Maura Healey, Governor
Kimberley Driscoll, Lieutenant Governor
Monica Tibbits-Nutt, Secretary & CEO
Jonathan L. Gulliver, Highway Administrator

massDOT
Massachusetts Department of Transportation
Highway Division

May 1, 2025

Glenda Velez
U.S. Environmental Protection Agency – Region 1
5 Post Office Square – OEP06-01
Boston, MA 02109-3912

RE: NPDES PHASE II Small MS4 General Permit
EPA Permit Number MA043025
Massachusetts Department of Transportation Permit Year 22 Annual Report

Dear Ms. Velez,

Please find enclosed the Permit Year 22 Annual Report, signed by the Administrator Jonathan L. Gulliver. The annual report summarizes the Massachusetts Department of Transportation's (MassDOT's) activities between April 2024 and March 2025 towards meeting the measurable goals outlined in MassDOT's most recent revision of the SWMP, submitted to EPA on April 30th, 2024. MassDOT continues to be authorized to discharge stormwater under the 2003 MS4 permit, while the Environmental Protection Agency (EPA) prepares a transportation specific individual permit for MassDOT. Please feel free to contact Maria Briones, Supervisor of Stormwater Management, at (857) 275-7253 or maria.b.briones@dot.state.ma.us if you have any questions or require further information.

Sincerely,

Samantha Dolabany
Director of Environmental Services
MassDOT Highway Division

Enclosures: NPDES Phase II Small MS4 General Permit Annual Report – Year 22

Municipality/Organization: **MassDOT - Highway Division**

EPA NPDES Permit Number: **MA043025**

MassDEP Transmittal Number: **W-040919**

Annual Report Number
& Reporting Period: **No. 22, April 2024-March 2025**

NPDES Phase II Small MS4 General Permit Annual Report

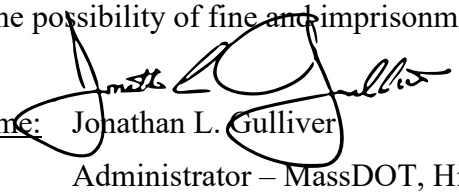
Part I. General Information

Contact Person: Maria Briones Title: Supervisor of Stormwater Management Unit

Telephone #: (857)-275-7253 Email: maria.b.briones@dot.state.ma.us

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: Jonathan L. Gulliver

Title: Administrator – MassDOT, Highway Division

Date: 4-22-2025

List of Acronyms

Abbreviation	Definition
ACEC	American Council of Engineering Companies
BMP	Best Management Practice
CGP	Construction General Permit
CLF	Conservation Law Foundation
CRU	Cultural Resources Unit
DHD	District Highway Director
DOT	Department of Transportation
EBC	Environmental Business Council
EEA	Executive Office of Energy and Environmental Affairs
EPA	Environmental Protection Agency
ERC	Environmental Review Checklist
ESPR	Environmental Status and Planning Report
FHWA	Federal Highway Administration
GIS	Geographical Information Systems
IDDE	Illicit Discharge Detection and Elimination
IWP	Impaired Waters Program
MCM	Minimum Control Measure
MEPA	Massachusetts Environmental Policy Act
MESA	Massachusetts Endangered Species Act
MS4	Municipal Separate Storm Sewer Systems
NEPA	National Environmental Policy Act
NHESP	Natural Heritage & Endangered Species Program
NOI	Notice of Intent
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
PDDG	Project Development and Design Guide

Abbreviation	Definition
POMP	Programmatic Operations and Maintenance Program
PY	Permit Year
RE	Resident Engineer
RWIS	Road Weather Information System
SCM	Stormwater Control Measure
SDG	Stormwater Design Guide
SOP	Standard Operating Procedure
SWMP	Stormwater Management Plan
SWPPP	Stormwater Pollution Prevention Plan
TMDL	Total Maximum Daily Load
USFWS	U.S. Fish and Wildlife Service
WPA	Wetlands Protection Act
WQDF	Water Quality Data Form
WSI	Winter Severity Index

Part II. SELF-ASSESSMENT

The Massachusetts Department of Transportation – Highway Division (MassDOT) has completed the required self-assessment of compliance with the conditions of the *2003 United States Environmental Protection Agency (EPA) National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4),* as described in this annual report. MassDOT has spent significant time, effort, and funds focusing on the potential impacts of stormwater from its roads and properties this year. MassDOT advanced our stormwater program in Permit Year (PY) 22 through continued implementation of the Impaired Waters Program (IWP), preparing updates to the Water Quality Data Form (WQDF), educating staff on stormwater design reviews, performing good housekeeping measures including catch basin inspection and cleaning follow up on potential illicit discharges, and expanding upon a program to map MassDOT drainage infrastructure. The MassDOT Environmental Services Stormwater Management Unit (the Stormwater Management Unit) presently includes one senior environmental analyst focused on stormwater management across the Commonwealth and two additional environmental analyst support staff who assist in development and maintenance of stormwater management programs. The Stormwater Management Unit at MassDOT is responsible for overseeing that projects and operations meet federal and state stormwater regulations. This includes establishing and implementing procedures and guidance for environmental reviews of proposed drainage improvements to ensure effective stormwater management systems and stormwater control measures (SCMs) are designed.

The Stormwater Management Unit participates in the Statewide Stormwater Coalition and New England DOT Stormwater Coalition and shares experiences and technical transfer. This permit year, MassDOT's Stormwater Management Unit attended New England DOT Stormwater Coalition meetings on August 1, 2024 and September 20, 2024. MassDOT's stormwater program continues to be at the forefront of stormwater management for regional state DOTs, and presentations from MassDOT are sought out by conference organizers in the area. The current MassDOT Stormwater Management Unit Supervisor is also a member of two National Cooperative Highway Research Program (NCHRP) research panels, including DOT Budgetary Practices for MS4 Permit Programs and State DOT Training Programs to Comply with NPDES Stormwater Permit Requirements.

In April 2024, MassDOT submitted an updated Stormwater Management Plan (SWMP) to EPA and Massachusetts Department of Environmental Protection (MassDEP) for review. The updated SWMP reflects the most current stormwater programs being implemented by MassDOT and focuses on programs required for meeting the 2003 MS4 permit.

In January 2025, MassDOT issued the newest edition of Chapter 8 of the MassDOT Project Development and Design Guide (PDDG) – Drainage and Erosion Control. This PDDG Chapter covers hydrologic and hydraulic design guidance, as well as erosion control procedures during construction. The PDDG provides guidance so that MassDOT projects meet compliance with federal and state regulations, as well as MassDOT policies. Updates made to PDDG Chapter 8 are summarized in the PDDG Chapter 8 Change Log posted to MassDOT's webpage. Additionally, MassDOT continued to maintain and update its Stormwater Management Unit webpage this past year with links to resources such as previous annual report submissions and report templates this

past year with links to resources such as previous annual report submissions and report templates.

MassDOT continues to follow up on potential illicit discharges identified within its stormwater systems. MassDOT closed 1 potential illicit issue where follow up field investigations by MassDOT staff indicated that the potential illicit connections or discharges to MassDOT's stormwater system had been addressed. MassDOT continues to train District Staff annually to look for potential illicit connections and report them for follow up.

During construction of SCMs, MassDOT continues to require contractors to implement erosion controls in accordance with site plans to protect receiving waters and wetlands from sedimentation. MassDOT, in conjunction with its consultants, performs site visits when needed to observe contractors' progress on SCM construction and provide recommendations as necessary. Some of MassDOT's projects meet the disturbance threshold for requiring coverage to discharge under the NPDES Construction General Permit (CGP). MassDOT includes filing for coverage and development of Stormwater Pollution Prevention Plans (SWPPPs) in the bid documents for these projects, and monitors that permits are filed both by the contractor as the operator and MassDOT as the owner. MassDOT ensures SWPPPs are developed and reviewed and that all protocols are followed during the project for compliance with the permit.

MassDOT continues to promote pollution prevention and good housekeeping initiatives for its roads and facilities. During this permit year, MassDOT completed inspection and cleaning activities at approximately 10,227 catch basins.

MassDOT submitted its Snow and Ice Control Program Annual Report for the FY24 Winter Season (2023-2024) in January 2024. The Annual Report demonstrated that much like the past few winters, the 2023-24 winter was warmer than normal and had limited snowfall. MassDOT used approximately 50% less road salt than the long-term average usage, with FY24 salt usage being the second lowest in the last 24 years. MassDOT is also currently preparing for the development of the 2027 Snow and Ice Control Environmental Status and Planning Report (ESPR). The Snow and Ice Control ESPR is prepared every 5 years, with the most recent ESPR having been completed in 2022. MassDOT continues to see improvements in reduced salt usage through the measures being implemented.

MassDOT, with consultant support, continued to implement the IWP to address discharges of highway runoff to impaired waters. IWP projects include the design of a broad range of treatment SCMs which provide pollutant reductions to impaired waters. Through the Retrofit Initiative of the IWP, MassDOT identified locations that warrant adding new SCMs along existing roadways, and there are currently 4 remaining SCM retrofit projects in various stages of design and construction. The completion of the design and advertising of these projects, the last of which is planned for construction in 2025, will fulfill the commitments required by the Conservation Law Foundation (CLF) et al vs MassHighway lawsuit and the related EPA enforcement order. This enforcement order initiated the addition of the IWP to MassDOT's Stormwater Management Program.

MassDOT also incorporates SCMs into programmed highway projects which have the advantage of being more holistically integrated into highway drainage systems, often providing more effective stormwater management. To alert designers that the project may potentially impact

impaired waters, and to capture information regarding stormwater improvements incorporated into highway designs, MassDOT uses the WQDF submitted by design consultants at key design stages (e.g., 25%, 75%) and the Stormwater Design Guide (SDG) to provide additional guidance for SCMs that work in the highway environment. Sensitive site design elements for these projects are documented and include measures such as preserving existing vegetation, natural drainage patterns, and riparian buffers; minimizing disturbance to wetland resource areas; promoting sheet flow to vegetated areas; and reducing existing impervious cover. Based on the WQDFs submitted in PY22, MassDOT proposed a total of 30 structural SCMs, including 9 infiltration basins, 8 leaching basins, 7 bioretention linear practices, 2 infiltration linear practices, 2 subsurface infiltration systems, 1 porous pavement, and 1 wet basin. MassDOT also proposed 12 instances of impervious cover disconnection.

MassDOT continues to use the WQDF to provide a consistent SCM accounting protocol that uses EPA's treatment curve methodology for calculating and tracking SCM treatment credits based on the latest research. The WQDF also provides guidance to designers on treatment requirements for impaired waters and watersheds with Total Maximum Daily Loads (TMDLs) early in the design schedule and assists MassDOT in tracking pollutant reduction. MassDOT continues to update the WQDF to meet its current needs. During PY22, MassDOT initiated revisions to the WQDF that included (among other things) the addition of fields to streamline the process for transferal of data from the forms to the MassDOT Stormwater Asset Database, as well as updated MassDOT Priority Watersheds that reflect the latest MassDEP TMDL information. The updated form, WQDF Version 3.0, and corresponding WQDF Reference Map was released in April 2025 (under Permit Year 23).

This permit year, MassDOT began development of an internal ArcGIS online dashboard for tracking water quality treatment from existing SCMs on a watershed basis. As EPA moves towards a watershed-based treatment approach (as indicated in the most recent MS4 Permit), this dashboard will allow MassDOT to better track its progress towards meeting TMDL goals in stormwater-impaired watersheds. This year MassDOT also initiated a review of existing SCM crediting information within its Stormwater Asset Database to ensure completeness and accuracy of treatment data.

The Stormwater Asset Database is an integral part of MassDOT's Asset Management Initiative to collect and maintain location and condition data on all assets statewide. Much has evolved since PY1 when all structures along MassDOT roadways (inlets and manholes) were collected using Light Detection and Ranging (LiDAR) and high-quality imagery. This year, MassDOT continued to expand on its statewide drainage mapping effort to improve the completeness, accuracy, and consistency of stormwater assets through the mapping of MassDOT's stormwater system infrastructure. This mapping effort fills in data gaps and refines drainage infrastructure data so that MassDOT can continue to maintain a properly functioning system while operating a successful stormwater program to minimize environmental impacts and support the safety of the Commonwealth.

Part III. Summary of Minimum Control Measures

The BMPs included in MassDOT's 2024 SWMP are summarized in each of the Minimum Control Measure sections below.

1. Public Education and Outreach

BMP ID #	BMP Description	Responsible Party	Measurable Goal(s)	Progress on Goal(s) – PY22	Planned Activities – 2025/ 2026
1A	Annual Winter Environmental Training	Environmental	MassDOT will facilitate one training per year, per District.	MassDOT facilitated a total of six (6) winter environmental trainings this past permit year, one for each District. The trainings covered topics such as construction compliance, IDDE, construction hazmat, erosion and sedimentation control as well as landscape.	MassDOT will continue to facilitate one training per District in the upcoming permit year.
1B	Environmental Awareness Education	Environmental	Provide educational materials and training to MassDOT maintenance facility personnel and subcontractors as needed.	MassDOT continued to provide educational materials and training to MassDOT maintenance facility personnel and subcontractors, as needed.	MassDOT will maintain the provision of educational materials and facilitation of trainings for MassDOT maintenance facility personnel and subcontractors, as needed.

BMP ID #	BMP Description	Responsible Party	Measurable Goal(s)	Progress on Goal(s) – PY22	Planned Activities – 2025/ 2026
1C	Snow and Ice Program Training	Highway Operations	Provide annual training to MassDOT supervisors and subcontractors on the latest on snow and ice removal.	MassDOT held approximately 19 classes throughout the permit year providing training on snow and ice operations and source pollution reduction. Attendees included state winter operations personnel and hired snow and ice contractors. There were approximately 774 attendees in total. Topics covered included: • Current vendor contract • Anti-icing • Department operation • Salt and environmental considerations In addition, 686 MassDOT employees received an invitation to an online training about snow and ice program policies and procedures, as well as environmental considerations. Many of these employees were also in attendance at Tailgate Trainings where operational and environmental considerations were discussed with 774 contracted vendors who handle de-icing materials at MassDOT.	MassDOT will continue to provide training and focus on snow and ice related operational efficiency and effectiveness. Topics to discuss may include material usage data, snow and ice operations technology, associated salt use impacts, and environmentally sensitive areas.
1D	Baystate Roads Program	Baystate Roads	Baystate Roads will provide one training program related to stormwater and/or related topics (e.g., pollution prevention, hazardous waste).	Baystate Roads held in person and virtual classes during this past permit year. Stormwater related trainings covered topics such as: • Stormwater Retrofits • Snow and Ice Operations • Drainage Roadway Maintenance • IDDE	MassDOT will provide at least one training program related to stormwater and/or similar topics.

BMP ID #	BMP Description	Responsible Party	Measurable Goal(s)	Progress on Goal(s) – PY22	Planned Activities – 2025/ 2026
1E	MassDOT Stormwater Management Unit Webpage	IT/Environmental	1) Maintain a link for contacting the Highway Division via e-mail. Review and direct emails received to the appropriate group. 2) Evaluate the MassDOT Stormwater Management Unit webpage annually and revise as necessary.	1) A link is available on MassDOT's Stormwater Management Unit webpage for contacting MassDOT Environmental. 2) MassDOT has continued to update the Stormwater Management Unit webpage to provide the public access to related information on the MassDOT stormwater program. Updates include links to the PY21 annual report, and updates to the Stormwater Management Memo for Bridges template.	1) MassDOT will continue to maintain a link for contacting the Highway Division via e-mail and direct emails received to the appropriate group. 2) MassDOT will evaluate the stormwater webpage and update as necessary to reflect the current status and most recent documents. MassDOT will add the PY22 annual report and continue to post updates to the WQDF and other associated documents.
1F	Post Contact Names for Municipal Drainage Concerns on MassDOT Webpage	IT/Environmental	Post and maintain DHD contact information for each District on the MassDOT webpage.	DHD contact names were continuously updated on the webpage in PY22. Go to: https://www.mass.gov/info-details/find-your-highway-district-office	MassDOT will continue to maintain contact names.

BMP ID #	BMP Description	Responsible Party	Measurable Goal(s)	Progress on Goal(s) – PY22	Planned Activities – 2025/ 2026
1G	Coordination with Local Groups	Environmental	Report on the coordination activities and collaboration efforts with local groups related to stormwater.	MassDOT participates in a New England DOT stormwater forum that meets quarterly. The meetings are attended by stormwater management personnel from all six New England DOTs, and focus on sharing "lessons learned," best practices, Federal permit compliance, and case studies. The group met twice this permit year: 8/1/24 and 9/20/24. MassDOT also participated in two meeting for the Massachusetts Municipal Stormwater Coalition on 5/28/24 and 11/21/24. MassDOT also presented the newly released SDG to MassDOT Project Managers as part of the Project Manager Peer Exchange Series on 12/18/2024. Additionally, MassDOT gave a presentation to inform the stormwater community on the newly released SDG and its associated tools, such as the WQDF. This presentation was given at the Innovation Conference held by MassDOT on 4/30/2024.	MassDOT will continue to participate in collaboration efforts with local groups related to stormwater such as the New England stormwater forum and others.

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Party	Measurable Goal(s)	Progress on Goal(s) – PY22	Planned Activities – 2025/2026
2A	SWMP Posting	IT/Environmental	1) Post the latest version of the SWMP on the MassDOT stormwater webpage. 2) Provide contact information for public feedback.	1) The updated SWMP has been posted to MassDOT's stormwater webpage. 2) MassDOT continued to update the Environmental Contact information on the MassDOT stormwater webpage in PY22.	1) MassDOT will maintain the most updated SWMP on the MassDOT stormwater webpage. 2) MassDOT will continue to provide contact information for public feedback.
2B	Annual Report Posting	IT/Environmental	1) Post the latest annual report on the MassDOT stormwater webpage. 2) Provide contact information for public feedback.	1) MassDOT posted the PY21 annual report to the MassDOT stormwater webpage. 2) MassDOT continued to update the Environmental Contact information on the MassDOT stormwater webpage in PY22.	1) MassDOT will maintain the latest annual report on the stormwater webpage. 2) MassDOT will continue to provide contact information for public feedback.

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Party	Measurable Goal(s)	Progress on Goal(s) – PY22	Planned Activities – 2025/2026
3A	Storm Sewer System Map	Environmental/ Asset Management	1) Develop a storm sewer map which shows the location of all regulated outfalls. 2) Summarize status actions taken that year of storm sewer system mapping in annual report.	1) MassDOT's outfall inventory was completed in PY5 and is available on GeoDOT's Open Data Portal. GeoDOT's Open Data Portal is a platform for users to download Open Datasets for spatial analysis and web integration. 2) MassDOT continued the mapping effort to update the Stormwater Assets Database which includes the outfalls and other components. MassDOT has continued the mapping effort through use of MassDOT staff and have trained internal staff to perform QA/QC of mapped areas. MassDOT has updated their Drainage Mapping Guide to provide additional information to continue to expand on the mapping effort. In addition to data related to stormwater assets, MassDOT continues to map potential interconnections between MassDOT and non-MassDOT stormwater networks.	1) MassDOT will continue to maintain its outfall inventory on GeoDOT's Open Data Portal. 2) MassDOT will work towards collecting additional data on drainage assets through its expanded MassDOT Drainage Mapping effort. The drainage system mapping will continue to utilize internal MassDOT staff to map additional assets.
3B	Illicit Discharge Detection and Elimination Plan	Environmental/ Districts	1) Develop IDDE Plan. 2) Post plan to MassDOT stormwater webpage.	1) MassDOT continues to maintain its IDDE Plan. 2) The IDDE Plan is posted on the stormwater webpage as Attachment E to the SWMP.	1) MassDOT will follow the protocols formalized in the IDDE plan. 2) MassDOT will continue to maintain the most up-to-date IDDE plan on the stormwater webpage.

BMP ID #	BMP Description	Responsible Party	Measurable Goal(s)	Progress on Goal(s) – PY22	Planned Activities – 2025/2026
3C	Outfall Review for Potential IDDE	Environmental/ Districts	1) Perform field review of complaints/potential illicit discharges. 2) Maintain tracking database of IDDE suspect flows in annual report.	1) MassDOT actively addressed complaints/potential IDDE discharges identified by District personnel and in response to requests from municipalities or the public throughout the year. Addressing complaints included desktop review, field investigations, and follow up with local municipalities and adjacent property owners. 2) MassDOT continued to update its tracking database in GIS, which includes a summary of the suspected IDDE flow, attachments associated with the investigation, and a history of the actions performed. A summary of activity this year is included as Appendix A of this report.	1) MassDOT will continue to follow up on remaining potential IDDE issues and proactively address complaints/potential IDDE discharges. 2) MassDOT will continue to track these IDDE suspect flows in a database and provide a summary of IDDE activity in the annual report.
3D	Potential Illicit Discharges Follow up Actions	Environmental/ Districts	1) Perform follow up actions and maintain schedule of potential illicit discharges. 2) Maintain tracking database of follow up actions and summarize in annual report.	1) MassDOT followed up on several potential illicit discharges. As part of this follow up, MassDOT opened one new IDDE investigation and closed out one IDDE investigation. A summary of follow-up actions is included in Appendix A of this report. 2) MassDOT continued to update follow-up actions and their associated schedules in its GIS tracking database.	1) MassDOT will continue to follow up on actions and maintain schedule of potential illicit discharges. 2) MassDOT will continue to track and summarize this information in the annual report.

BMP ID #	BMP Description	Responsible Party	Measurable Goal(s)	Progress on Goal(s) – PY22	Planned Activities – 2025/2026
3E	Drainage Connection Policy Directive No. P-06-002	Environmental/ Districts	1) Issue Drainage Connection Policy Directive. 2) Post copy of policy on MassDOT webpage. 3) Enforce the provisions through referrals to the Attorney General. 4) Summarize enforcement actions taken in annual report.	1) The MassDOT Drainage Connection Policy was issued on June 26, 2006 by the Chief Engineer. 2) The MassDOT Drainage Connection Policy is posted at: https://www.mass.gov/doc/massachusetts-highway-department-drainage-connection-policy/download 3) and 4) See Appendix A for illicit connection/discharge issues and actions during this permit year.	1) No further action required. 2) MassDOT will continue to maintain the Drainage Connection Policy on the MassDOT webpage. 3) and 4) MassDOT will continue to implement the Drainage Connection Policy, as necessary, and summarize enforcement actions taken in the annual report.
3F	Connection or Discharge to any MassDOT Drainage System Standard Operating Practice (SOP)	Environmental/ Legal	1) Issue SOP for connections or discharges to MassDOT drainage system. 2) Administer the SOP at the District level.	1) The Drainage Tie-In SOP was officially issued on March 19, 2012. 2) MassDOT continued to administer the SOP at District level for use with tie-in issues and procedures in PY22.	1) No further action required. 2) MassDOT will continue to administer the Drainage Tie-In SOP for tie-in issues and procedures.
BMPs 1A and 1E fulfill some Minimum Control Measure 3 requirements also, as described in the SWMP. Please refer to updates for those BMPs in this annual report.					

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Party	Measurable Goal(s)	Progress on Goal(s) – PY22	Planned Activities – 2025/2026
4A	Site Plan Review Procedure	Environmental	MassDOT will implement and maintain the site plan review procedure and discuss any changes or updates to the procedure in the annual report.	MassDOT continued to perform site plan reviews at various prescribed stages of design in PY22. This year the Stormwater Management Unit provided 4 Stormwater review trainings to MassDOT Environmental Analysts on reviewing plan sets, Stormwater Reports, SCM type selection, and WQDFs. The Stormwater Management Unit also holds a weekly office hour for analysts to ask questions on stormwater topics. Environmental Staff complete the Environmental Review Checklists during project scoping.	MassDOT will continue to implement and maintain the site plan review procedure and discuss changes in the annual report.
4B	NPDES SWPPP Specification (Item 756)	Construction	1) Include Item 756 CGP SWPPP specification and erosion control items in bid packages for projects which meet CGP requirements. 2) Report on updates to the specification in the annual report.	1) By PY4, the SWPPP bid item was added to contracts as standard practice, where applicable. The SWPPP bid item, which includes an Erosion Control Plan, is included in all contracts with over 1 acre of soil disturbance. 2) The specification for Item 756 was updated on 2/27/2025 to require a Flood Contingency Plan.	1) MassDOT will continue to include Item 756 CGP SWPPP specification for projects which meet CGP requirements. 2) MassDOT will report on any updates to Item 756 CGP SWPPP specification in the next permit year.
4C	MassDOT Standard Specifications for Highways and Bridges – Prevention of Water Pollution	Environmental/ Construction/ Project Management	Include standard specifications, including Prevention of Water Pollution, in all construction contracts.	Per MassDOT's standard practice, Prevention of Water Pollution (Section 7.02 of MassDOT's Standard Specifications), which establishes general requirements for erosion control and protection of water quality, was included in all construction contracts issued by MassDOT this permit year.	MassDOT will continue to include Prevention of Water Pollution related controls in construction contracts.
4D	Preconstruction Kickoff Meeting	Construction	Hold kickoff meetings for projects once awarded and include discussion of CGP requirements on each relevant project.	MassDOT has held kickoff meetings for all projects in PY22. CGP requirements were consistently discussed for all relevant projects.	MassDOT will continue to hold kickoff meetings for all projects and discuss CGP requirements when relevant.

BMP ID #	BMP Description	Responsible Party	Measurable Goal(s)	Progress on Goal(s) – PY22	Planned Activities – 2025/2026
4E	File and Track NPDES CGP Notice of Intents	Construction	1) MassDOT will document the number of projects where the contractor has filed a NOI for authorization to discharge under the CGP as the site operator each permit year in the annual report. 2) MassDOT will document the number of projects which MassDOT has filed for coverage under CGP as the owner each permit year in the annual report.	1) MassDOT Districts reported a total of 35 projects where the contractor has filed a NOI for authorization to discharge under the CGP as the site operator during PY22. The projects are listed in Appendix B. 2) MassDOT Districts reported a total of 30 projects where MassDOT has filed a NOI for authorization to discharge under the CGP as the owner during PY22. The projects are listed in Appendix B.	1) MassDOT will continue to track the filing of NOIs for new projects by contractors and summarize them in the annual report for the upcoming permit year. 2) MassDOT will continue to track the filing of NOIs for new projects by MassDOT and summarize them in the annual report for the upcoming permit year.
4F	Submittal and Review of NPDES CGP SWPPP	Construction	MassDOT will document the projects that filed for CGP coverage and have submitted SWPPPs for review by District personnel during each permit year in the annual report.	This permit year, 30 new projects filed for CGP coverage. The project contractor submitted SWPPPs that were reviewed and approved by District for all 30 SWPPPs.	MassDOT will continue to document new projects that filed for CGP coverage this permit year and if the contractor submitted a SWPPP for review.
4G	Contractor Inspector Training	Construction	Continue to maintain the SWPPP Item to require proof of completion of a sedimentation and erosion control training class current to the requirements of the latest CGP.	SWPPP Item 756 requires that the contractor's Qualified Inspectors meet the training requirements criteria in the CGP. MassDOT requires proof of completion of a 4-hour minimum sedimentation and erosion control training class current to the latest CGP. This individual can be, but is not limited to, someone that is either a certified inspector, certified professional, or certified stormwater inspector. The documentation is included as an appendix in the SWPPP. The MassDOT engineer, typically the Resident Engineer (RE), must approve the contractor's inspector.	MassDOT will continue to add this item to relevant contracts and check certifications are included in the SWPPP.

BMP ID #	BMP Description	Responsible Party	Measurable Goal(s)	Progress on Goal(s) – PY22	Planned Activities – 2025/2026
4H	NPDES CGP SWPPP Inspections	Construction/ Contracts	1) MassDOT REs will perform erosion control inspections and document findings in daily reports. 2) The MassDOT RE will review the contractor's SWPPP inspection logs and follow up on the contractor performing corrective actions in accordance with the SWPPP timelines.	1) MassDOT REs performed erosion control inspections and documented findings in daily reports for all projects in PY22. Inspections included questions regarding the stabilization of areas with disturbed soil, repair quality and function of erosion and sedimentation controls, status of debris on local roadways, and whether stockpiles are covered. 2) MassDOT REs reviewed the contractor's SWPPP inspection logs and followed up with the contractor in accordance with the SWPPP timelines.	1) MassDOT REs will continue to perform erosion control inspections and document findings in daily reports. 2) MassDOT REs will continue to review SWPPP inspection logs and follow up on the contractor performing corrective actions in accordance with the SWPPP timelines.
4I	File and Track NPDES CGP Notice of Termination	Construction	1) Summarize the number of projects that include the CGP and SWPPP Specification (Item 756) and that the contractor has filed a NOT for, during each permit year in annual report. 2) Summarize the number of these projects that MassDOT has filed a NOT for as owner.	1) Contractors filed NOTs for 29 projects this permit year. 2) MassDOT filed NOTs for 31 projects this permit year as the owner.	1) MassDOT will continue to track the filing of NOTs for projects by contractors and summarize them in the annual report for the upcoming permit year. 2) MassDOT will continue to track the filing of NOTs for projects by MassDOT as owner and summarize them in the annual report for the upcoming permit year.

BMP ID #	BMP Description	Responsible Party	Measurable Goal(s)	Progress on Goal(s) – PY22	Planned Activities – 2025/2026
4J	Annual Erosion Prevention/ Sediment Control Training	Environmental	1) Conduct annual erosion prevention/sediment control training for MassDOT construction personnel. 2) Summarize the number of trainings and topics covered in the annual report.	1) and 2) MassDOT Districts have the following trainings planned to cover the requirements for this permit year: District 1 – In-person/Virtual Training on 3/11/25 District 2 – In-person/Virtual Training on 3/19/25 District 3 – In-person/Virtual Training on 3/4/25 District 4 – In-person/Virtual Training on 3/27/25 District 5 – Virtual Training on 2/27/25 District 6 – In-person/Virtual Training on 4/8/25 These trainings cover: roles and responsibilities, NPDES permitting and amendments, erosion and sediment control, dust, landscape, hazardous materials. Due to scheduling constraints, the District 6 training was scheduled for after the end of PY22, but will still cover this permit year's training requirements.	1) MassDOT will continue Erosion Prevention and Sediment Control trainings. 2) MassDOT will continue to summarize the number of trainings and topics covered in the annual report.
4K	Project Related Public Notice and Public Participation Requirements	Environmental/ Districts	Continue compliance with federal and state notification 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 maintained compliance with all federal and state notification requirements including Wetlands Protection Act, Clean Water Act 401 Water Quality Certification, Army Corps of Engineers 404 Permit, and MEPA/NEPA.	MassDOT will continue to comply with federal and state notification requirements, as is standard practice.

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

BMP ID #	BMP Description	Responsible Party	Measurable Goal(s)	Progress on Goal(s) – PY22	Planned Activities – 2025/ 2026
5A	MassDOT Stormwater Design Guide	Environmental/ Construction/ Project Management	1) Post the 2023 MassDOT SDG on its webpage. 2) Implement and maintain the MassDOT SDG.	1) MassDOT finalized and posted the SDG in PY21, which replaced the former MassHighway Storm Water Handbook. The SDG is composed of four chapters which include discussion of stormwater and regulatory framework, the concept of Integrated Site Design, and design guidance on structural SCMs. The SDG is for designers to reference and use as part of the SCM design process on MassDOT highway projects. 2) MassDOT continued to maintain the Engineering Directive E-23-003 which directs designers to use the SDG for all stormwater design on MassDOT projects.	1) No further action required. 2) MassDOT will continue to maintain the SDG and associated Engineering Directive and include it on the MassDOT stormwater webpage.
5B	MassDOT Project Development and Design Guide	Environmental/ Construction/ Project Management	Continue to implement and maintain the content of Chapter 8 of the PDDG to provide guidance on design of drainage systems and erosion and sediment controls for MassDOT roadways.	MassDOT projects continued to be designed in compliance with the erosion and sediment control requirements in the PDDG. Additionally, MassDOT updated Chapter 8 – Drainage and Erosion Control to reflect changes to agency goals, project development procedures, design criteria, and other related items that have occurred since the PDDG was last issued in 2006. The updated Chapter was posted to the MassDOT webpage on 12/31/2024.	All MassDOT projects will continue to be designed in compliance with Chapter 8 of the most current version of the PDDG available.
BMP 6C fulfills some Minimum Control Measure 5 requirements also, as described in the SWMP. Please refer to updates for this BMP in this annual report.					

6. Pollution Prevention and Good Housekeeping in Community/Facility Operations

BMP ID #	BMP Description	Responsible Party	Measurable Goal(s)	Progress on Goal(s) – PY22	Planned Activities – 2025/2026
6A	Maintenance/Material Storage Yards – Maintenance Program	Districts	Continue to use the developed protocols to perform maintenance activities at maintenance/ material storage yards to maintain environmental compliance.	MassDOT continued to perform maintenance activities at maintenance facilities as outlined in MassDOT's Facility Environmental Handbook. MassDOT Environmental personnel were also trained on environmental compliance and awareness issues and completed depot inspections to ensure facility compliance. No updates were issued to the Facility Environmental Handbook during this permit year.	MassDOT will continue to implement maintenance outlined in its Facility Environmental Handbook. Updates to the established protocols or guidance will be posted to the public webpage.
6B	Road and Roadway Facility – Maintenance Programs	Districts	Continue District-based maintenance schedules and inspection procedures.	MassDOT continued to maintain the highway drainage system through catch basin cleaning contracts and performed street sweeping and regular drainage system maintenance. The schedule for performing these activities is based on District knowledge and practices. District staff focus on known problem areas that impact safety and set standard reoccurring schedules for overall District inspection and cleaning by contractors.	MassDOT will continue to maintain the highway drainage system through catch basin cleaning contracts, street sweeping, and regular drainage system maintenance.

BMP ID #	BMP Description	Responsible Party	Measurable Goal(s)	Progress on Goal(s) – PY22	Planned Activities – 2025/2026
6C	Programmatic Operations and Maintenance Plan	Environmental/ Districts	1) Develop the POMP. 2) Once the POMP is developed, implement maintenance as outlined in POMP. 3) Provide summary of progress of implementation of POMP. 4) Continue to track and record inspection and cleaning data.	1) MassDOT developed a draft programmatic, asset-management based maintenance program to customize an approach to track the performance of its drainage assets. The POMP includes draft inspection and maintenance schedules and SOPs for inspection and maintenance procedures for catch basins and SCMs. These schedules and SOPs will continue to be refined as the POMP development phase progresses. 2) This permit year, MassDOT recorded 10,226 catch basin inspections/cleaning. MassDOT tracks and records inspection and cleaning data through GeoDOT. 3) MassDOT continues to progress the implementation of the POMP inspection and maintenance schedules and SOPs. The MassDOT Stormwater Management Unit is working with MassDOT District and Headquarters personnel to further refine proposed schedules and forecast budgetary needs and ramp-up over the course of the POMP timeline. 4) MassDOT began developing a draft GIS inspection and maintenance viewer dashboard. This dashboard will support maintenance staff in scheduling and tracking inspection and maintenance of drainage assets and responding to maintenance needs as they arise. MassDOT also performed updates to the Stormwater Assets Database and associated field maps and forms in GeoDOT to help streamline operations and maintenance work and data collection, both on desktop and in the field. The development of the POMP and tracking of inspections and maintenance work is ongoing and will continue into future permit years.	1) MassDOT will continue to develop the POMP and plans to incorporate updates based on future MassDEP and EPA actions. 2) MassDOT will continue to develop inspection and maintenance schedules and SOPs for inspection procedures. MassDOT will coordinate with Districts to refine schedules and implement maintenance as outlined in the POMP. 3) MassDOT will continue to summarize the progress of implementation of the POMP in the annual report. 4) MassDOT will continue to track and record inspection and cleaning data. MassDOT will also present the inspection and maintenance viewer to each District, gather feedback, and provide updates to dashboards to support streamlined operations.

BMP ID #	BMP Description	Responsible Party	Measurable Goal(s)	Progress on Goal(s) – PY22	Planned Activities – 2025/2026
6D	Snow and Ice Operations	Highway Operations/ Districts	Continue to monitor trends in annual statewide salt usage relative to the winter weather severity as reported in the 5-year ESPR and related annual reports discussed below.	According to the 2022 ESPR, published in 2023, annual statewide salt usage (in tons per lane-mile) has decreased by approximately 26% since the 2017 ESPR. The average annual statewide salt usage has decreased from 26.9 to 23.0 tons per lane-mile (a reduction of approximately 14.5%). MassDOT is now using approximately 80 slurry-spreaders to apply pre-wet road salt across the state, whereas less than a dozen were in use five years ago.	MassDOT Highway Operations and Districts will continue to monitor trends in annual salt usages on MassDOT-owned roadways and report in Snow and Ice annual reports.
6E	Snow and Ice Control Program Environmental Status and Planning Report (ESPR) Review	Environmental/ Districts	Continue to monitor trends in annual salt usage relative to winter weather severity and previous usage which are reported in the ESPR and intervening annual reports, which are posted in the EEA Environmental Monitor portal every 5 years or at the end of each year, respectively.	MassDOT developed the most recent ESPR (2022) in March of 2023, which was posted in the EEA Environmental Monitor portal MEPA Environmental Monitor (state.ma.us). MassDOT also began preparing initial data analyses to inform the next ESPR (to be submitted in 2027). These analyses include preliminary responses to new requests from the 2023 MEPA certificate on topics such as climate change, environmental justice, and elevated sodium and chloride levels in public water supplies. MassDOT has begun planning for development of the Draft Scope of Work, which will be informed by the results of these analyses. The next ESPR is scheduled to be completed by the end of 2027.	MassDOT will continue to monitor trends in annual salt usages on MassDOT-owned roadways. MassDOT will continue to progress initial data gathering and analyses to inform the Draft Scope of Work and ultimately the 2027 Snow and Ice Control Program ESPR.

BMP ID #	BMP Description	Responsible Party	Measurable Goal(s)	Progress on Goal(s) – PY22	Planned Activities – 2025/2026
6F	Annual Snow and Ice Summary Report	Environmental/ Districts	1) Continue to monitor trends in annual salt usage relative to winter weather severity and previous usage which are reported in the ESPR and intervening annual reports. 2) Monitor progress and identify the latest technologies and best practices used in the snow and ice control program as discussed in the annual Snow and Ice Summary Report.	1) MassDOT monitored trends in annual salt usage relative to winter weather and reported on this data as part of the most recent Fiscal Year 2024 Winter (2023-2024) Annual Snow and Ice Summary Report. 2) This permit year, MassDOT developed the Fiscal Year 2024 Winter (2023-2024) Annual Snow and Ice Report. The report provides a comparison of deicing material usage relative to the winter weather severity and also documents changes in program operations and equipment that were implemented during this past winter. The report was submitted to EEA and posted on the EEA Environmental Monitor portal MEPA Environmental Monitor (state.ma.us).	1) MassDOT will continue to monitor trends in annual salt usage relative to winter weather severity and previous usage, and report on this data in the ESPR and intervening annual reports. 2) MassDOT will continue to investigate latest technologies and best practices to use in the snow and ice control program and summarize in the annual report, which will be submitted to EEA and posted on the EEA Environmental Monitor portal MEPA Environmental Monitor (state.ma.us).
BMPs 1A, 1B, 1C, 1D, 4A, and 4G fulfill some of the Minimum Control Measure 6 section requirements also, as described in the SWMP. Please refer to updates for those BMPs in this annual report.					

7. Impaired Waters

BMP ID #	BMP Description	Responsible Party	Measurable Goal(s)	Progress on Goal(s) – PY22	Planned Activities – 2025/2026
7A	Water Quality Data Form - WQDF	Environmental	1) Continue to implement (and update as needed) the WQDF for designers to promote and incorporate proper stormwater management into prescribed design submissions. 2) Summarize the number of WQDFs received by MassDOT in annual report.	1) The WQDF is required for submittal to MassDOT at prescribed design submissions by internal designers and consultants. The form is used to promote treatment to address TMDLs and stormwater-related impairments. This past year, WQDF Version 2.2 (released January 2024) was used by designers and consultants while more updates were completed on a newer version of the form with a release of WQDF Version 3.0 on April 1, 2025 (under Permit Year 23). 2) This year, MassDOT received 114 WQDFs. Based on the forms submitted, MassDOT proposed a total of MassDOT proposed a total of 30 structural SCMs, including 9 infiltration basins, 8 leaching basins, 7 bioretention linear practices, 2 infiltration linear practices, 2 subsurface infiltration systems, 1 porous pavement, and 1 wet basin. MassDOT also proposed 12 instances of impervious cover disconnection. Additionally, the forms documented site sensitive design measures included in these projects.	1) MassDOT released WQDF Version 3.0 on April 1, 2025 and will continue to require submittal of the WQDF at prescribed design submissions. 2) MassDOT will continue to summarize the number of WQDFs received in the annual report.

BMP ID #	BMP Description	Responsible Party	Measurable Goal(s)	Progress on Goal(s) – PY22	Planned Activities – 2025/2026
7B	Review of Specific Sites for Water Quality Exceedance in Response to Conservation Law Foundation et al. Lawsuit	Environmental	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 SCMs to address MassDOT related exceedances. 3) Submit a remedial plan to the court.	1-3) MassDOT completed these measurable goals in PY8. Each of the crossings were analyzed and SCMs were constructed as determined necessary within the set schedule. The June 8, 2015 Final Submittal to court provided final documented compliance.	1-3) No further action required.
7U	Water Quality Impaired Waters Assessment and Mitigation Plan	Environmental	1) Assess all Appendix L-1 waters using the process developed by MassDOT as part of the IWP. 2) Assess at least 25 water bodies (both TMDL and non-TMDL waters) within the first quarter (June 8, 2010 – September 8, 2010) of the IWP. 3) Submit quarterly progress reports to EPA during the first year of the IWP (June 8, 2010 – June 8, 2011.) and semi-annually thereafter (June 9, 2011 – June 8, 2015). 4) Report on design and construction progress of SCMs prioritized during the review in annual reports.	1- 3) MassDOT submitted assessments to EPA as part of its semi-annual submittals for all waters listed in Appendix L-1 as of its final submission on June 8, 2015. The final submission fully met the schedule. 4) Appendix C provides an update on SCMs in design or construction.	1-3) No further action required. 4) MassDOT will continue to develop designs for SCMs to address impaired waters under the IWP, and summarize activities in the annual report.

BMP ID #	BMP Description	Responsible Party	Measurable Goal(s)	Progress on Goal(s) – PY22	Planned Activities – 2025/2026
7C	SCM Data within Stormwater Assets Geodatabase	Environmental/ Asset Management	Continue to maintain SCM data within stormwater assets geodatabase and track stormwater treatment provided by SCMs.	MassDOT continued to maintain a statewide Stormwater Assets Geodatabase on GeoDOT. This year, the Stormwater Management Unit with the assistance of MassDOT staff have continued the effort to map all state-owned drainage assets throughout Massachusetts. MassDOT also uses the inputs from the WQDF to update the SCM database. MassDOT is also in the process of performing a gap analysis to gather missing treatment information on existing SCMs within the Stormwater Assets Geodatabase.	MassDOT will continue to update its Stormwater Assets Geodatabase to accurately track SCM design and pollutant reduction data.
7R	TMDL Watershed Review	Environmental	1) Develop prioritized list of TMDL watersheds to assess based on pollutants and MassHighway (now known as "MassDOT") drainage outfalls. 2) Assess 20% of applicable watersheds with TMDLs. Summarize assessment and outcome, including implementation schedules for SCMs if determined necessary, in each annual report. 3) Report on design and construction progress of SCMs prioritized during the TMDL assessment in annual reports.	1) and 2) MassDOT completed these measurable goals in PY8 to meet the prescribed schedule. The June 8, 2015 Final Submittal to the court provided final documented compliance. 3) Appendix C provides an update on SCMs in design or construction.	1) and 2) No further action required. 3) MassDOT will continue to update status of SCMs in design or construction.
BMPs 6B and 6C also fulfill some of the requirements of Permit Part I.C and Part I.D as described in the SWMP. Please refer to updates for those BMPs in this annual report.					

8. Additional Requirements

BMP ID #	BMP Description	Responsible Party	Measurable Goal(s)	Progress on Goal(s) – PY21	Planned Activities – 2024/ 2025
8A	Environmental Review Checklist	Environmental	Continue to implement the MassDOT ERC as part of project submissions.	MassDOT Environmental staff and consultants continued to populate the ERC at various scoping and design project stages to identify permitting requirements early in the design process and streamline environmental review.	MassDOT will continue to update and implement the ERC as part of project submissions.
8B	Wetlands Protection Act Compliance	Environmental	MassDOT projects will comply with the WPA and Massachusetts Endangered Species Act (MESA), if applicable.	For projects that require compliance with the WPA and MESA, MassDOT staff continues to coordinate with the Massachusetts National Heritage and Endangered Species Program (NHESP) during the permitting process.	MassDOT will continue to comply with requirements of the WPA and MESA.
8C	401 Water Quality Certification	Environmental	MassDOT projects will comply with Massachusetts 401 Water Quality certification requirements (which include review of the project by NHESP and USFWS if endangered species habitat is mapped in the project vicinity) whenever they are applicable.	MassDOT continues to comply with Massachusetts 401 Water Quality Certification Regulations.	MassDOT will continue to comply with Massachusetts 401 Water Quality Certification Regulations.
8D	Cultural Resources Review	Environmental	Continue to review projects for impacts and archaeological properties and work to avoid, minimize, and/or mitigate adverse effects.	Projects 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 SCM design alterations based on cultural resource concerns.	MassDOT will continue to review projects for any stormwater impacts to historic resources.
BMPs 3A, 4C, 5A, and 7A also fulfill some of the requirements of Permit Part V and IX.D as described in the SWMP. Please refer to updates for those BMPs in this annual report.					

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 this permit year are summarized in Part 1- 3 of this annual report.

List of Appendices

Appendix A: IDDE Status Table

Appendix B: MassDOT Construction NOIs Filed in Permit Year 22

Appendix C: Impaired Waters Program – Summary of NPDES Permit Year 22

Appendix A: IDDE Status Table

IDDE Status Table

Original Date Issued Identified	Date of Most Recent Field Visit/ Sampling	Address	Source Identification	Sampling Results	Description of Potential Issue and Background	Description of 2024 - 2025 Actions	Investigation Status	Next Steps for 2025 - 2026	District
2011	6/14/2024	454 Patriots Rd, Templeton, MA	Maintenance Observation	N/A	District 2 observed a small pipe exiting this property during a maintenance visit. MassDOT reviewed the Non-Vehicular Access Permit Application records for authorized connections and no permit was found. MassDOT's consultant performed a site visit on 4/7/2021 and observed no visual indicators of illicit flow and the pipes did not have flow. Therefore, MassDOT determined this connection likely only discharges stormwater and will confirm this assumption by requiring the home owner to apply for a Drainage Tie-In permit which requires documenting the source of the flow.	On 6/14/2024 MassDOT District 2 sent out a Notice of Violation (NOV) Letter to the property owner of 454 Patriots Road. After continuing attempts to deliver the NOV letter, the letter was returned as undeliverable.	MassDOT requesting Tie-in Permit application	MassDOT is seeking help from local law enforcement to hand deliver an NOV letter to the property owner. A Tie-in permit will only be issued if the property owner can document that the connection only discharges stormwater. If the property owner is still unable to be reached, MassDOT will decide on the next steps in compliance with their IDDE policy.	2
2012	4/20/2021	469 Taunton Avenue, Seekonk, MA	Visual Inspection	N/A	A potential illicit connection to the MassDOT drainage system on Taunton Ave (Route 44) was identified during an impaired waters assessment site visit. MassDOT consultant (Jacobs) performed a site visit on 4/20/2021. One catch basin (CB) located on Taunton Ave was opened to reveal a PVC pipe connected into the structure coming from the direction of 469 Taunton Ave. The pipe wasn't flowing when it was investigated, but there appeared to be remnants of grease in the pipe. Jacobs also observed a sheen on top of the water in the structure, as well as some debris floating in it.	MassDOT District 5 followed up with the property owner and discovered that owner of 469 Taunton Ave has changed.	Investigation On-Going	MassDOT will determine who the new property owner of 469 Taunton Ave and send an NOV letter to make the new property owner aware of the illicit connection and next steps. If the property owner has not responded to the NOV letter within the allowed time frame, MassDOT will decide on next steps in compliance with their IDDE policy.	5
2015	8/22/2024	164 Boston Rd, Groton, MA	Visual Inspection	N/A	Maintenance staff identified a flowing pipe, located directly outside Johnson's Restaurant and Dairy Bar, which discharges to a MassDOT inlet structure along Route 225. During a site visit performed on 4/7/21, MassDOT's consultant confirmed the location of the concrete pipe. MassDOT reviewed the Non-Vehicular Access Permit Application records for authorized connections and no permit was found.	On 8/22/2024, MassDOT performed a CCTV investigation to observe the pipe and identify the source of the pipe, however a bend in the pipe prevented the CCTV camera from following the pipe to the source. In dry weather, there was a small amount of water coming from the pipe. MassDOT has hired a consultant to develop a comprehensive illicit discharge catchment investigation plan for further follow up of the source of the pipe and sampling of the discharge. The consultant has been waiting for the end of winter conditions to perform the work.	Investigation On-Going	MassDOT's consultant is planning dry weather sampling and reviewing the system in Spring 2025. If no flow is present when first observed, the field crews plan to sandbag the pipe and return to capture intermittent flow samples. Based on the results, MassDOT will decide if additional testing or investigation is necessary or if they will issue an NOV letter to the property owner. If an NOV letter is issued, it will require the property owner to plug the connection or file for a Drainage Tie-In permit. This investigation and follow up will be coordinated with the ongoing investigation of the clay pipe also potentially coming from the same property (see below).	3
2020	8/22/2024	60 Main St, Boylston, MA	Maintenance Observation	N/A	MassDOT observed a potential illicit connection at 60 Main Street tied into a MassDOT drain inlet. The catch basin in front of 65 Main Street has a 4-inch PVC pipe entering from that location and the roadway has signs of trenching. MassDOT sent an NOV letter to the property owner on 12/28/20. No communication was been received from the owner. Although the pipe connection appeared to have been disconnected, the sheet flow coming from a pop-up emitter in the yard is now discharging into a different MassDOT owned drainage structure. This sheet flow is being investigated to determine if this is an illicit input or stormwater only.	MassDOT performed a follow-up site visit on 8/22/2024. In dry weather, no sheet flow was observed coming from the yard at 60 Main Street. MassDOT used CCTV to camera the 4-inch pipe. Sediment build up was observed on the inside of the pipe. The CCTV camera was able to view 75-feet down the pipe, approximately to the edge of the house before refusal. MassDOT has hired a consultant to develop a comprehensive illicit discharge catchment investigation plan for further follow up of the source of the pipe and sampling of the discharge. The consultant has been waiting for winter conditions to end to perform the work.	Investigation On-going	MassDOT will perform wet weather sampling of the sheet flow that was observed coming from the yard at 60 Main Street to confirm whether there is only stormwater flow from the pop-up emitter. Depending on site visit observations and results, MassDOT may request the property owner to file for a Drainage Tie-in permit.	3
2021	8/22/2024	Near 164 Boston Rd, Groton, MA	Visual Inspection	High surfactants (9,999 mg/L) and significant colony forming units (CFU) of E. Coli (2,420 CFU/100ml)	During a site visit on 4/7/2021 by MassDOT's consultant of another potential illicit connection nearby, the consultant identified this second potential illicit connection discharging to MassDOT's drainage system. A 6-inch clay pipe with discolored flow and strong odor was found at the inlet structure located near the northeast corner of the Johnson's Restaurant and Dairy Bar parking lot. MassDOT reviewed the Non-Vehicular Access Permit Application records for authorized connections and no permit was found.	On 8/22/2024, MassDOT performed a CCTV investigation to determine the source of the flow to the pipe. The catch basin had a 6-inch pipe oriented perpendicular to Boston Road. The MassDOT crews noticed a 4-inch connecting pipe a portion of the way down the pipe which was coming from the restaurant's direction. Since there was not a Non-Vehicular Access Permit on file, MassDOT sent an NOV letter to the property owner on 3/31/25. The NOV letter requires the property owner to plug the connection or file for a Drainage Tie-In permit.	Investigation On-Going	If the property owner has not responded to the NOV letter within the allowed time frame, MassDOT will decide on next steps in compliance with their IDDE policy.	3

Original Date Issued Identified	Date of Most Recent Field Visit/ Sampling	Address	Source Identification	Sampling Results	Description of Potential Issue and Background	Description of 2024 - 2025 Actions	Investigation Status	Next Steps for 2025 - 2026	District
2021	3/25/2025	1170 Pleasant St, Worcester, MA	Maintenance Observation	N/A	MassDOT maintenance staff identified a potential discharge from a residential property's basement adjacent to a MassDOT drain. MassDOT performed a site visit in March 2021 and observed a partially buried, corrugated HDPE pipe from the home draining towards a shallow concrete structure. A small PVC pipe was identified in this structure and was traveling in the direction of a MassDOT-owned catch basin easterly on Pleasant Street.	On 8/22/2024, MassDOT performed CCTV on the catch basin in the yard of 1170 Pleasant Street to video the PVC pipe oriented in the direction of the MassDOT owned catch basin. The camera could see partially down the pipe to the next catch basin structure but then was stopped. The catch basin structure down the street didn't show a visible PVC pipe inlet, although the catch basin was blocked by sediment. On 3/25/25, MassDOT removed the sediment from the catch basin using a vac truck. After all the sediment was removed, no pipes were found going in the direction of the property. The catch basin only had one 18-inch concrete pipe, discharging water to another MassDOT owned structure on Pleasant Street. As a result of this investigation, it was concluded that there was no connection from the shallow concrete structure that was potentially receiving flow from the residence at 1170 Pleasant Street to MassDOT's drainage system. The shallow concrete structure instead appears to infiltrate into the surrounding front yard.	Closed	No further action needed.	3
2021	6/1/2021	Mystic Rd, Everett, MA	Visual Inspection	From the Department of Conservation and Recreation (DCR) sampling results, dry weather flow exceeded threshold for ammonia, chlorine, and surfactants which indicates a likely sewer input.	This potential illicit connection was identified during a dry weather IDDE survey by DCR and reported to MassDOT's Stormwater Management Unit. MassDOT hired a consultant performed a site visit on 5/24/21 to investigate the case and to conduct research on the roadway ownership. Tetra Tech's research on roadway ownership indicated that DCR owns the roadway (based on 1999 plans); however, after further investigation, they verified that the outfall and drainage system ownership was accepted by MassDOT. Tetra Tech performed two additional dry weather surveys on 10/1/2021 and 10/6/2021 where no flow was observed. On 10/26/2021, Tetra Tech performed a wet weather survey and a sample was taken at the manhole directly upstream of the outfall which exceeded e. coli and enterococcus thresholds but did not indicate likely sewer input based on MS4 permit requirements.	Since a dry weather flow has not been repeatable and the wet weather flow screening did not exceed the sewer input thresholds, MassDOT has been planning to perform further catchment investigation before closing out this investigation. MassDOT District Permits office has issued a Highway Access Permit to perform the CCTV investigation on the pipe network system which discharges to the MassDOT outfall of concern.	Investigation On-Going	MassDOT will perform CCTV of the pipe network in the Spring/Summer of 2025 to confirm that there are not signs of illicit discharges.	4
2024	8/22/2024	65 Main St, Boylston	CCTV investigation	N/A	While investigating the potential illicit connection from 60 Main Street, MassDOT observed a 4-inch pipe coming from the direction of 65 Main Street. No dry weather flow was observed at the time of the CCTV.	MassDOT performed a CCTV investigation for the pipe coming from 65 Main Street. It was observed that the PVC pipe transitions to a cast iron material at approximately where the pipe reaches the building. Approximately 106-feet down the pipe, CCTV revealed a Y-shaped fitting and was unable to continue, though the pipe appeared to continue. As a result of the observations made on 8/22/2024, MassDOT sent an NOV letter to the property owner of 65 Main Street on 3/12/2025. Additionally, MassDOT has hired a consultant to develop a comprehensive illicit discharge catchment investigation plan for further follow up of the source of the pipe and sampling of the discharge. The consultant has been waiting for winter conditions to end to perform the work.	Investigation On-going	If the property owner has not responded to the NOV letter within the allowed time frame, MassDOT will decide on next steps in compliance with their IDDE policy. MassDOT is also planning to further investigate the discharge from the cast iron pipe discharging to the Y fitting to the 4-inch pipe. MassDOT will schedule and perform wet weather sampling at this location.	3
2024	10/25/2024	1 Pineland Ave, Shrewsbury, MA	Visual Inspection	N/A	MassDOT observed dry weather flow discharging from the corrugated metal pipe outfall at the corner of 3 Pineland Ave's parking lot. Corrosion and orange coloring was observed in the pipe.	During a field visit on 10/25/2025, MassDOT performed a site visit to investigate the source of the flow discharging at the edge of the parking lot. MassDOT confirmed that there was still dry weather flow coming from the 36-inch corrugated metal pipe and that dry weather sampling should be done.	Investigation On-Going	MassDOT will schedule dry weather sampling at this location. Depending on site visit observations and results, MassDOT may issue an NOV to the property owner. If an NOV letter is issued, it will require the property owner to plug the connection or file for a Drainage Tie-In permit.	3

Appendix B: Active MassDOT Construction NOIs in Permit Year 22

Active MassDOT Construction NOIs in Permit Year 22

Projects which have filed a NOI during a previous Permit Year are denoted with a "P".

District	Project Number	Project Description	Estimated Completion Date	Contractor Filed NOI in PY 22	MassDOT Filed NOI in PY 22
1	606233	PITTSFIELD- INTERSECTION & SIGNAL IMPROVEMENTS AT FIRST STREET & NORTH STREET (NEAR BERKSHIRE MEDICAL CENTER)	9/10/2026	P	☑
2	606517	WEST BROOKFIELD- RESURFACING & RELATED WORK ON ROUTE 9, FROM WARE T.L. TO 850' WEST OF WELCOME ROAD (1.1 MILES - PHASE I)	5/1/2026	☑	☑
2	608849	LEVERETT- BRIDGE REPLACEMENT, L-09-003, MILLERS ROAD OVER ROARING BROOK	10/2/2026	☑	☑
2	608723	ATHOL- INTERSECTION IMPROVEMENTS AT CRESCENT STREET AND CHESTNUT HILL AVENUE	6/16/2028	☑	☑
2	608717	SPRINGFIELD- RECONSTRUCTION OF SUMNER AVENUE AT DICKINSON STREET AND BELMONT AVENUE (THE "X")	10/23/2030	☑	☑
2	610652	AGAWAM- ROBINSON PARK ELEMENTARY SCHOOL IMPROVEMENTS (SRTS)	6/19/2026	☑	☑
3	609528	GRAFTON- MILLBURY STREET IMPROVEMENTS (SRTS)	5/17/2026	☑	☑
3	612087	AUBURN- OXFORD- RESURFACING AND RELATED WORK ON I-290 AND I-395	7/27/2025	☑	☑
3	609054	LITTLETON- RECONSTRUCTION OF FOSTER STREET	8/16/2026	☑	☑
3	608433	WEBSTER- INTERSECTION IMPROVEMENTS AT I-395 RAMPS (EXIT 3) AT ROUTE 16 (EAST MAIN STREET) AND SUTTON ROAD	3/30/2027	☑	☑
3	608640	SUTTON- GRAFTON- BRIDGE REPLACEMENT, S-33-004, DEPOT STREET OVER THE BLACKSTONE RIVER	11/6/2026	☑	☑
3	605313	NATICK- BRIDGE REPLACEMENT, N-03-020, ROUTE 27 (NORTH MAIN STREET) OVER ROUTE 9 (WORCESTER STREET) AND INTERCHANGE IMPROVEMENTS	8/18/2030	☑	☑
3	608171	UXBRIDGE- RECONSTRUCTION OF ROUTE 122 (SOUTH MAIN STREET), FROM SUSAN PARKWAY TO ROUTE 16	5/18/2027	☑	☑
3	609411	FITCHBURG- TWIN CITIES RAIL TRAIL CONSTRUCTION (PHASE II)	12/22/2027	☑	☑
3	604499	LEOMINSTER- RECONSTRUCTION/REHABILITATION ON ROUTE 12 (CENTRAL STREET), INCLUDING REHABILITATION OF L-08-022	4/24/2028	☑	☑
3	608189	FITCHBURG- BRIDGE REPLACEMENT AND RELATED WORK, F-04-017, WATER STREET (STATE 2A) OVER BOULDER DRIVE AND PANAM RAILROAD & F-04-018, WATER STREET (ROUTE 12) OVER NORTH NASHUA RIVER	9/11/2027	☑	☑
4	610658	METHUEN- INTERSECTION IMPROVEMENTS AT RIVERSIDE DRIVE AND BURNHAM ROAD	7/22/2026	P	☑
4	610919	LYNN- NAHANT- NORTHERN STRAND EXTENSION	11/15/2026	☑	☑
4	610919	LYNN- NAHANT- NORTHERN STRAND EXTENSION	5/3/2027	☑	☑
5	608480	FOXBOROUGH- RESURFACING AND RELATED WORK ON ROUTE 1	5/27/2025	P	☑
5	606130	NORWOOD- INTERSECTION IMPROVEMENTS AT ROUTE 1A & UPLAND ROAD/WASHINGTON STREET & PROSPECT STREET/FULTON STREET	12/14/2027	☑	☑
5	608279	STOUGHTON- INTERSECTION IMPROVEMENTS AND RELATED WORK AT CENTRAL STREET, CANTON STREET AND TOSCA DRIVE	8/16/2026	☑	☑
5	608535	NEW BEDFORD- CORRIDOR IMPROVEMENTS AND RELATED WORK ON COUNTY STREET, FROM NELSON STREET TO UNION STREET	6/26/2024	☑	☑
5	609067	BARNSTABLE- CONSTRUCTION OF A SHARED USE PATH ALONG BEARSES WAY, FROM ROUTE 28 TO PITCHERS WAY	11/1/2027	☑	☑
5	608563	SWANSEA- IMPROVEMENTS ON ROUTE 6 (GRAND ARMY OF THE REPUBLIC HIGHWAY) AT GARDNERS NECK ROAD	9/12/2026	☑	☑
5	613129	NANTUCKET- INTERSECTION IMPROVEMENTS AT MILESTONE ROAD AND POLPIS ROAD AND EXTENSION OF 'SCONSET BIKEPATH	5/1/2026	☑	☑
5	603739	WRENTHAM- CONSTRUCTION OF ROUTE I-495/ROUTE 1A RAMPS	4/1/2030	☑	☑
5	607398	YARMOUTH- BARNSTABLE- CAPE COD RAIL TRAIL EXTENSION, INCLUDES NEW BRIDGE OVER WILLOW STREET & RAILROAD (PHASE III)	5/28/2031	☑	☑
5	611986	MASHPEE- CORRIDOR IMPROVEMENTS & RELATED WORK ON ROUTE 151, FROM THE FALMOUTH T.L. TO OLD BARNSTABLE ROAD (PHASE 2)	8/28/2032	☑	☑
5	609435	PLYMPTON- BRIDGE REPLACEMENT, P-14-001 (445), WINNETUXET ROAD OVER WINNETUXET RIVER	8/25/2025	☑	☑
5	611985	HARWICH- SIDEWALK INSTALLATION ON ROUTE 28 FROM BANK STREET TO SAQUATUCKET HARBOR	4/15/2027	☑	☑

5	607403	STOUGHTON- CORRIDOR IMPROVEMENTS ON ROUTE 138, FROM 300 FEET NORTH OF CHARLES AVENUE TO LINCOLN STREET (PHASE 1)	7/13/2028	☑	☑
6	607670	BOSTON- SUPERSTRUCTURE REPLACEMENT, B-16-067 (3GV), MAFFA WAY & B-16-068=S-17-027 (3GW), MYSTIC AVENUE OVER ORANGE & MBTA/BMRR	11/30/2027	P	☑
6	607244	WINTHROP- RECONSTRUCTION & RELATED WORK ALONG WINTHROP STREET & REVERE STREET CORRIDOR	7/1/2027	P	☑
6	608707	QUINCY- RECONSTRUCTION OF SEA STREET	7/1/2027	☑	☑

Appendix C: Impaired Waters Program – Summary of NPDES Permit Year 22

Appendix C

Impaired Waters Program

Summary of NPDES Permit Year 22

Infiltration Basin on I-90 treating stormwater discharge to Dorothy Pond in Millbury, MA.

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1.0 Executive Summary

This past permit year, MassDOT Highway Division (MassDOT) continued to implement the Impaired Waters Program (IWP) through the planning, design, and construction of stormwater treatment structures or Stormwater Control Measures (SCMs, previously referred to as Best Management Practices (BMPs)) in impaired watersheds throughout the state.

This year, MassDOT designers submitted plans and Water Quality Data Forms (WQDFs), at design milestones varying from Pre-25% through PS&E and construction, for 30 SCMs overall. SCMs were proposed in the following watersheds: Charles, Mystic, North Coastal, SuAsCo, Taunton, Cape Cod, Long Island Sound, and Narragansett.

During this past permit year, MassDOT completed updates to the WQDF to gather more accurate data from designers to track water quality improvements on MassDOT projects. MassDOT also began reviewing existing SCM treatment data for completeness and developed an internal dashboard to track progress towards treatment requirements within impaired watersheds throughout the state. MassDOT will use this dashboard and improved SCM data to evaluate progress toward watershed level treatment goals which are expected to be the focus of the anticipated Transportation Separate Storm Sewer System (TS4) Permit.

Overall, MassDOT has constructed 1,498 various treatment SCMs as part of the IWP, which provide more than 630 acres of effective impervious cover[1] reduction from MassDOT property.

2.0 Impaired Waters Program Background

MassDOT developed the IWP to address roadway stormwater runoff discharging to impaired waters across the state. This program was initially developed as part of MassDOT's commitment to improving the quality of stormwater runoff from MassDOT highways, to comply with the National Pollutant Discharge Elimination System (NPDES) Phase II Small Municipal Separate Storm Sewer System (MS4) General Permit, and to meet commitments in the April 22, 2010 Environmental Protection Agency (EPA) enforcement order letter to MassDOT. "Impaired" water bodies are those listed as Category 4a or 5 in the Massachusetts Department of Environmental Protection's (MassDEP) Integrated List of Waters.[2]

To meet the EPA enforcement letter requirements, MassDOT made a five-year commitment starting in 2010 to assess all impaired water body segments in the MS4 area that receive stormwater runoff from MassDOT roadways. These water body assessments included identifying if runoff from the MassDOT roadways drained to the water body, whether stormwater contributed to the impairment, and whether existing SCMs effectively treated runoff from the roadways. The assessment then set a pollutant removal target for the specific receiving water and determined if the target was met through existing SCMs. If the target was not currently met, MassDOT committed to design and construct additional water quality SCMs, where site conditions allowed. MassDOT completed assessments of all 684 impaired water bodies which met the

[1] The MassDOT IWP uses effective impervious cover as the metric to evaluate the impact of stormwater runoff to receiving waterbody stream quality, as outlined in MassDOT's IC Method (MassDOT's Application of the Impervious Cover Method in BMP 7U, 2011).

[2] MassDEP. Integrated List of Waters & Related Reports. Retrieved from https://www.mass.gov/lists/integrated-lists-of-waters-related-reports.

enforcement criteria in the five-year schedule. In following years, MassDOT expanded the water bodies list to encompass additional urban area identified in the 2010 census, impaired waters listed on the updated 2012 final 303(d) list, and MassDOT property acquired since the enforcement (e.g., MassTurnpike) as part of our good-faith commitment to improve stormwater runoff quality from MassDOT highways. In total, MassDOT assessed 826 water bodies in five years.

To utilize tax dollars most effectively, MassDOT has implemented the construction of the proposed SCMs through two initiatives: Retrofit and Programmed Projects. First, MassDOT maximizes the construction of SCMs as part of major programmed projects where significant improvements are planned for a roadway or intersection (e.g., intersection improvement, highway widening) and if it is feasible to include stormwater treatment upgrades. MassDOT then evaluates the project area draining to the impaired water body and maximizes the installation of structural SCMs as site constraints allow, which may exceed the pollutant removal target set in the assessment.

In areas where programmed projects are not planned and the assessment identified necessary pollutant removal, MassDOT has proactively identified locations to install SCMs along existing roadways as stand-alone retrofit projects or, more typically, incorporated into resurfacing projects. From the areas identified in the assessments, MassDOT has constructed approximately 98% of these retrofit projects and plans to continue the design and construction expeditiously to advertise the remaining retrofit projects.

MassDOT has also initiated a second phase of the IWP to further advance water quality treatment goals in impaired watersheds. As part of IWP Phase 2, MassDOT is shifting to a watershed-based treatment approach, where stormwater treatment is encouraged and implemented as part of programmed projects within impaired watersheds. MassDOT anticipates that the future TS4 permit will likely focus on water quality treatment at the watershed scale, as opposed to individual water bodies, as included in both the 2016 and Draft 2024 MS4 Permits.

MassDOT catalogs planned and constructed stormwater improvements through a WQDF submitted by designers, which MassDOT then uploads and tracks in the associated stormwater asset database. The form helps designers determine if their project is within an impaired watershed and encourages the installation of treatment where possible within these priority watersheds. MassDOT has continually updated the form since its inception in 2010, with a larger update that occurred in May 2022, to capture additional SCM treatment information. Since the May 2022 release, minor updates have been made to the form, with the most recent revision released in April 2025 (PY23). The most recent MassDOT WQDF version is available at this link: https://www.mass.gov/info-details/stormwater-management-unit

This report summarizes the progress of the IWP program and other supporting initiatives and provides a status update on both phases of the IWP.

3.0 Phase 1 of the Impaired Waters Program

Starting in 2010, MassDOT made a commitment to assess all of the impaired water body segments (based on the 2010 303d list) that received stormwater runoff from MassDOT roadways located in the MS4 regulated area by June 2015. MassDOT completed these assessments which identified target reductions from MassDOT direct discharges to the impaired waterbodies by the deadline. MassDOT has been designing and constructing SCMs to reduce pollutants as part of projects and has programmed (i.e., identified funding for design and construction) construction of all SCMs to meet the reduction targets, where feasible.

Major programmed projects included in the Statewide Transportation Improvement Plan (STIP), or otherwise included in MassDOT's program for construction, provide an excellent opportunity to further incorporate SCMs and improve water quality. These projects may allow for holistic site planning, where drainage can be redirected, and stormwater management can be included in the overall plan for the site. Also, major programmed projects allow for the potential to modify roadway alignments and/or move conflicting utilities. Therefore, MassDOT has multiple types of programmed projects in locations that discharge stormwater runoff to impaired waters where additional SCMs are included in the design, including municipal projects undertaken by MassDOT for local municipalities, and projects outside the jurisdiction of the MS4 Permit.

Retrofit projects (stand-alone or coupled with resurfacing) are projects that target specific locations where constructing SCMs will provide an improvement in the water quality of stormwater discharges to impaired water bodies. Retrofit projects focus on mitigating direct discharges to the receiving water. For retrofit projects moving forward with SCM design, MassDOT consultants performed a more detailed review of the MassDOT urban area roads directly draining to the receiving water to identify site constraints (e.g., soils, wetlands, utility conflicts) that may limit potential SCM locations, and requested survey and geotechnical information as needed. The consultants developed the design of SCMs to meet the pollutant load reduction to the maximum extent practicable and prepared permit applications and construction plans. MassDOT then advertised these SCM designs for construction.

Table 1 lists the remaining EPA enforcement commitment retrofit projects and associated impaired waterbodies where structural SCM retrofits were needed and where design or construction is underway. Each of the projects included in Table 1 proposes SCMs to treat MassDOT's stormwater discharges into the associated water body.

Table 1 Status of Remaining Phase 1 IWP Projects

Projects in Design				
Water Body ID	**Water Body Name**	**Project Name**	**Design Status**	**Ad Date**
MA62-04	Taunton River	Somerset – Stormwater Improvements along Route 6, Route 79, Route 138, Route 103 for Taunton River	75%/100% Design	2025
Projects in Construction				
Water Body ID	**Water Body Name**	**Project Name**	**Estimated Construction Completion**	
MA70-02	Boston Inner Harbor	Boston Inner Harbor Stormwater Improvements	Spring 2025	
MA41-05	Cady Brook	I-90 at Cady Brook	Fall 2025	
MA42-03	French River	I-90 at French River	Fall 2025	

3.1 Total Maximum Daily Load (TMDL) Waterbodies

Additionally, the 2010 EPA enforcement specifically required that "*all TMDL waters in urbanized areas to which MassDOT discharges must have been evaluated to determine if existing BMPs are sufficient and, if not, MassDOT must have identified additional controls that should be implemented".* By 2015, MassDOT had evaluated all the waters with TMDLs that were included in the enforcement that potentially received MassDOT discharges, evaluated the need for additional controls, and identified funding to construct SCMs where construction was determined feasible. MassDOT continues to review opportunities to incorporate

structural SCMs to treat drainage to waters with TMDLs through programmed projects utilizing its Stormwater Design Guide (SDG) and WQDF and proactive project review described more in Section 4.2.

4.0 Phase 2 of the Impaired Waters Program

Now that MassDOT has programmed the construction of SCMs necessary to address the EPA enforcement order, MassDOT has initiated a second phase of the IWP program. Phase 2 moves away from tracking by individual impaired waterbody and moves toward a watershed-based approach. This approach aligns with EPA's water quality treatment goals outlined in the 2016 MS4 Permit (and included in the draft 2024 permit) for municipalities, which focuses on stormwater improvements at the watershed scale and prioritizes TMDL watersheds.

MassDOT has proactively focused on projects for Phase 2 to include stormwater treatment in identified priority watersheds. MassDOT chose its priorities to align with the waterbodies/watersheds requiring treatment to meet numeric targets in EPA's 2016 MS4 permit which include the Charles River watershed, various lakes and ponds in central Massachusetts that have phosphorus TMDLs, and the Mystic River watershed which has an Alternative TMDL from May 2020.

As part of this past reporting year, 23 projects and 30 individual SCMs were submitted at major design milestones with stormwater controls as part of IWP Phase 2. Table 2 documents the number of SCMs proposed within each watershed this permit year.

Table 2 SCMs Proposed in Permit Year 22

Watershed	SCMs Proposed
Charles	2
Mystic	1
North Coastal	5
SuAsCo	5
Taunton	5
Cape Cod	5
Long Island	7
Narragansett	2

The Phase 2 IWP projects are primarily implemented through programmed projects, using the SDG as design guidance and the WQDF to alert designers when they are in a priority watershed. These tools, along with MassDOT's review process, work toward maximum inclusion of stormwater treatment on MassDOT projects to the extent practical.

MassDOT tracks the implemented SCMs via the WQDF, collecting spatial locations in addition to water quality treatment information that allows MassDOT to understand its treatment at the watershed scale. See more information about data tracking in Section 4.2.

Note that MassDOT is continuing to implement standalone stormwater retrofit projects as opportunity arises. These projects are implemented through the IWP and include the following:

- Sterling - Stormwater Improvement at Wachusett Reservoir MA81147 (Nashua River Watershed)
- Worcester - Route 20 Flood Control Project providing water quality improvements via dredging at Flint Pond MA51188 (Blackstone River Watershed)
- Worcester - Stormwater Improvements along I-290 and 122A addressing Unnamed Tributary MA51-08 (Blackstone River Watershed)

4.1 Stormwater Design Guide and Water Quality Data Form

Phase 2 of the IWP relies on the use of MassDOT's integrated tools and guidance for stormwater projects, including the SDG and WQDF, along with MassDOT design and review processes. The SDG provides design guidance for programmed project designers, directing them to maximize the water quality treatment provided on site and assisting MassDOT with meeting MassDEP's Stormwater Standards, when applicable. It includes MassDOT-preferred SCMs and techniques for SCM selection and design for MassDOT's roadway setting. It supports designers in providing information to MassDOT to support tracking stormwater treatment on a watershed-basis in alignment with EPA's stormwater treatment approach. The SDG follows MassDOT's priorities for stormwater treatment in impaired watersheds with a focus on the design of structural SCMs. The SDG was issued in November 2023 and supersedes the 2004 MassHighway Storm Water Handbook.

While the SDG provides MassDOT design guidance and best practices, the WQDF provides and gathers various project information on how specific projects are implementing the SDG. It requests information on scope and location which is used to generate treatment requirements shared with the designer based on MassDEP Stormwater Standards, EPA's watershed-scale approach to pollutant reduction, and MassDOT's stormwater treatment design standards and guidance (as documented in the SDG). The form provides designers with general guidance for implementing SCMs, gathers and calculates stormwater treatment data, and conducts data validation. The form solicits specific location information for each proposed structural SCM (including pavement disconnection) and their ancillary structures (e.g., check dams, sediment forebays), which MassDOT uses to load into the stormwater assets database. MassDOT's Environmental Section is charged with reviewing incoming WQDFs at prescribed design phases with the ability to evaluate proposed designs and provide comment.

Additionally, the WQDF captures documentation regarding environmentally sensitive site design and Low Impact Development elements, including measures such as preserving existing vegetation, natural drainage patterns, and riparian buffers; minimizing disturbance to wetland resource areas; promoting sheet flow to vegetated areas; and reducing existing impervious cover. This data mirrors the design guidance in Chapter 3 of the SDG. The WQDF directs users to the MassDOT SDG for guidance on the design of structural SCMs.

MassDOT finalized and released a revised WQDF in May 2022 (version 1.0), which emphasizes the importance of taking an Integrated Site Design (ISD) approach to incorporating stormwater treatment into a roadway project. The revised WQDF implements a consistent SCM treatment accounting protocol based on EPA's treatment curve methodology, so SCM treatment credits can be tracked accurately and consistently with the latest EPA's approaches. Since May 2022, minor updates have been made to the form, with the latest version (2.2) released in 2024 and another version (3.0) planned for April 2025.

4.2 SCM Data Management and Tracking

The revised WQDF provides a systematic way for MassDOT's Environmental Section to collect treatment data for all MassDOT projects with structural SCMs. This improvement will allow MassDOT to track pollutant reduction more accurately and assist in targeting nutrient reduction specifically in TMDL watersheds.

MassDOT has been tracking SCM data in its SCM data layer since the inception of the IWP. Currently the SCM data layer contains approximately 1,600 features. MassDOT has continued to maintain and update the SCM data layer within the stormwater asset database to track structural SCMs proposed and constructed by our design consultants. This permit year, MassDOT initiated an effort to review existing SCM treatment data within the stormwater database to ensure data accuracy and completeness. The SCM data layer is a powerful tool in the analysis of MassDOT's program and future planning/water quality analysis and will allow MassDOT to summarize treatment by watershed for reporting and tracking. MassDOT developed an internal dashboard to track progress towards treatment requirements within impaired watersheds across the state. MassDOT will use this dashboard and improved SCM data to evaluate progress toward watershed level treatment goals expected to be the focus of the anticipated TS4 Permit.

The SCM data layer also allows for tracking of SCM inspections and maintenance activities. MassDOT is in the process of developing additional data management and visualization tools which will meet the needs of both office and field staff for planning, tracking, and reporting on inspection and maintenance activities.

Based on MassDOT's current stormwater asset database to date, MassDOT has constructed 1,498 various treatment SCMs as part of the IWP, which provide more than 630 acres of effective impervious cover[3] reduction from MassDOT property. MassDOT will continue to add SCMs and treatment data and calculate credits for existing SCMs as the stormwater asset database and mapping program evolves. Newly constructed SCMs will continue to be added to the database via the WQDF process. MassDOT SCM location data is available at this link:
https://experience.arcgis.com/experience/0eef00c41c764872b0f148a4f7fb9cf2

5.0 Stormwater Asset Database and Drainage Mapping

This past year, MassDOT continued to progress our Statewide Drainage Mapping Initiative. The goal of this statewide mapping effort is to collect information on SCMs and drainage features not already documented in the database. This will help MassDOT most effectively implement the IWP and appropriately track current progress towards treatment targets within impaired watersheds. MassDOT began using internal staff to complete drainage asset mapping in Summer 2023, and since then, has continued to expand the program and train new mappers and internal review staff. Trained mappers use georeferenced construction and as-built plans (as available) to digitize stormwater features within a controlled version of MassDOT's stormwater asset database. Their work is reviewed during this period, either by an external consultant or a trained internal reviewer. Once the work is finalized, it is posted to MassDOT's live stormwater asset database in ArcGIS Online. This permit year, MassDOT completed our second round of mapping using internal mapping staff and is close to completing the third round. The fourth round of mapping is scheduled to kick off in Spring 2025. MassDOT is in the process of updating our mapping progress tracking system to more effectively quantify progress made through this initiative.

[3] The MassDOT IWP uses effective impervious cover as the metric to evaluate the impact of stormwater runoff to receiving waterbody stream quality, as outlined in MassDOT's IC Method (MassDOT's Application of the Impervious Cover Method in BMP 7U, 2011).