDES. Therefore, erosion control is discussed at all pre-con meetings.	MassDOT will continue to review the NPDES Construction GP requirements with Contractors at the pre-construction meeting.
4I	Contract Bid Item and Special Provision for Storm Water Pollution Prevention Plans (SWPPPs)	Construction Section/ Contracts	Prepare a Contract Bid Item and Special Provision for inclusion in construction contracts to be advertised for bids which exceed the one-acre disturbance threshold.	Measurable goal complete.	Measurable goal complete.
4J	Field Guide on Erosion Prevention and Sediment Control	Construction Section/ Chief Engineer	Prepare field guide and issue to Resident Engineers	The guide was issued to resident engineers at winter training and was posted online at the Field Operations page in December 2013.	Measurable goal is now complete.
4K	Storm Water Pollution Prevention Plan (SWPPP) Guidance Manual for Contractors	Construction Section/ Districts	Prepare a SWPPP Guidance for Contractors document on MassDOT construction projects. Implement use of the document on all appropriate MassDOT projects. Once contractors begin to use the document, it may be revised if necessary to address input received internally and from agencies. Ultimately the document will be converted into a computer program.	Measurable goal complete in Permit Year 4. SWPPP bid item which includes an Erosion Control Plan is now included in all contracts.	Continue use by Contractors on MassDOT projects.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/ 2015
4L-1	Training	Construction Section	Conduct annual Erosion Prevention and Sediment Control Training for MassDOT Construction Personnel. Summarize # of attendees and topics covered.	<p>Winter seminars were performed and topics covered NPDES permitting, erosion and sediment control, landscape, and Diesel Retrofit Program.</p> <p>District 1 – March 20, 2014 with 38 attendees</p> <p>District 3 – February 28, 2014 with 45 attendees.</p> <p>District 4– February 18, 2014 with 66 attendees</p> <p>District 5 – March 4, 2014 with 61 attendees</p> <p>District 6 – March 24, 2014 with approximately 30 attendees</p>	<p>MassDOT will continue training on topics similar to those discussed in the past.</p> <p>Upcoming trainings include:</p> <p>District 2 – spring 2014</p>
4L-2	Non-Traditional Erosion Control Specifications	Landscaping Section	Develop specifications for non-traditional erosion controls and evaluate research being conducted by other state DOTs that can be accepted by MassDOT Research and Materials Section. As new technologies are developed, review and develop specifications for additional erosion controls.	<p>MassDOT continues to use compost amended topsoil and compost filler tubes for many of its projects. There is variability in the reliability of the material available.</p> <p>MassDOT continues to expand its use of compost topsoil in lieu of conventional loam placement, as well as compost filter tubes in lieu of hay bales.</p>	MassDOT intends to fund research for field testing of compost benefits in 2014.
4M Removed	Erosion and Sediment Control Field Tests	Construction Section/ Districts/ Landscaping	Perform field tests of new erosion and sediment control materials on MassDOT projects. Prepare and circulate an internal memo on the effectiveness of the new measure.	MassDOT does not perform its own field tests any longer but instead relies upon guidance developed by others.	BMP Removed.
4N	Construction Bulletins	Construction Section	Issue annual construction bulletins to each District regarding stormwater issues.	Issued annual construction bulletins to all Districts in the Spring of 2014 regarding erosion control, dust, cofferdams, and stabilization.	Issue bulletin in the Spring of 2014 regarding stormwater issues.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/ 2015
4O	Solicit Construction Activity Feedback from Public	Construction Section/ IT	Maintain MassDOT web site to include contact information for ongoing construction activities. Respond to concerns submitted in a timely manner.	MassDOT maintained their website to include contact information for ongoing construction activities. MassDOT responded to concerns submitted in a timely manner.	MassDOT will continue to maintain their website to include contact information for ongoing construction activities. MassDOT will respond to concerns submitted in a timely manner.
4P	Construction Runoff Control Enforcement	Construction Section/ Districts	Non-compliance with the CGP and SWPPP as well as non-compliance with any applicable environmental permits will be addressed through the District Construction personnel and District Highway Director and can include monetary penalties, where included in contracts, and deductions or delays in payment, when warranted.	Erosion and sedimentation controls were immediately replaced/ fixed on Crosby Corner project. No penalties were needed against the contractor as the issues were addressed immediately. MassDOT is in the process of revising our construction SWPPP specification to address issues identified during a construction sediment release at one of MassDOTs' sites (Crosby Corner in Concord) which resulted in an EPA enforcement. MassDOT took quick action to immediately remedy the sediment release and has been working with EPA to add additional controls to our SWPPP specification in an effort to safeguard against a similar situation in the future.	MassDOT will continue to address non-compliance through monetary penalties or deductions or delays in payment, when warranted. MassDOT will continue working to issue a revised SWPPP specification.
4Q	Standard Practices Memo	Construction Section	MassDOT will prepare and issue a Standard Practices memo to Construction Engineers on the protocol for Illicit Discharge Detection and Elimination during construction projects.	A separate SOP for construction was not developed. During Permit Year 4, the District Construction offices were provided with the procedures to follow on discovery of any illicit discharges during construction and provided training to the Residential Engineers (Res). MassDOT determined a separate SOP was not warranted.	No further action warranted.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/ 2015
4R	Contractor Inspector Training	Construction Section	Modify NPDES SWPPP item to include half day training requirement. Provide training programs.	<p>The new SWPPP Item 756 has been revised by the working group and added online training, and will be in new contracts with SWPPP Item.</p> <p>The training will be done online with a certification sent to MassDOT. Details will be worked out through the established working group.</p> <p>Finding appropriate online training, hopefully endorsed by or provided by EPA, will be more useful than establishing a separate training.</p>	MassDOT will continue to add this item to contracts.

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 11	Planned Activities – 2014/ 2015
5A-1	MassDOT Storm Water Handbook	Environmental	Secure DEP ratification for MassDOT Storm Water Handbook.	Measurable goal complete for original Handbook. MassDOT is currently revising the Storm Water Handbook to address policy changes and TMDL requirements and is working with MassDEP on a timeline for ratification of the revised chapters. MassDOT completed revisions to Chapters 1, 2, and 3 and provided these to MassDEP for review. Revision to remaining sections of the Handbook is underway.	MassDOT will confirm a timeline with MassDEP for review and ratification of the revised Stormwater Handbook. MassDOT has secured a MassDEP liason to coordinate MassDEP's review of revisions.
5A-2	Revise Ch. 4 of the MassDOT Storm Water Handbook	Environmental	Revise Chapter 4 (selection methodologies) within 9 months of DEP's SW Policy Handbook update being released. Reissue MassDOT Handbook to Designers within 1 year of DEP's document being released.	MassDOT is revising the Storm Water Handbook. MassDOT determined that a rewrite of the entire Handbook was more appropriate to address the changes in the DEP Policy and the MassDOT experience gained in implementing the guidelines. Therefore, the update has been more extensive and the schedule extended.	MassDOT will confirm a timeline with MassDEP for review and ratification of the revised Stormwater Handbook.
5A-3	Revise Ch. 5 of the MassDOT Storm Water Handbook	Environmental	Revise Chapter 5 (BMP toolbox) within 9 months of DEP's SW Policy Handbook update being released. Reissue MassDOT Handbook to Designers within 1 year of DEP's document being released.	MassDOT is revising the Storm Water Handbook. MassDOT determined that a rewrite of the entire Handbook was more appropriate to address the changes in the DEP Policy and the MassDOT experience gained in implementing the guidelines. Therefore, the update has been more extensive and the schedule extended.	MassDOT will confirm a timeline with MassDEP for review and ratification of the revised Stormwater Handbook.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/ 2015
5B	MassDOT Roadway Maintenance Program	Maintenance	Continue to implement MassDOT maintenance program as outlined in the maintenance schedule and in accordance with TMDL watersheds specific agreements.	MassDOT maintained their roads in compliance with the maintenance schedule included in the SWMP and TMDL watershed specific agreements. A summary of this year's maintenance for each district is included in Appendix H.	MassDOT will continue to conduct maintenance on its roadways as outlined in the maintenance schedule and in accordance with TMDL watersheds specific agreements.
5C Removed	Technology Acceptance and Reciprocity Partnership (TARP)	TARP	Continue to work with DEP to develop review protocol for innovative stormwater BMPs. Summarize meeting(s) attended and agenda in annual report.	BMP Revised – see 5C Revised below.	BMP Revised.
5C Revised	Identify Innovative Stormwater BMPs Appropriate for MassDOT Projects	Environmental	Introduce innovative stormwater BMPs for MassDOT highway projects	MassDOT has been working with MassDEP on a timeline for ratification of both Chapters 5&6 for the MassDOT Stormwater Handbook. These chapters identify highway-specific BMPs that are designed and implemented on a site specific basis.	Ratify & publish the MassDOT Stormwater Handbook for Roads and Bridges.
5D	Southeast Expressway BMP Effectiveness Project	Environmental	Conduct a study of the effectiveness of water quality inlets (WQIs) and catch basins at removing suspended sediments from highway runoff.	Study completed previously. The 14-month sediment removal efficiency was 35 % for one WQI and 28% for the second WQI. The efficiency for individual storms for deep sump hooded catch basins was 39%.	No further action planned.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/ 2015
5E	Highway Runoff Contaminant Model	Env. Div. Consultant	Develop and calibrate contaminant loading model.	<p>USGS published the water quality constituent loading model, SELDM and developed and delivered SELDM training for MassDOT. State regulators and NGOs from MA. MassDOT and USGS worked collaboratively to develop BMP performance statistics for use with SELDM that will be published in 2014. USGS has provided information to MassDOT consultants using the model.</p> <p>MassDOT has also been meeting with EPA to discuss MassDOT's long term continuous simulation pollutant model and methodologies which will be included in future MA NPDES permits for pollutant loading. MassDOT also met with USGS to make sure the pollutant loading calibration was in line with the SELDM values.</p>	Publish the BMP treatment report and receive further training on use of the model. Continue conversation with EPA regarding pollutant loading and BMP treatment credit.
5F Removed	BMP Maintenance Manual	Environmental/ Maintenance	Develop BMP Maintenance Manual to be used as a field guide by maintenance personnel Provide training on the BMP Maintenance Manual.	Changes to BMP 5B narrative now include the manual used as guidance by maintenance staff while performing drainage system maintenance.	No further action.
5G	Right of Way Parcel Evaluation	Environmental	Develop and implement a program of evaluating parcels which are candidates for disposal by MassDOT for their potential in siting stormwater BMPs.	Environmental reviewed 3 right of way canvasses. All three canvasses were opposed for the future expansion of roadways and the potential need for stormwater upgrades.	The Environmental Section will continue to review canvasses as they are presented. The emphasis will remain on keeping parcels of land that are highly suitable for stormwater treatment (as well as wetland replication).

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/ 2015
5H-1	Post Construction Runoff Enforcement- Illicit Discharge Prohibition Policy	Commissioner/ Legal/ Environmental	1) Develop policy for addressing unauthorized connections to the MassDOT's drainage system. 2) Enforce the provisions through referrals to the Attorney General. 3) Summarize actions taken in annual report.	<p>Illicit Discharge Policy was issued in June 2006.</p> <p>Failure to comply with the Dept. request will necessitate further action by the Department either through the State Attorney General's office or the District.</p> <p>There have been no referrals to the Attorney General's office during Permit Year 11.</p> <p>The standard Notice of Violation (NOV) Letter has been revised.</p> <p>The IDDE Table in Appendix A has been updated to reflect the current status for each case.</p>	<p>MassDOT's Environmental Services Section will continue to communicate (where possible) with the property owners and move toward resolution of the issues.</p> <p>The improved Notice of Violation (NOV) Letter will now be used any new event involving illicit and/or unauthorized discharges and connections that tie-in to MassDOT's drainage system.</p>
5H-2	Post Construction Runoff Enforcement- Drainage Tie-In Policy	Commissioner/ Legal/ Environmental/ Districts	Develop permitting process for adjacent properties which would like to tie into MassDOT drainage system. Implement program and summarize actions taken under program in annual report.	<p>The Drainage Tie-In SOP is being implemented when necessary.</p> <p>Appendix B summarizes the status of drainage tie-in permits that have been received or are still in the application process as of this permit year.</p>	<p>The Drainage Tie-In SOP will continue to be implemented for tie-in issues and procedures. MassDOT will also continue to update Appendix B as needed.</p>
5H-3	Post Construction Runoff Enforcement- Offsite Pollution to MassDOT Drainage System	Commissioner/ Legal/ Environmental	Runoff not meeting the NPDES MS4 requirements which is reaching the MassDOT MS4 and is not covered under 5H-1 or 5H-2 may be considered trespassing and referred to the AG's office by MassDOT counsel at the DHD's discretion.	<p>No enforcement action was needed in any of the districts.</p>	<p>MassDOT will continue to take action when these requirements are not met.</p>

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/ 2015
5I	Rest Area Redevelopment to Meet Stormwater Management Handbook Standards	Environmental/ Right of Way	Add language to new lease agreements requiring lessees, who redevelop or build new buildings on rest area property leased from MassDOT, to meet the standards within the Storm Water Management Handbook and the SWMP requirements.	Measurable goal complete.	No action required.
5J	Transportation Evaluation Criteria	Planning/ MPOs	Continue to include environmental considerations in the funding prioritization evaluation.	MPOs continued to include the environmental component in their evaluation procedures.	Continue to include environmental component in evaluation procedure.
5K	Federal Enhancement Funding	Planning	Explore opportunities for using Federal enhancement funding for environmental restoration and pollution abatement projects. Participate in quarterly committee meetings.	MassDOT no longer utilizes TAP funding for the Impaired Waters Program. Instead, funding for structural stormwater improvements is received now through the Surface Transportation Program (STP) flex spending. MassDOT has continued to secure funding for the Impaired Waters Program.	Continue to utilize funding from the STP flex spending for the Impaired Waters Program.

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 11	Planned Activities – 2014/2015
6A-1 Removed	Source Control - 511 Massachusetts Traveler Information System	Project Clean/Operations	Maintain the existing 511 System.	Revised – see 6A-1 below.	BMP Removed.
6A-1 Revised	Source Control - Call-In Numbers for Roadway Debris	Operations	Maintain Call-In Numbers for Roadway Debris	<p>Each District and Headquarters has a general call-in number for the public to use to alert MassDOT of roadway debris. If Headquarter receives the call, then the information is forwarded to the appropriate District. The information is then forwarded to the Maintenance Department Foreman, who coordinates with the workers to alleviate the situation. Call-in numbers are listed below.</p> <ul style="list-style-type: none"> • Headquarters: (857) 368-4636 • District 1: (413)-637-5700 • District 2: (413) 582-0599 • District 3: (508) 929-3800 • District 4: (781) 641-8300 • District 5: (508) 824-6633 • District 6: (857) 368-6100 	The call-in numbers will continue to be utilized for the public to call in about roadway debris.
6A-2	Source Control – Adopt-a-Highway	Adopt-a-Highway/Operations	Continue to support this program by maintaining signs in areas where the program is active. Summarize number of road miles cleaned.	MassDOT continues to support this program. Approximately 566 miles were cleaned for litter pick-up by Sponsor-A-Highway. MassDOT continues to maintain, repair, and replace program signs as needed.	MassDOT will maintain or increase the current level of sponsors and increase volunteer participation.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/2015
6A-3	Source Control - Deicing Programs and Reduced Salt Areas	Environmental/ Districts	Continue to support De-icing and Reduced Salt Areas Programs.	MassDOT continues to support the De-icing and Reduced Salt Areas Programs. The Salt Material Usage Committee was reconvened on July 31, 2013 and September 19, 2013. The committee discussed trial Reduced Salt Zone (RSZ) study for using 3:1 ratio of salt to sand. The Committee also reviewed the Snow and Ice Control Program Annual Report, data collection, new areas of concern, salt storage management and technological advances.	The next meeting will be held in the spring of 2014. The committee will review results from RSZ study, new areas of concern, and the Snow and Ice Control Program Annual update.
6A-4	Source Control – Motorist Assistance Program (formerly HELP)	MAP Program/ Operations	Continue to provide 22 Highway Emergency Locator Program (HELP) vans and/or tow trucks.	MassDOT provided Highway Assistance Program (HAP) vans and/or tow trucks.	MassDOT will continue to maintain this program.
6A-5	Source Control - VMP	Environmental	<ol style="list-style-type: none"> 1) Develop a generic Vegetation Management Plan (VMP) which outlines methods of minimizing the discharge of pollutants related to the storage and application of pesticides, herbicides, and fertilizers. 2) Prepare a Yearly Operational Plan (YOP) by April of each year. 3) Post YOP on web site within 30 days. 4) Summarize actions taken in previous year in annual report. 	A VMP for work between 2009-2013 was developed and followed by all districts. Work associated with the VMP is complete for Districts 2-5. Work is still ongoing for D1 and D6. The 2009-2013 VMP is posted on MassDOT's website along with the DRAFT 2014-2018 VMP and YOPs. The documents are posted at http://www.massdot.state.ma.us/highway/DoingBusinessWithUs/ManualsPublicationsForms.aspx	MassDOT anticipates very limited spraying- mostly treatment of invasive plants. MassDOT anticipates completing 2014-2018 VMP to consolidate all 6 Districts and will post the final document on their website.
6A-6	Source Control - HOV	Planning	Continue participation in ridesharing activities through the duration of the permit term.	MassDOT continues to support this program	MassDOT will continue to support this program.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/2015
6A-7	Source Control - Alternative Transportation	Planning	Provide technical assistance and funding for bicycling and walking, including on-road and off-road improvements, at the local level.	Fiscal Year 2013 Transportation Enhancement funding (range of activities including bicycling and pedestrian facilities and stormwater) Program Budget for MassDOT: \$15,957,790. \$2,786,000 was used for bicycle and walking infrastructure improvements as part of the Safe Route to School Program Budget.	Fiscal Year 2014 Transportation Enhancement funding (range of activities including bicycling and pedestrian facilities, stormwater) Program Budget for MassDOT: \$16,297,679. \$1,888,750 will be used for bicycle and walking infrastructure improvements as part of the Safe Route to School Program Budget.
6A-8	Source Control-Highway Safety	Highway Design	1) Incorporate safety measures into all new highway designs. 2) Provide signage to warn of vehicle hazards including tipping hazards and steep grades. 3) Install variable message boards (VMBs) on selected roadways to improve driver awareness. 4) Include evolving safety technologies as part of future highway design projects as they are developed.	Safety measures are included in all new highway designs including appropriate signage and evolving technologies. MassDOT installs and maintains VMBs on select roads to improve driver awareness to potential safety hazards.	MassDOT will continue to support this program.
6A-9 Revised	Source Control - GreenDOT	Environmental	1) Maintain an active Pollution Prevention Task Force (PPTF) throughout the permit term. 2) Provide summary of actions taken on each pollution prevention initiative included in the SWMP in the annual report.	The Department's TUR/P2 Program has been superseded by the department's GreenDOT and Climate Control Initiatives. Continued use of water-based, lead-free and chrome-free traffic marking paints; indoor storage of raw materials (oils, chemicals, salt). HPLV (2-4 gpm) pressure washers used for vehicle cleaning and degreasing vs. standard hose (20-25 gpm). Continued enforcement of the indoor-only vehicle washing policy.	MassDOT will continue to support the principles of the previous TUR/P2 Program, which has now been superseded by GreenDOT. MassDOT will continue monitoring for proper handling and management of stormwater polluting materials, solid wastes, and industrial waste water.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/2015
6B-1	Employee Training	MTAP/ Baystate Roads	Facilitate one training program related to stormwater and /or snow and ice control as a means of reducing source pollution. Document attendance numbers.	<p>Twelve snow and ice control classes were conducted in 2013 with a total of 531 attendees. Trainings dates were September through November 2013.</p> <p>Topics covered included:</p> <ul style="list-style-type: none"> • Anti-icing • Department operations • Salt and environmental considerations 	Provide one training program for MassDOT employees (provided by MTAP) and one for municipal DPW snowplow drivers (provided by MTAP/Baystate Roads) related to snow and ice control as a means of reducing source pollution. Document attendance numbers.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/2015
6B-2	Employee Training	Environmental	Provide annual training to at least 300 maintenance facility personnel regarding good housekeeping/ spill prevention.	<p>Trainings were provided during the winter of 2013/2014 for 639 maintenance facility personnel. Training included discussion of the following topics:</p> <ul style="list-style-type: none"> • Environmental Awareness Training • Multi-media compliance • Waste and raw materials management relative to stormwater pollution prevention • Reporting of oil/hazmat to stormwater systems • Asbestos containing materials • Solid waste • Roadside issues • Storage tanks • Wetlands protection and compliance • Recordkeeping • Inspections • Water quality (including stormwater issues) • Natural resources • Spill management • Hazardous materials management • Hazardous waste management • Universal waste management • Stage II vapor recovery system inspection 	MassDOT will again provide annual training to maintenance facility personnel regarding good housekeeping practices and spill prevention.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/2015
6B-2 (cont'd)				<p>District 1: On April 23, 24, 25, and 26, trainings were provided for 74 district maintenance personnel.</p> <p>District 2: On October 22, 23, 24 of 2013 trainings were provided for 114 district maintenance personnel.</p> <p>District 3: On November 6, 13, 14, 20, and 26, and December 12, 2013 trainings were provided for 109 district maintenance personnel.</p> <p>District 4: On October 15, 16, 22, 29 and 31, trainings were provided for 92 district maintenance personnel.</p> <p>District 5: On November 13, 14, and 15 of 2013 training sessions were provided for 83 district maintenance personnel.</p> <p>District 6: On November 12, 13, 14, 18, 19 and 20 and September 11 training sessions were provided for 124 district maintenance personnel.</p>	
6B-3	Employee Training	Highway Operations	Provide annual training to at least 200 supervisors and drivers annually on the latest on snow and ice removal.	Thirteen Snow and Ice Trainings were held from October 1 st through December 15 th , 2013 for approximately 900 state personnel and over 500 vendors attended. Topics covered included: anti-icing versus de-icing, Department Operations and Salt Environmental considerations.	MassDOT will continue to provide training and focus on operational efficiency.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/2015
6B-4	Employee Training	Highway Operations	Ensure all equipment and vehicle operators have received training on the proper operation of the equipment and vehicles they operate.	<p>Training was provided for the following equipment in PY11:</p> <p>10-Wheeler & TP-26 Tow Plow Training—November 2013</p> <p>Front End Loader 930K Training—August 2013</p> <p>Elgin 3-Wheel Pelican Sweeper Training-July 2013</p> <p>John Deere Tractor Mower/w side & rear Flails-July 2013</p> <p>Terex LT-40 Aerial Lift-Training – June 2013</p>	MassDOT will provide operational, safety, and maintenance training on sweeper training, mower training, and snow and ice equipment training. Training is based on the District's needs and requests. Plans for PY12 include sweeper training, mower training, S & I equipment training, includes the New TP-26 tow plows. All trainings consist of operational, safety, and maintenance.
6C-1	Maintenance	Districts	Continue to implement maintenance schedule outlined in Appendix E of the SWMP.	<p>MassDOT continued to maintain the highway system through catch basin cleaning contracts and performed street sweeping and regular drainage system maintenance. See Appendix H of the annual report for a summary of compliance.</p> <p>To maintain the permeable pavement proposed along Route 128, District 4 purchased a vacuum sweeper.</p>	MassDOT will continue to maintain the highway system through catch basin cleaning contracts, street sweeping, and regular drainage system maintenance in compliance with Appendix E of the SWMP.
6C-2	Maintenance	Districts	1) MassDOT reviewed each of the maintenance and material storage yards and creates a site specific facility handbook that provides information on necessary steps to environmental compliance. 2) Post EMS Manual on MassDOT website for public information. 3) Post generic Facility Handbook on website for public information.	<p>Site specific facility handbooks were created in 1995. This year the EMS Manual was updated to reflect the new organization of MassDOT. It was also updated to reflect any changes in work activity, regulations, and policy/procedure reviews. The manual is posted on the internal MassDOT web site. The public website is currently being updated.</p> <p>The Facility Environmental Handbook has also been updated and posted to the internal MassDOT website. The public website is currently being updated.</p>	Post updated materials to the public website. EMS materials including the Manual and the Handbook will be uploaded once the website has been updated.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/2015
6C-3	Maintenance Record and Data Management Work Management System	Environmental	<ol style="list-style-type: none"> 1) Develop work management system. 2) Populate program with infrastructure information as available. 3) Implement system and begin to record maintenance activities in these watersheds. 	<p>The first phase of the implementation of the Maximo Asset and Maintenance Management System is complete and phase two is nearing completion.</p> <p>Districts 1 - 5 have begun tracking a significant amount of drainage-related activities. To date, there are over 200 drainage-related work orders in the system.</p> <p>Most of the work involves ongoing catch basin cleaning, unplugging and repair. Other documented activities include waterway digging and clearing, drainage structure maintenance, drop inlet cleaning, and culvert cleaning.</p>	<p>The implementation will continue through 2014 and include material and other item tracking.</p> <p>District 6 will be on-board as of May 19, 2014, which will complete all the districts.</p>

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/2015
6D	Waste Disposal	Districts	1) Street sweeping waste will be reused in appropriate slope stabilization and road work projects in compliance with SOP, when appropriate. 2) Street Sweeping material which cannot be reused will be disposed of at landfills as daily cover. 3) Waste material from drainage structures and stormwater BMPs removed during maintenance will be disposed of according to “Reuse and Disposal of Contaminated Soil at Massachusetts Landfills” DEP Policy #COMM-97-001.	MassDOT and its contractors continue to properly dispose of waste. MassDOT did not have an appropriate opportunity to reuse street sweeping waste. MassDOT removed an estimated 13,817 C.Y. of sweeping material and 38,328 C.Y. of drainage structure material this year. Material removed is summarized in the table below. <ul style="list-style-type: none"> • District 1 had 1,269 C.Y. of sweeping materials removed and 3,151 C.Y. of drainage structure waste removed. • District 2 had 2,020 C.Y. of sweeping materials removed and 60 C.Y. of drainage structure waste removed. • District 3 had 1,300 C.Y. of sweeping materials removed and 300 C.Y. of drainage structure waste removed. • District 4 had 4,956 tons of sweeping materials removed and 917 tons of drainage structure waste removed. • District 5 had 1,902 C.Y. of sweeping materials removed and 32,900 C.Y. of drainage structure waste removed. • District 6 had 2,370 C.Y. of sweeping materials removed and 1,000 C.Y. of drainage structure waste removed. 	MassDOT and its contractors will continue to properly dispose of waste and ensure disposal of street sweepings and catch basin cleanings are in accordance with DEP policy.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/2015
6E – Removed	Good Housekeeping/ Pollution Prevention Program Evaluation	Environmental	Evaluate existing Maintenance Programs to determine additional or revised activities, which would increase effectiveness and usefulness of the programs.	BMP 6E Good Housekeeping/ Pollution Prevention Program Evaluation has been removed (and the subsequent BMPs renumbered) since the addition of BMP 6F through 6O provide a better use of resources with an increased impact on meeting the good housekeeping and pollution prevention minimum control measure.	No further action recommended.
6E Revised	Catch Basin Accumulation Project	Environmental/ Maintenance/ Districts	<ol style="list-style-type: none"> 1) Provide annual report on progress each December and include summary in annual report. 2) Complete a study of debris accumulation in catch basins. 3) Based on the results of the study, revise the existing cleaning schedule and SOP for catch basin cleaning. 	Measurable goal is complete. The findings of the Catch Basin Accumulation Project do not support the need for revising the existing cleaning schedule and SOP for catch basin cleaning.	No further action recommended.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/2015
6F	Policy and Program Review	Environmental	MassDOT will continue to at least biannually evaluate its snow and ice control policies and operational programs in order to make adjustments based on data and experience, and to respond to changing conditions.	The program is evaluated each year and took place during the winter season of 2013-2014. MassDOT has established a program so that all material spreaders will have Closed Loop Ground Speed Controller Systems by the beginning Snow & Ice season of 2015-2016. A truck operator with an automatic controller based on ground speed is able to maintain a constant application rate of material on the road without having to adjust the valve opening to conform to the changing speed of the truck. The closed-loop system monitors both truck speed and belt or auger speed and adjusts the control valve until a predetermined ratio value of belt or auger speed and truck speed is obtained. This provides a more efficient application of material.	The program will be evaluated spring 2014. Continue to work toward the goal of all material spreaders having Closed Loop Ground Speed Controller Systems by the beginning Snow & Ice season of 2015-2016.
6G	Salt Remediation Program	Environmental. Maintenance/ Districts	Continue to provide the Salt Remediation Program with a funding level appropriate to quickly address salt related complaints.	Funding provided through Interdepartmental Service Agreement (ISA) - \$4.07 million, from July 2012 through June 2015. An updated version of the Public Well Supply Matrix is included as Appendix I of this annual report to summarize the current status of each public well included in the salt remediation program.	Field monitoring of public water supply wells

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/2015
6H	Clean Well Initiative	Environmental	Provide a continued level of funding that will allow MassDOT to complete up to 20 replacement wells per year.	<p>MassDOT remediated thirteen (13) wells including:</p> <ul style="list-style-type: none"> • Simmons in Otis • Sandoval in Palmer • Flebotte in Palmer • Scarpati in Pepperell • Toomey in Rutland • Cochran in Sturbridge • Conners in Sutton • Stines in Grafton • Johnson in Ashby • Skolnick in Ashby • Desormeaux in Florida • Forget in Charlton • Ballard in Sutton <p>An updated version of the Public Well Supply Matrix is included as Appendix I of this annual report to summarize the current status of each public well included in the Clean Well Initiative Program.</p> <p>Funding provided through ISA from July 2012 through June 2015.</p>	Continue sampling and analysis of private wells and where applicable well rehabilitation, replacement well, water treatment activities and drainage modifications.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/2015
6I	Salt/Sand Management and Storage	Operations	<p>MassDOT will continue to replace or repair inadequate salt storage sheds, as well as cover sand piles and/or move them out of wetland buffer zones.</p> <p>Review sheds: Increased capacity of some sheds may be justified because salt storage needs have grown over time and/or because the shed is in a sensitive area and the salt loading operations call for better containment. In sensitive areas, consideration should be given to the use of Gambrel style sheds that provide for the entire operation to be conducted under cover to minimize salt spillage outside of the shed. MassDOT will continue to prioritize the identification and selection of parcels being considered for new salt storage facilities, considering operational needs and the environmental setting.</p> <p>Review Sand Piles: MassDOT will strive to locate sand piles outside wetland buffer zones whenever space allows. However, when this is not possible the department will work towards storing sand piles under cover, especially during the non-winter months. This could be accomplished by storing sand within sheds or, more likely, using a heavy-gauge polyethylene tarp.</p> <p>(Continued on next page)</p>	MassDOT repaired or replaced inadequate salt storage sheds in Andover and Braintree. These facilities are 95% completed.	<p>Continue to train our personnel to be aware of wetlands in and around our facilities.</p> <p>MassDOT will strive to locate sand piles outside wetland buffer zones whenever space allows. However, when this is not possible the department will work towards storing sand piles under cover, especially during the non-winter months. This could be accomplished by storing sand within sheds or, more likely, using a heavy-gauge polyethylene tarp. The tarp could be peeled back once, before winter operations, and then covered again at the end of the season.</p>

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/2015
6I (cont'd)			<p>The tarp could be peeled back once, before winter operations, and then covered again at the end of the season.</p> <p>Personnel: In October 2006, MassDOT hired a Director of Snow & Ice Operations, with over 20 years of experience in winter operations, to improve salt management and supervision of deicing operations.</p>		
6J	Salt Storage Best Management Practices/ Pollution Prevention	Environmental	Continue to implement salt storage in compliance with DEP Guidelines on Deicing Chemical Storage. Continue to follow MassDOT SOP for the Management of Sand and Deicing Chemicals at MassDOT Facilities. Continue to follow Facility Environmental Handbook guidelines at maintenance facilities.	MassDOT continued to include environmental stewardship in our winter operations classes. We emphasized the needs to follow the current SOP's on salt management and proper material handling.	Continue to inform personnel of the cause and effects of winter operations on the environment.
6K	Equipment Improvements	Environmental	MassDOT will continue to expand the use of anti-icing as a standard tool for snow and ice control.	<p>The anti-icing program expanded with the opening of a salt brine production facility in Sagamore in December 2012.</p> <p>The use of anti-icing has increased. MassDOT increased the number of anti-icing equipment and the hours the equipment is utilized. Most of the depots across the Commonwealth had access to direct liquid truck. Interstates are the primary roads targeted followed by all others.</p>	MassDOT will work on method of quantifying anti-icing activities versus pre-wetting activities.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/2015
6L	Enhanced Weather Forecasting Information	Environmental	Continue to provide sufficient funding to use weather forecasting contractor to provide up-to-date and local weather information during snow and ice season.	MassDOT-Highway Division is in the third year of a multi-year agreement with Telvent, our weather provider approximately 50k (5-Year Contract Signed). MassDOT worked with the National Weather Services and NOAA to improve our Snow and Ice Operations.	MassDOT will continue to investigate pavement temperature forecasting.
6M	Road Weather Information System (RWIS)	Environmental	MassDOT will ensure that these stations will be maintained so as to remain fully functional.	MassDOT awarded a new contract to maintain the system.	MassDOT will work to expand the use of RWIS data across the Commonwealth.
6N	Alternative Technologies	Environmental	MassDOT will continue to maximize the use of Premix and liquid calcium chloride, as alternative deicers, to reduce the quantity of granular sodium chloride, and should closely monitor reduced salt zones during storms to ensure the proper timing of salt applications and to minimize the potential for overuse of deicing chemicals.	MassDOT – Highway Division has increased the use of liquid anti-icers in an attempt to reduce the amounts of granular sodium chloride. Research is proving that by better timing and proper application rates, MassDOT could reduce the overall chlorides dispensed in the ‘reduce salt zone.’ The uses of anti-icing techniques have significantly reduced the amount of deicer required to keep the roads reasonably safe.	MassDOT will continue to maximize the use of Premix and liquid calcium chloride, as alternative deicers, to reduce the quantity of granular sodium chloride, and should closely monitor reduced salt zones during storms to ensure the proper timing of salt applications and to minimize the potential for overuse of deicing chemicals.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/2015
6O	Research	Operations	MassDOT has joined Clear Roads program and will continue to explore moving forward on other projects. Summarize research performed.	<p>Massachusetts has continued to commit resources towards Clear Roads and MassDOT continues to be an active member in the Clear Roads program.</p> <p>Clear Roads activities are documented on their web-site Clearroads.org. Research continues to assist MassDOT by bringing the most current practices to Operations. New research projects being conducted include:</p> <ul style="list-style-type: none"> • Establishing effective salt and anti-icing rates • Development of totally automated spreading systems • Comparison of material distribution systems. 	MassDOT will continue to support, participate, and use the research and benefits of collaboration with Clear Roads.
Addn.	MassDOT Research Needs Program (Previously indicated as BMP 4G but focus of research program is now for source control instead of construction)	Environmental/Construction	Continue funding the MassDOT Research Needs Program.	Continued funding the MassDOT Research Needs Program. Participated in NCHRP studies concerning life cycle costs of BMPs; nutrient loading; bridge deck runoff treatment and analysis. Ratified an agreement with USGS to study phosphorous loading off bridges.	MassDOT will continue to participate in NCHRP studies as well as work with USGS to consult as needed on water quality issues and on the phosphorus loading off bridges.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/2015
Addn.	Open Graded Friction Course			MassDOT initiated a study in the last year in regard to the use of Open Graded Friction Course (OGFC), and has been working with MassDEP to discuss obtaining stormwater treatment credit for use of this technology. Open-graded-friction-course has stormwater quality benefits, as it reduces “splash” and runoff volumes, and contributes fewer pollutants to runoff than traditional pavement. In the past year, MassDOT installed OGFC along a section of I-95 in Needham and Wellesley, and, in consultation with MassDEP, has initiated a study to confirm water quality benefits associated with use of this BMP.	Continue discussions with MassDEP regarding obtaining stormwater treatment credit for OGFC use. Make preparations for the study to confirm water quality benefits associated with use of this BMP in consultation with MassDEP.

7. Impaired Waters

BMP ID #	BMP Description	Responsible Dept./ Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/ 2015
7A	Wetland Protection Act (WPA) Compliance	Environmental	<ol style="list-style-type: none"> 1) All MassDOT projects will comply with the WPA and MESA. 2) When potential impacts are identified, MassDOT will work with the appropriate agencies to design the project to minimize the impacts. 	Continued to comply with requirements of MESA and the WPA.	Continued to comply with requirements of MESA and the WPA.
7B	401 Water Quality Certification	Environmental	Massachusetts's 401 Water Quality certification requirements, which include review of the project by MA Natural Heritage program and US Fish and Wildlife if endangered species habitat is mapped in the project vicinity, will be complied with whenever they are applicable.	Continue to comply with MA 401 Water Quality Certification Regulations.	Continue to comply with MA 401 Water Quality Certification Regulations.
7C	CE Checklist	Environmental	Complete a Categorical Exclusion Checklist for all MassDOT projects that utilize federal funds.	102 Categorical Exclusion (CE) checklists were completed and approved for all federally-aided projects advertised for construction by MassDOT during Permit Year 11. All documentation supporting the MassDOT's determination of a project meeting the definition of a Categorical Exclusion is on file with Environmental Services Department at MassDOT Highway Division.	Complete and approve 80 to 120 Categorical Checklists in support of MassDOT Highway Division's Construction Advertising Program.

BMP ID #	BMP Description	Responsible Dept./ Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/ 2015
7D	Environmental Site Data Form (Water Quality Data Form - WQDF)	Environmental/ Construction	Develop an environmental site data form for review by designers with Environmental staff at 25% Design. Implement on all projects.	<p>The WQDF captures information during programmed projects about existing and proposed BMPs identified by design consultants and MassDOT designers. The WQDF is part of 25% (preliminary design) and 75% design (final design) submittals to MassDOT. The form requires the designer to document information about the stormwater system and the receiving water.</p> <p>In PY 11 an updated WQDF was launched, which includes additional features such as data verification, to facilitate more accurate data reporting. MassDOT is in the process of establishing an on-line WQDF, to further increase accuracy and speed at which data is integrated into the MassDOT impaired waters database. In the past year MassDOT also launched an in-house database and uploaded historic assessment and project data into the database in order to more accurately track impaired waters assessment and BMP design data.</p> <p>(continued on next page)</p>	<p>Continue to require submittal of forms at 25% and 75% design submittals. Report on results in annual report.</p> <p>Convert the new and improved water quality data form into an online form and update existing MassDOT database to link more directly to on-line.</p> <p>Continue to educate designers on how to accurately and comprehensively complete the WQDF.</p>

BMP ID #	BMP Description	Responsible Dept./ Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/ 2015
7D (cont.)				<p>MassDOT has received more than 222 water quality data forms; 112 at the 25% design phase and 110 forms at the 75% design phase. Of the 25% forms, 102 affected an impaired water body without a TMDL, 26 were in a watershed covered by a TMDL but the receiving water itself was not identified in the TMDL, and 10 drain to a water body included in a TMDL. The 75% forms documented a total of 93 stormwater BMPs (existing and proposed) and at least 134 deep sump catch basins. Additionally, non-structural BMPs implemented for these projects were documented and included measures such as street sweeping, protecting sensitive areas, inspection and cleaning of stormwater structures, catch basin cleaning, snow removal and deicing controls, and use of sediment and erosion controls during construction.</p>	

BMP ID #	BMP Description	Responsible Dept./ Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/ 2015
7E	TMDL Recommendation Summary Table Update	Environmental	The TMDL Recommendation Summary Table of the annual report will be updated annually to reflect the TMDL reports that have been finalized in the previous permit year and to include update on activities consistent with the recommendations made in the TMDL.	<p>While MassDOT has developed a more detailed program in the Impaired Water Program to address TMDLs, we had historically included a table in the annual report summarizing all Final TMDLs in the state, how they relate to MassDOT and activities which have occurred in the watershed that are consistent with the TMDL suggestions. We have continued to include this table as Appendix J of this annual report for consistency with new data regarding activities that occurred this year and TMDLs that were finalized this permit year.</p> <p>As part of MassDOT's commitment under our Impaired Waters Program and BMP 7R of the SWMP, impaired waters with TMDLs are being assessed for compliance with the TMDL. Additional information is included under BMP 7R of this report and Permit Year 11 progress in Appendix D.</p>	<p>Continue to review draft and final TMDL reports and implement TMDL recommended activities when possible.</p> <p>Continue to review impaired waterbodies with TMDLs as indicated in BMP 7R.</p>
7F – 7Q	TMDL Specific Recommendations	See NOI		Comply with TMDL recommendations in Appendix J.	Comply with TMDL recommendations in Appendix J.

BMP ID #	BMP Description	Responsible Dept./ Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/ 2015
7R Revised	TMDL Watershed Review	Environmental	<ol style="list-style-type: none"> 1. Assess all TMDL waters (total of 209 covered by final TMDLs as of April 30, 2010) listed in Appendix L-1 of the SWMP (revised as of July 22, 2010), using the process described in BMP 7R. The assessments will be completed over five years, beginning June 8, 2010, and 20% (or about 41, TMDL waters) will be assessed each year. 2. Assess at least 25 water bodies (both TMDL and non-TMDL waters) within the first quarter of the Impaired Water Program (BMPs 7U and 7R). 3. Submit annual report to EPA containing the documentation described in Step 6 of BMP 7R. 4. Submit quarterly progress report to EPA during the first year of the Impaired Waters Program (BMP 7U and BMP 7R) and semi-annually thereafter. 	<ol style="list-style-type: none"> 1. MassDOT completed assessment of 33 waterbodies covered by TMDLs on the Appendix L-1 list for the semi-annual submittal on June 8, 2013 and 57 waterbodies in the semi-annual submittal on December 8, 2013 to EPA. MassDOT is on track to meet the commitment made to review 20% of watersheds with TMDLs each year. 2. Complete in Permit Year 8. 3 & 4. A summary of the TMDL waterbodies reviewed during Permit Year 11 is included in Appendix J. <p>In PY11, MassDOT also refined the current TMDL methodology to assess water bodies covered by a nitrogen TMDL located on Cape Cod, the Islands, and other parts of southeastern Massachusetts located in watersheds mainly driven by groundwater instead of surface water, as they cannot be assessed with the TMDL Method.</p> <p>MassDOT's consultants (AECOM, BSC, FST, TetraTech and VHB) provided environmental assessment and design services for water quality treatment BMPs within watersheds with TMDLs</p>	<p>Future activities of the Impaired Waters Program are summarized in Appendix D. MassDOT will continue to assess waterbodies under BMP 7R and provide semi-annual reports to EPA on June 8, 2014 and December 8, 2014.</p> <p>MassDOT will continue to be an active participant in developing TMDLs that impact MassDOT with EPA and DEP. MassDOT will provide public comment on draft TMDLs as appropriate.</p> <p>As new TMDLs are finalized, they will be used during future assessments under the Impaired Waters Program.</p> <p>MassDOT will finalize the methodology for water bodies covered by a nitrogen TMDL located in groundwater driven watersheds.</p>

BMP ID #	BMP Description	Responsible Dept./ Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/ 2015
7R (cont.)	TMDL Watershed Review	Environmental		MassDOT has continued to refine and expand upon assessment methods. The MassDOT nitrogen TMDL method is a supplemental approach to estimate pollutant loads and BMP treatment for BMP 7R	
7S	Salt Remediation Program	Environmental	Continue to provide the Salt Remediation Program with a funding level appropriate to quickly address salt related complaints.	Overall ISA 56565 Salt Remediation Program budget is \$4.07 million through ISA from July 2012 through June 2015.	Continue to address new and existing salt complaints.
7T Added	Review of Specific Sites for Water Quality Exceedances in Response to Conservation Law Foundation (CLF) et al. Lawsuit	Environmental	<ol style="list-style-type: none"> 1 Analyze each of the three sites identified in the CLF lawsuit (Charles River crossings in Bellingham and Milford; and North Nashua River crossing in Lancaster). Develop summary report with modeling methodology and summary of results. 2. For the sites which are determined to contribute to the exceedance of water quality at the stream crossing, construct BMPs to address MassDOT related exceedances. 3. Submit a remedial plan to the court. 	<ol style="list-style-type: none"> 1. Task completed in Permit Year 8. 2. Task completed in Permit Year 8. 3 Task completed in Permit Year 8. 	All required actions have been completed.

BMP ID #	BMP Description	Responsible Dept./ Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/ 2015
7U Revised	Water Quality Impaired Waters Assessment and Mitigation Plan	Environmental	<ol style="list-style-type: none"> 1). Assess all water listed in Appendix L-1 of the SWMP (revised as of July 22, 2010) using the process described in this BMP. 2). Assess at least 25 water bodies (both TMDL and non-TMDL waters) within the first quarter of the Impaired Water Program (BMPs 7U and 7R). 3). Submit quarterly progress reports to EPA during the first year of the Impaired Waters Program and semi-annually thereafter. 4). Provide documentation described in step 6 of BMP 7U in annual reports to the EPA. 	<ol style="list-style-type: none"> 1) MassDOT has submitted 151 assessments to EPA as part of its semi-annual submittals. MassDOT is on track to complete assessment of all water bodies in Appendix L-1 of the SWMP in the five year commitment. 2) Completed in Permit Year 8. 3) MassDOT submitted its semi-annual reports on June 8, 2013 and December 8, 2013. 4) A summary of the water bodies reviewed during Permit Year 11 is included in Appendix D. <p>MassDOT's consultants (AECOM, BSC, FST, TetraTech and VHB) provided environmental assessment and design services for retrofit water quality treatment BMPs within watersheds both with and without TMDLS.</p> <p>In PY11, MassDOT prepared a draft refinement to the TMDL methodology to assess water bodies covered by a Nitrogen TMDL located on Cape Cod, the Islands, and other parts of southeastern Massachusetts located in watersheds mainly driven by groundwater instead of surface water.</p>	<p>Future activities of the Impaired Waters Program are summarized in Appendix D. MassDOT will continue to assess waterbodies under BMP 7U and provide semi-annual reports to EPA on June 8, 2014 and December 8, 2014.</p> <p>Finalize groundwater methodology. Finalize chloride impaired water bodies methodology and include in assessments.</p>

BMP ID #	BMP Description	Responsible Dept./ Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11	Planned Activities – 2014/ 2015
8A	Cultural Resources Review	Cultural Resources Department	Review all projects for impacts to historic properties at the 25% design phase. If a potential impact is found, the Department works with the designer (MassDOT or consultant) and Massachusetts Historical Commission to alter the design to mitigate or prevent adverse effects.	All projects listed in the Construction Advertisement Program for the reporting year were reviewed for impacts to historic properties or archaeological resources. None of the projects reviewed had stormwater impacts to significant archaeological or historic resources. Thus, none of these projects required any stormwater BMP design alterations based on cultural resources concerns.	The Cultural Resources Unit will continue to review projects for any stormwater impacts to historic resources at the 25% design stage.
Addn.	V-Pass Pollutant Assessment Simulation for SWMM	Environmental/ Consultant		MassDOT used the supplemental approach on multiple Retrofit Initiative designs in PY 11. MassDOT, their consultant and EPA have met multiple times to discuss the calibration of the model to loading values in draft NPDES permits.	MassDOT will continue to use the supplemental approach on select Retrofit Initiative designs and explore expanding its use to additional designs and ongoing discussions with calibration efforts with EPA.
Addn.	Programmed Projects Initiative	Environmental/ Consultant		MassDOT continues to implement stormwater BMPs in programmed projects that drain to an impaired water body. The WQDF documented more than 93 existing and proposed stormwater BMPs this permit year. Refer to Appendix D for more detail on the Programmed Project Initiative.	MassDOT will continue the Programmed Projects Initiative.

Part IV. Summary of Information Collected and Analyzed

All information collected and analyzed this year is summarized in the proceeding tables and narrative.

Part V. Program Outputs & Accomplishments (OPTIONAL)

MassDOT's accomplishments during the eleventh permit year are summarized in Part 1- 4 of this annual report. Accomplishments that did not fit under existing BMPs are described below. Additional BMPs that have been added this year have been added to the matrix above with new "Additional" row, rather than summarized below.

MassDOT hired an intern in summer of 2013 to work on stormwater related tasks. Amongst other duties, the intern entered historic data from Impaired Waters biannual submittals that were submitted to US EPA between 2010 and 2013. Entering this large volume of data facilitated the launching of MassDOT's Impaired Waters Database, which is a georeferenced database that is now used by MassDOT staff to track impaired waters assessments and stormwater BMP designs throughout the state. Having this data compiled in one central location that is linked to GIS datasets allows staff through the Department to access site-specific required information quickly and accurately, and therefore improves staff ability to manage projects and resulting stormwater contributions in impaired waters watersheds throughout the state. Since the data were initially entered, MassDOT has also actively engaged its consultants in providing quality reviews and updates to the database to improve data accuracy. In addition to data entry for the Impaired Waters Database, the summer intern also completed an evaluation of MassDOT rest-stops located in watersheds of impaired receiving waters to prioritize those that would benefit most from implementation of a pet waste management program.

MassDOT continues to work diligently to investigate and implement innovative structural BMPs along its highways to improve water quality, and minimize volume of, highway runoff. For example, as part of the I-95 Lexington Burlington resurfacing project last year, MassDOT has designed and plans to install permeable pavement in the median of the highway. To maintain this permeable pavement, District 4 purchased a vacuum sweeper.

In the past year MassDOT also continued to look for opportunities to manage its land assets to benefit stormwater management. For example MassDOT rejected a request from a Wareham developer interested in purchasing a DOT-owned parcel adjacent to salt marsh habitat for installation of a solar farm. MassDOT rejected this request because the parcel was heavily wooded and MassDOT was concerned that clear cutting the area would negatively impact the adjacent marsh. MassDOT evaluates land transfer transactions on a regular basis in regard to their benefits and disadvantages for stormwater management and receiving water quality.

List of Appendices

- Appendix A: IDDE Status Table**
- Appendix B: Status of Drainage Tie-in Permits**
- Appendix C: Notice of Violation (NOV) Letter**
- Appendix D: Impaired Waters Program – Summary of NPDES Permit Year 11**
- Appendix E: River and Stream Signs Installed in Permit Year 11**
- Appendix F: Design Public Hearings Table**
- Appendix G: Active MassDOT Construction NOIs in Permit Year 11**
- Appendix H: Maintenance Schedule Summary**
- Appendix I: Public Well Supply Matrix and Salt Remediation Program**
- Appendix J: TMDL Review Table**



Appendix A: IDDE Status Table

Date	Location	Flow	Source Justification	Test Results	Current Status of Follow up	Action Item	DOT District Responsibility	Flow Owner Contact Information
2010	Route 2/Spy Pond, Belmont/Arlington, MA	Not Present	MyRWA water quality survey/Illicit Discharge survey	Wastewater	Letters to both Arlington and Belmont have been drafted.	Finalize draft letters and submit to the towns of Belmont and Arlington	District 4	Town of Arlington (781) 316-3000 Town of Belmont (617) 993-2650
2010	Route 3 Billerica	Trickle	Illicit Discharge Survey	Washwater	Original source flow was determined to be originating at a clogged catch basin. MassDOT has since cleaned the clogged catch basin and will revisit this location to determine if flow is still present.	District 4 to revisit this location and determine if unclogged catch basin has resolved the dry weather flow	District 4	MassDOT District 4
2010	Route 3 Billerica (Concord Road)	Trickle	Illicit Discharge Survey	Washwater	Flow originates off of MassDOT property onto town of Billerica Property	Finalize draft letters and submit to Billerica	District 4	Town of Billerica (978) 671-0924
2010	I-93/Mystic River, near 32 Shore Drive	Trickle	MyRWA Water Quality Survey/Illicit Discharge survey	Sanitary Sewer/Washwater	Two site visits have been conducted at this location and samples have been collected and tested. Field surveys have not yielded conclusive information on the source flow.	MassDOT will conduct a video inspection of this location to determine if pipes are in disrepair	District 4	MassDOT District 4/MyWRA
2010	Mystic Avenue Somerville, MA	Trickle	Illicit Discharge Survey	Sanitary Sewer	Flow originates off of MassDOT property onto town of Somerville property	Finalize draft letters and submit to Somerville	District 4	City of Somerville (617) 666-3311
2011	454 Patriots Road (Route 2A) Templeton, MA	Not Present	District 2 observed a small pipe exiting this property during a maintenance call	Not Tested	In 2012 a letter was sent to the property owner and a phone call was placed in 2013. MassDOT has not received responses to either form of communication.	Flow is unpermitted, therefore a NOV letter will be sent to the property owner	District 2	Charlie Perkins (978) 939-8980 (978) 939-1063
2007	209 Main Street (Route 1A) Rowley, MA	Not Present	1" black rubber hose noted from residence to MassDOT catch basin	Not Tested	A letter was sent to the residence of 209 Main Street, Rowley, MA on 10/7/2011. The property owner was given 60 days to respond. A response was not received during this time period. MassDOT Environmental contacted the property owner via telephone and left a detailed message regarding the unpermitted flow. A return phone call was received from the property owner. MassDOT is currently working with the property owner to resolve the issue.	District 4 will follow up with property owner to determine if this is a permitted connection	District 4	Robert and Kathryn Casaletto (978) 948-2911
2010	Rent-A-Tool 777 North Shore Road (1A), Revere, MA	Trickle	District 4 staff identified flow discharging to a MassDOT catch basin/Follow up Illicit Discharge survey	Not Tested	A permit application was submitted to MassDOT in 2010. Additional information was requested by MassDOT but was not received. In 2013 MassDOT environmental contacted the business owner via telephone and left a detailed message, a return phone call has not been received.	District 4 will follow up with property owner	District 4	Rent-A-Tool (Steve Williams) (781) 829-3900
2011	Dunkin Donuts 888 Main Street Woburn, MA	Not Present	District 4 staff identified a 4" pipe connected to a MassDOT catch basin	Not Tested	In 2011 a letter was sent to the property owner and a phone call was placed in 2013. MassDOT has not received a response from the letter or phone communication.	District 4 will follow up with property owner to determine if this is a permitted connection	District 4	Dunkin Donuts (781) 932-0548
2007	Dorrance, Inc. 283 West Main Street (Route 123) Taunton, MA	Not Present	Tie-in identified by MassDOT at private residence	Not Tested	A letter and permit application was sent to the homeowner in September of 2011. In March of 2013 MassDOT Environmental left a detailed message with the homeowner regarding the suspect flow. The permit application has yet to be submitted and a return phone call has not been received.	Flow is unpermitted, therefore a NOV letter will be sent to the property owner	District 5	Carl Dorrance (508) 455-0299
2012	469 Taunton Avenue (Route 44) Seekonk, MA	Not Present	Impaired Waters Site Visit	Not Tested	A follow up visit will be conducted to determine the source of this flow. If flow is present a sample will be collected and tested to determine the potential source.	MassDOT will conduct a follow up visit to this location	District 5	Mark Chandley (Country Kitchen) (508) 336-9807
2012	626 Bedford Street (Route 18) East Bridgewater	Not Present	Illicit Discharge Survey	Not Tested	A survey was conducted in 2012 on two catch basins and two manholes with suspicious pipes located within them. No dry weather flow was observed.	Flow is unpermitted, therefore a NOV letter will be sent to the property owner	District 5	Joppa Market (508) 378-1313
2012	257 Mansfield Avenue (Route 140) Norton, MA	Not Present	Illicit Discharge Survey	Not Tested	MassDOT conducted two site visits at this location in 2012 and determined the source of this connection is located off of MassDOT property.	Notify the town of Norton of the connection	District 5	Norton Estates (508) 285-2901
2013	Abington Fire Station #1040 Bedford Street Abington, MA	Not Present	An 18" reinforced concrete pipe leading from the property's drainage system and connecting to a drain manhole on Route 18 (Bedford Street) was discovered by MassDOT personnel while conducting site investigations as part of a project to widen a section of that roadway.	Not Tested	A Notice of Violation letter was sent to the property owner on January 29, 2014.	District 5 to determine if a permit is in place for this connection. If no permit is located, then they will follow up with the property owner.	District 5	Rick LaFond (Town Manager) 781-982-2100
2013	McPhail Realty Trust #1200 Bedford Street Abington, MA	Not Present	A 12" PVC pipe leading from a detention pond on the property and connecting to a MassDOT catch basin on Route 18 (Bedford Street) was discovered by MassDOT personnel while conducting site investigations as part of a project to widen a section of that roadway. In addition to that, a 6" HDPE pipe leading from the detention pond to a different MassDOT catch basin further north on Route 18 was also discovered.	Not Tested	A Notice of Violation letter was sent to the property owner on January 28, 2014.	District 5 to determine if a permit is in place for these connections. If no permit is located, then they will follow up with the property owner.	District 5	Matthew and Diana McPhail 781-878-2875
2013	Travi Realty Trust #1400 Bedford Street Abington, MA	Not Present	A small drainage system leading from a pond within a wooded area on the property and connecting to a drain manhole on Route 18 (Bedford Street) was discovered by MassDOT personnel while conducting site investigations as part of a project to widen a section of that roadway. In addition to that, several upstream connections and runoff spots were also discovered.	Not Tested	A Notice of Violation letter was sent to the property owner on January 24, 2014.	District 5 to determine if a permit is in place for these connections/discharges. If no permit is located, then they will follow up with the property owner.	District 5	Vincent Travi 781-871-1469



Appendix B: Status of Drainage Tie-in Permits

Permit	Date	Location	Flow	Source Justification	Test Results	Current Status of Follow up	Action Item	DOT District Responsibility	Flow Owner Contact Information
Unpermitted	2007	615 Northampton St. (Route 5), Holyoke, MA 338 South Main Street (Route 122)	Intermittent	Sediment carried in stormwater during rain events is clogging MassDOT catch basin	Not tested	In December 2011 a letter was sent to the property owner by MassDOT. In March 2013 an attempt to locate the property owners phone number was made but rendered unsuccessful. MassDOT has not had any further contact with the property owner. District 2 confirmed that flow is not permitted. During March of 2013 MassDOT contacted the property owner and discussed the continuing issue. District 2 confirmed that this flow is not permitted.	MassDOT will continue to work with the property owner to obtain a tie-in permit MassDOT will continue to work with the property owner to obtain a tie-in permit	District 2	Tracey Barclay
Unpermitted	2010	Orange, MA 69 South Main Street (Route 114) Middleton,	Intermittent	Upwelling from a natural spring located on the property.	Natural Source		District 4 will work with the Middleton Golf Course to obtain a	District 2	Kevin Vitol (978) 544-6533
Unpermitted	2012	MA	Intermittent	Illicit Discharge Survey Oak Street drainage is connected to MassDOT drainage. Reconstruction of the roadway is in the design phase and the town of Barnstable will remove the drainage tie-in during reconstruction (2013-2014)	Natural Water/Tap/Irrigation	MassDOT collected and tested the flow located on this property.	tie-in permit	District 4	Middleton Golf Course (978) 774-4075
Unpermitted	2013	Oak Street Barnstable, MA 500 Bedford Street (Route 18) East	Intermittent	4" clay pipe coming from the property, discharging water during dry weather	Not tested	Requires follow up with the town of Barnstable to determine construction schedule.	MassDOT to follow up with town of Barnstable on the status of the roadway construction MassDOT will continue to work with the property owner to obtain a tie-in permit	District 5	Town of Barnstable (508) 862-4000
Unpermitted	2012	Bridgewater, MA	Intermittent	District 1 Staff identified two drainage pipes discharging from a residence onto state highway property Temporary access to the MassDOT drainage system (Route 20) was requested in order to pump treated groundwater into a catch basin during an upgrade to the company's UST.	Natural Source	MassDOT determined this flow is unpermitted.		District 5	Albert Medeiros (508) 378-7539
Permitted	2007	98 South Deerfield Road Conway, MA	Not Present	A 6" PVC pipe leading from the property and connecting to a MassDOT catch basin on Route 18 (Bedford Street) was discovered by MassDOT personnel while conducting site investigations as part of a project to widen a section of that roadway.	Not Tested	District 1 contacted the owner and a permit for this flow is currently in place and up-to-date	Final- To be removed from list in Permit Year 2015	District 1	Kevin MacDonald (413) 369-4714
MAG910000	2013	Cumberland Farms, Inc. Store #2131 506 Main Street (Route 20) Sturbridge, MA	Consistent		Natural Source	A <i>Notice of Intent</i> (NOI) and completed permit application were submitted to the EPA.	A Remediation General Permit was received. No further action is required.	District 3	Matthew Young (508) 270-4477
5-26353	1998	Appletree Realty Trust #43 Highland Road Abington, MA	Intermittent		Surface Runoff	A <i>Notice of Violation</i> letter was sent to the property owner on January 29, 2014.	An Non-Vehicular Access Permit was granted for this tie-in as demonstrated by the property owner. No further action is required.	District 5	Gregory Galvin (781) 331-0200



Appendix C: Notice of Violation (NOV) Letter

[Letterhead]

[Date]

CERTIFIED MAIL – RETURN RECEIPT REQUESTED # _____

[Contact's Name]

[City/Town or Business Name, If Applicable]

[Address]

[Town/City, State, Zip Code]

Notice of Violation

Re: Illicit and/or Unauthorized Drainage Connection or Discharge to MassDOT Drainage System

Located at _____

Dear _____:

The purpose of this Notice of Violation (NOV) is to inform you, as owner of the above-referenced property, of a suspected connection or discharge to the Massachusetts Department of Transportation's Highway Division (MassDOT) drainage system without a properly issued Non-vehicular Access Permit (tie-in permit).

[Description of the site (several sentences), along with details of the suspect connection.]

This is in violation of G.L. c. 81, § 21, regulations found at 720 CMR 13.00, and Standard Operating Procedure No. HMD-02-2-000 (a copy of which is enclosed). Be aware that MassDOT strictly prohibits illicit and/or unauthorized drainage connections and discharges. Any such connection or discharge must be either permitted by MassDOT or immediately disconnected/sealed.

You have ninety (90) days from the receipt of this notification to contact the person listed below to indicate whether: (1) you will apply for a tie-in permit; (2) you will propose a schedule for the removal of the discharge; or (3) you hold a pre-existing drainage tie-in permitⁱ. Should no response be received, a follow-up site investigation will be performed. At that time, should an illicit and/or unauthorized connection or discharge be confirmed, the matter will be forwarded to MassDOT's Chief Legal Counsel for enforcement in conjunction with the Attorney General's Office. This may include fines or penalties of up to \$1,000 per day.

Please be aware, however, that applying for a tie-in permit does not guarantee being granted one and an internal review will be performed in order to determine if the connection or discharge should be permitted.

Thank you for your anticipated cooperation in resolving this matter. Please contact the District __ Permits Engineer, _____, at _____ at your earliest convenience within the 90-day period.

Sincerely,

[District Highway Director's Signature]

[District Highway Director's Name]

District __ Highway Director

Attachment: Standard Operating Procedure No. HMD-02-02-2-000 (dated 3/19/2012)

cc: Tracy W. Klay, MassDOT Environmental Counsel
Robert Bennett (w/o attachment), MassDOT Environmental Services Section

ⁱ In the case of a pre-existing permit, MassDOT will consider rescinding the NOV.



Appendix D: Impaired Waters Program – Summary of NPDES Permit Year 11

Appendix D

Impaired Waters Program

Summary of NPDES Permit Year 11



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Retrofit Projects Summary Sheets

Rosemary Brook

Miles River

Kettle Brook

Leesville Pond

Wading River

Noquochoke Lake

Programmed Project Summary Sheets

Resurfacing of I-95 in Lexington/Burlington

Replacement of Route 2 Bridge over I-95 in Lexington

Saugus River (MA93-34) in Wakefield and Lynnfield

Saugus River (MA93-35) in Saugus and Wakefield

Monatiquot River (MA74-08) in Braintree

1.0 Introduction

The Massachusetts Department of Transportation (MassDOT) is committed to improving the quality of stormwater runoff from its highways. Through the MassDOT Impaired Waters Program, MassDOT has instituted a robust program to address roadway stormwater runoff draining to impaired water bodies. The program is part of compliance with the NPDES Phase II Small MS4 General Permit and commitments in the EPA enforcement letter dated April 22, 2010. “Impaired” water bodies are those listed as Category 4a or 5 in MassDEP’s Integrated List of Waters (referred to as the 303(d) list).

MassDOT committed to assess all impaired water body segments that receive (or potentially receive) stormwater runoff from MassDOT roadways located in urban areas within an aggressive 5-year time frame starting in June 2010. This program initially included approximately 684 water bodies across the State based on a water body estimate submitted as part of the EPA enforcement and referred to as Appendix L-1. The program has since been expanded to encompass the expanded urban area identified in the latest census, impaired waters listed on the 2012 303(d) list, and newly acquired MassDOT property including the MassPike. The assessment includes identifying whether stormwater is contributing to the impairment, whether stormwater runoff from the roadways drains to the water body, and whether existing Best Management Practices (BMPs) effectively treat runoff from the roadways. The assessment then sets a treatment target. When the target is not met, MassDOT will design and construct additional water quality BMPs where technically feasible. To most effectively utilize tax dollars, MassDOT is implementing this program through two initiatives: Retrofit and Programmed Projects.

The Retrofit Initiative is designed to identify locations where adding BMPs along existing roadways is warranted and will lead to a significant reduction in water quality impacts. This effort is aimed at reducing the impacts of its runoff on impaired water bodies through the implementation of structural BMP retrofits. Since these BMPs are retrofitted into the existing rights of way (ROWs) and drainage patterns, the opportunity for constructing treatment can be constrained but allows for proactive construction of treatment in locations that would not be addressed by programmed projects in the near future. MassDOT plans to complete assessment of all the identified impaired waters by June 2015. BMP design and construction is underway and MassDOT plans to continue the design and construction expeditiously until complete. Significant funding has been allocated for retrofit construction to meet this goal. To date, MassDOT has assessed 561 water bodies, 82 assessments have moved into design, 11 sites are under construction and 16 are completed. To continue to meet the aggressive IWP goals, MassDOT issued Notice to Proceed for \$2.5M design contracts to each of five firms this year to assist with assessment, design and construction oversight of the retrofit projects.

Programmed (planned) projects are those projects where significant improvements are planned for a roadway or intersection (e.g. intersection improvement, highway widening) and MassDOT can include stormwater treatment upgrades. MassDOT’s Programmed Projects Initiative is implemented for construction projects where roadways drain to impaired waters and may also include areas outside of jurisdictional areas covered by the EPA’s NPDES stormwater permit (i.e. roadways in non-urban areas) and municipal projects undertaken by MassDOT for local municipalities. MassDOT performs an evaluation of the project area draining to the impaired water body and installs additional structural stormwater BMPs to the maximum extent practicable as part of the roadway construction. Incorporating structural BMPs into construction projects has proven to be much more cost-effective than retrofitting structural BMPs due to the greater flexibility in design and scope of the project. MassDOT has proactively included stormwater improvements to resurfacing projects as a portion of the program to increase the areas reached. This initiative began in 2011. Furthermore, MassDOT

has initiated a substantial water quality data form/database project to capture information regarding the improvements included in the programmed projects so they can be evaluated as part of the overall program.

All of these new BMPs will have a beneficial impact on the runoff from MassDOT roads. An estimated 101 acres of impervious cover will be treated by the BMPs currently in final design or under construction and 98 lbs of phosphorus removed in phosphorus TMDL watersheds.

In addition to structural BMPs, MassDOT has taken many steps to further strengthen the Impaired Waters Program this year. MassDOT has developed the IWP geospatial database to track the many structural BMPs being designed and constructed by its design consultants and the status of water body assessments. This IWP geospatial database is a powerful tool in the analysis of MassDOT's program and future planning/ water quality analysis.

2.0 Overview of Progress in Permit Year 11

This section describes the past year's Impaired Waters Program progress.

2.1 Retrofit Initiative Stormwater BMPs

MassDOT has expended significant resources and made commendable progress on performing assessments, designing water quality BMPs that will provide pollutant treatment and effective construction of the designs.

2.1.1 Assessments

MassDOT completed assessments of 151 water bodies during Permit Year 11. Assessments are performed using one of two methodologies developed by MassDOT. In watersheds with a TMDL, BMP 7R is followed. Whereas, receiving waters without a TMDL, are assessed using the Impervious Cover methodology developed as part of BMP 7U. Assessments have generally fallen into the categories discussed below.

- No BMP design needed since:
 - the impairments are unrelated to stormwater runoff;
 - existing BMPs provide enough mitigation to meet the effective impervious cover or pollutant loading target;
 - the water body's subwatershed and total watershed are less than 9% impervious cover and the water body is not covered by a TMDL;
 - the water body receives no discharges from MassDOT roadway;
- No BMP design possible since site constraints prevent a retrofit from being technically feasible (i.e. where MassDOT owns a bridge and no adjacent roadway); or
- The assessment will move on to design of BMPs because further mitigation is required to meet the pollutant reduction target and MassDOT has identified potential locations for proposed BMPs. Following the selection of BMPs, MassDOT will include a summary of the final designs of proposed BMPs in future annual reports.

Table 1 shows a breakdown of the water bodies assessed this permit year, the assessment method used, and a count of how many of these impaired water bodies are covered by a TMDL. Assessments are submitted to EPA biannually in December and January in compliance with the EPA enforcement.

Table 1 Permit Year 11 Assessments

EPA Submittal	June 2013	December 2013	Permit Year 11
# of Water Bodies Assessed	63	88	151
BMP 7U - IC Method	30	32	62
BMP 7R - TMDL Method	16	38	54
BMP 7U & 7R Method ¹	17	19	36
# of Water Bodies Covered by TMDLs ²	33	57	90
# of Water Bodies on Appendix L-1	59	72	131

¹Water bodies with TMDLs were typically assessed using the TMDL Method (BMP 7R). Some water bodies with TMDLs were impaired for additional pollutants that the TMDL did not address. These water bodies were also assessed using the IC Method (BMP 7U) to address those particular pollutants. Additionally, some water bodies may have a pathogen TMDL, so for these water bodies the IC Method was applied for setting a reduction target.

²Water bodies with a final TMDL at the time of submittal.

MassDOT is on track to meet their 5-year commitment of reviewing the impaired waters that potentially receive MassDOT runoff, which were listed in the EPA enforcement as Appendix L-1. Table 2 shows MassDOT's progress through this permit year. The assessments will be completed by June 2015.

Table 2 Assessments of Appendix L-1 Water bodies for Overall Program

EPA Submittal	#	% of Total
Prior Permit Years	369	54%
Permit Year 11	131	19%
Total	500	73%

As indicated in Table 1, MassDOT also assessed water bodies that were not on the Appendix L-1 list. These water bodies were added for assessment under the Impaired Waters Program for a variety of reasons including their impairments changed between the 2008 and 2012 impaired waters listings, the roadways next to the water body are now considered to be in urban area based on the 2010 census results, or MassDOT became owners of roadways next to the water body since the EPA enforcement. These additional water bodies are being assessed by MassDOT in good faith as part of MassDOT's commitment to improving stormwater runoff quality from its highways. In total, MassDOT has assessed 561 water bodies.

2.1.1.1 TMDL Watershed Assessments

Of the 151 assessments completed in the past year, 90 were performed using BMP 7R, TMDL Watershed Review methodology. The TMDL Method, titled *Description of MassDOT's TMDL Method in BMP 7R*,¹, was developed exclusively for assessing discharges to impaired water bodies with

¹ Massachusetts Department of Transportation (MassDOT), July 22, 2010. BMP 7R: TMDL Watershed Review. Available at: http://www.mhd.state.ma.us/downloads/projDev/BMP_7R_TMDL_WatershedReview.pdf

TMDLs that address pollutants typically found in highway stormwater runoff. All water bodies covered by a TMDL for a pollutant related to stormwater runoff were assessed using this method. Stormwater related pollutants include, but are not limited to, total nitrogen (TN), total phosphorus (TP), total suspended solids (TSS), pathogens, and zinc (Zn). The TMDL Method uses the pollutant target identified in the TMDL for the landuse most closely related to highway (usually commercial/industrial) to define an areal waste load allocation and compares it to the pollutant loading from MassDOT roadway to assess if MassDOT meets the pollutant target. If the water body is impaired for additional pollutants not addressed by the TMDL, then the IC Method is also used in the assessment to define the target IC reduction. See Table 5 for more details on the assessments.

Assessments completed under BMP 7R during Permit Year 11 fall into various categories. Table 3 outlines the different assessment categories and the number of assessment which fall into each.

Table 3 TMDL Assessments Outcome Summary

Assessment Outcome	# of Water Bodies Assessed
Target pollutant reduction set – Moving forward with BMP design	25
Target pollutant reduction set – Site constraints prevent construction of BMPs	19
Target pollutant reduction set – Existing conditions meet target	2
No target pollutant reduction set – No MassDOT discharges to segment	17
No target pollutant reduction set –Water body impaired for pathogens only	27
Total	90

Note: This table includes assessments where both the TMDL and IC Methods were used.

2.1.1.2 Impervious Cover Assessments

MassDOT assessed 62 of the 151 assessments completed this permit year using BMP 7U, Water Quality Impaired Waters Assessment and Mitigation Plan. BMP 7U utilizes the Impervious Cover (IC) Method (MassDOT's Application of Impervious Cover Method in BMP 7U, 2011), which has been developed from USEPA's IC Method.² MassDOT's application of the IC Method uses the percent of IC in a watershed as a surrogate for stormwater pollutant loading. The method can be applied to determine whether a water body is likely to be impaired due to stormwater or if other sources of pollutants are more likely to be the cause of the impairment. MassDOT further evaluates subwatersheds of impaired waters that are greater than 9% IC, as these waters are more likely to be impaired due to stormwater runoff. For special circumstances, MassDOT will assess an impaired water body even if its subwatershed is less than 9% IC if, for example, a MassDOT roadway runs adjacent to a water body for an extended distance. However, no water bodies were assessed this past year in this manner. See a listing of the assessments in Table 6.

Assessments completed using the IC method during Permit Year 11 fall into various categories. Table 4 outlines the different assessment categories and the number of assessment which fall under each.

² Massachusetts Department of Transportation (MassDOT). (2011). Description of MassDOT's Application of Impervious Cover Method in BMP 7U (MassDOT Application of IC Method).

Table 4 IC Method Outcome Summary

Assessment Outcome	# of Water Bodies Assessed
Target IC reduction set – Moving forward with BMP design	23
Target IC reduction set – Site constraints prevent construction of BMPs	19
No target IC reduction set – No MassDOT discharges to segment	15
No target IC reduction set –Water body impaired for pathogens only or impairments unrelated to stormwater	4
No target IC reduction set –Watershed less than 9% impervious	1
Total	62

Note: This table does not include assessments where both the TMDL and IC Methods were used. These are instead included in Table 3.

2.1.2 Design

Once assessments are complete, and if they identify that additional pollutant reduction or IC mitigation measures are necessary, MassDOT assigns them to an IWP designer. The designer is then responsible for more detailed review of the MassDOT urban area roads that directly drain to the impaired receiving water, and requesting additional survey and geotechnical information as needed. The designer identifies site constraints (soils, wetlands, utility conflicts, etc.) that may affect locations where BMPs could be constructed, develops the design of BMPs to meet the target impervious cover or pollutant load reduction, receives permits, and prepares construction plans for the retrofit project.

MassDOT was eager ensure that design and construction of BMPs could move forward at an appropriate pace as more of the program moves into the design and construction phase. Design can take 12-24 months including identifying designer, survey, design and permitting. Construction schedules are weather dependent. In order to facilitate this increased design need, MassDOT advertised for new design consultant contracts and, in March 2013, MassDOT awarded \$2.5M contracts to five firms. This increases the number of design consultants with on-call contracts from three to five. The firms received Notice to Proceed within a few months and the number of designs underway has significantly increased.

Table 7 summarizes the status of designs. This permit year 48 assessments were identified as needing to be assigned to designers. Currently, there are 60 projects in a variety of stages of design. More details on the BMPs included in the final designs are included in Table 8 and in the summary sheets in Attachment A.

The design of the BMPs allows us to calculate the additional pollutant load which will be removed by the proposed BMPs and therefore will not reach the impaired waters. BMPs included in final designs this year are estimated to remove 101 acres of effective IC and 98 lbs/yr of phosphorus from the watersheds. Table 8 provides a summary of BMPs which were constructed or reached 100% design within Permit Year 11. The table focuses on the projects where BMP design was finalized and/ or where BMPs were constructed this permit year. Projects completed in previous permit years have not been included for simplicity.

2.1.3 Construction

Twelve projects are either awaiting construction advertisement or are currently under construction and 16 projects have been completed as part of the overall program. Table 8 provides details on the projects currently being constructed or awaiting advertisement. More than one Impaired Waters Program project may occur to address a water body since MassDOT includes BMPs in resurfacing projects that will cover a portion of the directly discharging area to the receiving water. In order to showcase some of the many improvements that have progressed to construction or have been completed this year as part of the Retrofit Initiative, Attachment A includes detailed summary sheets including pictures, pollutant removal estimates and costs for projects for the following projects.

1. Rosemary Brook (MA72-25) in Wellesley in District 6.
2. Miles River (MA92-03) in Ipswich in District 4
3. Kettle Brook (MA51-01) in Auburn in District 3
4. Leesville Pond (MA51087) in Auburn and Worcester in District 3
5. Wading River (MA62-47) in Mansfield in District 5
6. Noquochoke Lake (MA95171) in Dartmouth in District 5

Once a project has a completed design and all appropriate permits have been received, the BMPs have been constructed as part of federally funded district maintenance contracts or bundled into regional BMP construction contracts. These contracts allow for the construction of the stand-alone stormwater BMPs (not affiliated with other road improvement activities). In Permit Year 9, MassDOT exerted significant effort to develop the maintenance contract funding to allow for this type of construction and has issued almost \$9 million in maintenance contracts to date, with approximately \$2.6 million allocated this permit year. This allocation will come close to allocating all of the \$9 million and therefore, future work will be completed as part of geographically bundled projects put out for bid.

2.2 Programmed Projects Initiative Stormwater BMPs

Projects included in the Statewide Transportation Improvement Plan (TIP) or otherwise included in MassDOT's program for construction are an excellent method for providing significant water quality improvements since drainage can be redirected and stormwater can be included in the overall plan for the site. Also programmed projects allow for the possibility of increased right-of-way and potentially moving of conflicting utilities. Therefore, MassDOT has included stormwater BMPs in contracts for planned projects that discharge stormwater runoff to impaired waters including municipal projects undertaken by MassDOT for local municipalities and projects outside the permit area.

The Programmed Projects initiative extends beyond roadway and bridge reconstruction projects, to include resurfacing projects that have traditionally not included upgrades to stormwater systems. MassDOT worked with federal highway and received buy in that water quality improvements could be added to the resurfacing contracts and use the federal funds. This has allowed for many additional improvements to be constructed.

In order to showcase some of the many improvements that have progressed to construction or have been completed this year as part of program projects, Attachment B includes summary sheets for the following projects. .

1. Resurfacing of I-95 in Lexington/Burlington
2. Replacement of Route 2 Bridge over I-95 in Lexington
3. Saugus River (MA93-34) in Wakefield and Lynnfield is District 4
4. Saugus River (MA93-35) in Saugus and Wakefield in District 4
5. Monatiquot River (MA74-08) in Braintree in District 6

Construction is also underway on improvements resurfacing on I-90 and I-290 which included BMPs to address runoff to Dark Brook (MA51-16) in Auburn. The design of the BMPs have been revisited and generally revised from infiltration swales to bioretention swales to address concerns raised by Auburn Water District. Since this redesign work is still being finalized, a summary cut sheet with the final numbers will be submitted as part of next year's annual report.

MassDOT's Environmental Department identifies projects discharging to impaired waters through water quality data forms submitted to MassDOT. MassDOT employees and consultants complete a water quality data form for regularly scheduled (programmed) construction projects at the 25% design phase, and then again at the 75% design phase.

Originally the water quality data form was used to alert the designers that the project discharged to an impaired waterway or was within a TMDL watershed and that the stormwater drainage required an increased focus and that they should work with MassDOT to understand the requirements. While this methodology worked well, it also created a significant amount of work for MassDOT in tracking and answering questions. This past year, the water quality data form went through a complete overhaul to clarify and focus data collected in the form, to implement data validation, a feature which was not available in earlier versions of the form, and to provide designers with reoccurring information MassDOT was requesting to better understand projects when providing guidance on treatment needs. The updated form also solicits specific location information for each proposed BMP, which will allow for simple integration in the IWP geospatial database.

MassDOT posted the updated form to their website in Permit Year 11. MassDOT also developed a web map application to compliment the updated water quality data form. The web map allows designers to quickly determine which impaired water body their project drains to and whether the project lies in a watershed with a TMDL.

Through the Programmed Projects initiative this year, MassDOT has received more than 222 water quality data forms; 112 at the 25% design phase and 110 forms at the 75% design phase. Of the 25% forms, 102 affected an impaired water body without a TMDL, 26 were in a watershed covered by a TMDL but the receiving water itself was not identified in the TMDL, and 10 drain to a water body included in a TMDL. The 75% forms documented a total of 93 stormwater BMPs (existing and proposed) and at least 134 deep sump catch basins. Additionally, non-structural BMPs implemented for these projects were documented and included measures such as street sweeping, protecting sensitive areas, inspection and cleaning of stormwater structures, catch basin cleaning, depot yard sweeping, snow removal and deicing controls, and use of sediment and erosion controls during construction.

3.0 Planned Activities for Permit Year 12

MassDOT will continue to implement the Impaired Waters Program in Permit Year 12 and to improve upon its procedures and reporting. In addition to the BMPs constructed as part of the Retrofit and Programmed Projects Initiative, MassDOT will continue to develop the robust impaired waters database.

3.1 Retrofit Initiative Stormwater BMPs

MassDOT plans to continue the assessment, design and construction of projects under the Retrofit Initiative. MassDOT will almost complete all of the assessments and will continue to move the many projects identified with potential and need for BMPs through the design stages and develop bundled construction projects for advertisement.

3.1.1 Assessments

In upcoming Permit Year 12, MassDOT will provide semi-annual reports to EPA on June 8, 2014 and December 8, 2014. MassDOT aims to assess at least 200 water bodies next year, which will ensure MassDOT is on track to meet the commitment of assessing all water bodies included in the EPA enforcement within a 5-year time frame and the remaining water bodies soon after.

3.1.1.1 TMDL Watershed Review

MassDOT will continue to assess water bodies and will incorporate finalized TMDLs into future assessments. MassDOT's aims to assess 67 impaired waters with TMDLs in Permit Year 12.

MassDOT is currently drafting a methodology to assess water bodies covered by a nitrogen TMDL located on Cape Cod, the Islands, and other parts of southeastern Massachusetts located in watersheds mainly driven by groundwater instead of surface water. These geographies have relatively transmissive sand and gravel deposits, and therefore MassDOT is reviewing if revisions need to be made to the MassDOT TMDL Methodology for those water bodies without surface water hydrology. Additionally, the BMPs recommended to address the removal of nitrogen may need to be different than the BMPs recommended to address phosphorus. The methodology for water bodies located in groundwater-sheds and covered by a nitrogen TMDL will be finalized in Permit Year 12.

MassDOT will continue to be an active participant, with EPA and MADEP, in developing TMDLs that may impact MassDOT's Impaired Waters Program. Additionally, MassDOT will provide public comment on draft TMDLs as appropriate.

3.1.1.2 IC Method Review

MassDOT will continue to assess water bodies using the IC method where a TMDL has not been finalized. MassDOT aims to assess 126 water bodies using the IC Method in Permit Year 12.

MassDOT is currently drafting a methodology to assess water bodies that do not have a TMDL located on Cape Cod, the Islands, and other parts of southeastern Massachusetts located in watersheds mainly driven by groundwater instead of surface water. MassDOT will review whether revisions need to be made to the IC Methodology to be used for the groundwater driven watersheds. The methodology for water bodies located in groundwater-sheds without a TMDL will be finalized in Permit Year 12.

MassDOT is also developing methodology for addressing water bodies impaired for chlorides. This methodology will focus on source control since chloride travels in a dissolved state and is not treated by conventional BMPs. This methodology will be included in assessments submitted in Permit Year 12.

3.1.2 Design

MassDOT will continue to work with five firms who are under contract to assist with design of stormwater BMPs to increase the number of projects in design and available for construction. MassDOT has multiple assessments that have indicated that BMP design is required and land is available where BMPs could potentially be sited. MassDOT will continue to assign these designs to the design consultants throughout the year.

3.1.3 Construction

MassDOT will plan for construction of BMPs as designs are completed. MassDOT is reaching the end of the funding allocated as part of maintenance contracts. The maintenance contracts were used to provide construction mechanisms for the designs and were beneficial as the designs had not been finalized when the maintenance contracts were advertised. Since MassDOT's designers have now reached the point where designs can be finalized and then advertised, MassDOT will instead move towards bundling designs together that are geographically near each other and advertising them as single projects. MassDOT has a retrofit construction budget of \$3.9M and resurfacing related stormwater controls budget of \$3.3M for June 2014 to June 2015.

3.2 Programmed Project Stormwater BMPs

MassDOT will continue to include stormwater improvements to the maximum extent practicable within programmed projects and capture the stormwater control information in the IWP database.

The modified water quality data form and associated web map was launched in Permit Year 11 to ensure data collection for programmed projects is captured and documented effectively. MassDOT will hold a webinar to ensure all designers are familiar with the new form. The new form will continue to serve as a tracking and prompting tool, effectively alerting project proponents to the need for pollutant specific upgrades to the stormwater management system for their project.

Additionally, MassDOT is working towards converting the new water quality data form into an online form and associated in-house database. An online form will streamline the water quality data form submission process, automate the import of data into the database and simplify the process for both designers and MassDOT.

Table 5 Permit Year 11 Completed Assessments to Impaired Waters with a TMDL

Waterbody ID	Waterbody Name	Waterbody Impairments (2012 Integrated List of Waters)	TMDL Identifier	TMDL Parameter	Assessment Type	Notes	Semi-Annual Submission Date
MA72-33	Charles River	(Physical substrate habitat alterations*); Escherichia coli [156.0]; Nutrient/Eutrophication Biological Indicators [272.0]	CN272.0, CN156.0	Pathogens, Phosphorus	No Discharge	No further action	6/7/2013
MA83-08	Shawsheen River	Fecal Coliform [122.0]; Physical substrate habitat alterations	CN122.0	Pathogens	No Discharge	No further action	6/7/2013
MA35029	Hilchey Pond	Turbidity [123.2]	CN123.2	Phosphorus	No Discharge	No further action	6/7/2013
MA35099	Whites Mill Pond	Aquatic Plants (Macrophytes) [123.2]; Mercury in Fish Tissue	CN123.2	Phosphorus	No Discharge	No further action	12/8/2013
MA42015	Dutton Pond	Nutrient/Eutrophication Biological Indicators [110.0]; Phosphorus (Total) [110.0]	CN110.0	Phosphorus	No Discharge	No further action	6/7/2013
MA51105	Mill Pond	Turbidity [70.1]	CN070.1	Phosphorus	No Discharge	No further action	6/7/2013
MA51110	Newton Pond	(Non-Native Aquatic Plants*); Aquatic Plants (Macrophytes) [70.1]	CN070.1	Phosphorus	No Discharge	No further action	12/8/2013
MA51157	Southwick Pond	Aquatic Plants (Macrophytes) [70.1]	CN070.1	Phosphorus	No Discharge	No further action	12/8/2013
MA51-18	Peters River	Copper; Escherichia coli; Lead	no CN given	Pathogens	No Discharge	No further action	12/8/2013
MA82A-06	Hop Brook	Excess Algal Growth; Fecal Coliform; Oxygen, Dissolved; Phosphorus (Total)	no CN given	Pathogens	No Discharge	No further action	12/8/2013
MA83-11	Long Meadow Brook	Fecal Coliform [122.0]	CN122.0	Pathogens	No Discharge	No further action	6/7/2013
MA83-13	Sandy Brook	Fecal Coliform [122.0]	CN122.0	Pathogens	No Discharge	No further action	6/7/2013
MA93-40	Proctor Brook	(Debris/Floatables/Trash*); Fecal Coliform; Foam/Flocs/Scum/Oil Slicks; Taste and Odor	CN155.0	Pathogens	No Discharge	No further action	12/8/2013
MA95166	White Island Pond	(Non-Native Aquatic Plants*); Chlorophyll-a [330.2]; Excess Algal Growth [330.2]; Oxygen, Dissolved [330.2]; Phosphorus (Total) [330.2]; Secchi disk transparency [330.2]	CN330.2	Phosphorus	No Discharge	No further action	6/7/2013
MA95173	White Island Pond	(Non-Native Aquatic Plants*); Excess Algal Growth [330.2]; Oxygen, Dissolved [330.2]; Phosphorus (Total) [330.2]	CN330.2	Phosphorus	No Discharge	No further action	6/7/2013
MA95-35	Mattapoisett Harbor	Fecal Coliform [251.1]	CN251.1	Pathogens	No Discharge	No further action	6/7/2013

Waterbody ID	Waterbody Name	Waterbody Impairments (2012 Integrated List of Waters)	TMDL Identifier	TMDL Parameter	Assessment Type	Notes	Semi-Annual Submission Date
MA95-64	Little Bay	Fecal Coliform [251.1]	CN251.1	Pathogens	No Discharge	No further action	6/7/2013
MA53-03	Palmer River	Fecal Coliform [182.0]	CN182.0	Pathogens	Pathogens Only	No further action	12/8/2013
MA53-05	Palmer River	Fecal Coliform [182.0]	CN182.0	Pathogens	Pathogens Only	No further action	12/8/2013
MA53-16	Rocky Run	Fecal Coliform [182.0]	CN182.0	Pathogens	Pathogens Only	No further action	12/8/2013
MA61-08	Kickamuit River	Fecal Coliform [285.0]	CN285.0	Pathogens	Pathogens Only	No further action	12/8/2013
MA62-20	Assonet River	Fecal Coliform [256.0]	CN256.0	Pathogens	Pathogens Only	No further action	12/8/2013
MA62-38	Meadow Brook	Fecal Coliform [256.0]	CN256.0	Pathogens	Pathogens Only	No further action	12/8/2013
MA62-50	Broad Cove	Fecal Coliform [256.0]	CN256.0	Pathogens	Pathogens Only	No further action	12/8/2013
MA62-51	Muddy Cove Brook	Fecal Coliform [256.0]	CN256.0	Pathogens	Pathogens Only	No further action	12/8/2013
MA62-55	Segreganset River	Fecal Coliform [256.0]	CN256.0	Pathogens	Pathogens Only	No further action	12/8/2013
MA62-56	Three Mile River	Fecal Coliform [256.0]	CN256.0	Pathogens	Pathogens Only	No further action	12/8/2013
MA62-57	Three Mile River	Fecal Coliform [256.0]	CN256.0	Pathogens	Pathogens Only	No further action	12/8/2013
MA73-06	School Meadow Brook	Fecal Coliform [121.0]	CN121.0	Pathogens	Pathogens Only	No further action	12/8/2013
MA73-17	Traphole Brook	Fecal Coliform [121.0]	CN121.0	Pathogens	Pathogens Only	No further action	12/8/2013
MA73-24	Purgatory Brook	Escherichia coli [121.0]; Fecal Coliform [121.0]	CN121.0	Pathogens	Pathogens Only	No further action	12/8/2013
MA73-27	Ponkapog Brook	Escherichia coli [121.0]; Fecal Coliform [121.0]	CN121.0	Pathogens	Pathogens Only	No further action	12/8/2013
MA83-06	Vine Brook	Fecal Coliform [122.0]	CN122.0	Pathogens	Pathogens Only	No further action	12/8/2013
MA83-07	Strong Water Brook	Fecal Coliform [122.0]	CN122.0	Pathogens	Pathogens Only	No further action	12/8/2013
MA83-10	Kiln Brook	Fecal Coliform [122.0]	CN122.0	Pathogens	Pathogens Only	No further action	12/8/2013
MA83-14	Spring Brook	Fecal Coliform [122.0]	CN122.0	Pathogens	Pathogens Only	No further action	12/8/2013
MA91-11	Little River	Fecal Coliform	no CN given	Pathogens	Pathogens Only	No further action	12/8/2013
MA93-32	Hawkes Brook	Fecal Coliform	CN155.0	Pathogens	Pathogens Only	No further action	12/8/2013
MA93-33	Hawkes Brook	Fecal Coliform	CN155.0	Pathogens	Pathogens Only	No further action	12/8/2013
MA93-41	Crane River	Fecal Coliform	CN155.0	Pathogens	Pathogens Only	No further action	12/8/2013
MA93-48	Bennetts Pond Brook	Fecal Coliform	CN155.0	Pathogens	Pathogens Only	No further action	12/8/2013

Waterbody ID	Waterbody Name	Waterbody Impairments (2012 Integrated List of Waters)	TMDL Identifier	TMDL Parameter	Assessment Type	Notes	Semi-Annual Submission Date
MA93-50	Shute Brook	Fecal Coliform	CN155.0	Pathogens	Pathogens Only	No further action	12/8/2013
MA93-52	Lynn Harbor	Fecal Coliform	CN155.0	Pathogens	Pathogens Only	No further action	12/8/2013
MA93-53	Lynn Harbor	Fecal Coliform	CN155.0	Pathogens	Pathogens Only	No further action	12/8/2013
MA72-03	Charles River	DDT, Dissolved oxygen saturation [272.0]; Escherichia coli [156.0]; Excess Algal Growth [272.0]; Organic Enrichment (Sewage) Biological Indicators [272.0]; Phosphorus (Total) [272.0]	CN272.0, 156.0	Pathogens, Phosphorus	TMDL Method	Project assigned to designer however during more detailed review designer determined that due to limited right-of-way and wetland resources, no BMPs were possible. No further action.	6/7/2013
MA35056	Parker Pond	(Non-Native Aquatic Plants*); Aquatic Plants (Macrophytes) [123.2]	CN123.2	Phosphorus	TMDL Method	BMP Potential - Assign to Design Contractor	12/8/2013
MA35101	Whitney Pond	Aquatic Plants (Macrophytes) [123.2]; Mercury in Fish Tissue; Turbidity [123.2]	CN123.2	Phosphorus	TMDL Method	BMP Potential - Assign to Design Contractor	12/8/2013
MA51050	Flint Pond	(Eurasian Water Milfoil, Myriophyllum spicatum*); (Non-Native Aquatic Plants*); Aquatic Plants (Macrophytes) [115.0]; Turbidity [115.0]	CN115.0	Phosphorus	TMDL Method	Project assigned to designer however due to limited right-of-way and wetland resources, it was determined that no BMPs were possible	12/8/2013
MA51078	Jordan Pond	Turbidity [70.1]	CN070.1	Phosphorus	TMDL Method	Site constraints as detailed in assessment do not allow for construction of BMPs. No further action.	12/8/2013

Waterbody ID	Waterbody Name	Waterbody Impairments (2012 Integrated List of Waters)	TMDL Identifier	TMDL Parameter	Assessment Type	Notes	Semi-Annual Submission Date
MA51120	Pondville Pond	(Non-Native Aquatic Plants*); Excess Algal Growth [70.1]	CN070.1	Phosphorus	TMDL Method	Project assigned to designer however, design consultant determined that site constraints do not allow for design/ construction of BMPs.	6/7/2013
MA51125	Lake Quinsigamond	(Eurasian Water Milfoil, Myriophyllum spicatum*); (Non-Native Aquatic Plants*); Excess Algal Growth [115.0]; Oxygen, Dissolved [115.0]	CN115.0	Phosphorus	TMDL Method	BMP Potential - Assign to Design Contractor	6/7/2013
MA51188	Flint Pond	(Eurasian Water Milfoil, Myriophyllum spicatum*); (Non-Native Aquatic Plants*); Aquatic Plants (Macrophytes) [115.0]	CN115.0	Phosphorus	TMDL Method	BMP Potential - Assign to Design Contractor	6/7/2013
MA51196	Shirley Street Pond	Aquatic Plants (Macrophytes) [70.1]	CN070.1	Phosphorus	TMDL Method	BMP Potential - Assign to Design Contractor	6/7/2013
MA72-28	Beaver Brook	(Non-Native Aquatic Plants*); (Other anthropogenic substrate alterations*); (Other flow regime alterations*); Escherichia coli [156.0]; Excess Algal Growth [272.0]; Organic Enrichment (Sewage) Biological Indicators [272.0]; Oxygen, Dissolved [272.0]; Phosphorus (Total) [272.0]; Sedimentation/Siltation; Taste and Odor; Turbidity [272.0]	CN272.0, CN156.0	Pathogens, Phosphorus	TMDL Method and IC Method	BMP Potential - Assign to Design Contractor	6/7/2013
MA82B-02	Assabet River	Aquatic Macroinvertebrate Bioassessments; Fecal Coliform; Nutrient/Eutrophication Biological Indicators [201.0]; Oxygen, Dissolved [201.0]; Phosphorus (Total) [201.0]	CN201.0	Phosphorus	TMDL Method and IC Method	BMP Potential - Assign to Design Contractor	6/7/2013
MA82B-03	Assabet River	(Debris/Floatables/Trash*); (Non-Native Aquatic Plants*); Excess Algal Growth [201.0]; Fecal Coliform; Phosphorus (Total) [201.0]; Taste and Odor	CN201.0	Phosphorus	TMDL Method and IC Method	Site constraints as detailed in assessment do not allow for construction of BMPs. No further action	6/7/2013

Waterbody ID	Waterbody Name	Waterbody Impairments (2012 Integrated List of Waters)	TMDL Identifier	TMDL Parameter	Assessment Type	Notes	Semi-Annual Submission Date
MA82B-05	Assabet River	(Debris/Floatables/Trash*); (Non-Native Aquatic Plants*); Aquatic Plants (Macrophytes) [201.0]; Excess Algal Growth [201.0]; Fecal Coliform; Nutrient/Eutrophication Biological Indicators [201.0]; Oxygen, Dissolved [201.0]; Phosphorus (Total) [201.0]; Taste and Odor	CN201.0	Phosphorus	TMDL Method and IC Method	Site constraints as detailed in assessment do not allow for construction of BMPs. No further action	6/7/2013
MA51-04	Blackstone River	(Other flow regime alterations*); (Physical substrate habitat alterations*); Aquatic Macroinvertebrate Bioassessments; Cadmium; Copper; DDT; Escherichia coli; Excess Algal Growth; Fishes Bioassessments; Lead; Nutrient/Eutrophication Biological Indicators; PCB in Fish Tissue; Phosphorus (Total); Sedimentation/Siltation; Taste and Odor; Turbidity	no CN given	Pathogens	TMDL Method and IC Method	Project assigned to designer however, design consultant determined that site constraints do not allow for design/construction of BMPs.	12/8/2013
MA61-06	Mount Hope Bay	Chlorophyll-a; Fecal Coliform [351.0]; Fishes Bioassessments; Nitrogen (Total); Temperature, water	CN351.0	Pathogens	TMDL Method and IC Method	BMP Potential - Assign to Design Contractor	6/7/2013
MA62-04	Taunton River	Fecal Coliform [256.0]; Fishes Bioassessments; Oxygen, Dissolved	CN256.0	Pathogens	TMDL Method and IC Method	BMP Potential - Assign to Design Contractor	6/7/2013
MA71-05	Malden River	(Debris/Floatables/Trash*); Chlordane; DDT; Dissolved oxygen saturation; Escherichia coli; Fecal Coliform; Foam/Flocs/Scum/Oil Slicks; Oxygen, Dissolved; PCB in Fish Tissue; pH, High; Phosphorus (Total); Secchi disk transparency; Sediment Bioassays -- Chronic Toxicity Freshwater; Taste and Odor; Total Suspended Solids (TSS)	no CN given	Pathogens	TMDL Method and IC Method	BMP Potential - Assign to Design Contractor	12/8/2013
MA72-09	Stop River	Ambient Bioassays -- Chronic Aquatic Toxicity; Oxygen, Dissolved [272.0]; Phosphorus (Total) [272.0]	CN272.0	Phosphorus	TMDL Method and IC Method	Site constraints as detailed in assessment do not allow for construction of BMPs. No further action	6/7/2013

Waterbody ID	Waterbody Name	Waterbody Impairments (2012 Integrated List of Waters)	TMDL Identifier	TMDL Parameter	Assessment Type	Notes	Semi-Annual Submission Date
MA73-03	Neponset River	(Debris/Floatables/Trash*); DDT; Enterococcus [121.0]; Escherichia coli [121.0]; Fecal Coliform [121.0]; Foam/Flocs/Scum/Oil Slicks; Other; Oxygen, Dissolved; PCB in Fish Tissue; Polychlorinated biphenyls	CN121.0	Pathogens	TMDL Method and IC Method	Project assigned to designer however, design consultant determined that site constraints do not allow for design/construction of BMPs.	12/8/2013
MA73-04	Neponset River	(Debris/Floatables/Trash*); Enterococcus [121.0]; Fecal Coliform [121.0]; Other; Oxygen, Dissolved; PCB in Fish Tissue; Turbidity	CN121.0	Pathogens	TMDL Method and IC Method	BMP Potential - Assign to Design Contractor	12/8/2013
MA73-16	Hawes Brook	(Debris/Floatables/Trash*); Escherichia coli [121.0]; Fecal Coliform [121.0]; Taste and Odor	CN121.0	Pathogens	TMDL Method and IC Method	Site constraints as detailed in assessment do not allow for construction of BMPs. No further action	12/8/2013
MA73-26	Unquity Brook	(Debris/Floatables/Trash*); (Low flow alterations*); (Physical substrate habitat alterations*); Escherichia coli [121.0]; Fecal Coliform [121.0]; Oxygen, Dissolved; pH, Low; Phosphorus (Total); Sedimentation/Siltation	CN121.0	Pathogens	TMDL Method and IC Method	BMP Potential - Assign to Design Contractor	6/7/2013
MA73-28	Mother Brook	(Low flow alterations*); Color; DDT; Escherichia coli [121.0]; Fecal Coliform [121.0]; Mercury in Fish Tissue; Oxygen, Dissolved; PCB in Fish Tissue; Phosphorus (Total); Taste and Odor	CN121.0	Pathogens	TMDL Method and IC Method	Site constraints as detailed in assessment do not allow for construction of BMPs. No further action	6/7/2013
MA73-29	Pine Tree Brook	(Physical substrate habitat alterations*); Aquatic Plants (Macrophytes); Escherichia coli [121.0]; Fecal Coliform [121.0]; Oxygen, Dissolved; Turbidity	CN121.0	Pathogens	TMDL Method and IC Method	Site constraints as detailed in assessment do not allow for construction of BMPs. No further action	6/7/2013

Waterbody ID	Waterbody Name	Waterbody Impairments (2012 Integrated List of Waters)	TMDL Identifier	TMDL Parameter	Assessment Type	Notes	Semi-Annual Submission Date
MA73-30	Gulliver Creek	Other; PCB in Fish Tissue; Fecal Coliform [121.0]	CN121.0	Pathogens	TMDL Method and IC Method	Will be BMP Potential - Assign to Design Contractor	6/7/2013
MA74-02	Weir River	(Low flow alterations*); Fecal Coliform; Nutrient/Eutrophication Biological Indicators; Sedimentation/Siltation	no CN given	Pathogens	TMDL Method and IC Method	Will be BMP Potential - Assign to Design Contractor	12/8/2013
MA74-15	Town River Bay	Fecal Coliform; Other; Oxygen, Dissolved; PCB in Fish Tissue	no CN given	Pathogens	TMDL Method and IC Method	Site constraints as detailed in assessment do not allow for construction of BMPs. No further action	12/8/2013
MA82A-07	Concord River	(Eurasian Water Milfoil, Myriophyllum spicatum*); (Non-Native Aquatic Plants*); Fecal Coliform; Mercury in Fish Tissue; Phosphorus (Total)	no CN given	Pathogens	TMDL Method and IC Method	Will be BMP Potential - Assign to Design Contractor	12/8/2013
MA82B-04	Assabet River	Aquatic Macroinvertebrate Bioassessments; Aquatic Plants (Macrophytes) [201.0]; Excess Algal Growth [201.0]; Fecal Coliform; Fishes Bioassessments; Oxygen, Dissolved [201.0]; Phosphorus (Total) [201.0]	no CN given	Phosphorus	TMDL Method and IC Method	BMP Potential - Assign to Design Contractor	12/8/2013
MA82B-07	Assabet River	Fecal Coliform; Phosphorus (Total) [201.0]	no CN given	Phosphorus	TMDL Method and IC Method	Will be BMP Potential - Assign to Design Contractor	12/8/2013
MA83-01	Shawsheen River	(Physical substrate habitat alterations*); Fecal Coliform [122.0]; Oxygen, Dissolved; Sedimentation/Siltation	CN122.0	Pathogens	TMDL Method and IC Method	Project assigned to designer however, design consultant determined that site constraints do not allow for design/ construction of BMPs.	12/8/2013

Waterbody ID	Waterbody Name	Waterbody Impairments (2012 Integrated List of Waters)	TMDL Identifier	TMDL Parameter	Assessment Type	Notes	Semi-Annual Submission Date
MA83-04	Rogers Brook	(Physical substrate habitat alterations*); Fecal Coliform [122.0]; Turbidity	CN122.0	Pathogens	TMDL Method and IC Method	Project assigned to designer however, design consultant determined that site constraints do not allow for design/construction of BMPs.	6/7/2013
MA83-05	Elm Brook	(Physical substrate habitat alterations*); Fecal Coliform [122.0]; Turbidity	CN122.0	Pathogens	TMDL Method and IC Method	Project assigned to designer however, design consultant determined that site constraints do not allow for design/construction of BMPs.	6/7/2013
MA83-17	Shawsheen River	Fecal Coliform [122.0]; Oxygen, Dissolved	CN122.0	Pathogens	TMDL Method and IC Method	Will be BMP Potential - Assign to Design Contractor	12/8/2013
MA83-19	Shawsheen River	Fecal Coliform [122.0]; Oxygen, Dissolved	CN122.0	Pathogens	TMDL Method and IC Method	BMP Potential - Assign to Design Contractor	6/7/2013
MA84046	Newfield Pond	(Eurasian Water Milfoil, Myriophyllum spicatum*); (Non-Native Aquatic Plants*); Mercury in Fish Tissue [376.0]; Oxygen, Dissolved	NEHgTMDL	Mercury	TMDL Method and IC Method	BMP Potential - Assign to Design Contractor	6/7/2013
MA84A-02	Merrimack River	(Low flow alterations*); Escherichia coli; Mercury in Fish Tissue; Phosphorus (Total)	no CN given	Pathogens	TMDL Method and IC Method	Project assigned to designer however, design consultant determined that site constraints do not allow for design/construction of BMPs.	12/8/2013
MA84A-03	Merrimack River	Escherichia coli; Mercury in Fish Tissue; PCB in Fish Tissue; Phosphorus (Total)	no CN given	Pathogens	TMDL Method and IC Method	BMP Potential - Assign to Design Contractor	12/8/2013

Waterbody ID	Waterbody Name	Waterbody Impairments (2012 Integrated List of Waters)	TMDL Identifier	TMDL Parameter	Assessment Type	Notes	Semi-Annual Submission Date
MA84A-04	Merrimack River	Escherichia coli; PCB in Fish Tissue; Phosphorus (Total)	no CN given	Pathogens	TMDL Method and IC Method	BMP Potential - Assign to Design Contractor	12/8/2013
MA84A-21	Deep Brook	(Habitat Assessment (Streams)*); Aquatic Macroinvertebrate Bioassessments; Escherichia coli; Fishes Bioassessments; Sedimentation/Siltation	no CN given	Pathogens	TMDL Method and IC Method	Existing BMPs meet targeted reduction	12/8/2013
MA84B-04	Stony Brook	Aquatic Macroinvertebrate Bioassessments; Escherichia coli	no CN given	Pathogens	TMDL Method and IC Method	Existing BMPs meet targeted reduction	12/8/2013
MA93-18	Gloucester Harbor	Combined Biota/Habitat Bioassessments; Fecal Coliform; Oxygen, Dissolved	CN155.0	Pathogens	TMDL Method and IC Method	Site constraints as detailed in assessment do not allow for construction of BMPs. No further action	6/7/2013
MA93-39	Proctor Brook	(Debris/Floatables/Trash*); Aquatic Macroinvertebrate Bioassessments; Fecal Coliform; Foam/Flocs/Scum/Oil Slicks; Nitrogen (Total); Phosphorus (Total); Sedimentation/Siltation; Taste and Odor	CN155.0	Pathogens	TMDL Method and IC Method	Will be BMP Potential - Assign to Design Contractor	12/8/2013
MA93-44	Saugus River	(Other flow regime alterations*); Fecal Coliform; Oil and Grease; Temperature, water	CN155.0	Pathogens	TMDL Method and IC Method	Project assigned to designer however, design consultant determined that site constraints do not allow for design/construction of BMPs.	12/8/2013
MA93-51	Unnamed Tributary	(Alteration in stream-side or littoral vegetative covers*); (Debris/Floatables/Trash*); (Other flow regime alterations*); (Physical substrate habitat alterations*); Fecal Coliform; Taste and Odor	CN155.0	Pathogens	TMDL Method and IC Method	BMP Potential - Assign to Design Contractor	6/7/2013

Notes: Assessments are based on the impairments listed in the final Year 2012 303d list.

Refer to <http://www.mhd.state.ma.us/default.asp?pgid=content/enviro/ennpdes&sid=about> for full Impaired Waters submittals.

Table 6 Permit Year 11 Completed Assessments to Impaired Waters Using IC Method

Waterbody ID	Waterbody Name	Waterbody Impairments (2012 Integrated List of Waters)	Assessment Type	Notes	Semi-Annual Submission Date
MA51-12	West River	(Non-Native Aquatic Plants*); Aquatic Plants (Macrophytes); Cadmium; Chloride; Copper; Lead; Nutrient/Eutrophication Biological Indicators; pH, Low	<9%	No further action	6/7/2013
MA84A-22	Cobbler Brook	(Debris/Floatables/Trash*)	All Impairments Unrelated to Stormwater	No further action	6/7/2013
MA36165	Lake Whittemore	Turbidity	No Discharge	No further action	12/8/2013
MA36-40	Abbey Brook	Total Suspended Solids (TSS)	No Discharge	No further action	6/7/2013
MA42-06	French River	(Debris/Floatables/Trash*); Aquatic Macroinvertebrate Bioassessments; Fecal Coliform; Other; Sediment Screening Value (Exceedence); Taste and Odor; Turbidity	No Discharge	No further action	12/8/2013
MA51185	Woodbury Pond	(Non-Native Aquatic Plants*); Aquatic Plants (Macrophytes)	No Discharge	No further action	12/8/2013
MA51-27	Coal Mine Brook	(Fish Kills*); Fishes Bioassessments; Sedimentation/Siltation; Temperature, water	No Discharge	No further action	12/8/2013
MA51-28	Cook Allen Brook	Fishes Bioassessments	No Discharge	No further action	12/8/2013
MA71047	Winter Pond	(Non-Native Aquatic Plants*); Nutrient/Eutrophication Biological Indicators	No Discharge	No further action	6/7/2013
MA71-09	Winn Brook	(Physical substrate habitat alterations*); Escherichia coli	No Discharge	No further action	6/7/2013
MA74-06	Cochato River	Chlordane; DDT; Fecal Coliform; Oxygen, Dissolved	No Discharge	No further action	6/7/2013
MA82015	Carding Mill Pond	(Non-Native Aquatic Plants*); Aquatic Plants (Macrophytes); Dissolved oxygen saturation; Excess Algal Growth; Phosphorus (Total)	No Discharge	No further action	12/8/2013
MA82042	Fort Meadow Reservoir	(Eurasian Water Milfoil, Myriophyllum spicatum*); Chlordane; Phosphorus (Total)	No Discharge	No further action	12/8/2013
MA83009	Hussey Pond	Excess Algal Growth	No Discharge	No further action	6/7/2013
MA83015	Rabbit Pond	Turbidity	No Discharge	No further action	6/7/2013
MA91-05	Rowley River	Fecal Coliform	No Discharge	No further action	12/8/2013
MA93011	Cape Pond	Turbidity	No Discharge	No further action	6/7/2013
MA52-06	Bungay River	Fecal Coliform	Pathogens Only	No further action	12/8/2013

Waterbody ID	Waterbody Name	Waterbody Impairments (2012 Integrated List of Waters)	Assessment Type	Notes	Semi-Annual Submission Date
MA71-08	Mill Creek	Fecal Coliform; Other; PCB in Fish Tissue	Pathogens Only	No further action	12/8/2013
MA91-11	Little River	Fecal Coliform	Pathogens Only	No further action	12/8/2013
MA34-05	Connecticut River	Escherichia coli; PCB in Fish Tissue; Total Suspended Solids (TSS)	IC Method	BMP Potential - Assign to Design Contractor	12/8/2013
MA41-02	Quinebaug River	(Debris/Floatables/Trash*); Excess Algal Growth; Turbidity	IC Method	BMP Potential - Assign to Design Contractor	12/8/2013
MA42-05	French River	(Debris/Floatables/Trash*); (Other flow regime alterations*); Aquatic Macroinvertebrate Bioassessments; Fecal Coliform	IC Method	Project assigned to designer however, design consultant determined that site constraints do not allow for design/ construction of BMPs.	12/8/2013
MA51002	Aldrich Pond	(Non-Native Aquatic Plants*); Aquatic Plants (Macrophytes)	IC Method	Project assigned to designer however, design consultant determined that site constraints do not allow for design/ construction of BMPs.	6/7/2013
MA51-02	Middle River	(Debris/Floatables/Trash*); (Physical substrate habitat alterations*); Aquatic Macroinvertebrate Bioassessments; Escherichia coli; Nutrient/Eutrophication Biological Indicators; Other; Turbidity	IC Method	BMP Potential - Assign to Design Contractor	6/7/2013
MA51-03	Blackstone River	(Debris/Floatables/Trash*); (Other flow regime alterations*); (Physical substrate habitat alterations*); Ambient Bioassays -- Chronic Aquatic Toxicity; Aquatic Macroinvertebrate Bioassessments; Escherichia coli; Excess Algal Growth; Fishes Bioassessments; Foam/Flocs/Scum/Oil Slicks; Lead; Nutrient/Eutrophication Biological Indicators; Other; Oxygen, Dissolved; Phosphorus (Total); Sedimentation/Siltation; Taste and Odor; Turbidity	IC Method	BMP Potential - Assign to Design Contractor	6/7/2013
MA51-05	Blackstone River	(Other flow regime alterations*); Aquatic Macroinvertebrate Bioassessments; Cadmium; Copper; Escherichia coli; Excess Algal Growth; Lead; Nutrient/Eutrophication Biological Indicators; Phosphorus (Total); Polychlorinated biphenyls; Taste and Odor; Total Suspended Solids (TSS); Turbidity	IC Method	BMP Potential - Assign to Design Contractor	6/7/2013
MA51-06	Blackstone River	(Other flow regime alterations*); Cadmium; Copper; DDT; Lead; PCB in Fish Tissue; Phosphorus (Total); Total Suspended Solids (TSS)	IC Method	Project assigned to designer however, design consultant determined that site constraints do not allow for design/ construction of BMPs.	12/8/2013
MA51093	Marble Pond	(Non-Native Aquatic Plants*); Aquatic Plants (Macrophytes)	IC Method	BMP Potential - Assign to Design Contractor	6/7/2013

Waterbody ID	Waterbody Name	Waterbody Impairments (2012 Integrated List of Waters)	Assessment Type	Notes	Semi-Annual Submission Date
MA51-10	Mill River	(Non-Native Aquatic Plants*); Aquatic Plants (Macrophytes), PCB in fish tissue, Other	IC Method	Project assigned to designer however, design consultant determined that site constraints do not allow for design/ construction of BMPs.	6/7/2013
MA51135	Lake Ripple	(Non-Native Aquatic Plants*); Aquatic Plants (Macrophytes)	IC Method	BMP Potential - Assign to Design Contractor	6/7/2013
MA51-14	Mumford River	(Low flow alterations*); (Non-Native Aquatic Plants*); Aquatic Plants (Macrophytes); Copper; Lead	IC Method	BMP Potential - Assign to Design Contractor	6/7/2013
MA51-15	Tatnuck Brook	(Debris/Floatables/Trash*); (Non-Native Aquatic Plants*); (Other flow regime alterations*); Aquatic Macroinvertebrate Bioassessments; Sedimentation/Siltation; Turbidity	IC Method	BMP Potential - Assign to Design Contractor	6/7/2013
MA51-17	Poor Farm Brook	(Low flow alterations*); Aquatic Plants (Macrophytes); Sedimentation/Siltation	IC Method	BMP Potential - Assign to Design Contractor	6/7/2013
MA70-03	Dorchester Bay	Enterococcus; Fecal Coliform; Other; PCB in Fish Tissue; Total Suspended Solids (TSS); Turbidity	IC Method	Project assigned to designer however, design consultant determined that site constraints do not allow for design/ construction of BMPs.	12/8/2013
MA71043	Upper Mystic Lake	(Non-Native Aquatic Plants*); Dissolved oxygen saturation; Oxygen, Dissolved	IC Method	Project assigned to designer however, design consultant determined that site constraints do not allow for design/ construction of BMPs.	12/8/2013
MA71-06	Chelsea River	(Debris/Floatables/Trash*); Ammonia (Un-ionized); Fecal Coliform; Other; Oxygen, Dissolved; PCB in Fish Tissue; Petroleum Hydrocarbons; Sediment Screening Value (Exceedence); Taste and Odor; Turbidity	IC Method	Project assigned to designer however, design consultant determined that site constraints do not allow for design/ construction of BMPs.	12/8/2013
MA73003	Russell Pond	(Non-Native Aquatic Plants*); Turbidity	IC Method	Site constraints as detailed in assessment do not allow for construction of BMPs. No further action	6/7/2013
MA73-20	Beaver Meadow Brook	Oxygen, Dissolved	IC Method	Site constraints as detailed in assessment do not allow for construction of BMPs. No further action	12/8/2013

Waterbody ID	Waterbody Name	Waterbody Impairments (2012 Integrated List of Waters)	Assessment Type	Notes	Semi-Annual Submission Date
MA73-22	Pequid Brook	Oxygen, Dissolved	IC Method	Project assigned to designer however, design consultant determined that site constraints do not allow for design/ construction of BMPs.	12/8/2013
MA74-04	Mill River	Fecal Coliform; Nutrient/Eutrophication Biological Indicators	IC Method	BMP Potential - Assign to Design Contractor	6/7/2013
MA74-09	Town Brook	(Other flow regime alterations*); (Physical substrate habitat alterations*); Aquatic Macroinvertebrate Bioassessments; Fecal Coliform	IC Method	BMP Potential - Assign to Design Contractor	6/7/2013
MA74-16	Accord Brook	Aquatic Macroinvertebrate Bioassessments	IC Method	Will be BMP Potential - Assign to Design Contractor	12/8/2013
MA81-02	North Nashua River	Ambient Bioassays -- Chronic Aquatic Toxicity; Aquatic Macroinvertebrate Bioassessments; Escherichia coli	IC Method	BMP Potential - Assign to Design Contractor	12/8/2013
MA81-05	Nashua River	Aquatic Macroinvertebrate Bioassessments; Escherichia coli; Phosphorus (Total); Sediment Bioassays -- Acute Toxicity Freshwater	IC Method	Project assigned to designer however, design consultant determined that site constraints do not allow for design/ construction of BMPs.	12/8/2013
MA82055	Grist Mill Pond	(Non-Native Aquatic Plants*); Aquatic Plants (Macrophytes); Dissolved oxygen saturation; Excess Algal Growth; Fecal Coliform; Phosphorus (Total)	IC Method	Will be BMP Potential - Assign to Design Contractor	12/8/2013
MA82056	Hager Pond	(Non-Native Aquatic Plants*); Aquatic Plants (Macrophytes); Dissolved oxygen saturation; Excess Algal Growth; Fecal Coliform; Phosphorus (Total); Turbidity	IC Method	Project assigned to designer however, design consultant determined that site constraints do not allow for design/ construction of BMPs.	12/8/2013
MA82A-05	Hop Brook	Dissolved oxygen saturation; Excess Algal Growth; Oxygen, Dissolved; Phosphorus (Total)	IC Method	Site constraints as detailed in assessment do not allow for construction of BMPs. No further action	12/8/2013
MA82A-08	Concord River	(Eurasian Water Milfoil, Myriophyllum spicatum*); (Non-Native Aquatic Plants*); Mercury in Fish Tissue; Phosphorus (Total)	IC Method	BMP Potential - Assign to Design Contractor	6/7/2013
MA82A-09	Concord River	(Debris/Floatables/Trash*); Excess Algal Growth; Fecal Coliform; Mercury in Fish Tissue; Phosphorus (Total)	IC Method	Site constraints as detailed in assessment do not allow for construction of BMPs. No further action	6/7/2013

Waterbody ID	Waterbody Name	Waterbody Impairments (2012 Integrated List of Waters)	Assessment Type	Notes	Semi-Annual Submission Date
MA82A-15	Unnamed Tributary	Excess Algal Growth; Oxygen, Dissolved; Phosphorus (Total); Total Suspended Solids (TSS)	IC Method	Site constraints as detailed in assessment do not allow for construction of BMPs. No further action	12/8/2013
MA82A-16	Unnamed Tributary	Dissolved oxygen saturation; Excess Algal Growth; Oxygen, Dissolved; pH, High; Phosphorus (Total); Total Suspended Solids (TSS)	IC Method	Project assigned to designer however, design consultant determined that site constraints do not allow for design/ construction of BMPs.	12/8/2013
MA82B-14	Nashoba Brook	(Low flow alterations*); Fishes Bioassessments	IC Method	Will be BMP Potential - Assign to Design Contractor	12/8/2013
MA84089	Spectacle Pond	(Non-Native Aquatic Plants*); Oxygen, Dissolved	IC Method	Site constraints as detailed in assessment do not allow for construction of BMPs. No further action	12/8/2013
MA84A-10	Spicket River	(Debris/Floatables/Trash*); (Physical substrate habitat alterations*); Aquatic Macroinvertebrate Bioassessments; Copper; Escherichia coli; Mercury in Water Column; Other	IC Method	BMP Potential - Assign to Design Contractor	6/7/2013
MA84A-17	Black Brook	(Debris/Floatables/Trash*); (Physical substrate habitat alterations*); Aquatic Macroinvertebrate Bioassessments; Escherichia coli; Fishes Bioassessments; Sedimentation/Siltation; Turbidity	IC Method	BMP Potential - Assign to Design Contractor	6/7/2013
MA84A-18	Bare Meadow Brook	Escherichia coli; Sedimentation/Siltation; Turbidity	IC Method	BMP Potential - Assign to Design Contractor	6/7/2013
MA84A-29	Lowell Canals	DDT; Lead; Mercury in Fish Tissue; PCB in Fish Tissue	IC Method	Site constraints as detailed in assessment do not allow for construction of BMPs. No further action	12/8/2013
MA93024	Floating Bridge Pond	Excess Algal Growth; Phosphorus (Total); Turbidity	IC Method	Project assigned to designer however, design consultant determined that site constraints do not allow for design/ construction of BMPs.	6/7/2013
MA93-07	Bass River	(Fish-Passage Barrier*); Turbidity	IC Method	BMP Potential - Assign to Design Contractor	6/7/2013

Waterbody ID	Waterbody Name	Waterbody Impairments (2012 Integrated List of Waters)	Assessment Type	Notes	Semi-Annual Submission Date
MA93-10	Forest River	Dissolved oxygen saturation	IC Method	Project assigned to designer however, design consultant determined that site constraints do not allow for design/construction of BMPs.	12/8/2013
MA93-37	Beaver Brook	Oxygen, Dissolved	IC Method	BMP Potential - Assign to Design Contractor	6/7/2013

Notes: Assessments are based on the impairments listed in the final Year 2012 303d list.

Refer to <http://www.mhd.state.ma.us/default.asp?pgid=content/enviro/npdes&sid=about> for full Impaired Waters submittals.

Table 7 Design/ Construction Status of Assessments that Moved to Design for Overall Impaired Waters Program

Water Body ID	Water Body Name	Project Name	District	Status of Design	% Design Complete
MA35056	Parker Pond	Route 68 at Parker Pond	3	In Design	Pre-Design
MA35101	Whitney Pond	Route 12 at Whitney Pond	3	In Design	Pre-Design
MA41-05	Cady Brook	I-90 at Cady Brook	3	In Design	Pre-Design
MA51073	Indian Lake	Indian Lake	3	In Design	Pre-Design
MA51-08	Unnamed Tributary	Worcester-Unnamed Trib	3	In Design	Pre-Design
MA35101	Whitney Pond	Route 12 at Whitney Pond	3	In Design	Pre-Design
MA84A-04	Merrimack River	I-495 and Merrimack River in Lawrence	4	In Design	Pre-Design
MA71-05	Malden River	Malden River	4	In Design	Pre-Design
MA51-02	Middle River	I-290 and 146 at Middle River	3	In Design	Pre-Design
MA51093	Marble Pond	Rt. 146 at Marble Pond	3	In Design	Pre-Design
MA74-02	Weir River	Route 3A at Weir River	5	In Design	Pre-Design
MA51-10	Mill River	Rt. 140 at Mill River	3	In Design	Pre-Design
MA51135	Lake Ripple	Rt. 122 & Providence Rd. at Lake Ripple	3	In Design	Pre-Design
MA51-14	Mumford River	Rt. 146 at Mumford River	3	In Design	Pre-Design
MA51-17	Poor Farm Brook	Rt. 70 at Poor Farm Brook	3	In Design	Pre-Design
MA61-06	Mount Hope Bay	I-195 at Mount Hope Bay	5	In Design	Pre-Design
MA62-04	Taunton River	I-195, 79, 24, 103, 138 at Taunton River	5	In Design	Pre-Design
MA72-14	Mine Brook	Mine Brook Phase II	3	In Design	Pre-Design
MA73-01	Neponset River	Neponset (73-01)	5	In Design	Pre-Design
MA73-02	Neponset River	Neponset (73-02)	5	In Design	Pre-Design
MA72-28	Beaver Brook	Rt. 2 and 20 at Beaver Brook	4	In Design	Pre-Design
MA82A-08	Concord River	Rt. 3A and I-495 at Concord River	4	In Design	Pre-Design
MA82B-02	Assabet River	Rt. 9 at Assabet River	3	In Design	Pre-Design
MA81-02	North Nashua River	North Nashua River	3	In Design	Pre-Design
MA82B-04	Assabet River	Assabet River	3	In Design	Pre-Design

Water Body ID	Water Body Name	Project Name	District	Status of Design	% Design Complete
MA92-06	Ipswich River	I-95/I-93 at Ipswich River	4	In Design	Pre-Design
MA83-04	Rogers Brook	Rt. 28 at Rogers	4	In Design	Pre-Design
MA84A-10	Spicket River	I-93 at Spicket River	4	In Design	Pre-Design
MA84A-17	Black Brook	Rt. 3/3A at Black Brook	4	In Design	Pre-Design
MA84A-18	Bare Meadow Brook	I-495 at Bare Brook Meadow	4	In Design	Pre-Design
MA93-37	Beaver Brook	I-95 at Beaver Brook	4	In Design	Pre-Design
MA84A-03	Merrimack River	110, I-93, and 113 at Merrimack River	4	In Design	Pre-Design
MA62-06	Salisbury Plain River	Route 28 at Salisbury Plain River	5	In Design	Pre-Design
MA73-26	Unquity Brook	I-93 – Randolph Ave at Unquity Brook	6	In Design	Pre-Design
MA93-51	Unnamed Tributary	Route 60 at Unnamed Tributary	4	In Design	Pre-Design
MA51-05	Blackstone River	Blackstone River	3	In Design	25-75%
MA51125	Lake Quinsigamond	Lake Quinsigamond	3	In Design	25-75%
MA51188	Flint Pond	Flint Pond	3	In Design	25-75%
MA51196	Shirley Street Pond	Shirley Street Pond	3	In Design	25-75%
MA42-03	French River	French River	3	In Design	25-75%
MA41-02	Quinebaug River	I-84 at Quinebaug River	3	In Design	25-75%
MA53-01	Runnins River	Rt. 44 at Runnins River	5	In Design	25-75%
MA51-15	Tatnuck Brook	Rt. 122 at Tatnuck Brook	3	In Design	25-75%
MA62-39	Rumford River	Rumford River	5	In Design	25-75%
MA71-02	Mystic River	Mystic River	4	In Design	25-75%
MA74-04	Mill River	Route 3/53 at Mill River	6	In Design	25-75%
MA74-09	Town Brook	Rt. 3 and I-93 Interchange at Town Brook	6	In Design	25-75%
MA73-04	Neponset River	Neponset River	6	In Design	25-75%
MA83-19	Shawsheen River	I-495 at Shawsheen River	4	In Design	25-75%
MA32-05	Westfield River	Westfield River	2	In Design	100%
MA34-05	Connecticut River	I-91/90 interchange near CT River	2	In Design	100%
MA34-05	Connecticut River	Improvement along the Connecticut River Subbasin D	2	In Design	100%

Water Body ID	Water Body Name	Project Name	District	Status of Design	% Design Complete
MA34-19	Stony Brook	Stony Brook	2	In Design	100%
MA35026	Greenwood Pond	Greenwood Pond	2	In Design	100%
MA71-04	Alewife Brook	Alewife Brook	4	In Design	100%
MA72-07	Charles River	90-95 Tolls	6	In Design	100%
MA72-29	Cheese Cake Brook	Cheese Cake Brook	6	In Design	100%
MA72-36	Charles River	Charles River Boston	6	In Design	100%
MA95-42	New Bedford Inner Harbor	195 at New Bedford Inner Harbor	5	In Design	100%
MA84046	Newfield Pond	Rt. 3 at Newfield Pond	4	In Design	100%
MA95-42	New Bedford Inner Harbor	I-195 at New Bedford Inner Harbor	5	Design Complete	100%
MA61-02	Lee River	Lee River	5	In Construction	-
MA92-03	Miles River	Rt. 1A at Miles	4	In Construction	-
MA36-16	Quaboag River	Palmer	2	In Construction	-
MA51-01	Kettle Brook	Kettle Brook	3	In Construction	-
MA51087	Leesville Pond	Leesville Pond	3	In Construction	-
MA51-16	Dark Brook	Dark Brook I-90	3	In Construction*	-
MA51-16	Dark Brook	Dark Brook 290	3	In Construction*	-
MA61-04	Cole River	I-195 at Cole River	5	In Construction	-
MA72-14	Mine Brook	Mine Brook	3	In Construction	-
MA95171	Noquochoke Lake	Noquochoke Lake	5	In Construction	-
MA74-08	Monatiquot River	Monatiquot	6	In Construction	-
MA42034	Lowes Pond	I-395 at Lowes Pond	3	Constructed	-
MA51012	Burncoat Park Pond	Burncoat Park Pond	3	Constructed	-
MA81-04	North Nashua River	Leominster	3	Constructed	-
MA72-04	Charles River	3-sites	3	Constructed	-
MA62-47	Wading River	Wading River	5	Constructed	-
MA71-01	Aberjona River	Aberjona River	4	Constructed	-
MA72016	Cedar Swamp Pond	3-sites	3	Constructed	-

Water Body ID	Water Body Name	Project Name	District	Status of Design	% Design Complete
MA72-25	Rosemary Brook	Rt. 9 at Rosemary Brook	6	Constructed	-
MA51-03	Blackstone River	Blackstone	3	Constructed	-
MA71040	Spy Pond	Spy Pond	4	Constructed	-
MA84038	Mill Pond	Mill Pond	3	Constructed	-
MA93032	Hawkes Pond	Hawkes Pond	4	Constructed	-
MA93-34	Saugus River	I-95 at Saugus River	4	Constructed	-
MA93-35	Saugus River	I-95 and Route 1 at Saugus River	4	Constructed	-
MA95113	Noquochoke Lake	Noquochoke Lake	5	Constructed	-
MA84B-02	Beaver Brook	Beaver Brook	3	Constructed	-

Note: The table may include more than one project per waterbody due to work being broken into phases and/or a portion of the work being associated with resurfacing projects and the remaining BMPs constructed as part of the Retrofit Initiative.

* While the projects have reached the construction phase, redesign of the BMPs to address Auburn Water District concerns occurred this year and final removal rates have not yet been calculated for the redesigned BMPs. Removal rates will be included in future annual reports and captured in the MassDOT IWP database.

Table 8 Summary of Retrofit BMPs Constructed or Completed Design in Permit Year 11

Waterbody Name	WBID	Direct Watershed (acres)	Target IC Reduction (acres)	Target P Reduction (lbs/yr)
Lowes Pond	MA42034	96.0	N/A	71.3
	BMP Type	BMP IC Watershed (acres)	IC Reduction (acres)	P Reduction (lbs/yr)
	Infiltration Basin	1.7	0.0	4.9
	Infiltration Basin	0.3	0.0	0.4
	Infiltration Basin	0.3	0.0	0.4
	Infiltration Basin	0.3	0.0	0.4
	Infiltration Basin	0.3	0.0	0.7
	Infiltration Basin	0.3	0.0	0.4
	Infiltration Basin	0.9	0.0	1.8
	Infiltration Basin	0.8	0.0	2.8
	Infiltration Basin	0.9	0.0	2.0
	Infiltration Basin	0.9	0.0	2.5
	Infiltration Basin	0.1	0.0	0.4
	Infiltration Basin	0.2	0.0	0.7
	Infiltration Basin	1.3	0.0	3.2
	Existing Stormwater Wetland	4.4	0.0	12.2
	Existing Stormwater Wetland	3.8	0.0	9.4
	Existing Stormwater Wetland	2.0	0.0	1.6
	Existing Stormwater Wetland	3.8	0.0	7.7
	Total # of BMPs	Total IC Area Treated (acres)	Total IC Reduction (acres)	Total P Reduction (lbs/yr)
	17	22.2	N/A	51.5
Waterbody Name	WBID	Direct Watershed (acres)	Target IC Reduction (acres)	Target P Reduction (lbs/yr)
Aberjona River	MA71-01	52.4	40.0	N/A
	BMP Type	BMP IC Watershed (acres)	IC Reduction (acres)	P Reduction (lbs/yr)
	Existing Infiltration Basin	3.0	2.8	--
	Infiltration Basin	1.3	1.3	--
	Infiltration Basin	0.1	0.1	--
	Infiltration Basin	0.3	0.3	--
	Infiltration Basin	0.1	0.1	--

	Infiltration Swale	1.5	1.5	--
	Infiltration Basin	2.7	2.6	--
	Infiltration Swale	1.1	0.8	--
	Infiltration Swale	0.3	0.3	--
	Infiltration Basin	0.4	0.4	--
	Infiltration Basin	0.4	0.4	--
	Infiltration Basin	0.4	0.4	--
	Infiltration Basin	0.4	0.4	--
	Infiltration Basin	0.4	0.4	--
	Total # of BMPs	Total IC Area Treated (acres)	Total IC Reduction (acres)	Total P Reduction (lbs/yr)
	14	12.4	11.6	N/A
Waterbody Name	WBID	Direct Watershed (acres)	Target IC Reduction (acres)	Target P Reduction (lbs/yr)
Hawkes Pond	MA93032	19.5	7.9	N/A
	BMP Type	BMP IC Watershed (acres)	IC Reduction (acres)	P Reduction (lbs/yr)
	Infiltration Basin	1.3	1.1	--
	Infiltration Basin	0.4	0.3	--
	Infiltration Basin	0.8	0.6	--
	Infiltration Basin	0.1	0.1	--
	Infiltration Basin	0.1	0.1	--
	Infiltration Basin	2.1	2.0	--
	Infiltration Basin	0.1	0.1	--
	Infiltration Basin	0.3	0.3	--
	Infiltration Swale	1.6	1.2	--
	Infiltration Basin	0.6	0.6	--
	Infiltration Basin	0.4	0.3	--
	Total # of BMPs	Total IC Area Treated (acres)	Total IC Reduction (acres)	Total P Reduction (lbs/yr)
	11	7.9	6.7	N/A
Waterbody Name	WBID	Direct Watershed (acres)	Target IC Reduction (acres)	Target P Reduction (lbs/yr)
Lee River	MA61-02	30.4	15.5	N/A
	BMP Type	BMP IC Watershed (acres)	IC Reduction (acres)	P Reduction (lbs/yr)
	Infiltration Basin	4.5	3.7	--
	Infiltration Basin	0.7	0.6	--

	Infiltration Basin	5.6	4.6	--
	Infiltration Basin	3.7	3.0	--
	Infiltration Basin	0.2	0.2	--
	Total # of BMPs	Total IC Area Treated (acres)	Total IC Reduction (acres)	Total P Reduction (lbs/yr)
	5	14.6	12.0	
Waterbody Name	WBID	Direct Watershed (acres)	Target IC Reduction (acres)	Target P Reduction (lbs/yr)
Rosemary Brook	MA72-25	17.7	N/A	26.0
	BMP Type	BMP IC Watershed (acres)	IC Reduction (acres)	P Reduction (lbs/yr)
	Infiltration Basin	0.6	0.0	1.5
	Infiltration Swale	1.2	0.0	3.0
	Infiltration Basin	0.6	0.0	1.9
	Total # of BMPs	Total IC Area Treated (acres)	Total IC Reduction (acres)	Total P Reduction (lbs/yr)
	3	2.4	N/A	6.4
Waterbody Name	WBID	Direct Watershed (acres)	Target IC Reduction (acres)	Target P Reduction (lbs/yr)
New Bedford Inner Harbor	MA95-42	72.0	37.0	N/A
	BMP Type	BMP IC Watershed (acres)	IC Reduction (acres)	P Reduction (lbs/yr)
	Constructed Stormwater Wetland	0.7	0.4	--
	Constructed Stormwater Wetland	0.7	0.3	--
	Constructed Stormwater Wetland	3.4	1.7	--
	Total # of BMPs	Total IC Area Treated (acres)	Total IC Reduction (acres)	Total P Reduction (lbs/yr)
	3	4.7	2.4	N/A
Waterbody Name	WBID	Direct Watershed (acres)	Target IC Reduction (acres)	Target P Reduction (lbs/yr)
Kettle Brook	MA51-01	20.4	7.3	N/A
	BMP Type	BMP IC Watershed (acres)	IC Reduction (acres)	P Reduction (lbs/yr)
	Infiltration Basin	0.1	0.2	0.3
	Infiltration Swale	0.5	1.3	2.0
	Infiltration Swale	3.1	2.7	6.1
	Existing Extended Detention Basin	0.6	0.3	0.8
	Existing Infiltration Basin	0.0	0.4	0.5

	Infiltration Swale	2.4	1.3	4.5
	Total # of BMPs	Total IC Area Treated (acres)	Total IC Reduction (acres)	Total P Reduction (lbs/yr)
	6	6.7	6.1	14.2
Waterbody Name	WBID	Direct Watershed (acres)	Target IC Reduction (acres)	Target P Reduction (lbs/yr)
Nashoba Brook	MA82B-14	49.0	8.4	N/A
	BMP Type	BMP IC Watershed (acres)	IC Reduction (acres)	P Reduction (lbs/yr)
	Infiltration Swale	2.0	1.7	1.7
	Infiltration Swale	1.2	1.0	0.9
	Infiltration Swale	0.5	0.4	0.4
	Infiltration Swale	2.6	2.3	2.1
	Infiltration Basin	0.3	0.3	0.6
	Infiltration Basin	0.5	0.4	1.3
	Infiltration Basin	0.4	0.4	1.0
	Infiltration Basin	0.9	0.8	2.0
	Infiltration Basin	3.5	2.7	6.1
	Total # of BMPs	Total IC Area Treated (acres)	Total IC Reduction (acres)	Total P Reduction (lbs/yr)
	9	11.9	10	16.0
Waterbody Name	WBID	Direct Watershed (acres)	Target IC Reduction (acres)	Target P Reduction (lbs/yr)
Leesville Pond	MA51087	8.2	N/A	18.0
	BMP Type	BMP IC Watershed (acres)	IC Reduction (acres)	P Reduction (lbs/yr)
	Infiltration Basin	0.2	0.3	0.4
	Infiltration Swale	0.7	0.9	1.5
	Infiltration Swale	0.7	0.3	0.8
	Total # of BMPs	Total IC Area Treated (acres)	Total IC Reduction (acres)	Total P Reduction (lbs/yr)
	3	1.6	1.5	2.7
Waterbody Name	WBID	Direct Watershed (acres)	Target IC Reduction (acres)	Target P Reduction (lbs/yr)
Mine Brook	MA72-14	33.8	15.7	N/A
	BMP Type	BMP IC Watershed (acres)	IC Reduction (acres)	P Reduction (lbs/yr)
	Infiltration Swale	0.5	0.8	--
	Infiltration Swale	0.8	1.1	--
	Infiltration Swale	0.6	1.0	--
	Infiltration Swale	2.0	1.8	--

Infiltration Swale	0.7	1.0	--
Infiltration Swale	1.1	1.8	--
Infiltration Swale	1.1	1.6	--
Infiltration Swale	0.7	0.8	--
Infiltration Swale	0.8	1.2	--
Infiltration Swale	1.1	1.5	--
Infiltration Swale	0.7	1.1	--
Infiltration Swale	0.8	1.1	--
Infiltration Swale	0.5	0.8	--
Infiltration Swale	0.5	0.8	--
Infiltration Swale	0.8	1.0	--
Infiltration Swale	0.9	1.3	--
Infiltration Swale	0.7	1.2	--
Infiltration Swale	0.3	0.4	--
Infiltration Swale	0.2	0.3	--
Infiltration Swale	0.4	0.6	--
Infiltration Swale	0.4	0.6	--
Infiltration Swale	0.4	0.7	--
Infiltration Swale	0.1	0.2	--
Infiltration Swale	0.6	0.9	--
Infiltration Swale	0.7	1.0	--
Infiltration Swale	0.7	1.0	--
Infiltration Swale	0.6	0.8	--
Infiltration Swale	0.5	0.8	--
Infiltration Swale	0.3	0.4	--
Infiltration Basin	0.5	0.7	--
Infiltration Basin	1.9	3.0	--
Infiltration Basin	0.7	1.0	--
Infiltration Basin	1.5	2.3	--
Infiltration Basin	0.5	0.8	--
Existing Infiltration Basin	2.7	2.5	--
Existing Infiltration Basin	0.7	0.7	--
Total # of BMPs	Total IC Area Treated (acres)	Total IC Reduction (acres)	Total P Reduction (lbs/yr)
36	28.0	38.5	N/A

Waterbody Name	WBID	Direct Watershed (acres)	Target IC Reduction (acres)	Target P Reduction (lbs/yr)
Monatiquot River	MA74-08	31.5	22.9	N/A
	BMP Type	BMP IC Watershed (acres)	IC Reduction (acres)	P Reduction (lbs/yr)
	Infiltration Basin	1.2	1.0	2.9
	Infiltration Basin	1.1	2.7	3.3
	Infiltration Basin	3.0	5.1	8.5
	Infiltration Basin	0.8	0.8	2.1
	Infiltration Basin	0.6	0.5	1.5
	Infiltration Trench	0.8	0.6	2.0
	Total # of BMPs	Total IC Area Treated (acres)	Total IC Reduction (acres)	Total P Reduction (lbs/yr)
	6	7.5	10.7	20.3
Waterbody Name	WBID	Direct Watershed (acres)	Target IC Reduction (acres)	Target P Reduction (lbs/yr)
Charles River	MA72-07	306.0	N/A	307.0
	BMP Type	BMP IC Watershed (acres)	IC Reduction (acres)	P Reduction (lbs/yr)
	Infiltration Basin	0.5	0.9	2.2
	Infiltration Basin	0.7	1.7	4.2
	Infiltration Basin	0.3	0.3	1.2
	Infiltration Basin	0.5	0.8	2.5
	Infiltration Basin	0.9	0.3	0.7
	Infiltration Basin	0.4	0.3	1.5
	Underground Infiltration Structure/System	1.2	0.1	0.7
	Infiltration Basin	0.4	1.0	2.0
	Infiltration Basin	2.3	1.4	5.8
	Infiltration Swale	0.1	0.1	0.5
	Infiltration Basin	0.6	1.2	2.5
	Total # of BMPs	Total IC Area Treated (acres)	Total IC Reduction (acres)	Total P Reduction (lbs/yr)
	11	7.9	8.1	23.7



Retrofit Projects Summary Sheet

Stormwater Improvements for Rosemary Brook (MA72-25)

Water Body Name: Rosemary Brook
Water Body ID: MA72-25
Project Town: Wellesley
MassDOT District: 6

Project Overview

Site Description:

MassDOT's Route 9 and Route 9 interchange with Cedar Street in Wellesley discharge stormwater to Rosemary Brook. Rosemary Brook generally flows north from Rosemary Lake in Needham to its confluence with the Charles River in Wellesley. In the project area, it crosses beneath Route 9 west of Cedar Street and then turns east, running parallel to Route 9 and under Cedar Street. Rosemary Brook (MA72-25) is 3.27 miles long and, according to the 2012 Integrated List of Waters, is impaired for phosphorus (total) and dissolved oxygen.

Project Goal:

MassDOT's directly discharging watershed to Rosemary Brook includes 17.7 acres of impervious area, which currently results in 37 lbs/yr of phosphorus loading. In order to meet the WLA (Waste Load Allocation) of 11 lbs/yr reported in the TMDL report, the receiving water assessment recommended a

target reduction of 26 lbs/yr. There are no existing BMPs in place to treat MassDOT direct runoff, therefore the target reduction is still 26 lbs/yr of phosphorus loading.



 MassDOT Directly Discharging Area

Permit Year 11 Activity:

MassDOT's consultant reviewed the directly contributing area for potential locations to install treatment BMPs and performed survey of the project area. During design it was determined that steep slopes and existing drainage inverts constrained the area available for construction. MassDOT was able to design **2 Infiltration Basins and 1 Water Quality Swale** to treat stormwater from MassDOT's roadway prior to discharging to Rosemary Brook. Design plans for these proposed BMPs were completed and successfully coordinated with the Wellesley Conservation Commission.

These BMPs will provide a **6.4 lbs/yr reduction in phosphorus loading**. Following the construction of

these BMPs, MassDOT would need to reduce the phosphorus loading by an additional 19.6 lbs/yr to meet the target. MassDOT is in the process of constructing these BMPs and the construction cost is estimated to be \$380,000.

MassDOT is constructing the BMPs possible within the existing right-of-way and site constraints. However, the possibility of additional pollutant reductions may be reviewed during future programmed project work when more significant changes to drainage patterns and expanded right-of-way may be possible.



BMP Locations



Construction of Recharge Basin #1



Construction of Recharge Basin #2

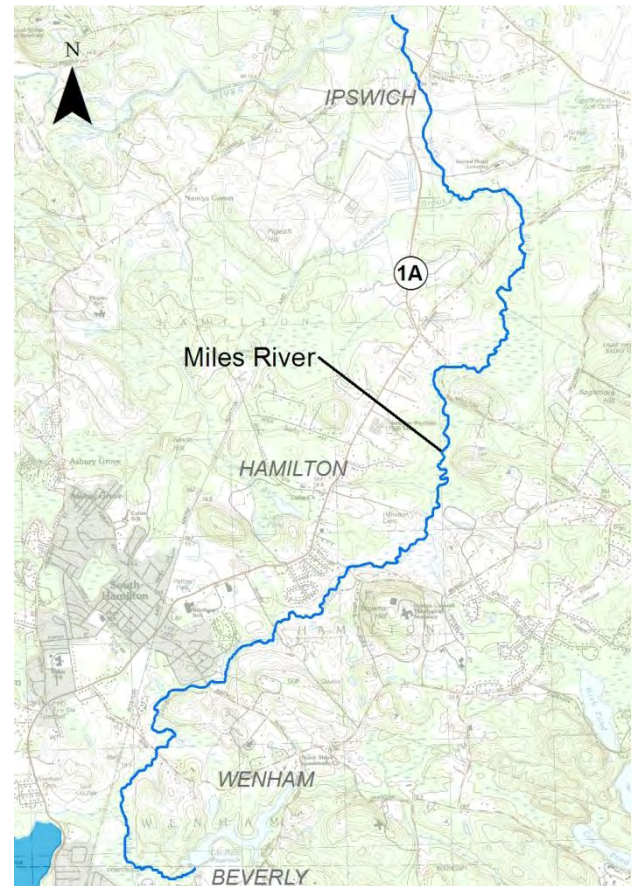
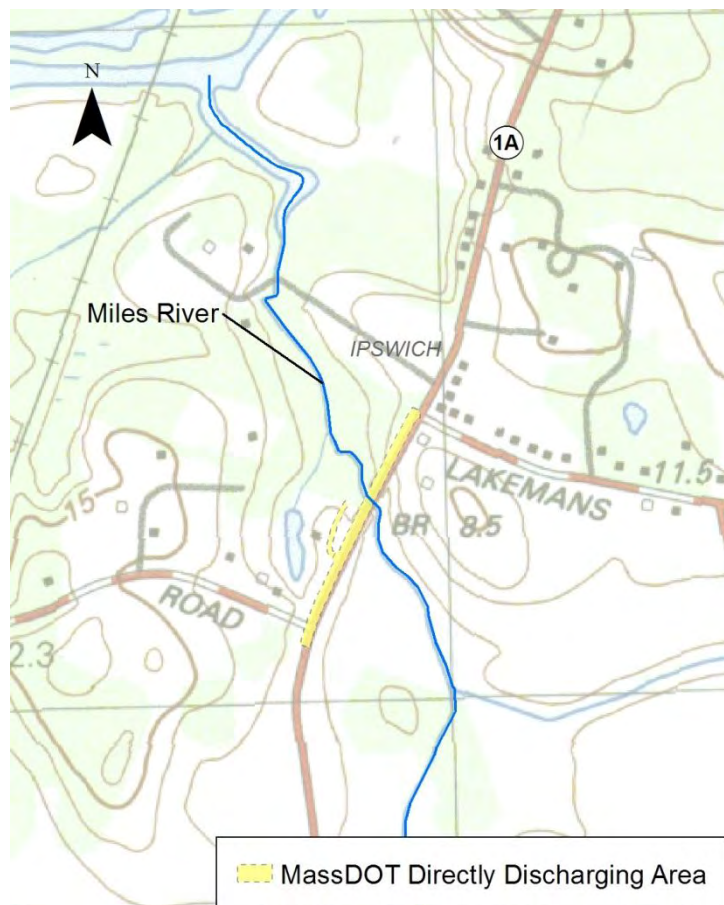
Stormwater Improvements for Miles River (MA92-03)

Water Body Name: Miles River
Water Body ID: MA92-03
Project Town: Ipswich, Beverly, Wenham, and Hamilton
MassDOT District: 4

Project Overview

Site Description:

MassDOT's Route 1A in Ipswich discharges stormwater to Miles River. Route 1A crosses Miles River just south of its confluence with the Ipswich River. Miles River flows beneath the highway through a bridge. Miles River (MA92-03) is 8.9 miles long and, according to the 2012 Integrated List of Waters, is impaired for aquatic macroinvertebrate bioassessments, dissolved oxygen, and fecal coliform.



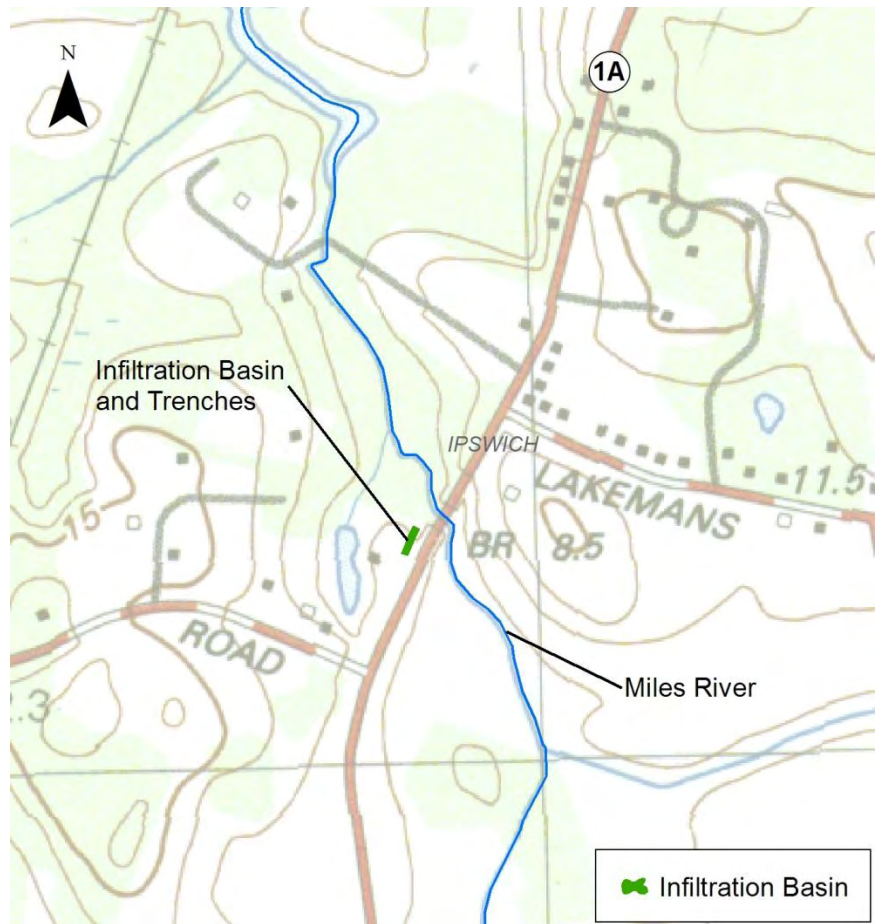
Project Goal:

MassDOT's directly discharging watershed to Miles River includes 1.57 acres of impervious cover. In order to meet the effective impervious cover reduction target developed through MassDOT's Impaired Waters Program, the receiving water's assessment recommended a target reduction of 0.17 acres in effective impervious cover. At the time of the assessment, no existing BMPs were in place to treat MassDOT's direct runoff to Miles River.

Permit Year 11 Activity:

MassDOT reviewed the directly contributing area for potential locations to install treatment BMPs and performed survey of the project area. During design it was determined that limited right-of-way and wetland resources constrained the area available for construction. MassDOT was able to design **one infiltration basin** and **two infiltration trenches** to treat stormwater from MassDOT's roadway prior to reaching Miles River. Design plans for these proposed BMPs were completed and successfully permitted with approval from the Ipswich Conservation Commission on August 21, 2013.

These BMPs will provide a **0.43-acre reduction in effective impervious cover**. With the construction of these BMPs, MassDOT has exceeded the target reduction in effective impervious cover recommended in the assessment. The construction cost of these BMPs was \$215,000.



Proposed Infiltration Trench and
Infiltration Basin Locations



Proposed Infiltration Basin Location

Stormwater Improvements for Kettle Brook (MA51-01)

Water Body Name: Kettle Brook
Water Body ID: MA51-01
Project Town: Auburn
MassDOT District: 3

Project Overview

Site Description:

MassDOT's Interstate 290 (I-290) and Route 12 in Auburn discharge stormwater to Kettle Brook. Kettle Brook generally runs north to south crosses under I-290 before converging with Dark Brook. Kettle Brook crosses under I-290 a second time and flows into Leesville Pond. Kettle Brook (MA51-01) is approximately 7 miles long and, according to the 2012 Integrated List of Waters, is impaired for debris/floatables/trash, low flow alterations, non-native aquatic plants, aquatic macroinvertebrate bioassessments, aquatic plants (macrophytes), fecal coliform, nutrient/eutrophication biological indicators, and turbidity.



Segment Locus



MassDOT Directly Discharging Area

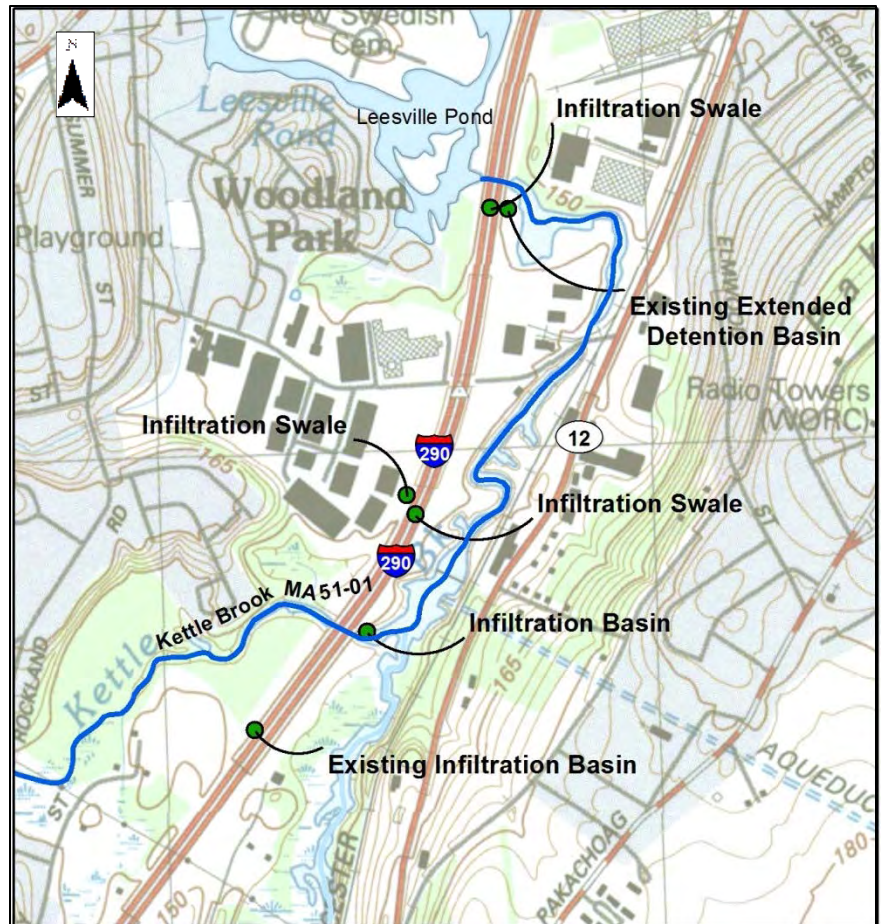
Project Goal:

MassDOT's directly discharging watershed to Kettle Brook includes 20.4 acres of impervious cover. In order to meet the effective impervious cover reduction target developed through MassDOT's Impaired Waters Program, the receiving water assessment recommended a target reduction of 7.3 acres. Existing BMPs (one infiltration basin and one extended detention basin) are in place to treat MassDOT direct runoff and provide a 0.7-acre reduction in effective impervious cover. The assessment recommended an additional reduction of 6.6 acres of effective impervious cover to meet the target.

Permit Year 11 Activity:

MassDOT reviewed the directly contributing area for potential locations to install treatment BMPs and performed survey of the project area. During design it was determined that limited right-of-way, drinking water resources and wetland resources constrained the area available for construction but MassDOT was able to design **one infiltration basin and three infiltration swales** to treat stormwater from MassDOT's roadway prior to reaching Kettle Brook. Design plans for these proposed BMPs were completed and successfully permitted with approval from the Auburn Conservation Commission.

These BMPs will provide a **5.4-acre reduction in effective impervious cover**. MassDOT is in the process of constructing these BMPs and the construction cost is estimated to be \$200,000. Following the construction of these BMPs, MassDOT would need to reduce the effective IC by an additional 1.2 acres to meet the target.



BMP Locations

MassDOT is constructing the BMPs possible within the existing right-of-way and site constraints. However, the possibility of additional pollutant reductions may be reviewed during future programmed project work when more significant changes to drainage patterns and expanded right-of-way may be possible.



Infiltration swale in I-290 Median



Infiltration swale in I-290 Median

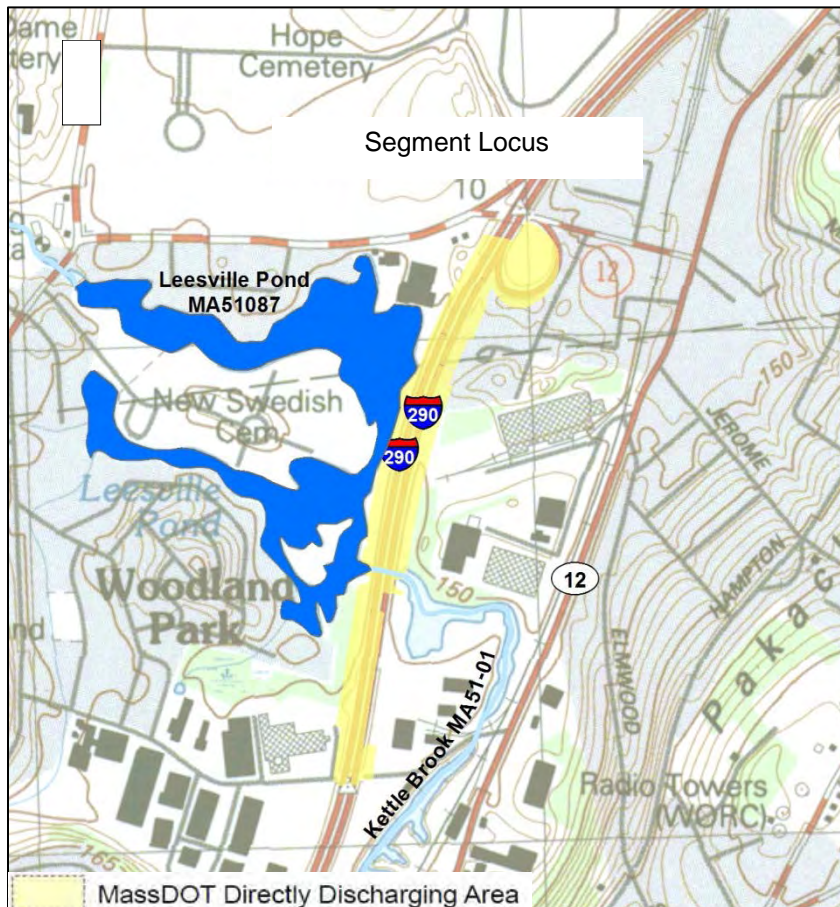
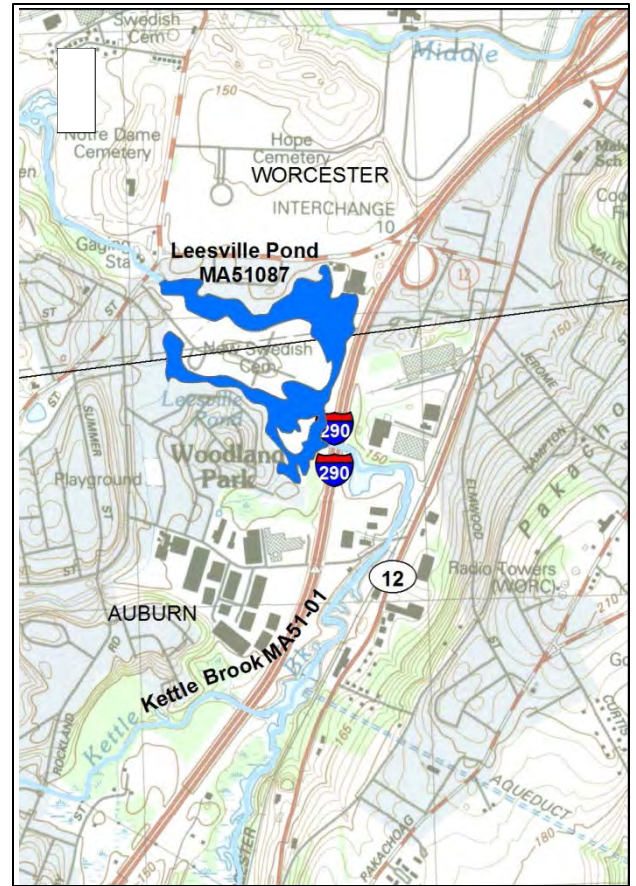
Stormwater Improvements for Leesville Pond (MA51087)

Water Body Name: Leesville Pond
Water Body ID: MA51087
Project Town: Auburn and Worcester
MassDOT District: 3

Project Overview

Site Description:

MassDOT's Interstate 290 (I-290) in Auburn and Worcester discharge stormwater to Leesville Pond. Leesville Pond is an impoundment of Kettle Brook to the east of I-290 as shown on the locus to the right.. Leesville Pond (MA51087) is 34 acres large and, according to the 2012 Integrated List of Waters, is impaired for non-native aquatic plants, dissolved oxygen, and total phosphorus. A final TMDL for Leesville Pond (CN117.0) has been developed.



Project Goal:

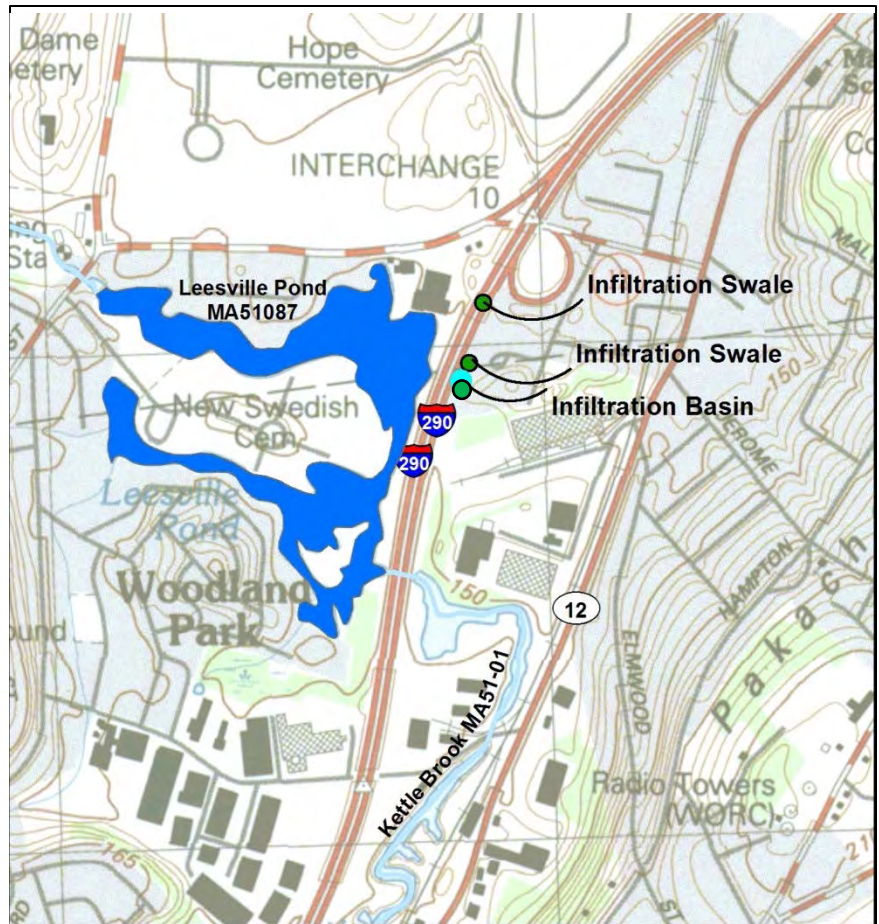
MassDOT's directly discharging watershed to Leesville Pond is 23.4 acres. In order to meet the phosphorus reduction target established in the TMDL, the receiving water assessment recommended a target reduction of 18 lbs/yr. No existing BMPs are in place to reduce the phosphorus load from MassDOT properties to Leesville Pond.

Permit Year 11 Activity:

MassDOT reviewed the directly contributing area for potential locations to install treatment BMPs and performed survey of the project area. During design it was determined that limited right-of-way and wetland resources constrained the area available for construction but MassDOT was able to design **one infiltration basin and two infiltration swales** to treat stormwater from MassDOT's roadway prior to reaching Leesville Pond. Design plans for these proposed BMPs were completed and successfully permitted with approval from the Worcester and Auburn Conservation Commissions.

These BMPs will provide a **2.7 – 1b/yr reduction in phosphorus loading**. MassDOT is in the process of constructing these BMPs and the construction cost is estimated to be \$180,000. Following the construction of these BMPs, MassDOT would need to reduce the phosphorus loading by an additional 15.3 lbs/yr to meet the target.

MassDOT is constructing the BMPs possible within the existing right-of-way and site constraints. However, the possibility of additional pollutant reductions may be reviewed during future programmed project work when more significant changes to drainage patterns and expanded right-of-way may be possible.



BMP Locations



Infiltration swale in I-290 Median

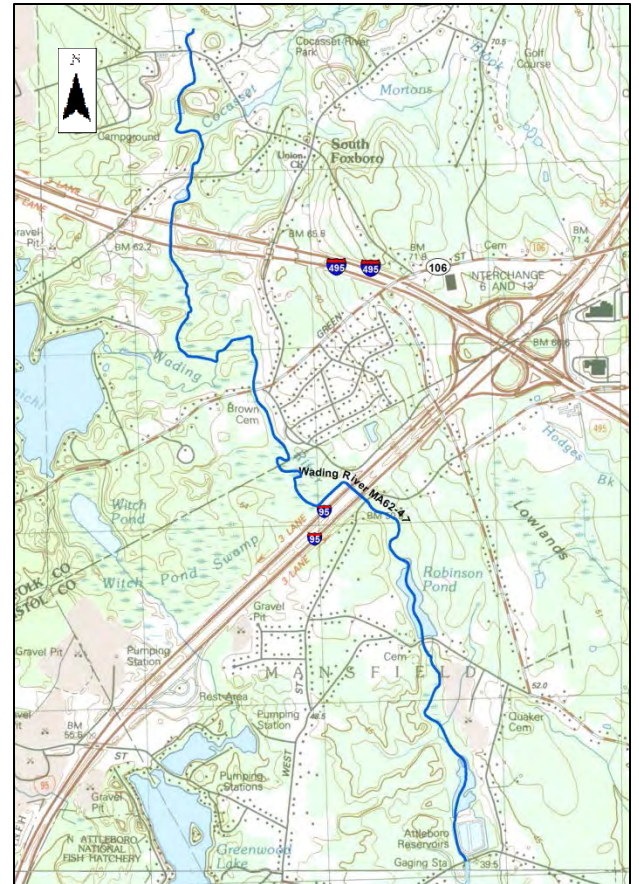
Stormwater Improvements for Wading River (MA62-47)

Water Body Name: Wading River
Water Body ID: MA62-47
Project Town: Foxborough and Mansfield
MassDOT District: 5

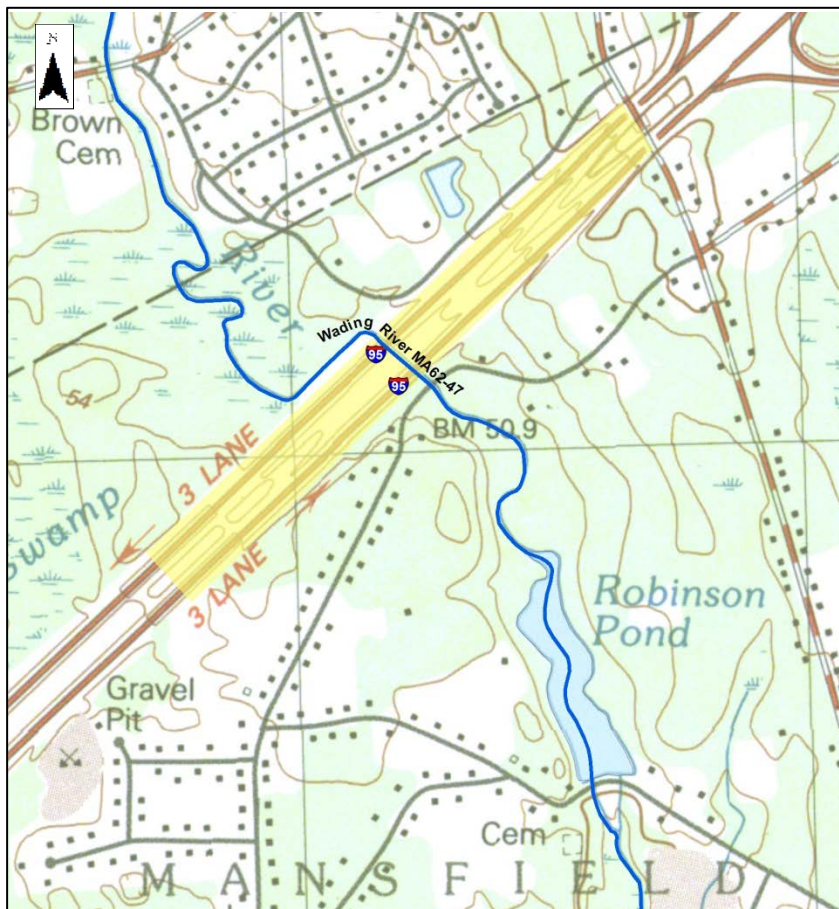
Project Overview

Site Description:

MassDOT's I-95 in Mansfield discharges stormwater to Wading River. Wading River runs north to south and crosses under I-495 in Foxborough and I-95 in Mansfield southwest of the 6A interchange with I-495. Wading River (MA62-47) is 4.15 miles long and, according to the 2012 Integrated List of Waters, is impaired for fecal coliform and dissolved oxygen.



Segment Locus



MassDOT Directly Discharging Area

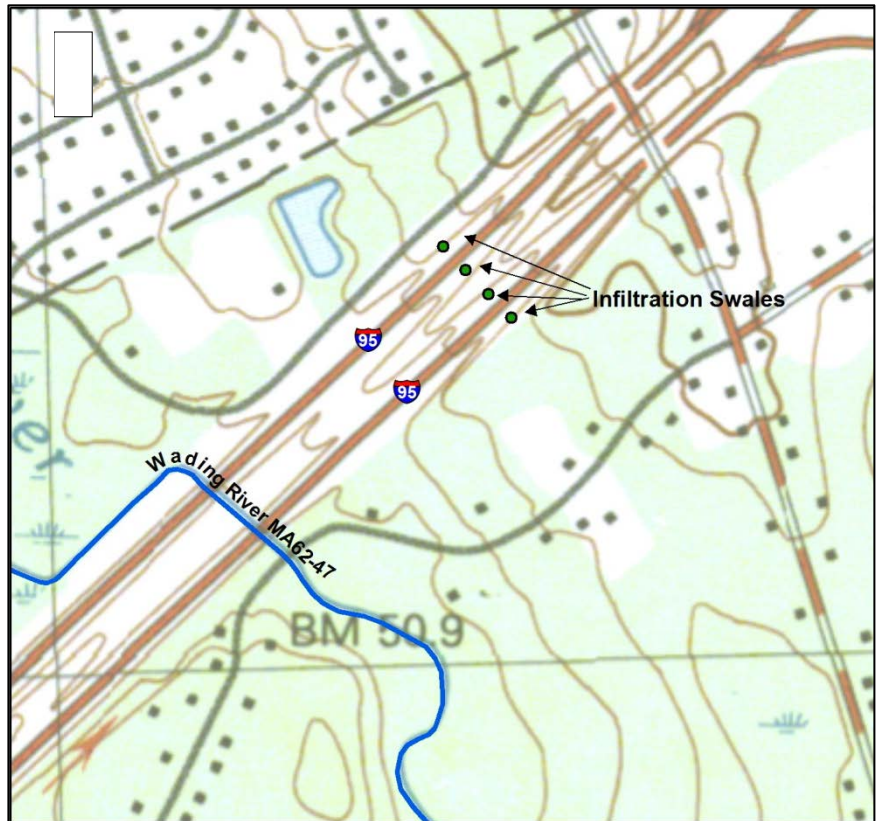
Project Goal:

MassDOT completed an Impaired Waters Assessment of the Wading River and included the I-95 discharges to the river. Review of the I-495 discharges to Wading River is ongoing and not included in this update. MassDOT's directly discharging watershed to Wading River includes 12 acres of impervious cover. In order to meet the effective impervious cover reduction target developed through MassDOT's Impaired Waters Program, the receiving water assessment recommended a target reduction of 3.8 acres. No existing BMPs are in place to treat MassDOT direct runoff. The assessment recommended an additional reduction of 2.45 acres of effective impervious cover to meet the target.

Permit Year 11 Activity:

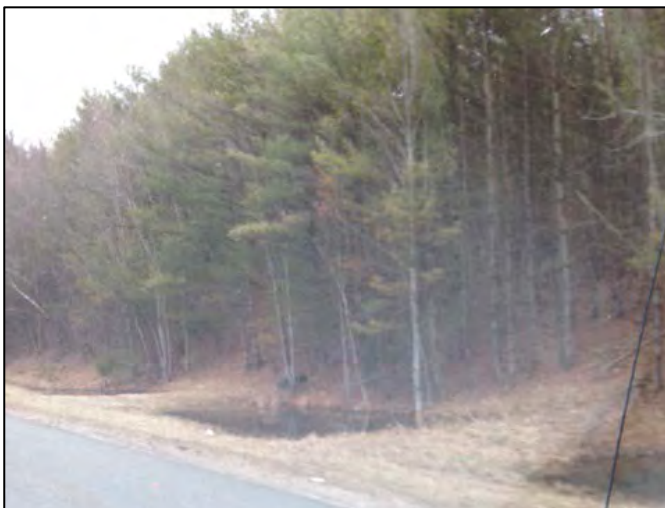
MassDOT reviewed the directly contributing area for potential locations to install treatment BMPs and performed survey of the project area. During design it was determined that limited right-of-way and wetland resources constrained the area available for construction but MassDOT was able to design **4 infiltration swales** to treat stormwater from MassDOT's roadway prior to reaching Wading River. Design plans for these proposed BMPs were completed..

These BMPs will provide a **2.45-acre reduction in effective impervious cover** MassDOT is in the process of constructing these BMPs and the construction cost is estimated to be \$177,000. Following the construction of these BMPs, MassDOT would need to reduce the effective IC or phosphorus loading by an additional 1.35acres to meet the target.

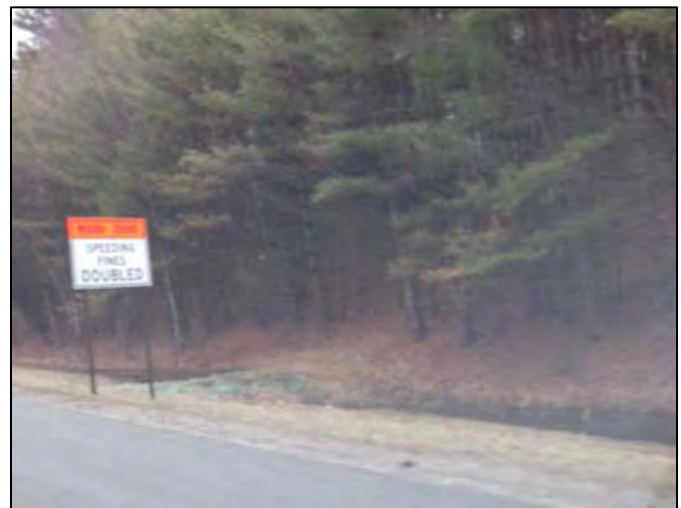


BMP Locations

MassDOT is constructing the BMPs possible within the existing right-of-way and site constraints. However, the possibility of additional pollutant reductions may be reviewed during future programmed project work when more significant changes to drainage patterns and expanded right-of-way may be possible.



Infiltration Swale



Infiltration Swale

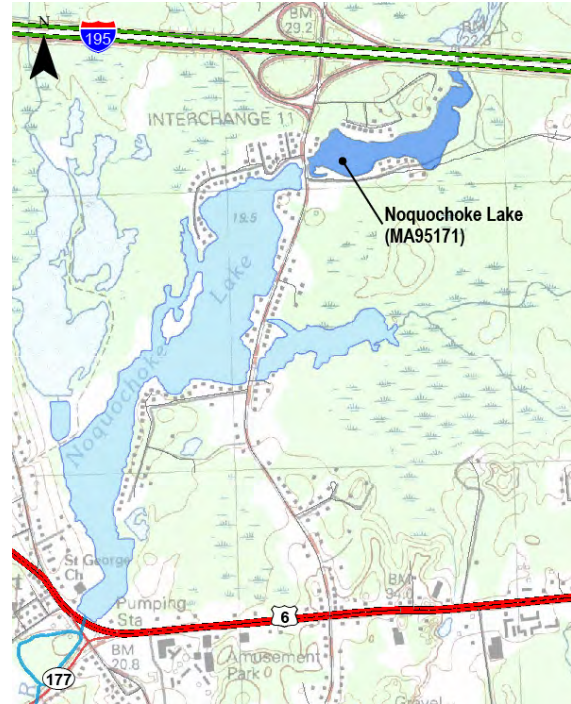
Stormwater Improvements for Noquochoke Lake (MA95171)

Water Body Name: Noquochoke Lake
Water Body ID: MA95171
Project Town: Dartmouth
MassDOT District: 5

Project Overview

Site Description:

MassDOT's Interstate 195 (I-195) and Reed Road in Dartmouth discharge stormwater to Noquochoke Lake (MA95171). MassDOT's I-195 at the Reed Road interchange (Exit 11) borders the north basin of Noquochoke Lake (MA95171) to the northwest with I-195 located to the north and Reed Road to the west. Noquochoke Lake (MA95171) is the 16.7 acre north basin of the lake and, according to the 2012 Integrated List of Waters, is impaired for non-native aquatic plants, aquatic plants (macrophytes), mercury in fish tissue, PCB in fish tissue, and turbidity.



 MassDOT Directly Discharging Area

Project Goal:

MassDOT's directly discharging watershed to Noquochoke Lake (MA95171) includes 3.10 acres of impervious cover. In order to meet the effective impervious cover reduction target developed through MassDOT's Impaired Waters Program, the receiving water assessment recommended a target reduction of 0.28 acres. There are no existing BMPs in place to treat MassDOT direct runoff therefore the assessment recommended a reduction of 0.28 acres of effective impervious cover to meet the target.

Permit Year 11 Activity:

MassDOT reviewed the directly contributing area for potential locations to install treatment BMPs and performed survey of the project area. During design it was determined that limited right-of-way and wetland resources constrained the area available for construction but MassDOT was able to design **1 infiltration basin** to treat stormwater from MassDOT's roadway prior to reaching Noquochoke Lake (MA95171). Design plans for the proposed BMP were completed and successfully permitted with approval from the Dartmouth Conservation Commission.

This BMP will provide a **0.94-acre reduction in effective impervious cover**. Following the construction of this BMP, MassDOT will have exceeded the reduction in impervious cover target. MassDOT is in the process of constructing this BMP and the construction cost is estimated to be \$142,000.



MassDOT is constructing the BMPs possible within the existing right-of-way and site constraints. However, the possibility of additional pollutant reductions may be reviewed during future programmed project work when more significant changes to drainage patterns and expanded right-of-way may be possible.



Construction of Infiltration Basin



Construction of Infiltration Basin Forebay



Programmed Project Summary Sheets

I-95 Interstate Maintenance and Related Work

MassDOT Project #: 606170

Project Town: Burlington

MassDOT District: 4

Project Description:

MassDOT is resurfacing Interstate 95 in Burlington, MA. The project will include removal of an existing grass median and will be replaced with a paved median and a concrete median barrier to increase safety.

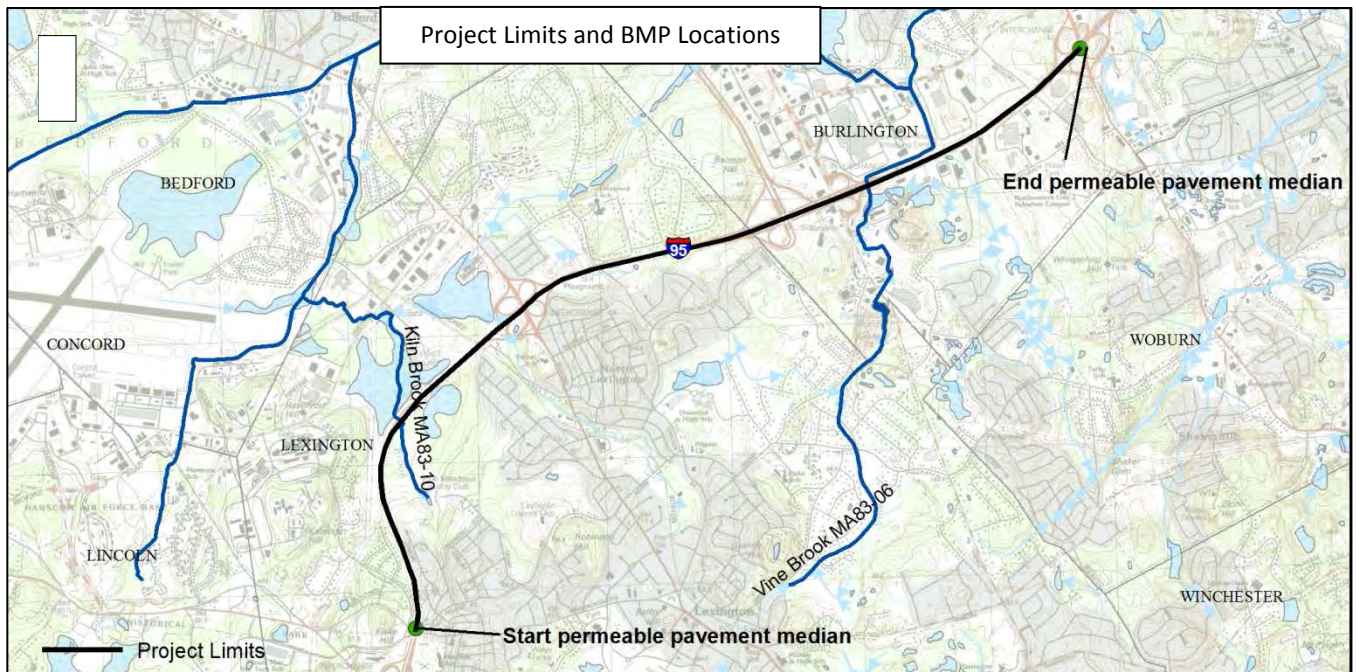
Site Description:

Stormwater runoff from the project site flows through a closed drainage system to Vine Brook (MA83-06) or to Kiln Brook (MA83-10). Vine Brook is listed on the 2012 Integrated List of Waters as a Category 4A impaired water, indicating the waterbody is covered by a TMDL and is impaired for fecal coliform. Vine Brook is listed on the 2012 Integrated List of Waters as a Category 4A impaired water, indicating the waterbody is covered by a TMDL and is impaired for fecal coliform. The entire project area is within the urban area as defined by the 2010 census.

Stormwater Management Improvements:

The project's proposed stormwater management system includes the use of a Low Impact Development (LID) Best Management Practice (BMP), used as a standalone treatment device. The proposed paved median along the resurfacing project limits will be constructed with **permeable pavement**. Approximately 7.5 acres of permeable pavement will be installed in the median of I-95 as a result of this project. The stormwater BMPs included as part of this project will provide a benefit for surrounding water resources by reducing TSS, promoting infiltration, and reducing flow rates of highway runoff.

Within Permit Year 11, MassDOT completed the design and permitting and selected a construction contractor for the resurfacing project and associated stormwater management improvements. The construction cost of the entire project is estimated to be \$20.4 million. **Approximately \$1,672,000 of the total construction cost is related to stormwater management improvements.**



Route 2 over I-95 Bridge Replacement Project

MassDOT Project #: 600703

Project Town: Lexington

MassDOT District: 4

Project Description:

MassDOT is replacing the Route 2 bridge over Interstate 95 in Lexington, MA. The project will include a full replacement of the Route 2 bridge over I-95 and resurfacing of I-95 from the Waltham/Lexington town line to the Burlington/Lexington town line.

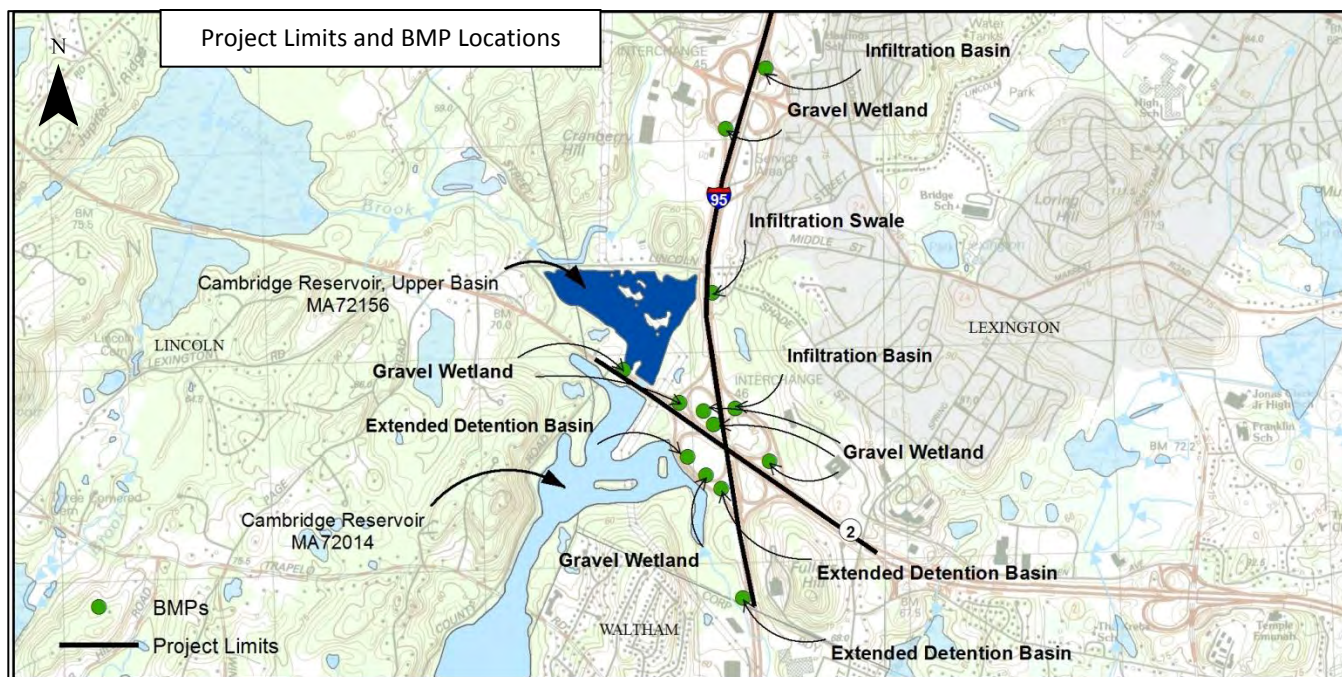
Site Description:

Stormwater runoff from the project site flows through a closed drainage system to the Cambridge Reservoir Upper Basin (MA72156) or to the Cambridge Reservoir (MA72014). The Cambridge Reservoir is listed on the 2012 Integrated List of Waters as a Category 3 impaired water, indicating the waterbody is not impaired. The Cambridge Reservoir Upper Basin is listed on the 2012 Integrated List of Waters as a Category 5 impaired water, indicating the waterbody is impaired and requires a TMDL. The Cambridge Reservoir Upper Basin is impaired for aquatic plants (macrophytes) and turbidity. The entire project area is within the urban area as defined by the 2010 census.

Stormwater Management Improvements:

The project's proposed stormwater management system includes the use of several Low Impact Development (LID) Best Management Practices (BMPs), used as standalone treatment devices. The bridge replacement project will include 13 stormwater BMPs consisting of both new BMPs and upgrades to existing BMPs. A total of **3 Extended Detention Basins, 7 Gravel Wetlands, 2 Infiltration Basins, and 1 Infiltration Swale** will be included in the project. Extended detention basins and gravel wetlands will be constructed or reconstructed to include an impermeable liner to protect the adjacent drinking water sources. The stormwater BMPs included as part of this project will provide a benefit for surrounding water resources by reducing TSS and reducing flow rates of highway runoff.

Within Permit Year 11, MassDOT selected a design-build team to implement the Route 2 bridge replacement and associated stormwater management improvements. The construction cost of the entire project is estimated to be \$27.4 million. An estimate of the portion of the construction cost related to stormwater improvements was not available.



Stormwater Improvements for Saugus River (MA93-34)

MassDOT Project #: 605579
Water Body Name: Saugus River
Water Body ID: MA93-34
Project Town: Lynnfield and Wakefield
MassDOT District: 4



Project Overview

Site Description:

MassDOT's Interstate I-95 (I-95), Main Street and Vernon Street in Lynnfield and Wakefield discharge stormwater to Saugus River (MA93-34). MassDOT's I-95 at the Main Street and Vernon Street interchange (Exit 41) borders Saugus River to the north, while MassDOT's I-95 at the Salem Street Interchange (Exit 42) borders Saugus River to the southwest. Saugus River (MA93-34) is 3.1 miles in length and, according to the 2012 Integrated List of Waters, is impaired for fish passage barrier, physical substrate habitat alterations, aquatic plants (macrophytes), excess algal growth, fecal coliform, total nitrogen, total phosphorus and turbidity.



Project Goal:

MassDOT's directly discharging watershed to Saugus River (MA93-34) includes 10.3 acres of impervious cover. In order to meet the effective impervious cover reduction target developed through MassDOT's Impaired Waters Program, the receiving water assessment recommended a target reduction of 5.1 acres. There are no existing BMPs in place to treat MassDOT direct runoff.

Permit Year 11 Activity:

MassDOT reviewed the directly contributing area for potential locations to install treatment BMPs and performed survey of the project area. During design it was determined that limited right-of-way and wetland resources constrained the area available for construction but MassDOT was able to design **4 infiltration basins** to treat stormwater from MassDOT's roadway prior to reaching Saugus River (MA93-34). Design plans for these proposed BMPs were completed and successfully permitted with approval from the Lynnfield and Wakefield Conservation Commission.

These BMPs will provide a **2.0-acre reduction in effective impervious cover**. MassDOT has constructed these BMPs along with the programmed resurfacing of I-95 and the construction cost for the BMPs is estimated to be \$320,000. Following the construction of these BMPs, MassDOT would need to reduce the effective IC by an additional 3.1 acres to meet the target

MassDOT is constructing the BMPs possible within the existing right-of-way and site constraints. However, the possibility of additional pollutant reductions may be reviewed during future programmed project work when more significant changes to drainage patterns and expanded right-of-way may be possible.



Construction of Infiltration Basin



Construction of Infiltration Basin Forebay

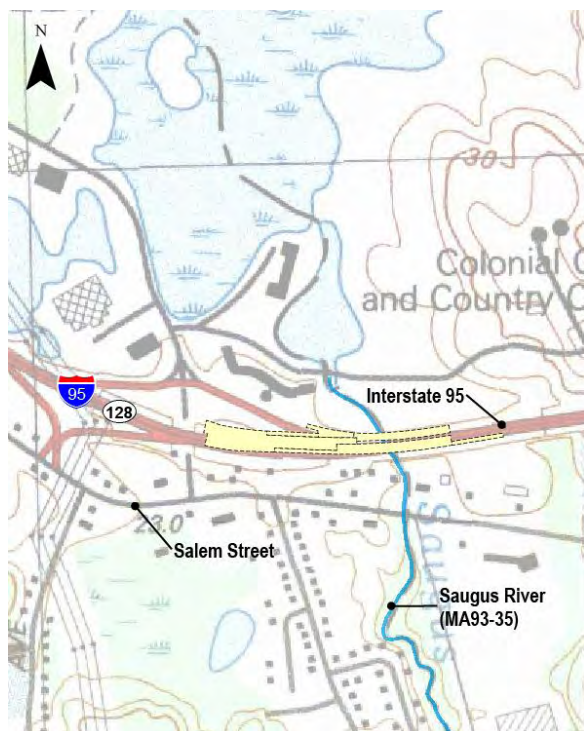
Stormwater Improvements for Saugus River (MA93-35)

MassDOT Project #: 605597
Water Body Name: Saugus River
Water Body ID: MA93-35
Project Town: Wakefield and Saugus
MassDOT District: 4

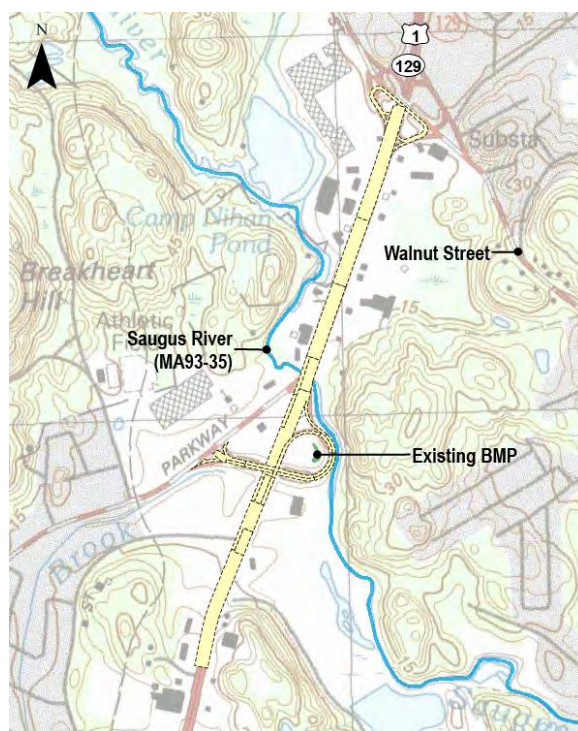
Project Overview

Site Description:

MassDOT's Interstate 95 (I-95) in Wakefield and Route 1 in Saugus discharge stormwater to Saugus River (MA93-35). MassDOT's I-95 at the Salem Street interchange (Exit 42) borders Saugus River to the west and MassDOT's Route 1 crosses the Saugus River at the Lynn Fells Parkway interchange. Saugus River (MA93-35) is 5.4 miles in length and, according to the 2012 Integrated List of Waters, is impaired for alteration in stream-side or littoral vegetative covers, low flow alterations and fecal coliform. Although the target was finalized in an assessment dated December 8, 2011, further clarification by the Environmental Protection Agency of non-pollutants in the final 2010/2012 303d list indicates that this waterbody would no longer require an IC target as alteration in stream-side or littoral vegetative cover, which was the impairment being addressed by the impervious cover target, is now classified as a non-pollutant..



 MassDOT Directly Discharging Area

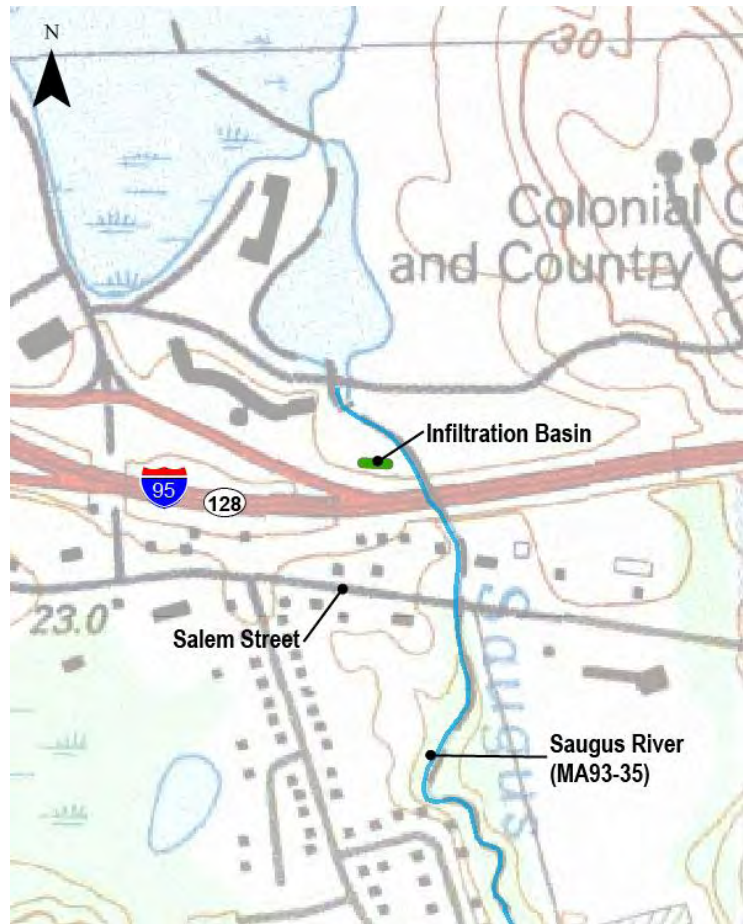


Permit Year 11 Activity:

MassDOT reviewed the directly contributing area for potential locations to install treatment BMPs and performed survey of the project area. During design it was determined that limited right-of-way and wetland resources constrained the area available for construction but MassDOT was able to design **1 infiltration basin** to treat stormwater from MassDOT's roadway prior to reaching the Saugus River (MA93-35). Design plans for the proposed BMP was completed and successfully permitted with approval from the Wakefield Conservation Commission.

This BMP will provide a **0.4-acre reduction in effective impervious cover**. MassDOT has constructed the BMP along with the programmed resurfacing of I-95 and the construction cost of the BMP is estimated to be \$80,000.

MassDOT is constructing the BMPs possible within the existing right-of-way and site constraints. However, the possibility of additional pollutant reductions may be reviewed during future programmed project work when more significant changes to drainage patterns and expanded right-of-way may be possible.



BMP Locations



Construction of Infiltration Basin Forebay



Construction of Infiltration Basin

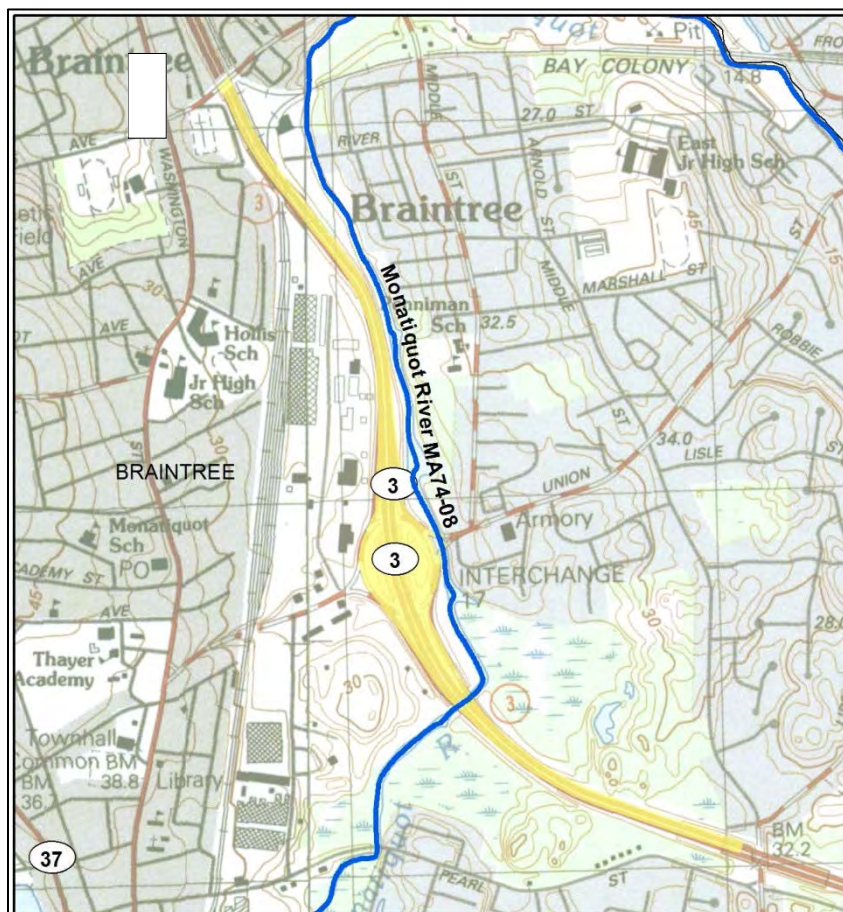
Stormwater Improvements for Monatikquot River (MA74-08)

Water Body Name: Monatikquot River
Water Body ID: MA74-08
Project Number: 606639
Project Town: Weymouth and Braintree
MassDOT District: 6

Project Overview

Site Description:

MassDOT's Route 3 in Braintree discharge stormwater to Monatikquot River. The Monatikquot River flows from the south to its confluence with the Fore River to the north. The Monatikquot River crosses under Route 3 south of interchange 17 and flows parallel to Route 3 for approximately 1 mile. The Monatikquot River (MA74-08) is approximately 4.3 miles long and, according to the 2012 Integrated List of Waters, is impaired for physical substrate



habitat alterations; aquatic macroinvertebrate bioassessments; fecal coliform; and dissolved oxygen.

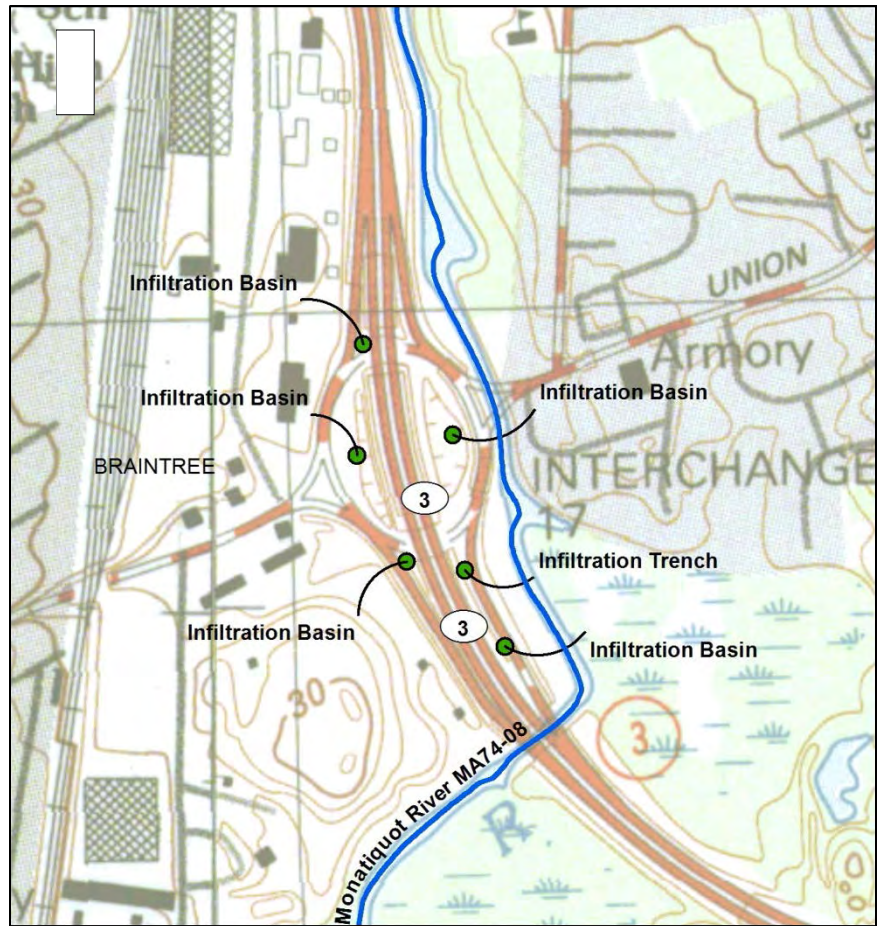
Project Goal:

MassDOT's directly discharging watershed to the Monatikquot River includes 31.5 acres of impervious cover. In order to meet the effective impervious cover reduction target developed through MassDOT's Impaired Waters Program, the receiving water assessment recommended a target reduction of 22.9 acres. Two existing BMPs are in place to treat MassDOT direct runoff and provide a 4.5-acre reduction in effective impervious cover. The assessment recommended an additional reduction of 9.6 acres of effective impervious cover work towards meeting the target.

Permit Year 11 Activity:

MassDOT reviewed the directly contributing area for potential locations to install treatment BMPs and performed survey of the project area. During design it was determined that limited right-of-way and wetland resources constrained the area available for construction but MassDOT was able to design **5 infiltration basins and 1 infiltration trench** to treat stormwater from MassDOT's roadway prior to reaching Monaquot River. Design plans for these proposed BMPs were completed and incorporated into an existing Route 3 resurfacing programmed project. The project was successfully permitted with approval from the Weymouth and Braintree Conservation Commissions.

These BMPs will provide a **9.6-acre reduction in effective impervious cover**. MassDOT is in the process of constructing these BMPs along with the resurfacing project and the construction cost is estimated to be \$11 million. Following the construction of these BMPs, MassDOT would need to reduce the effective IC by an additional 14.7 acres to meet the target.



BMP Locations



Appendix E: River and Stream Signs Installed in Permit Year 11

River and Stream Signs Installed in Permit Year 11

Road	River	Town/City
Routes 6/28	Agawam River	Wareham
Route 28	Wankinco River	Wareham
Route 25	Wankinco River	Wareham
Route 79	Assonet River	Freetown
Route 79	Assonet River	Freetown
Route 79	Assonet River	Freetown
Interstate 195	Taunton River	Fall River-Somerset Line
Interstate 195	Cole River	Swansea
Route 63	Millers River	Montague
Route 129	River Meadow Brook	Chelmsford
Routes 62/70	Nashua River	Clinton
Route 31	East Wachusett Brook	Princeton
Interstate 290	Middle River	Worcester
Route 2A	Millers River	Athol
Route 111	Fort Pond Brook	Acton
Route 106	West Meadow Brook	West Bridgewater
Route 1A	Saugus River	Revere-Lynn Line
Routes 18/106	Matfield River	East Bridgewater



Appendix F: Design Public Hearings Table

List of Public Hearings Posted on the Highway Website from 4/1/2013 to 3/31/2014

City/Town	Date	Description
Apr-2013		
New Bedford	4/1/2013	A Public Information Meeting will be held by MassDOT to discuss the proposed Intersection Improvements at Route 140/Route 6 and Brownell Avenue in New Bedford, MA.
Hull	4/22/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed Reconstruction of Atlantic Avenue project in Hull, MA.
Arlington	4/23/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed mobility improvements at Massachusetts Avenue, Pleasant Street, and Mystic Street to improve pedestrian and bicyclist safety in Arlington, MA.
Royalston	4/23/2013	A Design Public Information Meeting will be held by MassDOT to discuss the proposed Stockwell Road Bridge over Lawrence Brook replacement project in Royalston, MA.
Northampton	4/24/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed Pleasant Street and Conz Street Intersection Improvement project in Northampton, MA.
Weymouth	4/24/2013	A Public Hearing will be held by MassDOT to discuss the proposed Route 18 Roadway Widening project in Weymouth and Abington, including the Replacement of Bridge W-32-13 over the MBTA RR.
Barre	4/25/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed Common Improvements Project in Barre, MA.
Uxbridge	4/25/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed Uxbridge-Reconstruction & Signal Improvements on Route 122 (North & South Main Streets) project in Uxbridge, MA.
Worcester	4/25/2013	A Public Meeting will be held by MassDOT to discuss the proposed bridge reconstruction project of Belmont Street (Route 9) over Interstate I-290 in Worcester, MA.
May-2013		
Medway	5/1/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed reconstruction of Route 109 from Holliston St. to 100 ft. west of Highland St. and the rehabilitation of Chicken Brook Culvert in Medway, MA.
Concord	5/2/2013	A Public Information Meeting will be held by MassDOT to discuss the proposed (Bridge Preservation) project in Concord, MA.

City/Town	Date	Description
Fall River	5/2/2013	A Design Public Hearing will be held by MassDOT - Highway Division to discuss the proposed superstructure replacement project in Fall River, MA.
Huntington	5/8/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed "Cross Memorial Bridge" bridge ramp replacement project, Freight Yard Road over MassDOT Depot Maintenance Facility in Huntington, MA.
Sandisfield	5/15/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed bridge replacement project, Clark Road Extension over West Branch Farmington River in Sandisfield, MA.
Montague	5/16/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed Reconstruction of Greenfield Road project in Montague MA.
Weymouth	5/16/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed Route 3A over the Fore River (Bridge No. Q-01-001=W-32-001) Bridge Replacement project in the City of Quincy and Town of Weymouth, MA.
South Yarmouth	5/20/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed Extension of the Cape Cod Rail Trail project in Dennis and Yarmouth, Massachusetts.
Oxford	5/22/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed Charlton Street Roadway Improvement project in Oxford, MA.
Easton	5/23/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed Signal and Intersection Improvements at Route 138 (Turnpike St) and Route 106 (Foundry St) project in Easton, MA.
Roxbury	5/23/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed City of Boston Traffic Signals - 15 Locations Project in Boston, MA.
Allston	5/29/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed City of Boston Traffic Signals - 15 Locations Project in Boston, MA.
Beverly	5/30/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed Reconstruction of Rte. 1A (Cabot-Rantoul Streets) in Beverly, MA.
Jun-2013		
Seekonk	6/5/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed Route 114A at Arcade Avenue and Mill Road intersection improvement project in Seekonk, MA.
Somerville	6/6/2013	A Design Informational Meeting will be held by MassDOT to discuss the proposed Route 28 (McGrath Highway) over Gilman Street Bridge replacement (also known as the Gilman Street Bridge) project in Somerville, MA.

City/Town	Date	Description
Worcester	6/11/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed Phase 2 reconstruction of Lincoln Street (Route 70) Project in Worcester, MA.
Maynard	6/13/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed Acton/Maynard Assabet River Rail Trail project in Acton & Maynard, MA.
Worcester	6/13/2013	A Public Meeting will be held by MassDOT to discuss the proposed bridge reconstruction project of Belmont Street (Route 9) over Interstate I-290 in Worcester, MA.
Allston	6/18/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed deck replacement of bridge #B-16-056, Cambridge Street over I-90, which includes the preservation of bridge #B-16-057, Lincoln Street Pedestrian overpass over I-90 project in Boston-Allston, MA.
East Boston	6/20/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed City of Boston Traffic Signals - 15 Locations Project in Boston, MA.
Fall River	6/26/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed Quequechan River Rail Trail Project in Fall River, MA.
Raynham	6/26/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed bridge deck replacement project of Route 138 over I-495 in Raynham, MA.
Southwick	6/26/2013	A Public Hearing will be held by MassDOT to discuss the proposed Route 168 (Congamond Road) Roadway Reconstruction project in Southwick MA.
Medford	6/27/2013	A Design Public Hearing will be held by MassDOT to discuss the project to reconstruct Bridge M-12-002, Main St. (Rte. 38) over Mystic River (Cradock Bridge) in Medford, MA.
Jul-2013		
Jamaica Plain	7/11/2013	A Public Information Meeting and Open House will be held by MassDOT to discuss the proposed Casey Arborway project in Jamaica Plain, MA.
Chatham	7/18/2013	A Public Hearing will be held by MassDOT - Highway Division to present the 75% Design and seek public comments on the proposed Mitchell River Bridge Replacement Project in Chatham, MA.
Framingham	7/25/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed Route 9 over Stearns Reservoir Outlet bridge project in Framingham, MA.
Aug-2013		

City/Town	Date	Description
Springfield	8/6/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed bridge deck replacement of Route I-291 over Page Boulevard in Springfield, MA.
Boston	8/13/2013	A Public Information Meeting will be held by MassDOT to discuss the proposed deck replacement and superstructure repairs on Bridge No. B-16-365 Bowker Overpass over Beacon Street, Commonwealth Ave and Muddy River in Boston, MA.
Holyoke	8/15/2013	A Public Information Meeting will be held by MassDOT to discuss the proposed Cherry Street at Soldier's Home Road and I-91 Intersection Improvement project in Holyoke, MA.
Brockton	8/19/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed lighting and landscape improvements along Main Street in Brockton, MA.
Sep-2013		
Hanover	9/24/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed Washington Street (Route 53) Phase 4B Reconstruction project in Hanover, MA.
Dedham	9/25/2013	A Design Public Hearing will be held by MassHighway to discuss the proposed replacement of the Needham Street Bridge over Great Ditch in the Town of Dedham, MA.
Lenox	9/25/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed Walker Street Reconstruction project in Lenox, MA.
Nantucket	9/26/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed In-Town Multi Use Path and Related Sidewalk/Bicycle Accommodation Improvements on Goose Pond Lane and Orange Street in Nantucket, MA.
Williamstown	9/26/2013	A design Public Hearing will be held by the MassDOT to discuss the proposed replacement of the Hopper Road Bridge over the Green River, Bridge No. W-37-009, in the town of Williamstown, MA.
Raynham	9/30/2013	A Design Public Information Meeting will be held by MassDOT to discuss the proposed signal and intersection improvements @ Route 44, Orchard Street and Route 24 NB - off ramp in Raynham, MA.
Oct-2013		
Millbury	10/9/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed Bridge Replacement of Route 146 over West Main Street and Construction of Roundabouts project in Millbury, MA.

City/Town	Date	Description
West Brookfield	10/17/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed Amherst-Hadley-Northampton-Southampton-West Brookfield- Sidewalk & Wheelchair Ramp Construction on Routes 5, 9, & 10 Project. Components of the project located in West Brookfield, MA. will be discussed at this design public hearing.
West Springfield	10/17/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed MEMORIAL AVENUE ROTARY BRIDGE SUPERSTRUCTURE REPLACEMENT PROJECT, BRIDGE NO. W-21-025 (15C) AND W-21-025 (15D), STATE ROUTE 147 EB & WB (MEMORIAL AVENUE) OVER US ROUTE 5 (RIVERDALE STREET) project in West Springfield, MA.
Amesbury	10/23/2013	A Design Public Information Meeting will be held by MassDOT - Highway Division to present the 75% Design and seek public comments on the proposed Whittier Bridge/I-95 Improvement Project in Amesbury, Newburyport and Salisbury, MA.
Northampton	10/23/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed Amherst-Hadley-Northampton-Southampton-West Brookfield-Sidewalk & Wheelchair Ramp Construction on Routes 5, 9, & 10 Project. Components of the project located in Amherst, Hadley, Northampton and Southampton, MA. will be discussed at this design public hearing.
Pembroke	10/23/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed Route 36, Center Street Roadway Project in Pembroke, MA.
Lenox	10/24/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed Walker Street Reconstruction project in Lenox, MA.
Nov-2013		
Greenfield	11/5/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed Signal and Intersection Improvements at Route 2A, Shelburne Road and River Street project in Greenfield, MA.
Arlington	11/6/2013	A Public Information Meeting will be held by MassDOT to discuss the proposed mobility improvements at Massachusetts Avenue, Pleasant Street, and Mystic Street to improve pedestrian and bicyclist safety in Arlington, MA.
North Attleborough	11/7/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed traffic signal and intersection improvement project along Route 1 and Route 120 in North Attleborough, MA.
West Tisbury	11/13/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed Intersection Improvements at State Road (Vineyard Haven Road) and Old Country Road project in West Tisbury, MA.

City/Town	Date	Description
Conway	11/16/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed Retaining Wall Replacement Project, Route 116 (Ashfield Road) along South River in Conway, MA.
Allston	11/19/2013	A Public Information Meeting will be held by MassDOT to discuss the proposed deck replacement of bridge #B-16-056, Cambridge Street over I-90, which includes the preservation of bridge #B-16-057, Lincoln Street Pedestrian overpass over I-90 project in Boston-Allston, MA.
Manchester-by-the-Sea	11/21/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed improvements project under the "Safe Routes to School" program for the Manchester Memorial Elementary School in Manchester-by-the-Sea, MA.
Dec-2013		
Hubbardston	12/3/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed bridge deck replacement project of Burnshirt Road over Burnshirt River in the Town of Hubbardston, MA.
Leominster	12/3/2013	A Public Hearing will be held by MassDOT to discuss the proposed Route 13 (Main Street) roadway and intersection improvements project in Leominster.
Dunstable	12/4/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed bridge replacement project of Main Street over Salmon Brook in Dunstable, MA.
Malden	12/11/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed improvements project under the "Safe Routes to School" program for the Beebe School in Malden, MA.
Chicopee	12/16/2013	A Design Public Hearing will be held by MassDOT to discuss the proposed Signal and Intersection Improvements along Memorial Drive and Broadway project in Chicopee, MA.
Worcester	12/19/2013	A Public Information Meeting will be held by MassDOT to discuss the proposed bridge reconstruction project of Belmont Street (Route 9) over Interstate I-290 in Worcester, MA.
Jan-2014		
Allston	1/14/2014	A Public Information Meeting will be held by MassDOT to discuss the proposed deck replacement of bridge #B-16-056, Cambridge Street over I-90, which includes the preservation of bridge #B-16-057, Lincoln Street Pedestrian overpass over I-90 project in Boston-Allston, MA.
Walpole	1/28/2014	A Design Public Hearing will be held by MassDOT to discuss the proposed Route 1A Roadway Reconstruction project in Walpole MA.
Medford	1/29/2014	A Design Public Meeting will be held by MassDOT to discuss the project to reconstruct Bridge M-12-002, Main St. (Rte. 38) over Mystic River (Cradock Bridge) in Medford, MA.

City/Town	Date	Description
Pelham	1/29/2014	A Design Public Hearing will be held by MassDOT to discuss the proposed Meetinghouse Road Over Amethyst Brook & Harris Brook Bridge Replacement Project in Pelham, MA
Feb-2014		
Worcester	2/4/2014	A Design Public Hearing will be held by MassDOT to discuss the proposed Harding Street Resurfacing & Streetscape project in Worcester, MA.
Bellingham	2/11/2014	A Design Public Hearing will be held by MassDOT to discuss the proposed Demolition of Bridge No. B-06-011, Proposed Culvert and Route 126 Reconstruction project in Bellingham, MA.
Haverhill	2/12/2014	A Design Public Hearing will be held by MassDOT to discuss the proposed Riverwalk Construction (Bradford Section), from Route 125 to County Road (a.k.a Bradford Rail Trail) Project in Haverhill, MA.
Shrewsbury	2/20/2014	A Design Public Hearing will be held by MassDOT to discuss the proposed Shrewsbury - Main Street Roadway Improvements project in Shrewsbury, MA.
Turners Falls	2/20/2014	A Design Public Hearing will be held by MassDOT to discuss the proposed Rehabilitation of Hatchery Road and Greenfield Road Pedestrian Bridge project in Montague, MA.
Springfield	2/25/2014	A Design Public Information meeting will be held by MassDOT to discuss the proposed Interstate I-91 Viaduct Rehabilitation project in Springfield, MA.
Turners Falls	2/26/2014	A Design Public Hearing will be held by MassDOT to discuss the proposed Canalside Bike Path and Pedestrian Crossing Improvement project in Montague, MA.
Westwood	2/26/2014	A Design Public Hearing will be held by MassDOT to discuss the proposed improvements project under the "Safe Routes to School" program for the Downey Elementary School in Westwood, MA.
Westwood	2/27/2014	A Public Hearing will be held by MassDOT to discuss the proposed I-95 southbound off-ramp at the University Avenue interchange and Blue Hill Drive project in the Towns of Dedham and Westwood.
Mar-2014		
Worcester	3/3/2014	A Design Public Information Meeting will be held by MassDOT to discuss the proposed Kilby-Gardner Resurfacing project in Worcester, MA.
Colrain	3/4/2014	A Design Public Hearing will be held by MassDOT to discuss the proposed bridge replacement project in Colrain, MA.
Worcester	3/25/2014	A Design Public Information Meeting will be held by MassDOT to discuss the proposed Kilby-Gardner Resurfacing project in Worcester, MA.

City/Town	Date	Description
Newburyport	3/26/2014	A Design Public Hearing will be held by MassDOT to discuss the proposed Clipper City Rail Trail - Phase 2 from Parker Street in Newbury, MA to the NRA East Parking Lot on the Central Waterfront in Newburyport, MA.



Appendix G: Active MassDOT Construction NOIs in Permit Year 11

Active MassDOT Construction NOIs – Permit Year 11

<u>Tracking Number</u>	<u>NOI Submitted Date</u>	<u>Date of Coverage</u>	<u>Project/ Site Name</u>	<u>Project City</u>
<u>MAR10BB23</u>	October 14, 2003	October 21, 2003	RT 3 NORTH TRANSP IMPROV PROJ	WESTFORD
<u>MAR10B869</u>	February 23, 2004	March 01, 2004	CAMBRIDGEPORT ROADWAYS IMPROVE	CAMBRIDGE
<u>MAR10BC51</u>	March 15, 2004	March 22, 2004	ROADWAY INTERCHANGE IMPROVE	LANCASTER
<u>MAR10BC66</u>	March 18, 2004	March 25, 2004	RTE 146/HURLEY SQUARE IMPROVE.	WORCESTER
<u>MAR10BC68</u>	March 19, 2004	March 26, 2004	RTE 146/RTE 20 IMPROVEMENTS	MILLBURY
<u>MAR10BE89</u>	June 11, 2004	June 18, 2004	RTE 2A RECONSTRUCTION	ARLINGTON
<u>MAR10BF22</u>	June 16, 2004	June 23, 2004	RECONSTRUCTION OF ROUTE 62	NORTH READING
<u>MAR10BF59</u>	August 04, 2004	August 11, 2004	BRIDGE STREET OVER B&M RAILROA	TEMPLETON
<u>MAR10BJ51</u>	October 15, 2003	October 22, 2003	ROUTE 140 RELOCATION	FRANKLIN
<u>MAR10BN00</u>	October 22, 2004	October 29, 2004	PARK & RIDE / MAINT DEPOT	BOURNE
<u>MAR10BN50</u>	November 08, 2004	November 15, 2004	BOURNE FIRE STATION NO.3	BOURNE
<u>MAR10BN72</u>	November 17, 2004	November 24, 2004	SAGAMORE ROTARY GRADE SEPARATE	BOURNE

Active MassDOT Construction NOIs – Permit Year 11

<u>Tracking Number</u>	<u>NOI Submitted Date</u>	<u>Date of Coverage</u>	<u>Project/ Site Name</u>	<u>Project City</u>
<u>MAR10BO33</u>	December 17, 2004	December 24, 2004	INTERSECTION RECONSTRUCTION	GROTON
<u>MAR10BO82</u>	January 04, 2005	January 11, 2005	THATCHER ST BRIDGE REPLACEMENT	ATTLEBORO
<u>MAR10BP76</u>	February 10, 2005	February 18, 2005	INTERCHANGE CONST- BROSNIHAN SQ	WORCESTER
<u>MAR10BQ83</u>	March 15, 2005	March 22, 2005	SEASIDE RAIL BIKE TRAIL	PLYMOUTH
<u>MAR10BR72</u>	April 07, 2005	April 14, 2005	MHD BENEDICT ROAD 38030	PITTSFIELD
<u>MAR10BT52</u>	May 26, 2005	June 02, 2005	ROUTE 116 RESURFACING	ASHFIELD
<u>MAR10BU68</u>	July 08, 2005	July 29, 2005	UXBRIDGE-ROUTE 16	UXBRIDGE
<u>MAR10BW71</u>	September 01, 2005	September 08, 2005	ROADWAY RECONSTRUCTION	WILMINGTON
<u>MAR10BW86</u>	September 07, 2005	September 14, 2005	AIRPORT DRIVE RECONSTRUCTION	WORCESTER
<u>MAR10BX31</u>	September 23, 2005	September 30, 2005	UNION STREET RECONSTRUCTION	FRANKLIN

Active MassDOT Construction NOIs – Permit Year 11

<u>Tracking Number</u>	<u>NOI Submitted Date</u>	<u>Date of Coverage</u>	<u>Project/ Site Name</u>	<u>Project City</u>
<u>MAR10C072</u>	January 26, 2006	February 02, 2006	BRIDGE ST BYPASS CONSTRUCTION	SALEM
<u>MAR10C315</u>	April 24, 2006	May 01, 2006	CONCORD ROAD	BILLERICA
<u>MAR10C398</u>	May 15, 2006	May 22, 2006	CANTON ROADWAY RECONSTRUCTION	CANTON
<u>MAR10C428</u>	May 25, 2006	June 01, 2006	ROUTE I-195 RESURFACING	FALL RIVER, WESTPORT
<u>MAR10C560</u>	July 06, 2006	July 13, 2006	OLD CENTER/COMMON AREA	NORTH ANDOVER
<u>MAR10C734</u>	August 29, 2006	September 05, 2006	MHD ROUTE 3 IMPROVEMENT PROJ	DUXBURY AND MARSHFIELD
<u>MAR10C735</u>	August 29, 2006	September 05, 2006	MEDWAY - ROAD RECONSTRUCTION	MEDWAY
<u>MAR10C736</u>	August 29, 2006	September 05, 2006	ROADWAY RECONSTRUCTION	WORCESTER
<u>MAR10C738</u>	August 29, 2006	September 05, 2006	ROADWAY IMPROVEMENT PROJECT	HANOVER
<u>MAR10C739</u>	August 29, 2006	September 05, 2006	ROADWAY RECONSTRUCTION PROJ	RAYNHAM
<u>MAR10C867</u>	October 12, 2006	October 19, 2006	ROUTE 3 BRIDGE RECONSTRUCTION	ROCKLAND

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<u>MAR10C881</u>	October 16, 2006	October 23, 2006	REPLACEMENT OF TWO BRIDGES	ATTLEBORO
<u>MAR10C945</u>	November 07, 2006	November 14, 2006	ROADWAY RECONSTRUCTION	DEDHAM / WESTWOOD
<u>MAR10CB02</u>	January 10, 2007	January 17, 2007	BOSTON ST BRIDGE REPLACEMENT	LYNN-SAUGUS
<u>MAR10CB27</u>	January 24, 2007	January 31, 2007	RECONSTRUCTION ROUTE 18	WEYMOUTH
<u>MAR10CB69</u>	February 21, 2007	February 28, 2007	BRIDGE REPLACEMENT OVER PARKER	NEWBURY
<u>MAR10CC46</u>	March 19, 2007	March 26, 2007	LYNNFIELD-PEABODY NOISE BARRIE	LYNNFIELD PEABODY
<u>MAR10CC68</u>	March 27, 2007	April 03, 2007	TURNPIKE MEDIAN BARRIER/RESURFACING	WESTBOROUGH
<u>MAR10CD49</u>	April 26, 2007	May 03, 2007	CONSTRUCTION OF COMMERCE WAY	ATTLEBORO
<u>MAR10CD52</u>	April 27, 2007	May 04, 2007	ROTARY RECONSTRUCTION PROJECT	WORCESTER
<u>MAR10CD53</u>	April 27, 2007	May 04, 2007	BOSTON STREET BRIDGE	LYNN-SAUGUS
<u>MAR10CD54</u>	April 30, 2007	May 07, 2007	ROUTE 132 IMPROVEMENT PROJECT	BARNSTABLE

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<u>MAR10CE99</u>	June 12, 2007	June 19, 2007	BRIGHTMAN ST BRIDGE REPLACE.	FALL RIVER AND SOMERSET
<u>MAR10CH18</u>	August 30, 2007	September 06, 2007	BRUCE FREEMAN BIKE PATH	CHELMSFORDLOWELLWESTFOR
<u>MAR10CK34</u>	January 08, 2008	January 15, 2008	PEABODY BIKE PATH	PEABODY
<u>MAR10CM26</u>	March 26, 2008	April 02, 2008	Rte 125 Reconstruction	North Andover
<u>MAR10CM70</u>	April 11, 2008	April 18, 2008	Meridian St Reconstruction	Fall River
<u>MAR10CM74</u>	April 22, 2008	April 29, 2008	Interstate 495 Reconstruction	Raynham-Middleboro
<u>MAR10CM92</u>	April 22, 2008	April 29, 2008	Intersection Reconstruction	Orleans
<u>MAR10CN44</u>	May 08, 2008	May 15, 2008	I-95 Roadway Reconstruction	Weston/Newton/Wellesley
<u>MAR10CN55</u>	May 12, 2008	May 19, 2008	Interstate 495 Southbound	Milford
<u>MAR10CN87</u>	May 22, 2008	May 29, 2008	I-495	Worcester
<u>MAR10CO39</u>	June 16, 2008	June 23, 2008	Mattapoisett Bikepath Ph 1A	Mattapoisett

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<u>MAR10CO40</u>	June 16, 2008	June 23, 2008	Swan River Rd Reconstruction	Dennis
<u>MAR10CO41</u>	June 16, 2008	June 23, 2008	Route 27 Reconstruction	Kingston
<u>MAR10CP11</u>	July 15, 2008	July 22, 2008	Route 12	Auburn
<u>MAR10CQ67</u>	August 01, 2008	August 08, 2008	Route 68	Rutland
<u>MAR10CQ84</u>	August 11, 2008	August 18, 2008	Rte 125 Signal/Intersction Project	Andover
<u>MAR10CR26</u>	August 27, 2008	September 03, 2008	Franklin Street	Framingham
<u>MAR10CR40</u>	September 04, 2008	September 11, 2008	Route 28 Bridge Replacement	Methuen
<u>MAR10CR61</u>	September 11, 2008	September 18, 2008	Woburn I-95 Resurfacing	Woburn
<u>MAR10CR97</u>	September 22, 2008	September 29, 2008	Newport Ave Bridge	Attleboro
<u>MAR10CS07</u>	September 23, 2008	September 30, 2008	GULF ROAD BRIDGE	DARTMOUTH
<u>MAR10CS12</u>	September 23, 2008	September 30, 2008	EDGEHILL RD RECONSTRUCTION	BOURNE

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<u>MAR10CS39</u>	September 30, 2008	October 07, 2008	INTERSTATE 195 RESURFACING	SOMERSET
<u>MAR10CS47</u>	October 01, 2008	October 08, 2008	NEW BEDFORD BRIDGE REPLACEMENT	NEW BEDFORD
<u>MAR10CS77</u>	October 17, 2008	October 24, 2008	I-95 Add-A-Lane Project	Randolph to Westwood
<u>MAR10CT22</u>	October 22, 2008	October 29, 2008	Clipper Ship Rail Trail	Newburyport
<u>MAR10D074</u>	January 13, 2009	January 20, 2009	I-495 NB	Worcester
<u>MAR10D410</u>	May 05, 2009	May 12, 2009	ROADWAY RECONSTRUCTION ON FRONT STREET	CHICOPEE
<u>MAR10D416</u>	March 30, 2009	April 06, 2009	Route 1 Roadway Reconstruction	Topsfield
<u>MAR10D430</u>	April 02, 2009	April 09, 2009	Pepperell Bridge (P-06-004)	Pepperell
<u>MAR10D472</u>	April 10, 2009	April 17, 2009	Salisbury Rail Trail Bike Path	Salisbury
<u>MAR10D484</u>	April 14, 2009	April 21, 2009	Route 31	Dudley

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<u>MAR10D513</u>	April 21, 2009	April 28, 2009	Salem St. Reconstruction	Wakfield
<u>MAR10D580</u>	May 04, 2009	May 11, 2009	I-495	Bolton,Harvard,Boxboro
<u>MAR10D653</u>	May 18, 2009	May 25, 2009	Roadway Recon and Related Work	Newton/Watertown
<u>MAR10D697</u>	May 28, 2009	June 04, 2009	SOUTH HADLEY, 2 BRIDGE REHABILI	SOUTH HADLEY
<u>MAR10D699</u>	May 28, 2009	June 04, 2009	Route 140	Shrewsbury
<u>MAR10D760</u>	June 15, 2009	June 22, 2009	Blackstone River Road	Worcester
<u>MAR10D918</u>	July 26, 2009	August 02, 2009	INTERSTATE I-91 NB AND SB	SPRINGFIELD CHICOPEE
<u>MAR10D981</u>	August 12, 2009	August 19, 2009	Goldsmith Street	Littleton
<u>MAR10DA11</u>	August 19, 2009	August 26, 2009	Roadway Recon and Related Work	Newton
<u>MAR10DA19</u>	August 20, 2009	August 27, 2009	Roadway Recon and Related Work	Dedham

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<u>MAR10DA73</u>	September 11, 2009	September 18, 2009	Route 62	Hubbardston
<u>MAR10DA85</u>	September 16, 2009	September 23, 2009	King St. and Upper Union St. I-495	Franklin
<u>MAR10DE70</u>	January 21, 2010	January 28, 2010	MassDOT	Southbridge
<u>MAR10DF09</u>	February 09, 2010	February 16, 2010	Charles River/Alewife Connector Multi-Use Path - Phase I	Watertown
<u>MAR10DG67</u>	March 25, 2010	April 01, 2010	Route 140	Gardner
<u>MAR10DG82</u>	March 30, 2010	April 06, 2010	Roadway Intersection	Fitchburg
<u>MAR10DH05</u>	April 02, 2010	April 09, 2010	Charles River Alewife Connector	Watertown
<u>MAR10DH12</u>	April 06, 2010	April 13, 2010	Pulaski Boulevard	Bellingham
<u>MAR10DH43</u>	April 13, 2010	April 20, 2010	Routes 12/16/193	Webster
<u>MAR10DI11</u>	May 03, 2010	May 10, 2010	Rte. 128 Danvers Reconstruction	Danvers
<u>MAR10DI94</u>	May 27, 2010	June 03, 2010	MAIN AND BROAD STREET	WESTFIELD

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<u>MAR10DJ27</u>	June 04, 2010	June 11, 2010	Route 131	Southbridge/Sturbridge
<u>MAR10DJ48</u>	June 09, 2010	June 16, 2010	ROADWAY RECON RELATED WORK RT20 AND 10/202	WESTFIELD
<u>MAR10DJ80</u>	June 16, 2010	June 23, 2010	Route 1 Bridge over Center Street	Danvers
<u>MAR10DK42</u>	July 01, 2010	July 08, 2010	Clippership Drive	Medford
<u>MAR10DK44</u>	July 02, 2010	July 09, 2010	Route 70/Lincoln St.	Worcester
<u>MAR10DK48</u>	July 02, 2010	July 09, 2010	Route 2 Bridge over West Main St.	Westminster
<u>MAR10DK64</u>	July 08, 2010	July 15, 2010	Walnut Street at Salem Street	Lynnfield
<u>MAR10DK65</u>	July 08, 2010	July 15, 2010	Audubon Road	Wakefield
<u>MAR10DK92</u>	July 13, 2010	July 20, 2010	HALL OF FAME STREETSCAPE	SPRINGFIELD
<u>MAR10DL24</u>	July 20, 2010	July 27, 2010	Bates Bridge Replacement Approach Reconstruction	Groveland and Haverhill
<u>MAR10DM79</u>	October 08, 2010	October 15, 2010	BRIDGE REPLACEMENT, P- 09-004	PHILLIPSTON

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<u>MAR10DO01</u>	October 01, 2010	October 08, 2010	Phase II - Middlesex Turnpike Extension	Burlington
<u>MAR10DO24</u>	October 05, 2010	October 12, 2010	ROADWAY CONSTRUCTION	LENOX
<u>MAR10DP35</u>	October 29, 2010	November 05, 2010	Hamilton Canal Walkway and Bridge Rehabilitation	Lowell
<u>MAR10DQ75</u>	December 14, 2010	December 21, 2010	Millbury Street	Auburn
<u>MAR10DS45</u>	March 09, 2011	March 16, 2011	I-93 Superstructure Replacement	Medford
<u>MAR10DS09</u>	March 16, 2011	March 23, 2011	STREETSCAPE IMPROVEMENTS	PITTSFIELD
<u>MAR10DS69</u>	March 17, 2011	March 24, 2011	ROADWAY RECONSTRUCTION	PERU
<u>MAR10DT13</u>	March 31, 2011	April 07, 2011	ROADWAY RECONSTRUCTION	BUCKLAND
<u>MAR10DT21</u>	April 01, 2011	April 08, 2011	KINGS BRIDGE RD BRIDGE REP	BRIMFIELD/PALMER
<u>MAR10DT22</u>	April 01, 2011	April 08, 2011	ROUTE 116 - ROADWAY RECON.	AMHERST
<u>MAR10DT34</u>	April 06, 2011	April 13, 2011	Roadway Reconstruction Macy Street and Elm Street Route 110	Amesbury

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<u>MAR10DU32</u>	April 29, 2011	May 06, 2011	Route 146 NB	Sutton-Uxbridge
<u>MAR10DT45</u>	May 03, 2011	May 10, 2011	ROUTE 5- RIVERDALE STREET	Hampden
<u>MAR10DU01</u>	May 04, 2011	May 11, 2011	Union Street Improvements	Norfolk
<u>MAR10DU78</u>	May 09, 2011	May 16, 2011	MANHAN RAIL TRAIL	Hampshire
<u>MAR10DU89</u>	May 12, 2011	May 19, 2011	Route 20	Auburn
<u>MAR10DU99</u>	May 13, 2011	May 20, 2011	Roadway Reconstruction	Salem
<u>MAR10DU54</u>	May 16, 2011	May 23, 2011	Turnpike Street	Canton
<u>MAR10DV22</u>	May 19, 2011	May 26, 2011	MassDOT - Chelmsford-Salt Storage	Chelmsford
<u>MAR10DV50</u>	May 25, 2011	June 01, 2011	Forest Street	Arlington
<u>MAR10DV68</u>	May 31, 2011	June 07, 2011	Bridge Replacement	Lowell
<u>MAR10DV93</u>	June 03, 2011	June 10, 2011	Blackstone Canal District	Worcester

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<u>MAR10DW15</u>	June 09, 2011	June 16, 2011	Roadway Reconstruction	Chelmsford
<u>MAR10DW22</u>	June 10, 2011	June 17, 2011	MassDOT Contract No. 66937 Town	Tewksbury
<u>MAR10DW31</u>	June 13, 2011	June 20, 2011	MassDOT Highway Division Signal	Lexington
<u>MAR10DW50</u>	June 15, 2011	June 22, 2011	MANHAN RAIL TRAIL	Hampshire
<u>MAR10DW69</u>	June 23, 2011	June 30, 2011	ROUTE 20 ROUTE 67 BRIDGE	Hampden
<u>MAR10DW77</u>	June 24, 2011	July 01, 2011	Canal St over the Spickett River	Lawrence
<u>MAR10DX18</u>	July 05, 2011	July 12, 2011	Route 9	Worcester
<u>MAR10DX21</u>	July 06, 2011	July 13, 2011	Roadway Reconstruction Rt 125	Haverhill
<u>MAR10DX28</u>	July 11, 2011	July 18, 2011	Middle St. @ Winter/Washington (Rt. 53) Streets ,Weymouth	Weymouth
<u>MAR10DX45</u>	July 12, 2011	July 19, 2011	Resurfacing and Related Work	Waltham
<u>MAR10DX48</u>	July 12, 2011	July 19, 2011	Route 122 Bridge over Blackstone River	Northbridge

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<u>MAR10DX75</u>	July 20, 2011	July 27, 2011	Roadway Reconstruction Rte 113	Tyngsborough
<u>MAR10DY11</u>	July 28, 2011	August 04, 2011	SPRINGFIELD: MAIN STREET	Hampden
<u>MAR10DX72</u>	August 08, 2011	August 15, 2011	Alford Street Drawbridge, Boston	Boston
<u>MAR10DY95</u>	August 16, 2011	August 23, 2011	ROUTE 10/202 (COLLEGE HIGHWAY)	Hampden
<u>MAR10DZ34</u>	August 23, 2011	August 30, 2011	H-12-005 Ferry Road over the BM and MBTA railroads - Bridge	Haverhill
<u>MAR10E025</u>	September 19, 2011	September 26, 2011	University Ave Bridge Re-Alignment	Lowell
<u>MAR10E106</u>	October 12, 2011	October 19, 2011	Intersection Improvements East St Livingston St	Tewksbury
<u>MAR10E001</u>	October 21, 2011	October 28, 2011	INTERSTATE 91	Hampden
<u>MAR10E202</u>	November 09, 2011	November 16, 2011	Belmont to Somerville Bike Path	Belmont
<u>MAR10E292</u>	December 20, 2011	December 27, 2011	I-395	Oxford
<u>MAR10E324</u>	January 04, 2012	January 11, 2012	Route 20	Northborough-Shrewsbury

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<u>MAR10E434</u>	February 06, 2012	February 13, 2012	W. Dudley Road Bridge	Dudley
<u>MAR10E513</u>	March 08, 2012	March 15, 2012	Route 9	Worcester
<u>MAR12A122</u>	4/12/2012	3/27/2012	Bridge Replacement	Hinsdale
<u>MAR12A128</u>	April 12, 2012	April 1, 2012	Roadway Construction	Pittsfield
<u>MAR12A189</u>	April 20, 2012	April 5, 2012	Westfield Street (Route 20)	Northampton
<u>MAR12A200</u>	April 27, 2012	April 6, 2012	Pittsfield – North Street	Pittsfield
<u>MAR12A221</u>	May 10, 2012	April 23, 2012	Route 2 Bridge over the Falls River	Northampton
<u>Mar12A247</u>	May 8, 2012	April 12, 2012	Route 20	Northborough
<u>MAR12A255</u>	May 8, 2012	April 13, 2012	Route 85	Hudson
<u>MAR12A317</u>	May 30, 2012	April 24, 2012	Rt. 99 Reconstruction Everett-Boston	Everett
<u>MAR12A362</u>	May 16, 2012	May 7, 2012	Whately Park and Ride Lot	Whately

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<u>MAR12A453</u>	May 28, 2012	May 3, 2012	Main and Broad Street, Westfield	Westfield
<u>MAR12A455</u>	May 28, 2012	March 31, 2011	Kings Bridge Rd Bridge Rep	Brimfield/Palmer
<u>MAR12A456</u>	May 28, 2012	April 5, 2012	Route 116 – Roadway Reconstruction	Amherst
<u>MAR12A461</u>	May 28, 2012	June 07, 2011	Manhan Rail Trail – South Street	East/South Hampton
<u>MAR12A576</u>	May 31, 2012	May 09, 2012	Becket-Chester Five Bridges	Becket/Chester
<u>MAR12A596</u>	May 28, 2012	December 31, 2011	Rehabilitation of Pleasant Street, H	Holyoke
<u>MAR12A599</u>	May 25, 2012	August 02, 2011	Route 10/202 (College Highway)	Southwick
<u>MAR12A604</u>	May 25, 2012	March 01, 2009	Front Street Chicopee	Chicopee
<u>MAR12A606</u>	May 25, 2012	April 11, 2011	Route 5 Riverdale St West	West Springfield
<u>MAR12A608</u>	May 25, 2012	September 6, 2011	Roosevelt Ave Bridges	Springfield
<u>MAR12A629</u>	May 28, 2012	September 06, 2011	Interstate 91	Springfield

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<u>MAR12A680</u>	May 28, 2012	May 15, 2012	Gill Montague Bridge	Gill
<u>MAR12A812</u>	May 30, 2012	May 01, 2010	Assembly Square Drive	Somerville
<u>MAR12A813</u>	May 30, 2012	April 12, 2010	Charles River Alewife Connector	Arlington
<u>MAR12A853</u>	May 30, 2012	October 27, 2008	I-95 Add a lane	Randolph
<u>MAR12A858</u>	May 30, 2012	November 1, 2012	Add a lane Dedham to Westwood	Dedham and Westwood
<u>MAR12A867</u>	May 30, 2012	April 20, 2010	Nonantum Rd improvements	Newton
<u>MAR12A872</u>	May 30, 2012	February 01, 2011	Neponset River Bridge Replacement	Boston
<u>MAR12A874</u>	May 30, 2012	April 01, 2009	Roadway Reconstruction and related work	Newton
<u>MAR12A944</u>	June 12, 2012	July 01, 2012	Bridge Replacement	Westminster
<u>MAR12A982</u>	June 07, 2012	November 01, 2010	Alford Street Drawbridge, Boston	Boston
<u>MAR12A985</u>	June 07, 2012	April 10, 2010	North Bank	Cambridge

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<u>MAR12A987</u>	June 07, 2012	May 10, 2011	River St. Bridge over MBTA RR	Boston
<u>MAR12A997</u>	June 14, 2012	March 01, 2012	Roadway Reconstruction and Drain	Worcester
<u>MAR12AA26</u>	June 19, 2012	June 07, 2012	Larz-Anderson Memorial Bridge	Boston
<u>MAR12AA67</u>	June 29, 2012	June 08, 2012	Resurfacing and related work on I-495	Westfield
<u>MAR12AA70</u>	June 25, 2012	June 08, 2012	Sandisfield- Bridge Replacement Route 8&57	Sandisfield
<u>MAR12AA90</u>	June 29, 2012	June 15, 2012	Resurfacing and related work on Route 49	Sturbridge, Charlton, East Brookfield, Spencer
<u>MARAB10</u>	Jul7 06, 2012	June 21, 2012	West Springfield – Route 20 over CSX RR	West Springfield
<u>MAR12AB93</u>	December 04, 2012	July 19, 2012	Resurfacing and related work on a section of I-495	Medway, Milford, Bellingham
<u>MAR12AC55</u>	August 29, 2012	August 24, 2012	2 Bridge replacement over I-91 over Deerfield River, Stillwater, and Lower Roads	Deerfield
<u>MAR12AC70</u>	October 24, 2012	August 20, 2012	Aberjona River impaired water remediation	Woburn
<u>MAR12AE28</u>	October 16, 2012	September 28, 2012	Intersection and related work at Allen Street and Bicentennial Highway	Springfield

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<u>MAR12AE68</u>	October 24, 2012	November 01, 2012	Route 2 Crosby's Corner Reconstruction	Concord
<u>MAR12AE97</u>	December 04, 2012	October 19, 2012	Resurfacing and Related work on	Concord to Littleton
<u>MAR12AF59</u>	December 05 ,2012	November 27, 2012	Amherst – South Hadley, Reconstruction of a Section of Route 116 and Rock Slide Containment	Amherst – South Hadley
<u>MAR12AF63</u>	December 05 ,2012	November 20, 2012	Drainage Repairs and Improvements	Littleton
<u>MAR12AG08</u>	December 24, 2012	December 20, 2012	Resurfacing and Related work on I-91	Holyoke to West Springfield
<u>MAR12AG77</u>	January 30, 2013	January 16, 2013	Bridge Replacement	Northbridge
<u>MAR12AH84</u>	March 21, 2013	March 1, 2012	Roadway Reconstruction on Springfield, Elliot, and Edwards Street	Springfield
<u>MAR12AH99</u>	March 22, 2013	March 15, 2013	Amherst, Pelham Road over Fort River	Amherst
<u>MAR12AI05</u>	March 29, 2013	March 31, 2013	Agawam, Roadway Reconstruction and Related work on I-159	Agawam
<u>MAR12AI58</u>	April 09, 2013	April 10, 2013	Roadway Reconstruction of a Section of Baldwinville Rd	Templeton

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MAR12AJ30	April 9, 2013	April 15, 2013	Athol-Petersham Route 32	Athol and Petersham
MAR12AJ4	April 11, 2013	April 11, 2013	Bridge Superstructure Replacement Route 12 over Route 2 and Intersection improvements including traffic lights	Leominster
MAR12AJ69	May 2, 2013	May 16, 2013	Littleton-Bridge Replacement Bridge No. L-13-021/22/23 and MBTA R.R.	Littleton
MAR12AK01	May 2, 2013	May 16, 2013	Bridge Superstructure Replacement Route 12 over Route 2	Leominster
MAR12AK11	May 7, 2013	May 21, 2013	Bridge Superstructure Replacement	Revere
MAR12AK39	May 13, 2013	May 27, 2013	Longfellow Bridge Rehabilitation/Restoration	Boston
MAR12AK95	June 13, 2013	June 26, 2013	Norwottuck Rail Trail Reconstruction - Amherst, Hadley, Northampton	Amherst, Hadley, Northampton
MAR12AL28	July 2, 2013	July 15, 2013	Park and Ride Lot Construction (Including Traffic Signal)	Northhampton
MAR12AM38	July 12, 2013	July 26, 2013	Roadway resurfacing and related work	Natick-Wellesley
MAR12AM40	July 12, 2013	July 26, 2013	Roadway Reconstruction and Related Work	Auburn

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MAR12AM48	July 29, 2013	August 10, 2013	Parking Lot Reconstruction Under I-93	Boston
MAR12AM01	July 29, 2013	August 11, 2013	Yawkey Way Extension and Reconstruction	Boston
MAR12AL55	July 29, 2013	August 12, 2013	Rosemary Brook Repair at Cedar Street	Wellesley
MAR12AN23	August 9, 2013	August 23, 2013	Roadway reconstruction/Related Work on Sections of Littleton Road	Westford
MAR12AN40	August 14, 2013	December 13, 2013	Route 116 Reconstruction	Plainfield
MAR12AN54	August 19, 2013	September 2, 2013	Roadway Reconstruction including Drainage along a Section of Interstate 90	Auburn
MAR12AO97	October 8, 2013	October 22, 2013	Pelham, Roadway Reconstruction & Related Work on a Section of Amherst Rd	Pelham
MAR12AP17	October 15, 2013	October 23, 2013	Roadway resurfacing and related work	Franklin
MAR12AQ04	November 13, 2013	November 27, 2013	Easthamton, MA - Reconstruction of Pomeroy Meadow Rd./West St at Loudville Rd/Glendale St	Easthampton
MAR12AQ54	December 3, 2013	December 17, 2013	I-93 Roadway Resurfacing and Related Work	Wilmington to Woburn

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MAR12AQ39	December 13, 2013	December 27, 2013	Mass Ave Strreetscape Improvements at Symphony Hall	Boston
MAR12AQ57	December 13, 2013	December 27, 2013	Morton Street Bridge Replacement Over MBTA RR, Dorchester	Boston
MAR12AQ96	January 6, 2014	January 20, 2014	5 Corners - Lancaster	Lancaster
MAR12AR05	January 6, 2014	January 20, 2014	Miles River Drainage Improvements	Ipswich
MAR12AR11	January 9, 2014	January 23, 2014	Intersection Reconstruction	New Bedford
MAR12AR80	February 13, 2014	February 13, 2014	Multi-Use Bike path	Somerville
MAR12AQ40	February 14, 2014	February 14, 2014	Intersection Reconstruction	Sutton
MAR12AS00	February 26, 2014	February 26, 2014	BELMONT TRAPELO ROAD AND BELMONT STREET	Belmont
MAR12AP22	March 10, 2014	March 24, 2014	Morton Street Bridge Number B-16-163	Boston



Appendix H: Maintenance Schedule Summary

Summary of Compliance with Maintenance Matrix - Statewide Permit Year 11

							Permit Year 11 Statewide	
Drainage Asset	Area/ Note	Activity Schedule					Was Schedule Met?	Comments
		Mow	Sweep	Inspect	Clean	Repair		
Roads	Maintenance Facilities/ Material Storage Yards	Annually	ANI	Annually	--	ANI	Yes	Some districts have the HazMat coordinator inspect monthly.
	Roads/ Weigh Stations/ Rest Areas	Annually	Annually	Annually	--	ANI	Yes	Some districts perform maintenance on an as needed basis.
STORMWATER BMPS								
Catch Basins	Maintenance Facilities/ Material Storage Yards	--	--	Annually (after snow melt)	ANI	ANI	Yes	Cleaned more often if needed based on inspections.
	Roads/ Weigh Stations/ Rest Areas	--	--	Annually	ANI	ANI	Yes	Contract to clean all ~13,000 catch basins in District 2.
Extended Detention Basins	Maintenance Facilities/ Material Storage Yards	Annually	--	Annually (after snow melt)	ANI	ANI	Yes	Not applicable to all Districts (none found).
	Roads/ Weigh Stations/ Rest Areas	Annually	--	Annually	ANI	ANI	Yes	Not applicable to all Districts. In one district roads only.
Water Quality Swales (including dry swales, bio-filter swales, and wet swales)	Maintenance Facilities/ Material Storage Yards	--	--	Annually (after snow melt)	ANI	ANI	Yes	In one district, maintenance and repairs done on an as needed basis. Not applicable to all Districts.
	Roads/ Weigh Stations/ Rest Areas	--	--	Annually	ANI	ANI	Yes	In one district, not every waterway had been inspected at the time of reporting.
Sediment Forebays	Maintenance Facilities/ Material Storage Yards	--	--	Annually (after snow melt)	ANI	ANI	Yes	
	Roads/ Weigh Stations/ Rest Areas	Twice per year	--	Annually	ANI	ANI	Yes	In one district, not every forebay had been inspected or cleaned. In one district roads only.
Channel Systems		Annually	--	--	Annually	ANI	Yes	In one district, not every channel had been inspected at the time of reporting. Not applicable to all Districts.
Outlet Sediment Traps		--	--	Annually	ANI	--	Yes	Not applicable to all Districts.
Vegetated Filters Strip		Annually	--	Annually	ANI	ANI	Yes	Not applicable to all Districts.
Wet Pond		--	--	Annually	ANI	ANI	Yes	Not applicable to all Districts.
Enhanced Wet Pond		--	--	Annually	ANI	ANI	Yes	Not applicable to all Districts.
Constructed Storm Water Wetlands		--	--	Annually	ANI	ANI	Yes	Not applicable to all Districts.
Recharge Basin		--	--	Twice per year	ANI	ANI	Yes	In one district, maintenance and repairs done on an as needed basis.
Leaching Catch Basins		--	--	Annually	ANI	ANI	Yes	In one district, maintenance and repairs done on an as needed basis.
Subsurface Recharge Systems		--	--	Twice annually	ANI	ANI	Yes	Not applicable to all Districts.
Recharge Trenches and Beds		--	--	Annually	ANI	ANI	Yes	Not applicable to all Districts
Recharge Dry Wells and Galleys		--	--	Annually	ANI	ANI	Yes	Not applicable to all Districts

Summary of Compliance with Maintenance Matrix - Statewide Permit Year 11

							Permit Year 11 Statewide	
Drainage Asset	Area/ Note	Activity Schedule					Was Schedule Met?	Comments
		Mow	Sweep	Inspect	Clean	Repair		
Filter Systems		Regular Raking	--	Annually	Annually	ANI	N/A	None known
Sand Filters		--	--	Annually	ANI	ANI	N/A	None known
Organic Filters		--	--	Annually	ANI	ANI	N/A	None known
Water Quality Inlet		--	--	Annually	Annually	ANI	Yes	Not applicable to all Districts.
Flow Splitters		--	--	Annually	ANI	ANI	N/A	None known
Impoundment Structures		--	--	Annually	ANI	ANI	N/A	None known
Check Dams		--	--	Annually	ANI	ANI	Yes	Not all inspected, repaired and cleaned as needed in one district.
OTHER								
Oil/ Water Separators	Self-test alarm, if so equipped	--	--	Weekly	--	--	Yes	Some districts perform repairs/maintenance as needed or every three years.
Holding Tanks - UST	Gauge tank to determine if greater than 75% full.	--	--	Weekly	--	--	Yes	Some districts perform repairs/maintenance as needed or quarterly instead of weekly inspections (based on historic review and usage). Tanks Equipped with High-Level Alarms
Holding Tanks - AST	Gauge tank to determine if greater than 75% full.	--	--	Monitor and set appropriate schedule	--	--	Yes	
Septic System	Record water meter readings and report to DHC.	--	--	Quarterly	--	--	Yes	In one District cleaned annually.
NPDES Construction Site - Site Inspections		--	--	Weekly	--	--	Yes	In one district both by MassDOT and Construction Contractor as required by SWPPP.
NPDES Construction Site - Repair of erosion controls		--	--	Weekly	ANI	--	Yes	In one district both by MassDOT and Construction Contractor as required by SWPPP.
NPDES Construction Site - Cleaning of storm water structures		--	--	Weekly	ANI	--	Yes	In one district both by MassDOT and Construction Contractor as required by SWPPP.

Summary of Compliance with Maintenance Matrix - Statewide Permit Year 11

Drainage Asset	Area/ Note	Activity Schedule					Permit Year 11 Statewide	
		Mow	Sweep	Inspect	Clean	Repair	Was Schedule Met?	Comments
District 3 Specific Maintenance Requirements								
Roads	Quinsigamond and Flint Pond Watershed Leesville Pond in Kettle Brook Sub-basin; Mill Brook Tributary Basin; and Monoosnoc Basin	Annually	Annually	Annually	--	ANI	Yes	
	Salisbury Pond Watershed	Annually	Annually	Annually	--	ANI	Yes	
Catch Basins	Roads within Quinsigamond and Flint Pond Sub-basin; Leesville Pond in Kettle Brook Sub-basin; Mill Brook Tributary Basin; and Monoosnoc Basin	--	--	6 months	ANI	ANI	Yes	
	Roads within Salisbury Pond Watershed	--	--	6 months	ANI	ANI	Yes	
Extended Detention Basins	Roads within Quinsigamond and Flint Pond Sub-basin; Leesville Pond in Kettle Brook Sub-basin; Mill Brook Tributary Basin; and Monoosnoc Basin	Annually	--	6 months	ANI	ANI	Yes	
	Roads within Salisbury Pond Watershed	Annually	--	6 months	ANI	ANI	Yes	
Water Quality Swales (including dry swales, bio-filter swales, and wet swales)	Roads within Quinsigamond and Flint Pond Sub-basin; Leesville Pond in Kettle Brook Sub-basin; Mill Brook Tributary Basin; and Monoosnoc Basin	--	--	6 months	ANI	ANI	Yes	
	Roads within Salisbury Pond Watershed	--	--	6 months	ANI	ANI	Yes	
Sediment Forebays	Roads within Quinsigamond and Flint Pond Sub-basin; Leesville Pond in Kettle Brook Sub-basin; Mill Brook Tributary Basin; and Monoosnoc Basin	--	--	6 months	ANI	ANI	Yes	
	Roads within Salisbury Pond Watershed	--	--	6 months	ANI	ANI	Yes	
ANI - As Needed per Inspection								
N/A - Not Applicable								



Appendix I: Public Well Supply Matrix and Salt Remediation Program

APPENDIX I

<i>Property Owner</i>	<i>Owner/Town</i>	<i>Address</i>	<i>Date of Initial Complaint</i>	<i>Last Data Point (mg/l)</i>	<i>General Comment Section</i>
Andover	Andover	Chris Cronin, Acting Director Department of Public Works 397 Lowell Street Andover, Ma 01810-4416 Telephone (978) 623-8350	2/22/2000	March 2014 Raw: Na=59, Cl=90 Finish: Na=66, Cl=94 Fishbrook: Na=81, Cl=130 Merrimac: Na=41, Cl=68	Poly style storage was constructed in 2001 where there previously was no outside storage from 1998 through 2001. Based on monthly sampling, Town requested a reduced salt zone along I-93 and I-495 and relocation of the salt storage shed via July 2004 correspondence. Section of I-495 and 93 has been designated as a reduced salt zone. Reduced salt zone first implemented in 2005-2006 winter season. New salt shed at Andover River Road/93 constructed in spring 2013.
Cambridge	Cambridge Reservoir	David Kaplan, Watershed Protection Supervisor, Cambridge Water Dept. 250 Fresh Pond Parkway Cambridge, MA 02138 (671) 349-4799	Regular monitoring began 1987	February 2014 Hobbs Brook (at intake), Na=133, Cl=220 Stoney Brook (at intake) Na =95, Cl= 170 Fresh Pond(at intake) Na=72, Cl=145	Reservoir is adjacent to 128 in Towns of Lexington, Lincoln, Waltham, and Weston. There is a designated reduced salt zone for this area covering 24.6 linear miles and 177.8 lane miles in the vicinity of the water supply covering sections of Route 2, 2A and 128.
Dedham/ Westwood	Dedham/West wood	Eileen Commene Executive Director Dedham-Westwood Water Dept. 50 Elm Street, Dedham, MA 02027-9137 Telephone (781) 329-7090	File alluded to 3/7/88 correspondence from DWWD requesting MHD refrain from using salt along sections of Rt 128. 12/19/97 telecon b/w Sam Pollock and Mark Hollowell of Anderson-Nichols regarding DEP req'd monthly monitoring and concerns for White Lodge Well #5	January 2013 Well #5, Na = 101 Cl = 236	Concern is over municipal well located to the North of I-95/128 near University Avenue. The well is located in Fowl Meadow Aquifer that recharges White Lodge Well No. 5. Correspondence written in March 2004 indicating that we would monitor salt application. MassDOT with UMass has installed monitoring wells and stormwater outfall monitors to evaluate NaCl sources to Fowl Meadow. MassDOT and UMass have been conducting monthly sampling of well network. The town contacted MassDOT following completion of the study in 2010 to request a RSZ. The results of a mass- balance study indicate that MassDOT's contribution of NaCl is 78%. On Dec 17, 2011 we held tailgate training at the Dedham depot, we identified an overlap, and have committed equipment with closed –loop controllers to this section of I-95. Additionally, MassDOT met with DWWD in November 2011 and explained that with improved BMP's, new technology and operational improvements, we should see a significant reduction in NaCl without designating a RSZ, however it may take a few years to validate. The DWWD sent us a letter in February 2012 stating that although they appreciate the changes we've made, they are still requesting a RSZ. A tailgate training session was held at the Westwood depot on Dec 1, 2012. MassDOT committed to monitor BMP's and look for opportunities to improve our operations.

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North Chelmsford	North Chelmsford	Bruce J. Harper Superintendent North Chelmsford Water District 64 Washington Street PO Box 655 North Chelmsford, MA 01863-0655 Telephone (978) 251-3931	mid 1980s	12/20/2013 # 1 Na=152, Cl=305 # 2 Na=49, Cl=99 # 3 Na=144, Cl=283 # 4 Na=188, Cl=358	There is a reduced salt zone in East and North Chelmsford for 153 lane miles consisting of section of Route 3, 3A, 4 and Lowell Connector. High arch gambrel salt shed constructed in fall 2011.
Rousselot, Peabody Inc. Formerly Eastman Gelatin	Peabody	Scott Smith, HSE Mgr. 227 Washington St. Peabody, MA 01960 (978) 573-3774	~1965	5/2012 Pumphouse 2A, Cl=121Pumphouse 4A, Cl=171 Pumphouse 6, Cl=274 Pumphouse 11, Cl=200 Pumphouse 11A, Cl=228	Rousselot industrial wells in close proximity to I-95. This area is within a reduced salt zone. Data is collected by Rousselot. 2011-2012 winter season MassDOT began pre-treating this section of I-95 with liquid magnesium chloride. Tailgate training session held at Peabody depot on Nov 3, 2012.
Hanover	Hanover	Douglas Billings, Water Supervisor Hanover Water Dept. 40 Pond Street Hanover, MA 02339 (781) 826-3189	Being sampled for baseline data due to roadway project	1/29/2014 Inlet (raw): Na=57, Cl=100	MassDOT continues to analyze sodium and chloride data to evaluate impacts to the public water supply following the construction of additional travel lanes along Route 53.
Middleboro	Middleboro	Joseph Silva, Water Superintendent Dept. of Public Works 48 Wareham Street Middleboro, MA (508) 946-2482	8/15/1989 & 2/91	12/5/2013 Miller Na =35 Cl = 55 Rock 1 Na = 59 Cl = 112 Rock 2 Na =76, Cl=133 Tispaquin Na=50.6, Cl=77.4 East Grove Na=69, Cl=143	3/20/06 mtg between District 5 and Env. Personnel to discuss town wells and operational improvements. 3/29/06 letter forwarded to water district. MassDOT continues to implement reduced salt zone in the area for 40 lane miles of Route 28 and 495. Tailgate training session held in Middleboro on 11/21/13. Meeting between Town and MassDOT Ops/Env to discuss operation in the vicinity of the PWS wells held on 1/24/14.

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Wilmington	Wilmington	Shelly Newhouse, R.S. Director of Public Health 12 Glen Road, Wilmington, MA 01887 (978) 658-4298	4/29/2005 & 10/19/2011	2/2014 Browns Crossing (raw) Na=120, Cl=230 Barrows (raw) Na=180, Cl=310	Applied for RSZ in 2005 but it was noted that MassDOT wasn't the primary source. The Town reached out to MassDOT again in 2011 with concerns regarding elevated sodium in their PWS. MassDOT sent a letter to Wilmington in December 2011 and explained that with improved BMP's, new technology and operational improvements, we should see a significant reduced use of NaCl without designating a RSZ.. Due to the highly developed area we have expressed to Wilmington that they should also explore BMPs to address NaCl concentrations. We held a tailgate training in January to discuss the BMP's. On March 15, 2012 a meeting was held with the BOH, MassDOT, and MassDEP to discuss their concerns, and MassDOT agreed to improved BMP's, and a follow up meeting in the fall. MassDEP has also expressed that BMP's seem appropriate and should be given an opportunity to work. However, despite our efforts they submitted another request for a reduced salt zone. A meeting was held with the Town of Wilmington and DEP on Nov 26, 2012 and we held a tailgate training on Dec 8, 2012 to discuss BMPs. Another meeting between the Town, DEP and MassDOT was held on 11/19/2013.
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Appendix J: TMDL Review Table

GENERAL TMDL INFORMATION							WATERBODY SPECIFIC TMDL INFORMATION	
Basin/TMDL Name	Pollutant of Concern	WLA Included?	TMDL recommendations re: MassDOT Included?	If yes, what are the recommendations?	Are current programs meeting these recommendations through existing or proposed programs?	How is MassDOT currently meeting these recommendations or how does MassDOT plan to meet them in the future?	Specific Impaired Waterbodies included in TMDL (bold identified as storm water impaired)	WLA Applicable to MassDOT?*
Multi-State /Final Bacteria and Total Phosphorus TMDL Report for the Kickemuit River (Rhode Island- Massachusetts))	Bacteria, Phosphorus	Yes	Yes	MassDOT will need to comply with MS4 regulations. Phase II Stormwater Management Plans submitted and general permits as required which include six minimum measures and prioritization of outfalls for BMP construction. MassDOT needs educational programs on pollution prevention and good housekeeping practices.	Yes	MassDOT has received full authorization to discharge under the general permit. The NOI submitted with the application for coverage includes many educational programs on pollution prevention and good housekeeping practices. MassDOT and EPA continue to work together to finalize the programs included in the Storm Water Management Plan.	Kickemuit Reservoir Upper Kickemuit River Kickemuit River	
Multi-State/ Northeast Regional Mercury Total Maximum Daily Load	Mercury	Yes	No	--			For fresh waters in CT, MA, ME, NH, NY, RI, VT	No
Blackstone River/Final TMDLs of Phosphorus for Indian Lake (BMP 7K)	Phosphorus	Yes	Yes	TMDL suggests that MassDOT do the following: 1. Reduce impervious surfaces, institute increased street sweeping and catch basin cleaning; install detention basins, etc. 2. Comply with a new Phase II Stormwater discharge permit. In addition, the Regional DEP office in Worcester has submitted a written request to the Regional office of MassDOT to give the roads in the Mill Brook drainage area (including parts of Indian Lake Watershed) priority for increased Best Management Practices such as sweeping and catch basin cleaning.	No	MassDOT's Impaired Waters Program will include the review of the need for BMPs to address the TMDL. MassDOT has received authorization from EPA to discharge storm water under the general permit for discharges in this watershed. A parcel containing four acres of land adjacent to Indian Lake was retained for future installation of stormwater BMPs	Indian Lake, Worcester	
Blackstone River/ Final TMDLs of Phosphorus for Lake Quinsigamond and Flint Pond (BMP 7P)	Phosphorus	Yes	Yes	1. MassDOT should begin the Storm Water Management Plans required under Phase II to reduce discharge of pollutants to the "maximum extent practicable." 2. MassDOT will also be required to apply for the EPA Phase II General Stormwater NPDES Permit by March 10 of 2003. 3. The regional office of MassDOT has offered to target high priority watersheds in the region of higher frequency of BMPs and maintenance. 4. Visually inspect the roads monthly and sweep as needed. At a minimum, roads must be swept at least twice a year as soon after snowmelt as possible or by April 1st of each year and again in the fall. 5. Inspect catch basins at least twice a year and any other settling or detention basins once a year to measure depth of solids. If solids are one half or more of design volume for solids, then completely remove all solids. 6. Inspect and maintain all structural components of stormwater system on a yearly basis. 7. Develop methodology to calculate loadings from highways. 8. Conduct pilot project to assess loadings and test BMPs on highways 9. Initiate twice yearly sweeping and catch basin inspection and cleaning program along I-290 and other roadways. Install additional BMPs as needed to address pollutant loadings identified above.	Yes	MassDOT has received authorization from EPA to discharge storm water under the general permit for discharges in this watershed. Lake Quinsigamond, Worcester/ Shrewsbury MassDOT's Impaired Waters Program will include the review of the need for BMPs to address the TMDL. District 3 has agreed to increase maintenance schedule within this watershed. In a letter written to DEP and dated June 19, 2002, District 3 committed to an increased schedule of inspection of catch basins every six months, with cleaning as determined necessary in inspections, and annual sweeping of roads in this watershed. See response above (#4) regarding maintenance schedule commitments. The letter committed to inspection and cleaning, if necessary of all sumped drainage structures twice a year and more often if necessary; inspection/ cleaning of drainage outlet locations where sediment build up is evident; and inspection and repair of damaged and/or clogged drainage conveyances. Appendix H of this report summarizes the measures taken this year to meet this maintenance schedule. See response above (#5). Projects will be reviewed through MassDOT's Impaired Waters Program and the assessment methods developed for that program and reviewed with EPA. See response above (#7). See response above (#4) regarding CBs. MassDOT will review projects within this watershed for opportunities to include additional BMPs within proposed projects if MassDOT determines they will help address the pollutant loading issue.	Flint Pond, Grafton/Worcester/ Shrewsbury	

GENERAL TMDL INFORMATION						WATERBODY SPECIFIC TMDL INFORMATION		
Basin/TMDL Name	Pollutant of Concern	WLA Included?	Are there recommendations re: MassDOT Included?	If yes, what are the recommendations?	Is MassDOT meeting these recommendations through existing or proposed programs?	How is MassDOT currently meeting these recommendations or how does MassDOT plan to meet them in the future?	Specific Impaired Waterbodies included in TMDL (bold identified as storm water impaired)	WLA Applicable to MassDOT?
Blackstone River/ Final TMDLs of Phosphorus for Leesville Pond (BMP 7L)	Phosphorus	Yes	Yes	TMDL suggests that:			Leesville Pond, Auburn/Worcester	
				1. MassDOT should conduct loading study and develop methodology to calculate loadings from highways.	Yes	USGS performed a loading study for MassDOT. The results will be used in the FHWA/ USGS model when updated. Projects will be reviewed through MassDOT's Impaired Waters Program and the assessment methods developed for that program and reviewed with EPA.		
				2. MassDOT and towns of Auburn, Leicester, Paxton, and Millbury and City of Worcester should initiate twice yearly sweeping and catch basin inspection and cleaning program along I-290 and other roadways and install additional BMPs as needed to address pollutants loadings identified above.	Yes	MassDOT District 3 has committed to an increased schedule of inspection of catch basins every six months, with cleaning as determined necessary in inspections, and annual sweeping of roads in this watershed. District 3 has committed to inspection and cleaning, if necessary, of all sumped drainage structures twice a year and more often if necessary; inspection/ cleaning of drainage outlet locations where sediment build up is evident; and inspection and repair of damaged and/or clogged drainage conveyances. Appendix H of this report summarizes the measures taken to meet this schedule this year. MassDOT's Impaired Waters Program will include the review of the need for BMPs to address the TMDL.		
				3. MassDOT and towns of Auburn, Leicester, Paxton, and Millbury should prepare Storm Water Management Plan for Phase II.	Yes	MassDOT has received authorization from EPA and DEP to discharge storm water under the general permit for discharges in this watershed. See response above (#2).		
Blackstone River/TMDLs of Phosphorus for Selected Northern Blackstone Lakes (BMP 7N)	Phosphorus	Yes	Yes	TMDL suggests that MassDOT should regulate road sanding, salting, regular sweeping, and installation of BMPs (for these impaired waterbodies).	Yes	MassDOT regulates road sanding and salting through its Snow and Ice Program and the procedures approved in the GEIR. Roads are swept on an annual basis after winter deicing applications.		
						Auburn Pond, Auburn	No	
						Curtis Pond North, Worcester	No	
						Curtis Pond South, Worcester	No	
Blackstone River/ Final TMDLs of Phosphorus for Salisbury Pond (BMP 7O)	Phosphorus	Yes	Yes	TMDL indicates that:				
				1. MassDOT should develop methodology to calculate loadings from highways and conduct pilot projects to assess loadings and test BMPs on highways.	Yes	USGS performed a loading study for MassDOT. The results will be used in the FHWA/ USGS model when updated. Projects will be reviewed through MassDOT's Impaired Waters Program and the assessment methods developed for that program and reviewed with EPA.		
				2. MassDOT and town or city Dept. Public Works should reduce impervious surfaces, institute more frequent street sweeping and catch basin cleaning, install detention basins, dredge and maintain storm water detention basins, etc.	Yes	MassDOT has committed to DEP in its January 23, 2002 letter that streets will be swept at least once a year (usually in spring) and more often if necessary. All sumped drainage structure will be inspected and cleaned, if necessary, twice a year and more often if necessary. MassDOT will inspect/ clean drainage outlet locations where sediment build-up is evident. MassDOT will inspect and repair damaged and/ or clogged drainage conveyances. Maintenance activity in compliance with this schedule is included in Appendix E. MassDOT has received authorization from EPA and DEP to discharge storm water under the general permit for discharges in this watershed.		
				3. MassDOT will also be required to apply for the EPA Phase II General Stormwater NPDES Permit by March 10 of 2003.				
						Dorothy Pond, Millbury	No	
						Eddy Pond, Auburn	No	
						Pondville Pond, Auburn	No	
						Smiths Pond, Leicester	No	
						Southwick Pond, Leicester	No	
						Stoneville Pond, Auburn		
						Brierly Pond, Millbury	No	
						Green Hill Pond, Worcester	No	
		Howe Reservoir, Millbury	No					
		Jordan Pond, Shrewsbury	No					
		Mill Pond, Shrewsbury	No					
		Newton Pond, Shrewsbury	No					
		Shirley St Pond, Shrewsbury	No					

GENERAL TMDL INFORMATION						WATERBODY SPECIFIC TMDL INFORMATION	
Basin/TMDL Name	Pollutant of Concern	WLA Included?	recommen- dations re: MassDOT Included?	If yes, what are the recommendations?	How is MassDOT currently meeting these recommendations or how does MassDOT plan to meet them in the future?	Specific Impaired Waterbodies included in TMDL (bold identified as storm water impaired)	WLA Applicable to MassDOT?
Boston Harbor/ Final TMDLs of Bacteria for Neponset River Basin (BMP 7Q)	Bacteria	Yes	Yes	Regulated municipalities should prepare Storm Water Management Plans for Phase II.	--	Beaver Meadow Brook East Branch, Outlet Forge Pond Germany Brook Gulliver Creek Hawes Brook Massapoag Brook Mill Brook Mine Brook Mother Brook Neponset River Pequid Brook Pine Tree Brook Ponkapoag Brook Purgatory Brook School Meadow Brook Traphole Brook Unquity Brook	
Final Pathogen TMDL for the Buzzards Bay Watershed	Pathogens	Yes	Yes	Development of comprehensive storm water management programs including identification and implementation of BMPs Bacteria Source Tracking: TMDL identifies potential sources of bacteria as illicit sewer connections and stormwater runoff, among others. Recommendations are to prioritize dry weather bacteria source tracking. Further recommendations include evaluating impaired waterbody segments for BMPs starting with intensive application of less costly non-structural practices such as street sweeping and monitoring of their success.	MassDOT will review 20% of TMDL watersheds across the state each year for the need for additional BMPs to meet the TMDL recommendations. If additional BMPs are identified, they will be included in future construction projects. MassDOT has hired a consultant to review illicit discharges and committed to reviewing 10% of urbanized areas each year. MassDOT has also committed to review impaired waterbodies starting with 20% of TMDL watersheds in the state per year to determine if additional controls are needed to address the pollutant of concern. The following projects were initiated/ designed or constructed during PY11 in this basin: 606172 - involves work on Rt I-195 resurfacing near Acushnet River/ New Bedford Inner Harbor in Fairhaven	Acushnet River Agawam River Apponansett Bay Aucot Cove Back River Bread and Cheese Brook Beaverdam Creek Broad Marsh River Buttermilk Bay Buttonwood Brook Buzzards Bay Cape Cod Canal Cedar Island Creek Clarks Cove Crooked River East Branch Westport River Eel Pond Great Sippewisset Creek Hammett Cove Harbor Head Herring Brook Hiller Cove Little Bay Little Sippewisset Marsh Mattapoisett Harbor Mattapoisett River Nasketucket Bay New Bedford Inner Harb Onset Bay Outer New Bedford Harb Pocasset Harbor Phinney Harbor Quisset Harbor Sippcan Harbor Sippican River Slocums River Snell Creek Red Brook Harbor Wankinco River Wareham River West Branch Westport River West Falmouth Harbor Westport River Weweantic River Wild Harbor	

[illegible]

GENERAL TMDL INFORMATION						WATERBODY SPECIFIC TMDL INFORMATION		
Basin/TMDL Name	Pollutant of Concern	WLA Included?	have been recommendations re: MassDOT Included?	If yes, what are the recommendations?	Are we currently meeting these recommendations through existing or proposed programs?	How is MassDOT currently meeting these recommendations or how does MassDOT plan to meet them in the future?	Specific Impaired Waterbodies included in TMDL (bold identified as storm water impaired)	WLA Applicable to MassDOT?*
Cape Cod/Final Nitrogen TMDL Report for the Quashnet River, Hamblin Pond, Little River, Jehu Pond, and Great River in the Waquoit Bay System	Total Nitrogen	Yes	No	--			Quashnet River Hamblin Pond Little River Jehu Pond Great River	
Cape Cod/Final Bacteria TMDL Report for the Three Bays System	Pathogens	Yes	Yes	The Massachusetts Highway Department should determine the Route 28 roadway drainage area discharging to the Marstons Mills River and install best management structures and/or operational practices to the maximum extent practicable and at a minimum, be designed to meet the water quality standard for bacteria in SA waters. Given this is a waterway with an approved TMDL, the MHD must meet the requirements of EPA's NPDES General Permit for Stormwater Discharges from Small MS4s (Phase II), Part I D(1-4), as it pertains to unapproved TMDLs.		MassDOT will review 20% of TMDL watersheds across the state each year for the need for additional BMPs to meet the TMDL recommendations. If additional BMPs are identified, they will be included in future construction projects.	Seapuit River	
				Infiltration structures and devices that have been installed to control the road runoff from Route 28 into the Marstons Mills River should be inspected to determine their performance and condition. MassDOT		MassDOT will review 20% of TMDL watersheds across the state each year for the need for additional BMPs to meet the TMDL	Prince Cove Cotuit Bay North Bay West Bay	
Cape Cod/ Final Nitrogen TMDL Report for the Three Bays System	Total Nitrogen	Yes	No	--			Cotuit Bay North Bay Prince Cove Seapuit River West Bay	
Cape Cod/Final Nitrogen TMDL for West Falmouth Harbor	Total Nitrogen	Yes	No	--			Harbor Head West Falmouth Harbor	
Cape Cod/Final Nitrogen TMDL Report for Five Chatham Embayments (Stage Harbor, Sulphur Springs, Taylors Pond, Bassing Harbor and Muddy Creek)	Total Nitrogen	Yes	No	--			Oyster Pond Oyster Pond River Stage Harbor Mill Pond Mill Creek Harding Beach Pond Bucks Creek Taylors Pond	
Cape Cod/ Final TMDL Report of Bacteria for Frost Fish Creek, Chatham (BMP 7F)	Bacteria	Yes	Yes	The Massachusetts Highway Department should determine the Route 28 roadway drainage discharging to Muddy Creek and install best management structures and/or operational practices to the maximum extent practicable with a goal of meeting the water quality standard for bacteria in SA waters. Given this is a waterway with an approved TMDL, the MHD must meet the requirements of EPA's NPDES General Permit for Stormwater Discharges from small MS4s (Phase II), Part i D(1-4), as it pertains to approved TMDLs." MassDEP has not deferred to the Route 28 reconstruction project since we do not have any information about the extent or the time schedule for it. MassDEP also suggests that the MassDOT Dept. work with the Town of Chatham to work out a reasonable schedule for these activities.	Yes	Any programmed project draining to Frost Fish Creek will address the TMDL as part of MassDOT's Impaired Waters program. If programmed projects do not occur before 2015, this waterbody segment will be reviewed as part of the Impaired Waters Program Retrofit Initiative and the assessment will determine if additional retrofit BMPs are necessary to address the impairment and meet the TMDL. There were no projects done within the Cape Cod Basin this year.	Frost Fish Creek	
Cape Cod/Final TMDLs of Nitrogen for Great, Green, and Bournes Pond Embayment Systems	Total Nitrogen	Yes	No	--			Great Pond Perch Pond Green Pond Bournes Pond	
Cape Cod/ Final TMDL Report of Bacteria for Muddy Creek, Chatham (BMP 7G)	Bacteria	Yes	Yes	The Massachusetts Highway Department should determine the Route 28 roadway drainage discharging to Muddy Creek and install best management structures and/or operational practices to the maximum extent practicable with a goal of meeting the water quality standard for bacteria in SA waters. Given this is a waterway with an approved TMDL, the MHD must meet the requirements of EPA's NPDES General Permit for Stormwater Discharges from small MS4s (Phase II), Part i D(1-4), as it pertains to approved TMDLs." MassDEP has not deferred to the Route 28 reconstruction project since we do not have any information about the extent or the time schedule for it. MassDEP also suggests that the MassDOT Dept. work with the Town of Chatham to work out a reasonable schedule for these activities.	No	Any programmed project draining to Muddy Creek will address the TMDL as part of MassDOT's Impaired Waters program. If programmed projects do not occur before 2015, this waterbody segment will be reviewed as part of the Impaired Waters Program Retrofit Initiative and the assessment will determine if additional retrofit BMPs are necessary to address the impairment and meet the TMDL. The Mass Fish & Game Div. of Ecological Restoration, with sponsors Pleasant Bay Alliance and USDA have proposed to replace two 45" x 30" culverts under Rt 28 with a 24 foot span concrete bridge to increase tidal flushing at Muddy Creek. There are no plans to resurface Rt 28 in this vicinity at this time. MADOT will provide assistance and review in putting together a proposal. Next year anticipate a detailed design review and possible bridge construction by others.	Muddy Creek	

GENERAL TMDL INFORMATION						WATERBODY SPECIFIC TMDL INFORMATION	
Basin/TMDL Name	Pollutant of Concern	WLA Included?	recommen- dations re: MassDOT Included?	If yes, what are the recommendations?	How is MassDOT currently meeting these recommendations or how does MassDOT plan to meet them in the future?	Specific Impaired Waterbodies included in TMDL (bold identified as storm water impaired)	WLA Applicable to MassDOT?
Charles River/Final Phosphorus TMDL Report for the Lower Charles River Basin	Total Phosphorus	Yes	Yes	TMDL suggests MassDOT: 1. Collect source monitoring data and additional drainage area information to better target source areas for controls and evaluate the effectiveness of on-going control practices. 2. Enhance existing stormwater management programs to optimize reductions in nutrient loadings with initial emphasis on source controls and pollution prevention practices.	MassDOT's Impaired Waters Program will include the review of the need for BMPs to address the TMDL. The following projects were initiated/ designed or constructed during FY11 in this basin: 606460 - involves work on Beacon Street/Park Drive near Charles River in Boston. 607209 - involves work on Beacon Street near Chrls River in Somerville.	Charles River	
Charles River / Final Pathogen TMDL Reports for the Charles River Watershed	Pathogens	Yes	No	--		Beaver Brook Bogastow Brook Charles River Cheese Cake Brook Fuller Brook Muddy River Rock Meadow Brook Rosemary Brook Sawmill Brook South Meadow Brook Stop River Unnamed tributaries	
Chicopee River/Final TMDLs of Phosphorus for Quaboag and Quacumquasit Ponds	Total Phosphorus	Yes	Yes	The TMDL suggests that MassDOT: 1. Regulate road sanding, salting, regular sweeping, and installation of BMPs. 2. Perform roadway sweeping and catch basin inspection/cleaning twice a year. 3. MH along with the town of Spencer, control nonpoint source pollution targeting for State Routes 9, 31 and 49 by requiring roadway sweeping and catch basin inspection/cleaning twice a year or other approved BMPs. 4. MH and the town of Spencer must maintain or improve all existing BMPs or the permittee may install infiltration or other BMPs and document a total reduction of 29% of the total phosphorus loading to receiving waters to control the stormwater discharges within the watershed. To do this, MH and the town of Spencer must either conduct roadway sweeping in the spring and fall combined with annual catch basin inspection and cleanout to restore 80% or more of the solids storage volume anytime the available solids storage volume is less than 50%.	MassDOT regulates road sanding and salting through its Snow and Ice Program and the procedures approved in the GEIR. Roads are swept on an annual basis after winter deicing applications. MassDOT's Impaired Waters Program will include the review of the need for BMPs to address the TMDL. MassDOT has proposed a catchbasin inspection and maintenance record system in its SWMP (BMP 6C-4). MassDOT has very limited maintenance budgets and staff, therefore we feel that the cost-effectiveness, and necessity of cleaning catch basins twice per year should be closely evaluated rather than arbitrarily set. Appendix E summarizes the maintenance activities performed this year. MassDOT has proposed a catchbasin inspection and maintenance record system in its SWMP (BMP 6C-4). MassDOT has very limited maintenance budgets and staff, therefore we feel that the cost-effectiveness, and necessity of cleaning catch basins twice per year should be closely evaluated rather than arbitrarily set. Appendix E summarizes the maintenance activities performed this year. MassDOT's Impaired Waters Program will include the review of the need for BMPs to address the TMDL.	Quaboag Pond Quacumquasit Pond	No No
Chicopee River /Final TMDLs of Phosphorus for Selected Chicopee Basin Lakes (BMP 7H)	Phosphorus	Yes	No	TMDL suggests MassDOT should regulate road sanding, salting, regular sweeping, and installation of BMPs for these ponds.	Yes MassDOT regulates road sanding and salting through its Snow and Ice Program and the procedures approved in the GEIR. Roads are swept on an annual basis after winter deicing applications. MassDOT's Impaired Waters Program will include the review of the need for BMPs to address the TMDL.	Browning Pond, Oakham Long Pond, Springfield Sugden Reservoir, Spencer Mona Lake, Springfield Minechoag Pond, Ludlow Wickaboag Pond, West Brookfield Spectacle Pond, Wilbraham	No No No No No No

GENERAL TMDL INFORMATION							WATERBODY SPECIFIC TMDL INFORMATION	
Basin/TMDL Name	Pollutant of Concern	WLA Included?	MASSDOT Included?	If yes, what are the recommendations?	Are there recommendations through existing or proposed programs?	How is MassDOT currently meeting these recommendations or how does MassDOT plan to meet them in the future?	Specific Impaired Waterbodies included in TMDL (bold identified as storm water impaired)	WLA Applicable to MassDOT?*
Millers River/Final TMDLs of Phosphorus for Selected Millers River Basin Lakes (BMP 7M)	Phosphorus	Yes	Yes	TMDL suggests that MassDOT should better manage road sanding, salting, regular sweeping, and installation of BMP's (specific to these impaired waterbodies).	Yes	MassDOT's Impaired Waters Program will include the review of the need for BMPs to address the TMDL.	Bents Pond	
							Bourn-Hadley Pond	No
							Brazell Pond	No
							Lake Ellis	No
							Greenwood Pond	No
							Lake Monomonac	
							Ramsdall Pond	
							Reservoir No. 1	No
							Wallace Pond	No
							Whitney Pond	No
							Beaver Flowage Pond	No
							Cowee Pond	No
							Davenport Pond	No
							Lake Denison	No
							Depot Pond	No
							Hilchey Pond	
							Lower Naukeag Lake	
							Minott Pond South	No
							Minott Pond	No
							Parker Pond	
							Reservoir No. 2	No
							Riceville Pond	
							South Athol Pond	No
							Stoddard Pond	No
							Ward Pond	No
							Whites Mill Pond	No
							Wrights Reservoir	
Narragansett Bay/ Final Bacteria TMLD for Palmer River Basin	Bacteria	Yes	No	--	--	--	Palmer River - West Branch Palmer River - East Branch Runney Marsh brook Beaver Dam Brook Bad Luck Brook Fullers Brook Clear Run Torrey Creek Old Swamp Brook Rocky Run	
Nashua River/ Final TMDL for Bare Hill Pond	Nuisance Aquatic Plants	Yes	No	--	--	--	Bare Hill Pond	
Shawsheen River/Final TMDLs of Bacteria for Shawsheen River Basin	Bacteria	Yes	No	--	--	--	Shawsheen River	
South Coastal/ Final TMDLs of Bacteria for Little Harbor, Cohasset	Fecal Coliform	Yes	No	--	--	--	Little Harbor, Cohasset	
SuAsCo/Assabet River TMDL for Total Phosphorus	Phosphorus	Yes	No	--	--	--	Assabet River (7 segments) Assabet River Reservoir (1 segment)	No No

GENERAL TMDL INFORMATION							WATERBODY SPECIFIC TMDL INFORMATION	
Basin/TMDL Name	Pollutant of Concern	WLA Included?	recommen- dations re: MassDOT Included?	If yes, what are the recommendations?	How is MassDOT currently meeting these recommendations or proposed programs?	How is MassDOT currently meeting these recommendations or how does MassDOT plan to meet them in the future?	Specific Impaired Waterbodies included in TMDL (bold identified as storm water impaired)	WLA Applicable to MassDOT?
SuAsCo/ Final TMDLs of Phosphorus for Lake Boon (Boons Pond)	Phosphorus	Yes	No	--	--	--	Lake Boon, Hudson Stow	No
Buzzards Bay/Final TMDL of Total Phosphorus for White Island Pond	Phosphorus	Yes	No	--	--	--	White Island Pond East and West Basins	
Narragansett Bay/Final Pathogen TMDL for the Narragansett/Mt. Hope Bay Watershed	Pathogen	Yes	No	Segments that remain impaired during wet weather should be evaluated for stormwater BMP implementation opportunities starting with less costly non-structural practices first (such as street sweeping, and/or managerial approaches using local regulatory controls), and lastly, more expensive structural measures. Structural stormwater BMP implementation may require additional study to identify cost efficient and effective technology.	--	--		
Final Pathogen TMDL for the Taunton River Watershed	Bacteria	Yes	No	--	--	<p>The following projects were initiated/ designed or constructed during PY11 in this basin:</p> <p>606374 - involves work on Brook Street near Segreganset River in Dighton. Project BMPs include deep sump catch basin, DMH, HDW, stone swales</p> <p>606580 - involves work on Route 103/ Rt. I-195 E.B. Ramp Park and ride lot expansion near Lee River in Somerset. BMPs include plunge pools, deep sump catch basins, parking lot sweeping, snow and snow melt management</p> <p>607730 - involves work on Brownell St. and President Ave near Taunton River in Fall River.</p>	Salisbury Brook, Trout Brook, Salisbury Plain River, Beaver Brook, Meadow Brook, Shumatusacant River, Matfield River, Rumford River , Wading River, Wading River, Threemile River, Assonet River , Muddy Cove Brook, Broad Cove, Taunton River , Segreganset River	
Approval of the Pathogen TMDL Addendum for the Cape Cod Watershed	Bacteria	Yes	No	--	--	--	Cockle Cove, Dock Creek, East Harbor, Halls Creek, Hyannis Inner Harbor, Little Pleasant Bay, The River, Santuit River, Snows Creek, Springhill Creek, Stewarts Creek, Little Pond, Mill Creek, Old Harbor Creek, Paw Wah Pond, Pocket Neck	
Approval of the Northeast Regional Mercury TMDL: Addendum for Massachusetts	Mercury	Yes	No	--	--	--	Manchaug Pond, Bearse Pond, Horseleach Pond, Lawrence Pond, Round Pond (East), Round Pond (West), Spectacle Pond, Beaver Pond, Cedar Swamp Pond, Ashland Reservoir, Ashfield Pond, Moores Pond, Sawdy pond, Lake Shirley, Pettee Pond, Ponkapoug Pond, Reservoir Pond, Buckley Dunton lake, Windsor Lake	
Final Pathogen TMDL for the North Coastal Watershed	Bacteria	Yes	No	--	--	--	Alewite Brook, Essex River, Essex Bay, Annisquam River, Rockport Harbor, Gloucester Harbor, Causeway Brook, Cat Brook, Manchester Harbor, Bass River, Frost Fish Brook, Porter River, Crane Brook, Crane River, Water River, Goldthwait Brook, Proctor Brook, North River, Danvers River, Beverly Harbor, Proctor Brook, Salem Harbor, Marblehead Harbor, Salem Sound, Nahant Bay, Saugus River, Beaverdam Brook, Mill River, Hawkes Brook, Bennetts Pond Brook, Shute Brook, Pines River, Lynn Harbor	
Addendum: Final TMDL of Bacteria for Neponset River Basin (CN 121.5)	Bacteria	Yes	No	--	--	--	Neponset River, Pecunit Brook, unnamed Tributary 1, unnamed Tributary 2	