

# MAINE TURNPIKE AUTHORITY

**GENERAL PERMIT FOR THE DISCHARGE OF  
STORMWATER FROM MAINE DEPARTMENT OF  
TRANSPORTATION AND MAINE TURNPIKE AUTHORITY  
MUNICIPAL SEPARATE STORM SEWER SYSTEMS**

## STORMWATER MANAGEMENT PLAN

prepared for

MAINE TURNPIKE AUTHORITY (MTA)



*Prepared by*

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## SECTION 1: INTRODUCTION

### OVERVIEW OF REGULATORY PROGRAM

The General Permit (GP) for the Discharge of Stormwater from Maine Department of Transportation (MaineDOT) and Maine Turnpike Authority (MTA) Municipal Separate Storm Sewer Systems (MS4), or TS4 GP, was issued by the State of Maine Department of Environmental Protection (DEP) Bureau of Water Quality on August 18, 2021. The TS4 GP establishes the specific requirements that must be met by MaineDOT and MTA to obtain authorization to discharge stormwater directly to a MS4 or waters of the State other than groundwater, for discharges located in an Urbanized Area (UA) as determined by the inclusive sum of the 2000 and 2010 Decennial Census by the Bureau of Census. The TS4 GP becomes effective on July 1, 2022 and expires five years after that date but may be administratively continued if a new TS4 GP is not issued prior to the expiration date.

### OBTAINING COVERAGE TO DISCHARGE

Pursuant to 40 C.F.R. §122.28(d)(2), the TS4 GP is part of a “two-step” general permit. As prescribed in Part I(B) of the TS4 GP, MTA published public notice of MTA’s plans to file a Notice of Intent (NOI) to obtain coverage under the TS4 GP with DEP in the legal advertisement section of the Portland Press Herald on September 9, 2021, and also made the notice available on MTA’s official internet website. Additionally, a letter of notice was sent to all regulated small MS4s into which MTA’s MS4 discharges. Copies of these public notices were included with MTA’s NOI filing that was submitted to DEP in September 2021, which is provided as **Appendix A**.

Maine Turnpike Authority understands that once the DEP has deemed MTA’s NOI complete for processing it will provide the public with an opportunity for comment for a minimum of 30 calendar days. Following review of MTA’s NOI and any public comments, MTA understands the DEP will establish the additional terms and conditions necessary to meet 40 C.F.R §122.34 by issuing a draft permittee-specific DEP Order which will be subject to a formal 30-day public comment period. Maine Turnpike Authority’s authorization to discharge will become effective once DEP issues MTA its final permittee-specific DEP Order by June 30, 2022 establishing a list of required actions and a corresponding schedule of compliance. MTA will then have 60 days to modify this SWMP, as applicable, to comply with the required actions and schedule specified in the final permittee-specific DEP Order.

### STORMWATER MANAGEMENT PLAN

This Stormwater Management Plan (SWMP or Plan) has been prepared to satisfy the requirements of the TS4 GP, including descriptions of how MTA will implement the six Minimum Control Measures (MCMs), set forth in Part IV(C) of the TS4 GP, and how MTA will implement the requirements for discharges to impaired waters of Part IV(E) of the TS4 GP. **Section 2** of this SWMP describes how MTA will implement Best Management Practices (BMPs) to meet the six MCMs, the persons or positions responsible for implementing each BMP, and the date by which each BMP will be implemented. In addition to addressing the six MCMs, **Section 3** of this Plan



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describes how MTA manages, or plans to manage, direct stormwater discharges to impaired waters.

### PLAN MODIFICATIONS

Within 60 days of the issuance of the DEP's final permittee-specific Order, MTA will update this SWMP to include how it will meet all requirements of the DEP Order. A summary of the comments received during the public comment periods and corresponding changes to the SWMP made in response to the comments will be included as **Appendix B**. The modified SWMP will be submitted to DEP along with a narrative explaining how the SWMP was modified to be consistent with the TS4 GP and permittee-specific DEP Order. A copy of MTA's permittee-specific DEP Order will be included as **Appendix C**.

MTA will keep the SWMP current, as required by Part IV(B)2 of the TS4 GP. A copy of MTA's current SWMP will be posted on its official internet website along with contact information for the person responsible for maintaining the Plan. Administrative updates to the SWMP will be summarized in the annual report following the update. Changes to BMPs that are required to comply with the TS4 GP or the final permittee-specific DEP Order will be made available for public comment. Should MTA wish to modify the schedule or BMPs established in the permittee-specific DEP Order, MTA will file an application with DEP that includes a justification for the request for modification.

### PLAN AVAILABILITY

This SWMP was developed for, and will be maintained by, the MTA. The primary location of this document is MTA Headquarters at 2360 Congress Street in Portland. A copy of the SWMP will be provided upon request by any of the entities listed in Part IV(B)1 of the TS4 GP, and is available to the general public on MTA's internet website.

### MINIMUM CONTROL MEASURES

This SWMP establishes a program of BMPs and Measurable Goals (MGs) for each of the six MCMs:

1. Education/outreach program;
2. Public involvement and participation;
3. Illicit discharge detection and elimination program;
4. Construction site stormwater runoff control;
5. Post-construction stormwater management in new development and redevelopment; and
6. Pollution prevention/good housekeeping for facility operations.

**Section 2** of this SWMP addresses how MTA will implement each of the six Minimum Control Measures (MCMs) by (1) establishing MGs for which BMPs will be evaluated; (2) identifying the person(s) or position(s) responsible for implementing each BMP; and (3) establishing a date for BMP implementation, as appropriate.

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### SHARING RESPONSIBILITY

As applicable, this SWMP and subsequent annual reports will identify BMPs that will be implemented by a third party. MTA understands that failure to implement the BMP by a third party remains the responsibility of the permittee.

In the event that a BMP or MCM is the responsibility of a third party under qualifying State or federal program (i.e., under another NPDES or MEPDES permit), MTA will reference the qualifying program and identify the corresponding BMPs in the SWMP. MTA understands that it is responsible for implementation if a third party fails to perform and that annual confirmation of BMP implementation by a third party is required.

Interconnections to other regulated small MS4s have been identified to date as part of the previous MS4 permit. MTA will continue to cooperate with host MS4 communities that operate an interconnected MS4 system with MTA, if discharges impact one another. Where appropriate, a description of the respective responsibilities of the MTA and interconnected MS4s under the MCM elements of the permit is provided in this SWMP.

### DISCHARGES TO IMPAIRED WATERS

The TS4 GP includes requirements for discharges to impaired waters with an EPA approved total maximum daily load (TMDL) or designated as an Urban Impaired Stream (UIS). **Section 3** of this SWMP addresses compliance with these requirements.

### RECORD KEEPING

MTA will maintain this SWMP and the associated records required by the TS4 GP for at least three (3) years following expiration of the TS4 GP, or longer if requested by the Department or the USEPA. A copy of the SWMP and associated records will be maintained at MTA Headquarters and will be made available to the public upon written request at reasonable times during regular business hours.

### ANNUAL COMPLIANCE REPORT

In accordance with Part IV(G) of the TS4 GP, MTA will electronically submit an Annual Compliance Report on or before September 15 of each permit year. The Annual Compliance Report will include the content specified in Part IV(G), a. through e. and will be submitted electronically via email to DEP at the following address:

MS4 Program Manager  
Department of Environmental Protection  
17 State House Station  
Augusta, Maine 04333-0017  
e-mail: Holliday.Keen@maine.gov

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In the event that comments are received as a result of DEP's review of the annual report, MTA understands that the specified changes to the report must be submitted to the Department within 60 days of the receipt of the comment(s).

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### SECTION 2: MINIMUM CONTROL MEASURES (MCMs)

#### MCM 1 – EDUCATION AND OUTREACH PROGRAM

##### **Goals:**

1. Raise awareness that polluted stormwater runoff is one of the most significant sources of water quality problems in Maine’s waters;
2. Motivate staff and contractors to use BMPs that reduce polluted stormwater runoff; and
3. Reduce polluted stormwater runoff as a result of increased awareness and utilization of BMPs.

##### BMP 1.1 – RAISE AWARENESS

Responsible Party: MTA Permitting Coordinator / Environmental Liaison, with assistance from MTA Engineering and Construction Department

MTA’s stormwater education and outreach program will focus primarily on MTA employees and contractors that are responsible for operating, maintaining, and constructing MTA infrastructure. MTA will provide annual employee training intended to raise awareness that polluted stormwater runoff is one of the most significant sources of water quality problems in Maine’s waters. In addition, MTA will require its construction contractors to review and sign a Stormwater Awareness Affidavit (**Appendix D**) that emphasizes the importance of stormwater pollution prevention, erosion and sediment control, storage and containment of oil and waste, and implementation and maintenance of BMPs at construction sites.

Measurable Goal 1.1a – MTA will provide annual employee stormwater awareness training that includes information on the effects of polluted stormwater runoff. The number and duration of training sessions, the type and content of the training, and the number of employees trained will be summarized in MTA’s Annual Compliance Report.

Measurable Goal 1.1b – MTA’s Stormwater Awareness Affidavit will be provided to and signed by MTA’s contractors prior to the start of new construction projects with an acre or more of disturbance in the MS4 UA. Copies of the signed affidavits will be retained in each construction project’s records. A summary of new projects in the MS4 UA requiring contractor signed affidavits during the permit year (PY) will be included in MTA’s Annual Compliance Report.

##### BMP 1.2 – BMP ADOPTION PLAN AND REDUCE POLLUTED RUNOFF

Responsible Party: MTA Permitting Coordinator / Environmental Liaison, with assistance from MTA Engineering and Construction Department and MTA Highway Operations

MTA will continue the existing education and outreach efforts established during the previous permit cycle. MTA will provide annual training designed to motivate its staff to use BMPs to minimize stormwater pollution. The use of BMPs by contractors is required under Section 656 of MTA’s Supplemental Specifications and applies to all construction contracts. Section 656 also requires the contractor’s on-site responsible party (OSRP) for erosion and sediment control to be

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Maine DEP Certified in Erosion Control Practices, an equivalent program, or licensed as a Professional Engineer, Landscape Architect, or Soil Scientist to help ensure BMPs are applied appropriately.

Measurable Goal 1.2a – As part of the annual employee stormwater awareness training, the correct application of BMPs will be addressed, as well as the environmental and regulatory consequences of failing to use BMPs correctly at project sites. MTA staff will be trained annually and the number of training sessions and trained employees will be summarized in MTA's Annual Compliance Report.

Measurable Goal 1.2b – A summary of new projects in the MS4 UA with an acre or more of disturbance during the PY that required contractors to provide contractor erosion and sediment control credentials will be included in MTA's Annual Compliance Report. Documentation of contractors' credentials will be kept on file with the project records.

### BMP 1.3 – REPORT PROGRESS

Responsible Party: MTA Permitting Coordinator / Environmental Liaison

MTA's progress in continuing education and outreach efforts will be assessed and reported to DEP in accordance with the specified schedule in the General Permit for process and impact indicator assessments. Progress will be reported annually for process indicators and in years 1 (background), 3, and 5 for impact indicators. MTA will include a review of the process and impact indicators in its fifth Annual Compliance Report.

Measurable Goal 1.3a – MTA will provide annual employee stormwater awareness training intended to motivate staff to use BMPs to minimize stormwater pollution. The process indicator for MTA's annual employee stormwater awareness training will be the number of employees trained and the impact indicator will be the average grade on the exams given to each employee at the end of each training session.

Measurable Goal 1.3b – MTA will conduct on-site environmental audits of active construction projects and record stormwater and BMP observations made during the site visit. MTA will include a review of the process and impact indicators in its fifth Annual Compliance Report. The process indicator for this goal will be the number of environmental audits completed in the UA and the impact indicator will be the observations made during the on-site environmental audits such as the installation and maintenance of BMPs, the need for corrective actions, permit violation notices from Maine DEP, and whether any erosion or sediment control fines were levied on contractors by MTA.

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### MCM 2 – PUBLIC INVOLVEMENT AND PARTICIPATION

**Goals:**

Involve MTA's community including various departments or facilities, and when applicable, regulated small MS4 communities, in both the planning and implementation process of improving water quality and reducing stormwater quantity via the stormwater program.

#### BMP 2.1 – PUBLIC NOTICE REQUIREMENT

Responsible Party: MTA Permitting Coordinator / Environmental Liaison

MTA will maintain its Public Participation Process Policy and comply with the public notice requirements of the Maine Freedom of Access Act (FOAA).

Measurable Goal 2.1 – When MTA involves stakeholders in the implementation of the TS4 GP, the meetings and attendance will be documented and reported annually.

#### BMP 2.2 – COORDINATE WITH REGULATED COMMUNITIES

Responsible Party: MTA Permitting Coordinator / Environmental Liaison

MTA will maintain close communication with MS4 communities and their respective Stormwater Coordinators, primarily through participation in the Interlocal Stormwater Working Group (ISWG) and the Southern Maine Stormwater Working Group (SMSWG). Community coordination is also a component of MTA's project development program, which includes project development phase communication with host municipalities to address planned construction and maintenance activities. Additionally, MTA remains involved with the evolving management requirements of UIS watersheds both within and outside of the UA. MTA communicates periodically, through participation in local stormwater group meetings and involvement as a stakeholder with the Maine DEP and host municipalities regarding watershed management planning efforts within MTA's right-of-way.

Measurable Goal 2.2 – MTA attendance at local and regional stormwater meetings will be documented and reported annually.

### MCM 3 – ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDDE)

**Goals:**

Implement and enforce a program to detect and eliminate illicit discharges and non-stormwater discharges in MTA's stormwater systems.

#### BMP 3.1 –IDDE PLAN

Responsible Party: MTA Permitting Coordinator / Environmental Liaison, with assistance from MTA Highway Operations

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MTA has developed an IDDE Plan (**Appendix E**) to address any discharge that is not uncontaminated groundwater, water from a natural resource, or an allowable non-stormwater discharge. The IDDE Plan addresses illicit discharges in the following four components: 1) Procedures for prioritizing watersheds, 2) procedures for tracing the source of an illicit discharge, 3) procedures for removing the source of the discharges, and 4) procedures for program evaluation and assessment.

Measurable Goal 3.1 – MTA has developed and implemented the IDDE Plan and will review and update periodically, as needed, to reflect changes to the program.

### BMP 3.2 – MAINTAIN MAPS

Responsible Party: MTA Permitting Coordinator / Environmental Liaison

MTA maintains maps of its storm sewer system within the UA. These maps show the location of stormwater catch basins, connecting surface and subsurface infrastructure, and depict the direction of in-flow and out-flow pipes, and the locations of discharges from stormwater outfalls operated by the MTA to receiving waters or to an interconnected MS4 and the name of the receiving water for each outfall. Each catch basin is uniquely identified to facilitate control of potential illicit discharges, and to ensure proper operation and maintenance of these structures.

Measurable Goal 3.2 – MTA’s storm sewer system maps will be reviewed annually and updated, as needed, to reflect modifications in infrastructure (e.g., infrastructure removal/installation, more accurate mapping data, etc.).

### BMP 3.3 – DRY WEATHER OUTFALL INSPECTION PROGRAM

Responsible Party: MTA Permitting Coordinator / Environmental Liaison

MTA’s IDDE Plan (**Appendix E**) outlines the conditions under which dry weather outfall inspections will be conducted and how they will be documented.

Measurable Goal 3.3 – MTA will conduct visual dry weather outfall inspections on 100% of its identified outfalls during the 5-year term of the TS4 GP, except that outfalls meeting the condition in Part IV(C)(3)(c)(vi)(1) that are associated with roadway drainage in undeveloped areas with no dwellings and no sanitary sewers are exempt from visual dry weather inspection. The number of outfalls inspected each year and cumulatively over the permit cycle will be reported in MTA’s annual reports.

### BMP 3.4 – WET WEATHER ASSESSMENT

Responsible Party: MTA Permitting Coordinator / Environmental Liaison

MTA’s IDDE Plan (**Appendix E**) includes information on the wet weather assessment that MTA will perform.

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Measurable Goal 3.4 – In accordance with Part IV(C)(3)(d) of the TS4 GP and prior to June 30, 2027, MTA will perform a wet weather assessment for the potential for illicit discharges during wet weather events. Following the wet weather assessment, MTA’s IDDE Plan will be updated to include a brief description of the data and process used to perform the assessment, the list of outfalls identified for wet weather monitoring, the rationale for including these outfalls, and the timing and frequency of wet weather monitoring to be completed during the next permit cycle. Once the wet weather assessment is completed, the updated IDDE Plan with the results of the wet weather assessment will be provided with the MTA’s annual report.

### BMP 3.5 – IDENTIFY ALLOWABLE NON-STORMWATER DISCHARGES

Responsible Party: MTA Permitting Coordinator / Environmental Liaison

Consistent with the previous MS4 cycles, a limited number of authorized non-stormwater discharges were identified and documented. These primarily included air conditioner condensate from window-mounted units at Fare Collection facilities (e.g., toll plazas), which were determined to not be significant contributors of pollutants.

Measurable Goal 3.5 – If the MTA identifies any new allowable non-stormwater discharges as significant contributors of pollutants to the MS4, then the MTA will implement measures and/or cooperate with responsible dischargers to control these sources so they are no longer significant contributors of pollutants. The MTA will identify in its annual report if it has identified any of these sources as a significant contributor of pollutants to the MS4.

### MCM 4 – CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

#### **Goals:**

Continue to implement and enforce MTA’s program of construction site stormwater runoff control in accordance with the MOA to minimize or eliminate pollutants in stormwater runoff from construction activities that result in disturbed area of greater than or equal to one acre.

### BMP 4.1 – CONSTRUCTION SITE RUNOFF PROGRAM

Responsible Party: MTA Permitting Coordinator / Environmental Liaison, with assistance from MTA Engineering and Construction Department

MTA’s Supplemental Specification 656 construction [contract language](#) and MTA’s Construction Project Environmental Compliance (CPEC) Program will be the primary means by which the MTA implements its construction site runoff program to adhere to the MOA. These measures will be implemented on an ongoing basis as construction projects are initiated, continued, and completed throughout the MS4 permit cycle. The CPEC Program includes MS4 compliance elements as well as requirements associated with Chapter 500 and the MOA, Maine’s Natural Resource Protection Act, the Maine Construction General Permit, Maine’s Site Location of Development Law, and Section 404 of the Clean Water Act, as applicable to each construction project. The CPEC Program provides a mechanism to document that construction site runoff management and other



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environmental permit conditions, including inspections and corrective actions, are applied during construction, and appropriate actions are undertaken to reduce pollutants in stormwater from construction activities.

Measurable Goal 4.1a – To comply with Part IV(C)(4)(a)(i) of the TS4 GP, MTA’s Supplemental Specification 656 will be a required provision of all MTA contracts and solicitations involving soil disturbance. Supplemental Specification 656 requires erosion and sediment control best management practices (BMPs) at construction sites consistent with the minimum standards outlined in Appendix C *Erosion and Sedimentation Control, Inspections and Maintenance and Housekeeping* of the TS4 GP (Maine DEP Chapter 500 Stormwater Management Rules Basic Standards). Supplemental Specification 656 also requires adherence to the current edition of the *MaineDOT Best Management Practices for Erosion and Sedimentation Control*. In accordance with Part IV(C)(4)(a)(iv) of the TS4 GP, in addition to erosion and sediment control, supplemental Specification 656 includes requirements for construction site operations to control waste such as discarded building materials, concrete truck wash-outs, chemicals, litter, and sanitary waste at construction sites that may cause adverse impacts to water quality. As part of MTA’s annual report, MTA will identify construction projects within the UA with one acre or more of disturbed area where Supplemental Specification 656 was applied.

Measurable Goal 4.1b – As required by Part IV(C)(4)(a)(ii and iii) of the TS4 GP, MTA’s site plan review and project development procedures will incorporate consideration of potential water quality impacts, erosion control, waste storage, and project implementation in accordance with the MOA. This will be accomplished through team review of project plans by MTA engineering, construction, and environmental staff and consultants at key project design milestones (typically, 30, 60, and 98 percent design) and issued for construction plan and contract sets. As part of the project development process, each project will also be evaluated for MOA compliance. Erosion and sediment control notes and specifications will be included on MTA’s plan sets as applicable, and recommended locations for sediment barriers (i.e., silt fence) will be included on project plans where necessary. In MTA’s annual report, MTA will identify planned projects with one acre or more of disturbed area within the UA that were subject to MTA’s project review and development procedures during the preceding PY.

Measurable Goal 4.1c – To address the requirements of Part IV(C)(4)(a)(v) of the TS4 GP, MTA will implement its CPEC Program to document that contractors and MTA maintenance staff are complying with the MOA, the MS4 Permit, and Maine DEP and Army Corps issued permits. A CPEC binder will be prepared for each project within the UA with one acre or more of disturbed area. The CPEC binder will serve as an environmental compliance resource to MTA’s on-site Resident Engineer (RE) or the highway foreman supervising construction, and will include:

- Summary information about the project and whether it is located within an Urban Impaired Stream watershed or the UA;
- A list of relevant project contacts;
- Copies of environmental permits and authorizations;
- Limit of disturbance plans;
- Contractor and RE erosion and sediment control certifications;

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- Supplemental Specification 656 and Chapter 500 Basic Standards; and,
- Space for filing erosion and sediment control reports and environmental audits.

Routine erosion and sediment control inspections will be completed by the RE or the RE's designated Erosion Control Compliance Officer (ECCO) in accordance with Supplemental Specification 656 during construction. Supplemental Specification 656 provides the RE with the authority to enforce financial penalties against the contractor for environmental non-compliance. Periodic environmental compliance audits of project sites will also be completed by the MTA Permitting Coordinator/ Environmental Liaison during construction.

A minimum of three erosion and sediment control inspections will be completed during the active earth-moving phase of construction. At least one inspection will be completed annually until a project reaches substantial completion, as defined by the MTA. One of the three inspections will be conducted at project completion to ensure that the site reached permanent stabilization and all temporary erosion and sediment controls have been removed.

Routine erosion and sediment control inspection reports and environmental audit reports will be filed in the CPEC Binder. Following construction, the CPEC Binder will serve as a record of project compliance with the MOA and applicable environmental permits. MTA will maintain hardcopy or electronic copies of the CPEC Binder for at least three years following the expiration of the MS4 General Permit. MTA's annual report will include a summary of the number and (in PY one, three, and five) findings of environmental audits completed.

### MCM 5 – POST-CONSTRUCTION STORMWATER MANAGEMENT

#### **Goals:**

To implement and enforce a program for managing post-construction stormwater runoff from new development and redevelopment projects that discharge to the MS4 or directly to waters of the state. The program encompasses a combination of structural or non-structural BMPs, and measures to ensure long-term operation and maintenance of on-site BMPs and that BMPs are adequately functioning as intended, including annual inspections and requirements for corrective actions.

#### **BMP 5.1 – IMPLEMENTATION OF STRUCTURAL OR NON-STRUCTURAL BMPS**

Responsible Party: MTA Permitting Coordinator / Environmental Liaison, with assistance from MTA Engineering and Construction Department and MTA Highway Operations

For new development projects, redevelopment projects, and projects of a common plan of development or sale that disturb greater than or equal to one acre within the UA, MTA will evaluate and implement as part of the project development process structural and non-structural BMPs as practicable with consideration to constraints posed by ROW limitations, impacts to protected natural resource limits (i.e., wetlands, streams, and vernal pools), and engineering (i.e., infrastructure and utility locations, and drainage/ ability to collect stormwater runoff). MTA's program of structural BMPs will follow the guidelines and standards specified in the most current version of the Stormwater MOA.

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**Table 2-1** identifies construction projects and associated new post-construction stormwater treatment BMPs that are anticipated to be completed and put into operation between July 2022 and June 2027 within the UA. This program is based on the MTA's current work plan, which is a dynamic document subject to changes and schedule revisions, and is also subject to funding based on MTA's toll revenues and capacity to fund projects through bond solicitations. MTA anticipates 12 new post-construction stormwater BMPs that treat runoff discharging to the UA will be completed between July 2022 and June 2027.

<b>Table 2-1</b>			
<b>Program of New Post-Construction Stormwater Treatment BMPs Anticipated July 2022 – June 2027<sup>1</sup></b>			
<b>Project</b>	<b>Approximate Mile Marker</b>	<b>Municipality</b>	<b>BMP</b>
New Exit 35/ Exit 36 Improvements	35.9	Saco	Four Underdrained Soil Filters
Exit 45 Reconstruction <sup>2</sup>	44.4	South Portland	One Underdrained Soil Filter and One Meadow Buffer
Portland Area Widening 1 <sup>2</sup>	43-46.4	Scarborough, South Portland	One Underdrained Soil Filter
Portland Area Widening 2	46.4-49	Portland	One Meadow Buffer
York Toll Plaza/ Old Toll Plaza Demolition	8.8	York	Two Underdrained Soil Filters
Forest Ave Bridge Rehabilitation	50	Portland	One new BMP to be determined - Meadow buffer, underdrained soil filter, gravel treatment wetland, tree box filter, or comparable BMP.
Riverside Drive Bridge Rehabilitation	51.2	Portland	One new BMP to be determined - Meadow buffer, underdrained soil filter, gravel treatment wetland, tree box filter, or comparable BMP.
<sup>1</sup> BMP installation is based on MTA's current project work plan and is subject to availability of project funding and other factors. BMPs listed include those where project construction is anticipated to be completed within the 5-year general permit duration. Based on changes to the work plan, implementation of certain BMPs may be delayed or additional BMPs may be added.			
<sup>2</sup> Nine additional BMPs will be constructed in the Long Creek Watershed in areas subject to the Long Creek Watershed General Permit, and are therefore not included on this list.			

Measurable Goal 5.1a – As part of MTA's Annual Compliance Report, the cumulative number, location, and type of structural post-construction stormwater BMPs located within the UA or collecting runoff from the UA will be reported. New stormwater BMPs that were completed and went into service during the PY will also be identified.

Measurable Goal 5.1b – MTA's program of non-structural BMPs includes employee training, public/ community outreach, outfall inspections, catch basin cleaning, and street sweeping as detailed under the discussion of MCM's 1, 2, 3, and 6 in this SWMP. Reportable metrics for those non-structural BMPs are identified under MCM's 1, 2, 3, and 6 in this SWMP and will be included in MTA's Annual Compliance Report.

### BMP 5.2 – ANNUAL INSPECTIONS OF POST-CONSTRUCTION STORMWATER TREATMENT BMPs

Responsible Party: MTA Permitting Coordinator / Environmental Liaison, with assistance from MTA Engineering and Construction Department and MTA Highway Operations

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## MTA - Stormwater Management Plan

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MTA will complete annual inspections of post-construction stormwater treatment BMPs located within the UA, or that collect runoff from within the UA. The annual inspections will be completed by qualified MTA staff or consultants that are knowledgeable on the design, operation, and maintenance of the BMPs. The inspections will evaluate the condition of inlets and outlets, slope stability, vegetative cover, hydrologic function and drainage, and sediment accumulation. Corrective actions identified during the annual BMP inspections will be completed within 60 days of the date the deficiency was identified. If addressing the deficiency requires more lead time than 60 days, an expeditious schedule will be established to complete the maintenance.

Measurable Goal 5.2a – MTA’s Annual Compliance Report will summarize the findings of post-construction BMP inspections completed during the subject PY.

Measurable Goal 5.2b – Corrective actions implemented during the PY will be summarized in MTA’s annual report.

### MCM 6 – POLLUTION PREVENTION / GOOD HOUSEKEEPING

#### **Goals:**

Reduce pollutant runoff from MTA’s roads, other paved surfaces, infrastructure, and facilities through the development and implementation of an operation and maintenance (O&M) program within the UA.

#### **BMP 6.1 – INVENTORY OF OPERATIONS AND OPERATION AND MAINTENANCE PROCEDURES**

Responsible Party: MTA Permitting Coordinator / Environmental Liaison, with assistance from MTA Environmental Services Coordinator

MTA operates the Turnpike mainline and ramps, five park and ride lots, one administrative building, and eleven toll plazas within the UA. No visitor centers, rest areas, or highway maintenance facilities are located within the MS4 regulated area. Therefore, potential pollutant sources are generally limited to spills associated with vehicular accidents, litter, road-killed wildlife, and MTA deicing operations. The MTA has developed an inventory of potential pollutant sources and associated operations which is summarized in its MCM 6 Written Procedures (**Appendix F**), which includes Operations and Maintenance (O&M) procedures that are implemented in company policies and Standard Operating Procedures (SOPs) to reduce stormwater pollution.

Measurable Goal 6.1 – As part of MTA’s adaptive approach to stormwater management, MCM 6 Written Procedures will be reviewed annually to identify new potential pollutant sources and procedural modifications that are warranted over the course of the PY in MTA’s Annual Compliance Report.

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## MTA - Stormwater Management Plan

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### BMP 6.2 – ANNUAL EMPLOYEE TRAINING

Responsible Party: MTA Permitting Coordinator / Environmental Liaison

As discussed in **BMP 1.1**, MTA's annual employee training program addresses stormwater pollution prevention and erosion and sediment control. MTA's training program also incorporates construction and post-construction inspection and O&M requirements.

Measurable Goal 6.2 – The number and duration of training sessions, the type and content of the training, and the number of employees trained will be summarized in MTA's Annual Compliance Report.

### BMP 6.3 – STREET SWEEPING

Responsible Party: MTA Highway Operations

The MTA will conduct annual street-sweeping to remove grit and fines associated with winter road maintenance activities each spring after snow-melt. MTA generally reuses the collected sweepings as construction fill material.

Measurable Goal 6.3 – MTA will provide a summary of street sweeping that was completed within the UA during the PY as part of the Annual Compliance Report.

### BMP 6.4 – CATCH BASIN INSPECTION AND CLEANING

Responsible Party: MTA Highway Operations

MTA will implement a program that includes inspection and catch basin cleanout, as needed, within the entire UA. For those catch basins which can be accessed safely, inspections will be completed at least once every other year, and clean outs will be completed when sediment accumulation is greater than or equal to 50 percent of the sump filled. Catch basin sediment will be managed in accordance with Maine DEP regulations regarding beneficial reuse. MTA may either reuse the collected sediment as construction fill material or dispose of the material in accordance with current State rules. MTA generally reuses the recovered catch basin sediment as construction fill material.

Measurable Goal 6.4 – MTA will use tracking forms to record catch basin inspection and cleanout information and will summarize the number of catch basins inspected and cleaned during the PY in the Annual Compliance Report.

### BMP 6.5 – STORMWATER INFRASTRUCTURE INSPECTION AND PRIORITIZATION

Responsible Party: MTA Engineering and Construction Department

A comprehensive inspection of the MTA infrastructure will be conducted on an annual basis by MTA's general engineering consultant. This annual inspection will include observation of MTA-owned infrastructure, including conveyance structures and outfalls. An *Annual Inspection Report* and an *Operation and Maintenance Annual Report* will be prepared by MTA's general engineering

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## MTA - Stormwater Management Plan

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consultant based on these observations. A prioritized list of repairs and upgrades will then be presented to MTA Highway Maintenance and/or Engineering for consideration and scheduling relative to MTA's work plans and routine maintenance activities.

Measurable Goal 6.5 – In MTA's MS4 Permit Annual Compliance Report to Maine DEP, MTA will confirm that the general engineering consultant's annual infrastructure inspection was completed and the date that the *Annual Inspection Report* and the *Operation and Maintenance Annual Report* were received by MTA or are expected to be received. A copy of the *Operation and Maintenance Annual Report* will be made available to Maine DEP through MTA's website.

### BMP 6.6 – STORMWATER POLLUTION PREVENTION PLANS (SWPPPs)

Responsible Party: MTA Permitting Coordinator / Environmental Liaison

The MTA does not currently operate any vehicle maintenance facilities within the Urbanized Area. Therefore, no SWPPPs have been provided with this SWMP.

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## MTA - Stormwater Management Plan

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### SECTION 3: DISCHARGES TO IMPAIRED WATERS

**Table 3-1** summarizes the impaired waters in the UA that receive point source discharges from MTA. The table includes each water body's location, TMDL, UIS, watershed management plan (WMP) year, and EPA category as listed in the Final 2016 Maine Integrated Water Quality Report (Report) and Appendices [a.k.a. Maine 305(b) Report and 303(d) list]. Note that the MEDEP did not issue a 2018 or 2020 Report, rather MEDEP will be issuing a combined 2018/2020/2022 Report.

There are five general EPA categories in the Report:

- Category 1: Attaining all designated uses and water quality standards, and no use is threatened.
- Category 2: Attains some of the designated uses; no use is threatened; and insufficient data or no data and information is available to determine if the remaining uses are attained or threatened (with presumption that all uses are attained).
- Category 3: Insufficient data and information to determine if designated uses are attained (with presumption that one or more uses may be impaired).
- Category 4: Impaired or threatened for one or more designated uses, but does not require development of a TMDL (Total Maximum Daily Load) report.
  - 4-A means a TMDL has already been completed
  - 4-B means other pollution control measures will address impairment
  - 4-C means the impairment is not caused by a pollutant
- Category 5: Waters impaired or threatened for one or more designated uses by a pollutant(s), and a TMDL report is required
  - 5-A means the water is impaired by pollutants other than those listed in 5-B through 5-D
  - 5-B means the water is impaired for bacteria only, and a TMDL is required
  - 5-C means the water is impaired by atmospheric deposition of mercury
  - 5-D means the water is impaired by legacy pollutants

To reduce the impact that stormwater has on the waterbodies listed in **Table 3-1** and their associated TMDLs and WLAs, the MTA will implement the MCMs and BMPs included in this SWMP. **Section 3.1** addresses non-UIS waters with EPA-approved TMDLs, **Section 3.2** addresses non-UIS waters without EPA Approved TMDLs, and **Section 3.3** addresses UIS waters.

## MTA - Stormwater Management Plan

**Table 3-1 – Impaired Waters Summary**

Waterbody	Location	TMDL	UIS <sup>1</sup>	WMP Year	EPA Category
Capisic Brook	Portland	IC TMDL 2012 <sup>2</sup>	Yes	2012	4-A
Deep Brook	Saco	None	No	None	2
Dole Brook	Portland	IC TMDL 2012	Yes	None	4-A
Goosefare Brook	Saco	IC TMDL 2012 Bacteria 2013 <sup>3</sup> Goosefare 2003 <sup>4</sup>	Yes	2016	4-A
Hart Brook	Lewiston	IC TMDL 2012 Bacteria 2009 <sup>5</sup>	Yes	2019	4-A
Long Creek	South Portland	LC GP <sup>6</sup>	Yes	2009	4-B
Nasons Brook	Portland	IC TMDL 2012	Yes	None	4-A
No Name Brook	Lewiston	Bacteria 2009	No	None	4-A and 5-A
Portsmouth Harbor (Spruce Creek)	Kittery	None	No	2014 (Spruce Creek)	5A and 5-B-1
Presumpscot River	Falmouth	Presumpscot 1998 <sup>7</sup>	No	None	2 and 4-A
Red Brook	Scarborough	IC TMDL 2012	Yes	2011	4-A and 5-D
Saco River	Saco	Bacteria 2009	No	2019 (Action Plan)	2, 4-A, and 5-B-1
Stroudwater River	Portland	None	No	None	3 and 5-A
Thatcher Brook	Biddeford	IC TMDL 2012 Bacteria 2009	Yes	2015	4-A
Tributaries of the Scarborough River and Scarborough Marsh (Beaver Brook, Finnerd Brook, and Nonesuch River)	Scarborough	Bacteria 2009	No	None	3 and 5-B-1
York River	York	Bacteria 2009	No	2018 (Stewardship Plan)	5-B-1

<sup>1</sup> MEDEP Chapter 502 Direct Watersheds of Lakes Most at Risk from New Development and Urban Impaired Streams

<sup>2</sup> Maine Statewide Impervious Cover TMDL. Report # DEPLW-1239, approved by EPA on September 27, 2012.

<sup>3</sup> Maine Statewide Bacteria TMDL: 2013 Freshwater Addendum. Report # DEPLW-1254, approved by EPA on September 22, 2014.

<sup>4</sup> Goosefare Brook TMDL. Approved by EPA on September 29, 2003.

<sup>5</sup> Maine Statewide Bacteria TMDL. Report # DEPLW-1002 approved by EPA on September 28, 2009.

<sup>6</sup> The Long Creek watershed does not have a TMDL and is instead regulated under separate DEP General and Individual Permits (#MEG190000 dated 4/15/15 and DEPLW-1167 dated 6/7/10, respectively).

<sup>7</sup> Presumpscot River TMDL. Approved by EPA on November 30, 1998.



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## MTA - Stormwater Management Plan

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### 3.1 IMPAIRED WATERS WITH EPA-APPROVED TMDLS

The TS4 GP states that if the waterbody to which a point source discharge drains is impaired and has an EPA approved TMDL, then the SWMP must contain clear, specific and measurable BMPs to comply with the TMDL waste load allocation (WLA) and any implementation plan. The TS4 GP does not authorize a direct discharge that is inconsistent with the WLA of an approved TMDL. EPA-approved TMDLs prior to the issuance date of the TS4 GP, can be found at <https://www.epa.gov/tmdl/region-1-approved-tmdls-state#tmdl-me>. The TS4 GP does not authorize a new or increased discharge of storm water to an impaired waterbody that contributes to the impairment at a detectable level.

No Name Brook, Saco River, tributaries of the Scarborough River and Scarborough Marsh, and York River identified in **Table 3-1** are all included in the Bacteria 2009 TMDL. The Bacteria 2009 TMDL does not specifically identify the sources of the bacteria impairments but encourages communities to pursue an action plan that is based on investigation of the source. MTA is already required to conduct investigations of potential illicit discharges under MCM 3.

The Bacteria 2009 TMDL document also requires that all sources of bacteria that are prohibited (such as failed septic systems or illicit discharges) be removed and requires that any sources of bacteria from allowed discharges (such as the MS4 permitting program) be restricted to concentrations equal to the water quality criteria. MTA is already required to complete these activities under MCM 3.

Therefore, implementation of the MCM 3 IDDE elements of the TS4 GP (conducting outfall inspections, sampling outfalls during dry weather flow, and completing IDDE investigations to eliminate any bacterial sources) meet the requirement for clear, specific and measurable BMPs to comply with the Bacteria 2009 TMDL.

As shown in **Table 3-1**, a TMDL report was prepared for the Presumpscot River in 1998. The document establishes TMDLs for biological oxygen demand (BOD) and total suspended solids (TSS) for a 6.5-mile portion of the lower Presumpscot River. The water quality impairments related to the established TMDLs are non-attainment of dissolved oxygen (DO) standards due to BOD loadings in the river, and aquatic life standards due to TSS loadings in the river. The report shows that a pulp and paper facility is responsible for the predominant share of BOD loading to the river and TSS discharges from the facility's outfall. The TMDL report does not identify stormwater as a cause or contributing factor to the water quality impairments. Implementation of the MCMs and BMPs identified in this SWMP will help reduce the potential for stormwater-related impairments to the Presumpscot River.

### 3.2 IMPAIRED WATERBODIES WITHOUT EPA-APPROVED TMDLS

The MTA discharges to three water bodies identified in the 2016 Report that do not have EPA-approved TMDLs and are non-UIS: Deep Brook, Portsmouth Harbor, and Stroudwater River.

Deep Brook has an EPA category 2 which means that the waterbody attains some of the designated uses; no use is threatened; and insufficient data or no data and information is available to determine

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## MTA - Stormwater Management Plan

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if the remaining uses are attained or threatened (with presumption that all uses are attained). Therefore, no additional action is proposed by MTA at this time, although MTA will implement the MCMs and BMPs identified in this SWMP, which are beneficial to water quality.

Portsmouth Harbor has been assigned EPA category 5-A (marine life use support) and 5-B-1 (bacteria). MTA will consult with MEDEP on the status of Portsmouth Harbor, and will implement the MCM 3 IDDE elements of the TS4 GP (conducting outfall inspections, sampling non-exempt outfalls during dry weather flow, and completing IDDE investigations to identify bacterial sources), to help address the bacteria impairment.

Stroudwater River has been assigned EPA category 3 (insufficient data, presumed impaired for aquatic life use) and 5-A (dissolved oxygen). MTA will consult with MEDEP on the status of the Stroudwater River and will implement the MCMs and BMPs identified in this SWMP to help improve water quality.

### 3.3 URBAN IMPAIRED STREAM BMPS

MTA has direct outfalls to seven UIS waterbodies within the UA that are regulated under the TS4 GP, including: Thatcher Brook, Goosefare Brook, Red Brook, Nasons Brook, Capisic Brook, Dole Brook, and Hart Brook. Long Creek is regulated under a separate permit and therefore not regulated under the TS4 GP. This SWMP proposes at least three specific structural or non-structural BMPs for each of these seven UIS watersheds for inclusion in MTA's permittee-specific DEP Order. MTA's proposed UIS BMPs are identified in **Appendix G**.

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## MTA - Stormwater Management Plan

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### SECTION 4: GENERAL REQUIREMENTS

The TS4 GP requires that this SWMP be certified by either a principal executive officer or ranking elected official. This section provides the necessary certification.

#### 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.



Peter Mills  
MTA Executive Director



Sean Donohue  
MTA Permitting Coordinator

## APPENDIX A – Notice of Intent



September 29, 2021

MS4 Program Manager  
Attn: Rhonda Poirier  
Maine Department of Environmental Protection  
17 State House Station  
Augusta, ME 04333-0017

**RE: Notice of Intent  
Transportation MS4 General Permit (MER 043000)**

Dear Rhonda:

Enclosed please find Maine Turnpike Authority's (MTA) Notice of Intent (NOI) and supporting attachments for authorization to discharge stormwater to waters of the state under the *General Permit for the Discharge of Stormwater from Maine Department of Transportation and Maine Turnpike Authority Municipal Separate Storm Sewer Systems* (MER 043000) (Transportation MS4 General Permit). Attachments to MTA's NOI include a tabular summary and mapping of MTA facilities within the Urbanized Area (UA) regulated under the Transportation MS4 General Permit, a list of impaired waters to which MTA infrastructure discharges within the UA, and documentation of public noticing of MTA's NOI. Also enclosed is a copy of MTA's Stormwater Management Plan (SWMP). Electronic copies of MTA's NOI and SWMP will also be posted to MTA's website for public access.

If you have any questions regarding MTA's NOI and request for authorization under the Transportation MS4 General Permit or need additional information, please contact me at [sdonohue@maineturnpike.com](mailto:sdonohue@maineturnpike.com) or 207-482-8275.

Sincerely,

**Maine Turnpike Authority**

*Sean Donohue*

Sean Donohue  
Permitting Coordinator/ Environmental Liaison

cc: Peter Mills, MTA  
Peter Merfeld, MTA  
Steve Tartre, MTA  
Aimee Mountain, GZA



# NOTICE OF INTENT TO COMPLY WITH MAINE GENERAL PERMIT FOR THE DISCHARGE OF STORMWATER FROM MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4)

PLEASE TYPE OR PRINT IN BLACK INK ONLY

PERMITTEE INFORMATION					
MS4 Entity	Maine Turnpike Authority			Permittee ID #	06AMSTWMER043001
Name and title of chief elected official or principal executive officer	Peter Mills, Executive Director				
Mailing Address	2360 Congress Street				
Town/City	Portland	State	ME	Zip Code	04102
Daytime Phone	207-682-9433	Email	PMills@maineturnpike.com		
PRIMARY CONTACT PERSON FOR OVERALL STORMWATER MANAGEMENT PROGRAM (if different than PEO/CEO)					
Name and Title	Sean Donohue, Permitting Coordinator				
Mailing Address	2360 Congress Street				
Town/City	Portland	State	ME	Zip Code	04102
Daytime Phone	207-482-8275	Email	sdonohue@maineturnpike.com		
STORMWATER MANAGEMENT PLAN (SWMP)					
Urbanized Area (sq. mi.)	2.3				
I have attached our updated SWMP with ordinances, SOPs, forms. <input checked="" type="checkbox"/>					
Name of streams, wetlands, or waterbodies to which the regulated small MS4 discharges (attach additional sheets as necessary): Please see Attachment A.					
List of impaired waterbodies that receive stormwater from the regulated small MS4 (attach additional sheets as necessary): Please see Attachment B.					
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 of Permittee				Date	9.23.2021

This NOI registration form must be filed with the Department at the following address:

Stormwater Program Manager  
Maine Department of Environmental Protection  
Bureau of Water Quality  
17 State House Station  
Augusta ME 04333-0017  
[Rhonda.Poirier@maine.gov](mailto:Rhonda.Poirier@maine.gov)

OFFICE USE ONLY							
Date Received		Staff		Date Accepted		Date Not Accepted	

## **Attachment A**

### **Urbanized Area Summary Table and Maps**



MAINE TURNPIKE AUTHORITY  
Summary of MTA Facilities and Other Features within UA

	2022 Permit <sup>1</sup>		LINEAR ROW ONLY		MTA FACILITIES					
REGULATED SMALL MS4 COMMUNITY	MILE MARKER DELINEATION <sup>2</sup>		LINEAR DISTANCE OF UA SEGMENT (linear miles)	ASSUMED AREA <sup>3</sup> OF UA SEGMENT (sq. miles)	ASSUMED AREA <sup>3</sup> WITHIN UA (approx. acreage)	ASSUMED AREA <sup>3</sup> WITHIN UA (sq. miles)	MTA FACILITY FEATURES <sup>3</sup>  (Roadway and ROW assumed)	LAKES <sup>4</sup>	MM	STREAMS <sup>4</sup>
	Southern Boundary	Northern Boundary								
SABATTUS	MM 83.6 Lewiston / Sabattus Town Line	MM 84.3 Lisbon Road Underpass	0.7	0.04			None identified	None identified		None identified
LEWISTON	MM 78.9 Androscoggin River	MM 83.6 Lewiston / Sabattus Town Line	4.7	0.27	25	0.04	Exit 80 Interchange (ramps) Exit 80 Park and Ride (parking lot)	None identified	83.4 82.6 80.3 79.9 79.6 79.4 78.9	Unnamed tributary of No Name Brook (crosses Turnpike south of Grove Street overpass) No Name Brook Hart Brook <sup>5</sup> (aka Dill Brook) crosses 4 times At Alfred A Plourde Parkway overpass North of Goddard Road South of Goddard Road South of River Road Androscoggin River
AUBURN	MM 78.8 Riverside Drive	MM 78.9 Androscoggin River	0.1	0.01			None identified	None identified	78.9	Androscoggin River
	MM 75.0 Kitty Hawk Avenue Underpass	MM 75.8 Danville Corner Road Underpass	0.8	0.05	25	0.04	Exit 75 Interchange (ramps) Exit 75 Park and Ride (parking lot)			None identified
	MM 73.5 New Gloucester / Auburn Town Line	MM 74.5 Canadian National Railroad	1.0	0.06			None identified		74.4	Moose Brook
FALMOUTH	MM 51.8 Presumpscot River Portland / Falmouth Town Line	MM 53.4 Mountain Road Underpass	1.6	0.09	25	0.04	Exit 53 Interchange (ramp) Exit 53 Toll Plaza	None identified	52.5	Unnamed tributary of Presumpscot River (crosses Turnpike near Exit 53 NB on-ramp)
	Falmouth Spur (F3.5) Just South of Falmouth Road / Middle Road (Route 9) Overpass	Falmouth Spur (F3.8) Rail Road Overpass (MaineDOT)	0.3	0.02			Exit 53 West Falmouth Park and Ride None identified			None identified
	Falmouth Spur (F0.2) Presumpscot River Portland / Falmouth Town Line	Falmouth Spur (F1.8) Just North of Falmouth Road Underpass	1.6	0.09			None identified		F2.4 51.8 F1.2	Johnson Branch of Presumpscot River Presumpscot River (crosses Turnpike and Falmouth Spur)
PORTLAND	Falmouth Spur (F0.2) Portland / Falmouth Town Line	Falmouth Spur (F0.0) Exit 52 Interchange	0.2	0.01	25	0.04	Exit 52 Interchange (ramps and spur)	None identified	51.8 F1.2	Presumpscot River (crosses interstate and spur)
	MM 46.5 Congress St. Overpass	MM 51.8 Presumpscot River	5.3	0.30	25	0.04	Exit 48 Interchange (ramps) Exit 48 Toll Plaza Exit 47 Interchange (ramps) Exit 47 Toll Plaza Exit 47 Westbrook Park and Ride (parking lot) Administration Building (HQ)		50.8 49.8 48.7 47.8 46.8	Dole Brook <sup>5</sup> (crosses Turnpike south of Riverside Street overpass) Southerly unnamed tributary of Presumpscot River (crosses Turnpike south of Route 302 overpass) Capisic Brook <sup>5</sup> (within Turnpike ROW south of Warren Ave overpass) Nasons Brook <sup>5</sup> (crosses Turnpike south of Brighton Ave and RR overpass) Stroudwater River
					25	0.04	Exit 46 Jetport Interchange Exit 46 Jetport Park and Ride			
					Maine Pollutant Discharge Elimination System (MEPDES) Permit coverage has already been obtained by MTA for this area under DEP's General Permit - Post-Construction Discharge of Stormwater in the Long Creek Watershed <sup>6</sup>		Exit 45 South Portland/I-295 Interchange	45.9 45.0	Long Creek <sup>5</sup> Unnamed Tributary of Long Creek	
	SOUTH PORTLAND	MM 44.8 Scarborough / South Portland Town Line	MM 46.4 South Portland / Portland town line							
SCARBOROUGH	MM 44.6 Approximately 200 ft North of Cummings Rd Overpass	MM 44.8 Scarborough / South Portland Town Line						None identified	44.4 43.5 41.6	Red Brook <sup>5</sup> Nonesuch River Unnamed tributary of Beaver Brook (crosses Turnpike south of Two Rod Road underpass)
	MM 41.2 Just South of Beechridge Rd Underpass	MM 44.6 Approximately 200 ft North of Cummings Rd Overpass	3.4	0.19	25 25	0.04 0.04	Exit 44 Interchange (ramps) Exit 42 Interchange (ramps) Exit 42 Scarborough Park and Ride (parking lot)		- 41.5 41.2	Unnamed tributary of Mill Brook (flows into) Beaver Brook Finnerd Brook
SACO	MM 33.0 Saco River	MM 35.9 Goosefare Brook	2.9	0.16	25	0.04	Exit 36 Interchange (ramps) Saco Hotel and Conference Center Exit	None identified	35.9 33.6 33.4 33.0	Goosefare Brook <sup>5</sup> Deep Brook Cole Brook Saco River
BIDDEFORD	MM 30.6 Arundel / Biddeford Town Line	MM 33.0 Saco River	2.4	0.14	25	0.04	Exit 32 Interchange (ramps) Exit 32 Biddeford Park and Ride (parking lot)	None identified	33.0 32.7 32.2 31.9	Saco River Thatcher Brook <sup>5</sup> (crosses MTA ROW 3 times) South of South Street and runs parallel MTA ROW North of Biddeford connector (Ex 32) South of Biddeford connector (Ex 32)
YORK	MM 6.2 Cider Hill Road	MM 7.5 North of York Toll / Little River	1.3	0.07	25	0.04	Exit 7 Interchange (NB ramps) Exit 7 York Barrier Toll Plaza Exit 7 Park and Ride	None identified	7.5 6.8 5.2	Little River Unnamed tributary of Moulton Brook York River
	MM 4.8 Beech Ridge Road	MM 5.3 York River	0.5	0.03					5.2	York River
KITTERY	MM 0.3 <sup>8</sup> Approximately 75 feet north of the Piscataqua River Bridge	MM 4.2 Kittery / York Town Line	3.9	0.22	25 25 25	0.04 0.04 0.04	Exit 3 Interchange Exit 2 Interchange Exit 1 Interchange	None identified	4.0 3.6 2.7  2.3 1.7 1.2	Libby Brook (crosses Turnpike in two places near Welcome Plaza) Unnamed tributary of Fuller Brook (Crosses Turnpike south of Cutts Road) Spruce Creek Chickering Creek Unnamed tributary of Chickering Creek
MaineDOT Territory <sup>7</sup> (not included in summation of	MM 0.0 Maine / New Hampshire State Line	MM 0.3 <sup>8</sup> Approximately 75 feet north of the Piscataqua River Bridge	0.3	0.02						
SUMMATION OF MTA PROPERTY			30.7	1.74	350	0.55			0.0	Piscataqua River

NOTES:

1.) Urbanized Area (UA) for 2022 Permit is based on the cumulative 2000 and 2010 Census data. The 2021 UA maps that apply to MTA ROW have been attached as Figures 1 through 5. Corresponding MM designations were determined using features identified on MTA's *Mileage Chart with Stationing - 2012* (printed 9/24/2012).

2.) Mile Marker (MM) designations for UA delineations should be considered approximate and will be confirmed and updated, as necessary and as more detailed mapping information is made available.

3.) MTA facility features identified within each host MS4 communities include the roadway (i.e., paved roads, bridges, etc.) and ROW (i.e., approximate 300-foot wide corridor along MTA roadway), as well as interchanges, park-and-ride lots and toll plazas as indicated (i.e., each interchange is estimated to be 25 acres on average). "None identified" indicates that only MTA roadway and ROW are present within the UA delineation. **This table will be updated as more detailed mapping information is made available and/or in the event that MTA facility features are constructed within UA delineations.**

4.) In 2021, streams were identified by using the National Hydrography Dataset (NHD), available from USGS. The NHD is a digital vector dataset used by geographic information systems (GIS). It contains features such as lakes, ponds, streams, rivers, canals, dams and streamgages. These data are designed to be used in general mapping and in the analysis of surface-water systems."None identified" indicates that no waterbodies are present within the UA delineation.

5.) Maine DEP classifies several specific waterways within the state designated as Urban Impaired Streams (UIS) in Code of Maine Rules Chapter 502. These streams crossing MTA's ROW in UA have been identified in **emboldened text**, including Hart Brook (aka Dill Brook, Lewiston), Dole Brook (Portland), Capisic Brook (Portland), Nasons Brook (Portland), Red Brook (Scarborough), Goosefare Brook (Saco), and Thatcher Brook (Biddeford). Streams included in the statewide Impervious Cover Total Maximum Daily Load (IC TMDL) Assessment for Impaired Streams are presented in **red text**.

6.) Orange highlighted areas indicate coverage under MEPDES Long Creek General Permit.

7.) Blue highlighted areas indicate that MaineDOT owns/operates this portion of I-95.

8.) MTA purchased an additional 1.9 miles of I-95 in Kittery on January 21, 2015 that was formerly owned by MaineDOT.

2.30

TOTAL SQUARE MILES OF MTA PROPERTY WITHIN UA (As of August 27, 2021)



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## Legend

### USGS National Hydrography Dataset (NHD)

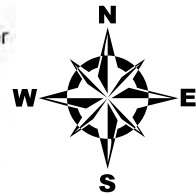
- Stream
- Artificial Path (flow through a 2-dimensional feature, such as a lake or a double-banked stream)
- Estuary
- Lake or Pond
- Reservoir
- Marsh

### Urban Area

- MS4 Urbanized Area
- MTA Right-of-Way

### National Wetlands Inventory

- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
- Other



0 3,500 7,000 Feet

Auburn Maintenance

1 inch = 1,500 feet




U.S. Fish and Wildlife Service,  
National Standards and Support  
Team, wetlands\_team@fws.gov,  
USGS TNM – National Hydrography  
Dataset. Data Refreshed July, 2021.

Service, National Standards and Support Team, wetlands\_team@fws.gov

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Auburn, Lewiston, and Sabattus, Maine

### 2021 MS4 Summary of MTA Facilities and Other Features within UA

PREPARED BY:  <b>GZA</b> GeoEnvironmental, Inc. Engineers and Scientists <a href="http://www.gza.com">www.gza.com</a>		PREPARED FOR: Maine Turnpike Authority 2360 Congress St Portland, Maine 04102	
PROJ MGR: ADM	REVIEWED BY: KDB	CHECKED BY: BPM	FIG OR DWG  1  SHEET NO. 1 OF 5
DESIGNED BY: ADM	DRAWN BY: ADM	SCALE: 1 in = 3,500 ft	
DATE: 08/26/2021	PROJECT NO. 09.0025776.08 T1	REVISION NO.  1	



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## Legend

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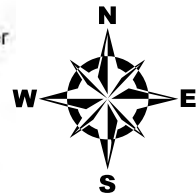
- Stream
- Artificial Path (flow through a 2-dimensional feature, such as a lake or a double-banked stream)
- Estuary
- Lake or Pond
- Reservoir
- Marsh

### Urban Area

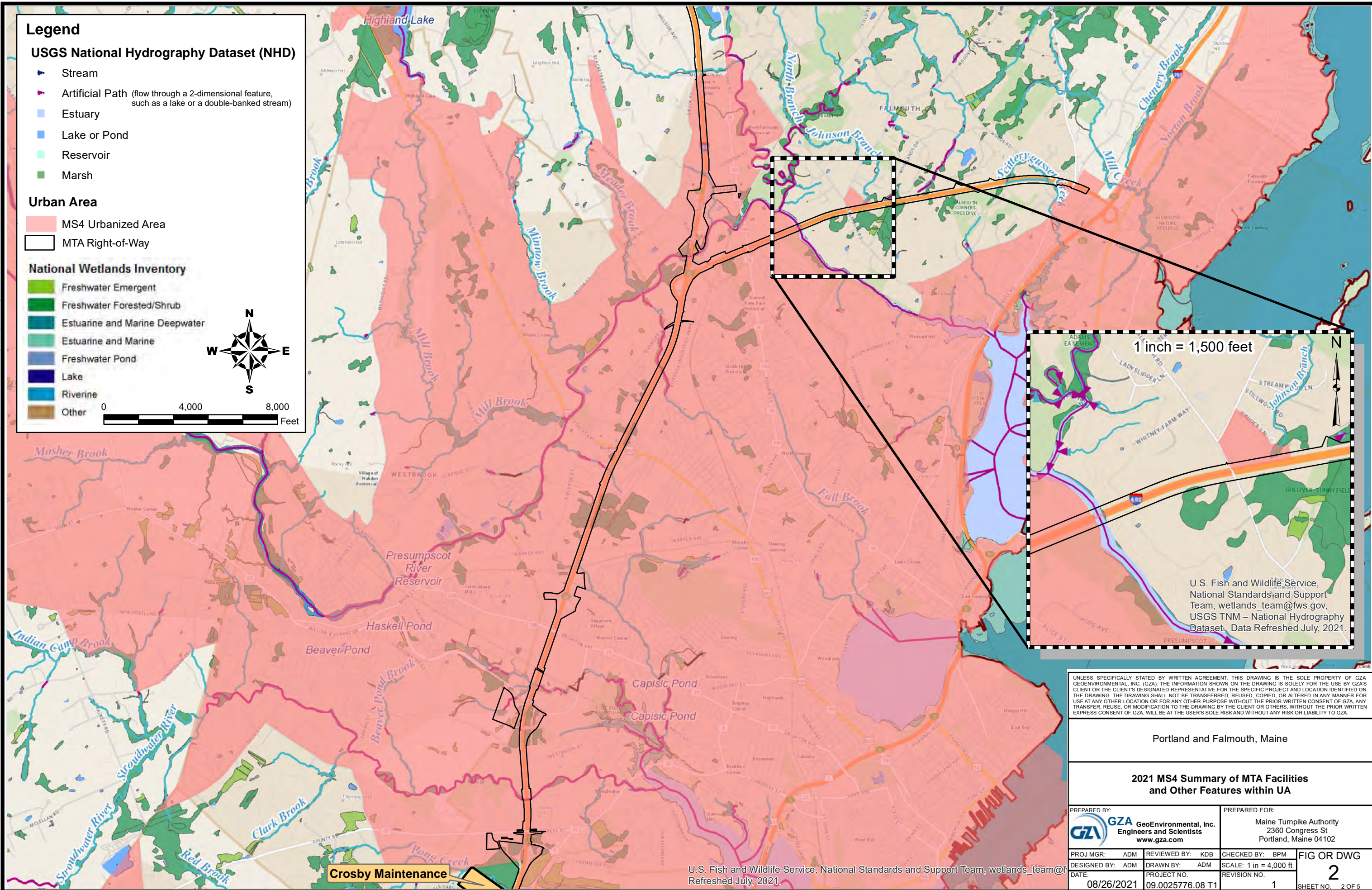
- MS4 Urbanized Area
- MTA Right-of-Way

### National Wetlands Inventory

- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
- Other



0 4,000 8,000 Feet




1 inch = 1,500 feet

U.S. Fish and Wildlife Service,  
National Standards and Support  
Team, wetlands\_team@fws.gov,  
USGS TNM - National Hydrography  
Dataset, Data Refreshed July, 2021.

Portland and Falmouth, Maine

### 2021 MS4 Summary of MTA Facilities and Other Features within UA

PREPARED BY:  <b>GZA</b> GeoEnvironmental, Inc. Engineers and Scientists www.gza.com		PREPARED FOR: Maine Turnpike Authority 2360 Congress St Portland, Maine 04102	
PROJ MGR: ADM	REVIEWED BY: KDB	CHECKED BY: BPM	FIG OR DWG  <b>2</b>  SHEET NO. 2 OF 5
DESIGNED BY: ADM	DRAWN BY: ADM	SCALE: 1 in = 4,000 ft	
DATE: 08/26/2021	PROJECT NO. 09.0025776.08 T1	REVISION NO. 1	

U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands\_team@fws.gov  
Refreshed July, 2021.

Crosby Maintenance



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Legend

USGS National Hydrography Dataset (NHD)

Stream

Artificial Path (flow through a 2-dimensional feature, such as a lake or a double-banked stream)

Estuary

Lake or Pond

Reservoir

Marsh

Urban Area

MS4 Urbanized Area

MTA Right-of-Way

National Wetlands Inventory

Freshwater Emergent

Freshwater Forested/Shrub

Estuarine and Marine Deepwater

Estuarine and Marine

Freshwater Pond

Lake

Riverine

Other

N

E

S

W

0

2,500

5,000

Feet

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Scarborough and South Portland, Maine

2021 MS4 Summary of MTA Facilities and Other Features within UA

PREPARED BY:

GZA GeoEnvironmental, Inc.

Engineers and Scientists

www.gza.com

PREPARED FOR:

Maine Turnpike Authority

2360 Congress St

Portland, Maine 04102

PROJ MGR: ADM

REVIEWED BY: KDB

CHECKED BY: BPM

FIG OR DWG

DESIGNED BY: ADM

DRAWN BY: ADM

SCALE: 1 in = 2,500 ft

3

DATE: 08/26/2021

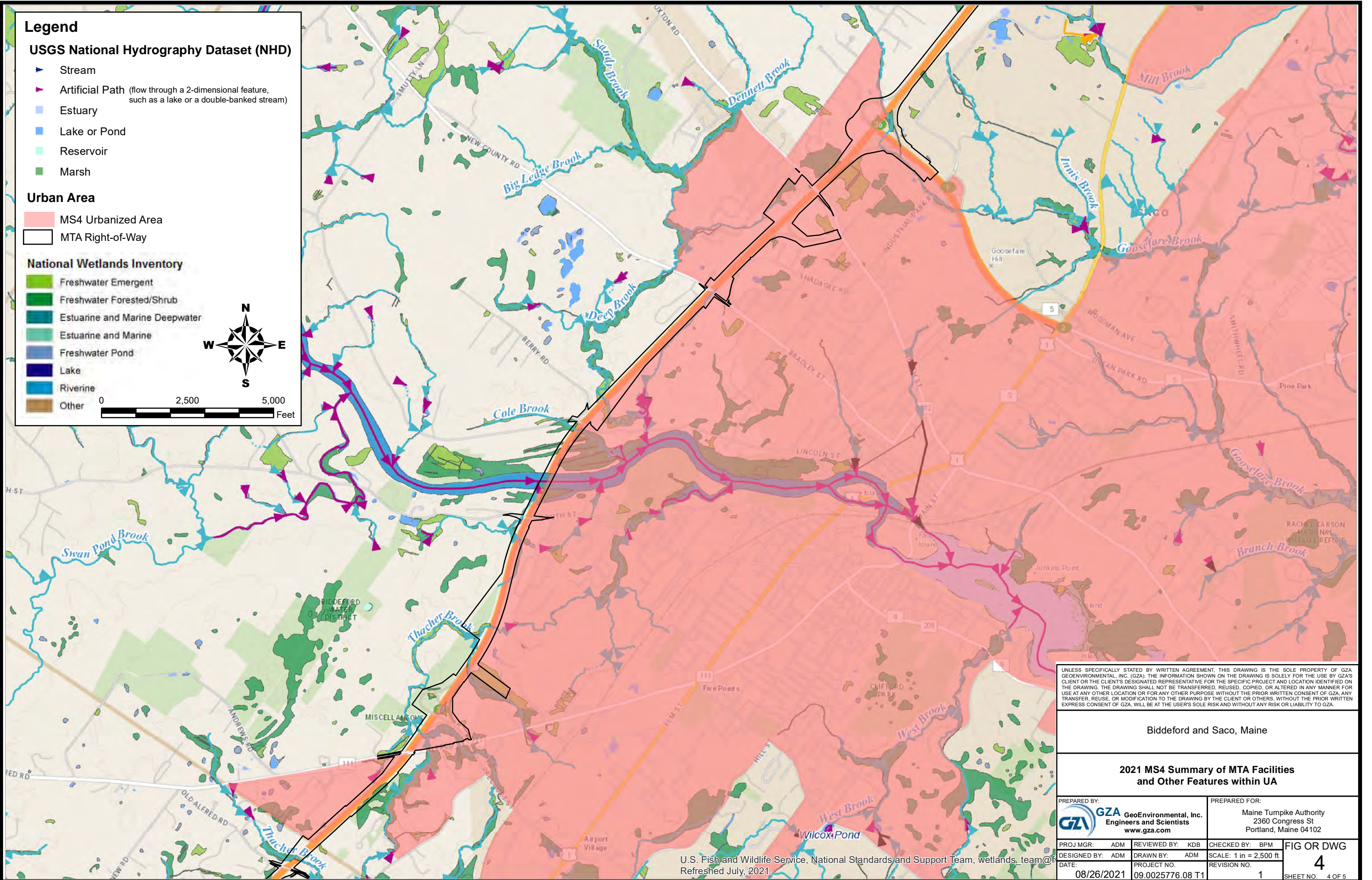
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REVISION NO. 1

SHEET NO. 3 OF 5

U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands\_team@fws.gov  
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## Legend

### USGS National Hydrography Dataset (NHD)

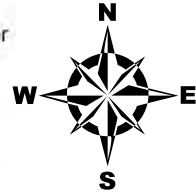
- Stream
- Artificial Path (flow through a 2-dimensional feature, such as a lake or a double-banked stream)
- Estuary
- Lake or Pond
- Reservoir
- Marsh

### Urban Area

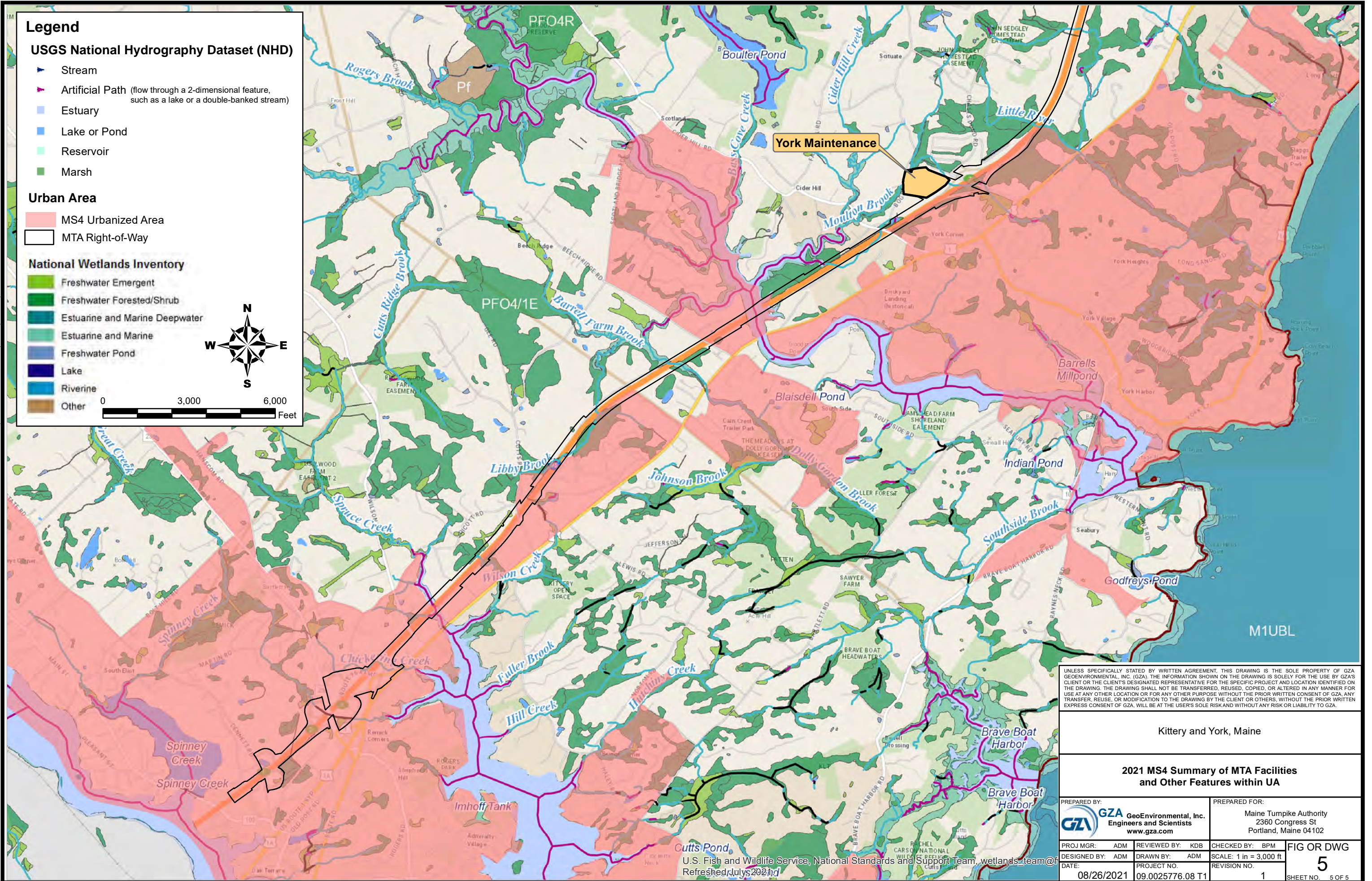
- MS4 Urbanized Area
- MTA Right-of-Way

### National Wetlands Inventory

- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
- Other




0 3,000 6,000 Feet



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Kittery and York, Maine

### 2021 MS4 Summary of MTA Facilities and Other Features within UA

PREPARED BY:  <b>GZA</b> GeoEnvironmental, Inc. Engineers and Scientists www.gza.com		PREPARED FOR:  Maine Turnpike Authority 2360 Congress St Portland, Maine 04102	
PROJ MGR: ADM	REVIEWED BY: KDB	CHECKED BY: BPM	FIG OR DWG  <b>5</b>  SHEET NO. 5 OF 5
DESIGNED BY: ADM	DRAWN BY: ADM	SCALE: 1 in = 3,000 ft	
DATE: 08/26/2021	PROJECT NO. 09.0025776.08 T1	REVISION NO. 1	



## **Attachment B**

### **List of Impaired Waters**

## Impaired Waters Summary

Waterbody	Location	TMDL	UIS <sup>1</sup>	WMP Year	EPA Category
Capisic Brook	Portland	IC TMDL 2012 <sup>2</sup>	Yes	2012	4-A
Deep Brook	Saco	None	No	None	2
Dole Brook	Portland	IC TMDL 2012	Yes	None	4-A
Goosefare Brook	Saco	IC TMDL 2012 Bacteria 2013 <sup>3</sup> Goosefare 2003 <sup>4</sup>	Yes	2016	4-A
Hart Brook	Lewiston	IC TMDL 2012 Bacteria 2009 <sup>5</sup>	Yes	2019	4-A
Long Creek	South Portland	LC GP <sup>6</sup>	Yes	2009	4-B
Nasons Brook	Portland	IC TMDL 2012	Yes	None	4-A
No Name Brook	Lewiston	Bacteria 2009	No	None	4-A and 5-A
Portsmouth Harbor (Spruce Creek)	Kittery	None	No	2014 (Spruce Creek)	5A and 5-B-1
Presumpscot River	Falmouth	Presumpscot 1998 <sup>7</sup>	No	None	2 and 4-A
Red Brook	Scarborough	IC TMDL 2012	Yes	2011	4-A and 5-D
Saco River	Saco	Bacteria 2009	No	2019 (Action Plan)	2, 4-A, and 5-B-1
Stroudwater River	Portland	None	No	None	3 and 5-A
Thatcher Brook	Biddeford	IC TMDL 2012 Bacteria 2009	Yes	2015	4-A
Tributaries of the Scarborough River and Scarborough Marsh (Beaver Brook, Finnerd Brook, and Nonesuch River)	Scarborough	Bacteria 2009	No	None	3 and 5-B-1
York River	York	Bacteria 2009	No	2018 (Stewardship Plan)	5-B-1

<sup>1</sup> MEDEP Chapter 502 Direct Watersheds of Lakes Most at Risk from New Development and Urban Impaired Streams

<sup>2</sup> Maine Statewide Impervious Cover TMDL. Report # DEPLW-1239, approved by EPA on September 27, 2012.

<sup>3</sup> Maine Statewide Bacteria TMDL: 2013 Freshwater Addendum. Report # DEPLW-1254, approved by EPA on September 22, 2014.

<sup>4</sup> Goosefare Brook TMDL. Approved by EPA on September 29, 2003.

<sup>5</sup> Maine Statewide Bacteria TMDL. Report # DEPLW-1002 approved by EPA on September 28, 2009.

<sup>6</sup> The Long Creek watershed does not have a TMDL and is instead regulated under separate DEP General and Individual Permits (#MEG190000 dated 4/15/15 and DEPLW-1167 dated 6/7/10, respectively).

<sup>7</sup> Presumpscot River TMDL. Approved by EPA on November 30, 1998.

## **Attachment C**

### **Documentation of Public Notice**





**September 17, 2021**

On or about September 30, 2021 Maine Turnpike Authority (MTA) plans to file a Notice of Intent and Stormwater Management Plan with the Maine Department of Environmental Protection for authorization to discharge stormwater under the General Permit for the Discharge of Stormwater from Maine Department of Transportation and Maine Turnpike Authority Municipal Separate Storm Sewer Systems issued August 18, 2021 (MER 043000). A copy of MTA's Notice of Intent and Stormwater Management Plan will be available at the following website on or about September 30, 2021: <https://www.maineturnpike.com/Projects-Planning/Environmental-Programs/Stormwater-Management-Program.aspx>.

Maine DEP will review MTA's filing to assess if it is complete for processing within 60 days of submittal. Once it has been deemed complete for processing, it will be made available on the Maine DEP website for 30-day public comment: <https://www.maine.gov/dep/comment/index.html>. A request for public hearing or request that the Board of Environmental Protection assume jurisdiction over this application must be received by the DEP, in writing, no later than 20 days after the application is found acceptable for processing. Requests must indicate the interest of the person filing the request and specify the reasons why a hearing is warranted. Unless otherwise provided by law, a hearing is discretionary and may be held if the Commissioner or the Board finds significant public interest or there is conflicting technical information.

MTA's filing will also be available for viewing at the DEP Office in Augusta after October 1, 2021 only by scheduled appointment during normal business hours. Written public comments or requests for information may be made to the Division of Water Quality Management, Department of Environmental Protection, State House Station #17, Augusta, ME 04333- 0017; telephone (207) 592-6233 and must reference MTA's filing and the Permit number provided above.

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Order Number	<b>0296120</b>	Order Price	<b>\$547.60</b>
Sales Rep.	<b>Joan Jensen</b>	PO No.	<b>Notice of Intent to file / Sean Donohue</b>
Account	<b>59307</b>	Payment Type	<b>Invoice</b>
Publication	<b>Portland Press Herald</b>	Number of dates	<b>1</b>
First Run Date	<b>09/09/2021</b>	Last Run Date	<b>09/09/2021</b>
Publication	<b>Online Upsell PPH</b>	Number of dates	<b>1</b>
First Run Date	<b>09/09/2021</b>	Last Run Date	<b>09/09/2021</b>

**Public Notice**

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Maine DEP will review MTA's filing to assess if it is complete for processing within 60 days of submittal. Once it has been deemed complete for processing, it will be made available on the Maine DEP website for 30-day public comment: <https://www.maine.gov/dep/comment/index.html>. A request for public hearing or request that the Board of Environmental Protection assume jurisdiction over this application must be received by the DEP, in writing, no later than 20 days after the application is found acceptable for processing. Requests must indicate the interest of the person filing the request and specify the reasons why a hearing is warranted. Unless otherwise provided by law, a

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Request for Proposals - Community Health Needs Assessment  
12:00 p.m.  
October 8, 2021  
Bids for 1 m.s. and specifications may be viewed at the Office of the Purchasing Agent or on-line at: <http://www.southportland.org/departments/purchasingbids/> to obtain bid forms call 207-767-7608.  
Colleen C. Selberg  
Purchasing Agent

**Public Notice**  
Information: For further information, or to obtain meeting or to obtain Zoom/conference call information, contact: Summer Knowlton, Legal/HR Assistant, at (207) 620-3435.

**Public Notice**  
Notice is hereby given that in accordance with the judgment of the Foreclosure and Sale entered May 13, 2021 in the action entitled **Bank of New York Mellon Trust Company, N.A. as Trustee for Mortgage Assists Management Series I Trust v. Lisa Resonant, Personal Representative for the Estate of Brenda S. Holste**, by the Cumberland County Superior Court, Docket No. 2019-09-96, wherein the Court adjudged the foreclosure of a mortgage granted by Brenda S. Holste to Financial Freedom Senior Funding Corporation dated March 18, 2009 and recorded in the Cumberland County Registry of Deeds in Book 26732, Page 310, the period of redemption having expired, a public sale of the property described in the mortgage will be conducted on

**Public Notice**  
Notice is hereby given that in accordance with the judgment of the Foreclosure and Sale entered May 30, 2019 in the action entitled **U.S. Bank National Association, successor in interest to Bank of America, National Association, successor by merger to LaSalle National Association as Trustee for GSAMP Trust P a s - t h r o u g h Certificates, Series M. Sherry, Esq., as the Special Administrator of the Estate of Dawn L. Miller FKA Dawn L. Jones**, by the Maine District Court, located in Bridgton, Maine, Docket No. BRIDC-RE-2018-63, wherein the Court adjudged the foreclosure of a mortgage granted by Dawn L. Miller to New Century Mortgage Corporation, dated November 22, 2006 and recorded in the Oxford County Registry of Deeds in Book 524, Page 788, the period of redemption having expired, a public sale of the property described in the mortgage will be conducted on

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**Public Notice**  
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## Public Notice

### NOTICE OF INTENT TO FILE

Please take notice that that Woodlands Camp Development LLC of P.O. Box 261 Kennebunk (ph 207-985-3546) intends to file a Stormwater Management Law permit Application with the Maine Department of Environmental Protection pursuant to the provisions of 38 M.R.S.A. § 420-D on or about September 3, 2021.

The application is for Woodlands Subdivision, construction of a 13-lot subdivision located at 11 Camp Woodlands Road.

A request for a public hearing or a request that the Board of Environmental Protection assume jurisdiction over this application must be received by the Department in writing, no later than 20 days after the application is found by the Department to be complete and accepted for processing. A public hearing may or may not be held at the discretion of the Commissioner of the Board of Environmental Protection. Public comments on the application will be accepted throughout the processing of the application.

The application will be filed for public inspection at the Department of Environmental Protection's office in Portland during normal working hours. A copy of the application may also be seen at the municipal offices in Bridgton, Maine. Written public comments may be sent to the regional office in Portland at: MDEP Southern Maine Regional Office, 312 Canco Road, Portland, Maine 04103.

## Auctions

The application will be filed for public inspection at the Department of Environmental Protection's office in Portland during normal working hours. A copy of the application may also be seen at the municipal offices in Bridgton, Maine. Written public comments may be sent to the regional office in Portland at: MDEP Southern Maine Regional Office, 312 Canco Road, Portland, Maine 04103.

**Public Notice**  
Notice is hereby given that in accordance with the judgment of the Foreclosure and Sale entered May 13, 2021 in the action entitled **Bank of New York Mellon Trust Company, N.A. as Trustee for Mortgage Assists Management Series I Trust v. Lisa Resonant, Personal Representative for the Estate of Brenda S. Holste**, by the Cumberland County Superior Court, Docket No. 2019-09-96, wherein the Court adjudged the foreclosure of a mortgage granted by Brenda S. Holste to Financial Freedom Senior Funding Corporation dated March 18, 2009 and recorded in the Cumberland County Registry of Deeds in Book 26732, Page 310, the period of redemption having expired, a public sale of the property described in the mortgage will be conducted on

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Notice is hereby given that in accordance with the judgment of the Foreclosure and Sale entered May 30, 2019 in the action entitled **U.S. Bank National Association, successor in interest to Bank of America, National Association, successor by merger to LaSalle National Association as Trustee for GSAMP Trust P a s - t h r o u g h Certificates, Series M. Sherry, Esq., as the Special Administrator of the Estate of Dawn L. Miller FKA Dawn L. Jones**, by the Maine District Court, located in Bridgton, Maine, Docket No. BRIDC-RE-2018-63, wherein the Court adjudged the foreclosure of a mortgage granted by Dawn L. Miller to New Century Mortgage Corporation, dated November 22, 2006 and recorded in the Oxford County Registry of Deeds in Book 524, Page 788, the period of redemption having expired, a public sale of the property described in the mortgage will be conducted on

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## Donohue, Sean W.

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**From:** Donohue, Sean W.  
**Sent:** Tuesday, September 7, 2021 1:47 PM  
**To:** Kerem.Gungor@maine.gov; Dillon, Frederick; 'Doug Roncarati'; Angela Blanchette; 'tom.milligan@biddefordmaine.org'; 'jkuchinski@lewistonmaine.gov'; 'dgoyette@auburnmaine.gov'; 'townmanager@sabattus.org'; 'Leslie Hinz'; 'Justin Early'; 'jlaverriere@sacomaine.org'; Jessa Kellogg (jkellogg@kitteryme.org)  
**Cc:** 'Aimee Mountain'; Branscom, John M.  
**Subject:** Maine Turnpike - Notice of Intent to File Under Transportation MS4 Permit  
**Attachments:** 2021 MS4 Nested MS4 Notice.pdf

### Tracking:

#### Recipient

#### Delivery

Kerem.Gungor@maine.gov  
Dillon, Frederick  
'Doug Roncarati'  
Angela Blanchette  
'tom.milligan@biddefordmaine.org'  
'jkuchinski@lewistonmaine.gov'  
'dgoyette@auburnmaine.gov'  
'townmanager@sabattus.org'  
'Leslie Hinz'  
'Justin Early'  
'jlaverriere@sacomaine.org'  
Jessa Kellogg (jkellogg@kitteryme.org)  
'Aimee Mountain'  
Branscom, John M.

Delivered: 09/07/2021 1:47 PM

Hello everyone,

Attached please find Maine Turnpike Authority's written notice of intent to file for coverage under the recently issued transportation MS4 permit, effective beginning July 2022. This notice is being provided to you as a 'nested MS4' system's stormwater coordinator and MS4 point of contact as required by the transportation MS4 permit. Also included in the attached letter is a summary of MTA's illicit discharge notification policy and procedures for nested MS4 systems. If you have any questions or would like additional information, please let me know.

Thank you,

Sean



Sean Donohue, LSS  
Permitting Coordinator  
Environmental Liaison

---

Maine Turnpike Authority

2360 Congress Street  
Portland, ME 04102

Tel: 207-482-8275

Cell: 207-232-7130

Fax: 207-878-8613

[sdonohue@maineturnpike.com](mailto:sdonohue@maineturnpike.com)





**From:** Donohue, Sean W.  
**To:** ["ddouglass@sabattus.org"](mailto:ddouglass@sabattus.org)  
**Subject:** Maine Turnpike - Notice of Intent to File Under Transportation MS4 Permit  
**Date:** Monday, September 13, 2021 10:11:00 AM  
**Attachments:** [2021 MS4 Nested MS4 Notice.pdf](#)  
[image001.jpg](#)  
[image002.jpg](#)  
[image003.png](#)  
[image004.png](#)  
[image005.png](#)  
[image006.png](#)

---

Hello Mr. Douglass,

Attached please find Maine Turnpike Authority's written notice of intent to file for coverage under the recently issued transportation MS4 permit, effective beginning July 2022. This notice is being provided to you as a 'nested MS4' system's stormwater coordinator and MS4 point of contact as required by the transportation MS4 permit. Also included in the attached letter is a summary of MTA's illicit discharge notification policy and procedures for nested MS4 systems. If you have any questions or would like additional information, please let me know.

Thank you,

Sean



Sean Donohue, LSS

Permitting Coordinator  
Environmental Liaison

Maine Turnpike Authority

2360 Congress Street  
Portland, ME 04102

Tel: 207-482-8275

Cell: 207-232-7130

Fax: 207-878-8613

[sdonohue@maineturnpike.com](mailto:sdonohue@maineturnpike.com)





Safe | Reliable | Sustainable

## MEMORANDUM

**To:** Nested MS4 Municipalities and Systems  
**From:** Sean Donohue, Permitting Coordinator/ Environmental Liaison  
**Date:** September 7, 2021  
**Re:** Notice of Intent to File for Stormwater Discharge Authorization Under Transportation MS4 Permit

---

Maine Turnpike Authority (MTA) maintains a stormwater system that is regulated under the *General Permit for the Discharge of Stormwater from Maine Department of Transportation and Maine Turnpike Authority Municipal Separate Storm Sewer Systems* (Transportation MS4 Permit). Your municipality is a regulated small MS4 which intersects with MTA's MS4 system (nested MS4 system). MTA's MS4 system may include interconnections with your municipality's MS4 system or stormwater outfalls discharging to shared water resources. As required by the Transportation MS4 Permit, by way of this letter MTA is providing notice of MTA's intent to file for authorization to discharge stormwater under the new (2022) Transportation MS4 Permit before October 1, 2021. A copy of MTA's Notice of Intent and Stormwater Management Plan will be made available at this link before October 1, 2021: <https://www.maineturnpike.com/Projects-Planning/Environmental-Programs/Stormwater-Management-Program.aspx>.

Maine Turnpike Authority maintains maps of its MS4 system and stormwater infrastructure that are updated annually. Copies of these maps are available to you upon request for MS4 coordination purposes. MTA also maintains an Illicit Discharge Detection and Elimination policy and procedure that includes notification to nested MS4s of illicit discharges from MTA's property or MS4 system into municipal MS4 systems or shared water resources. If an illicit discharge is discovered by MTA staff during an inspection or routine maintenance, we will contact the nested MS4's Stormwater Coordinator or other MS4 contact and work with the nested MS4 to eliminate the source of the illicit discharge and coordinate cleanup, as needed. In the case of a spill emergency outside of normal business hours, we will promptly contact the nested MS4's Public Safety Dispatch and will follow-up with the Stormwater Coordinator or other MS4 contact the following business day.

We ask that if an illicit discharge into MTA's MS4 system or shared water resources is discovered by your municipality during normal business hours, that you please contact MTA's Permitting Coordinator/ Environmental Liaison Sean Donohue at 207-482-8275 or [sdonohue@maineturnpike.com](mailto:sdonohue@maineturnpike.com). In the event of a spill emergency that has the potential to affect MTA's MS4 or shared water resources contact MTA's Communication Center at 207-871-7701. Please forward this request to any municipal first responders or other staff who may be in a position to coordinate spill response efforts with MTA. Please contact me if you have any questions, and thank you for your cooperation.

## APPENDIX B – Public Comments and Summary of Changes to SWMP



## **Summary of Public Comments and Changes to Stormwater Management Plan**

Maine Turnpike Authority (MTA) filed a Notice of Intent (NOI) and Initial Stormwater Management Plan (SWMP) with the Maine Department of Environmental Protection (Maine DEP or Department) on September 30, 2021 for authorization to discharge stormwater under the General Permit for the Discharge of Stormwater from Maine Department of Transportation and Maine Turnpike Authority Municipal Separate Storm Sewer Systems (MER 043000, issued August 18, 2021). MTA's NOI and SWMP were made available for 30-day public comment on the Maine Department of Environmental Protection (Maine DEP or Department) website, and were also posted on MTA's website. Maine DEP and MTA received no public comments on MTA's NOI and Initial SWMP.

On May 3, 2022, Maine DEP issued a Draft Permittee-Specific Order for MTA to obtain coverage under the General Permit for the Discharge of Stormwater from Maine Department of Transportation and Maine Turnpike Authority Municipal Separate Storm Sewer Systems for 30-day public comment. Maine DEP received no comments resulting in substantive changes to the Draft Order. Maine DEP made a couple of minor revisions to the Draft Order to address typographical errors cited by MTA before issuing MTA's Final Permittee-Specific Order on June 7, 2022.

Since MTA filed its NOI and Initial SWMP, MTA has made the following changes to its SWMP:

- Added this summary of public comments and changes to the SWMP as Appendix B of the SWMP.
- Added MTA's Final Permittee-Specific Department Order issued on June 7, 2022 by Maine DEP as Appendix C of the SWMP.
- Revised its Urban Impaired Stream (UIS) Watershed Best Management Practices (BMP) provided in Appendix G of the SWMP in response to comments and suggestions from Maine DEP and MTA staff. The version of the UIS BMP included in the final SWMP is the same version that was included with the Maine DEP's Draft Permittee-Specific Order issued May 3, 2022 and Maine DEP's Final Permittee-Specific Order issued on June 7, 2022.
- Updated the email address for the Maine DEP MS4 Program Manager to reflect the current Maine DEP MS4 Program point of contact.

## APPENDIX C – Permittee-Specific DEP Order



STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION



JANET T. MILLS  
GOVERNOR

MELANIE LOYZIM  
COMMISSIONER

June 7, 2022

Mr. Sean Donohue  
Permitting Coordinator  
Maine Turnpike Authority  
2360 Congress Street  
Portland, Maine 04102  
e-mail: [sdonohue@maineturnpike.com](mailto:sdonohue@maineturnpike.com)

**RE: Municipal Separate Storm Sewer System (MS4) General Permit #MER043000  
Final - MER043001**

Dear Mr. Donohue:

Enclosed please find a copy of your **final** MEPDES permit and Maine WDL which was approved by the Department of Environmental Protection. Please read this permit/license and its attached conditions carefully. Compliance with this permit/license will protect water quality.

Any interested person aggrieved by a Department determination made pursuant to applicable regulations, may appeal the decision following the procedures described in the attached DEP FACT SHEET entitled *"Appealing a Commissioner's Licensing Decision."*

If you have any questions regarding the matter, please feel free to call me at 287-7693. Your Department compliance inspector copied below is also a resource that can assist you with compliance. Please do not hesitate to contact them with any questions.

Thank you for your efforts to protect and improve the waters of the great state of Maine!

Sincerely,

Gregg Wood  
Division of Water Quality Management  
Bureau of Water Quality

Enc.

cc: Holliday Keen, DEP/CMRO  
Damien Houlihan, USEPA  
Newton Tedder, USEPA

Alison Moody DEP/SMRO  
Nathan Chien, USEPA

Lori Mitchell, DEP/CMRO  
Richard Carvalho, USEPA



STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
17 STATE HOUSE STATION  
AUGUSTA, ME 04333

**DEPARTMENT ORDER**

**IN THE MATTER OF**

MAINE TURNPIKE AUTHORITY	)	MUNICIPAL SEPARATE STORM
PORTLAND, CUMBERLAND COUNTY, MAINE	)	SEWER SYSTEM
MER043001	)	MER043000
	)	<b>GENERAL PERMIT COVERAGE</b>
<b>APPROVAL</b>	)	<b>RENEWAL</b>

The Department of Environmental Protection (Department/DEP) has considered the Notice of Intent submitted by the MAINE TURNPIKE AUTHORITY (MTA/permittee), with supportive data, agency review comments and other related materials on file for coverage under the Municipal Separate Storm Sewer System (MS4) General Permit (GP), #MER043000, issued by the Department on August 18, 2021, and FINDS THE FOLLOWING FACTS.

The permittee submitted a Notice of Intent (NOI) with an initial Stormwater Management Plan (SWMP) to the Department on September 30, 2021 that were made available for a 30-day public comment period on the Department's website at <https://www.maine.gov/dep/comment/comment.html?id=4463193>. No public comments were received on the NOI or the initial SWMP. The Department has reviewed the initial SWMP document and made the determination that the document is consistent with and fully articulates what is required to meet the MS4 GP standard. Pursuant to Part IV(B) of MS4 GP issued by the Department on August 18, 2021, the permittee must update the initial SWMP within 60 days of the effective date of this DEP permittee specific order or within 60 days of the final resolution to an appeal of this DEP permittee specific order. The final plan must be submitted to the Department and will be posted on the Department's website.

The permittee must fully implement the Best Management Practices in accordance with their associated schedules of compliance, as established in the Modified Stormwater Management Plan that is in effect at the time any schedule for compliance is due.

The permittee has agreed to comply with all terms and conditions of the MS4 General Permit, #MER043000, dated August 18, 2021. Operated in accordance with the Municipal Separate Storm Sewer System (MS4) General Permit, #MER043000, the discharges identified by the permittee will not have a significant adverse effect on water quality or cause or contribute to the violation of the water quality standards of the receiving water.

**Impaired Waters**

The MTA has point source discharges to Thatcher Brook, Goosefare Brook, Red Brook, Nasons Brook, Capisic Brook, Dole Brook and Hart Brook which are classified as Urban Impaired Streams in Maine DEP Rule Chapter 502. To address the impairments, the permittee must fully implement all actions, schedules and milestones established in Appendix G, *Urban Impaired Stream Watershed Best Management Practices*, in the April 22, 2022 revised initial SWMP and any revisions reflected in the Modified Stormwater Management Plan required by Part IV(B). Appendix G is attached to this Order.

THEREFORE, the Department GRANTS the MAINE TURNPIKE AUTHORITY, coverage under the Municipal Separate Storm Sewer System (MS4) General Permit, #MER043000, issued by the Department on August 18, 2021, subject to the terms and conditions therein.

This DEP permittee specific order becomes effective on July 1, 2022 and expires at midnight five (5) years after that date. If the GP is to be renewed, this DEP permittee specific order will remain in effect and enforceable until the Department takes final action on the renewal.

DONE AND DATED AT AUGUSTA, MAINE, THIS 7 DAY OF June, 2022.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:   
for Melanie Loyzim, Commissioner

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

The Notice of Intent was received by the Department on September 30, 2021.

The Notice of Intent was accepted by the Department on October 14, 2021.

**FILED**

JUNE 7, 2022

State of Maine  
Board of Environmental Protection

Date filed with Board of Environmental Protection:         

This Order prepared by GREGG WOOD, BUREAU OF WATER QUALITY



**RESPONSE TO COMMENTS**

During the period of May 3, 2022 through the effective date of this final agency action, the Department solicited comments on the draft MEPDES permit. The Department did not receive any comments that resulted in any substantive changes to the draft permit. Therefore, the final permit is being issued as drafted with a couple of minor revisions to address typographical errors cited by the permittee.



## URBAN IMPAIRED STREAM WATERSHED BEST MANAGEMENT PRACTICES

This narrative provides a summary of Maine Turnpike Authority's (MTA) proposed best management practices (BMPs) in seven urban impaired stream (UIS) watersheds where MTA maintains direct stormwater discharges to an UIS. The purpose of the BMPs described in this narrative are to meet the requirements of Part IV.E.3. of the *General Permit for the Discharge of Stormwater from Maine Department of Transportation and Maine Turnpike Authority Municipal Separate Storm Sewer Systems* (MER 043000) issued on August 18, 2021. The proposed BMPs are based on MTA's current work plan, which is a dynamic document subject to changes and schedule revisions, and is also subject to funding based on MTA's toll revenues and capacity to fund projects through bond solicitations. If changes to MTA's work plan occur that effect implementation of the BMPs proposed in this narrative, MTA will notify the Maine Department of Environmental Protection and make the necessary modifications to its Stormwater Management Plan.

### 1. Thatcher Brook Watershed, Biddeford

#### Thatcher Brook BMP #1 – Improve Awareness of Stormwater BMP Maintenance Requirements

In 2016 MTA constructed two underdrained soil filters at the Exit 32 interchange in the ditch line adjacent to the northbound on ramp to treat stormwater in the Thatcher Brook watershed. Across MTA's footprint, the number of operational stormwater treatment BMPs has grown rapidly. Prior to the start of the 2013-2022 MS4 permit cycle MTA had 11 stormwater BMPs. Currently, MTA has 32 stormwater treatment BMPs in operation, and that is anticipated increase to approximately 63 by the close of the 2022-2027 MS4 permit cycle. With the expansion of stormwater treatment infrastructure, improved awareness on behalf of highway operations staff of correct BMP management practices will help ensure optimum function and lifespan.

MTA will include in its annual environmental and stormwater training for highway operations staff correct stormwater BMP maintenance practices in the Thatcher Brook watershed. MTA will also install signage around the two soil filter BMPs to alert highway maintenance staff to use only light mowing equipment to prevent rutting, compaction, and damage to filter media and underdrain systems. Foreman and maintenance facilities will be provided with mapping identifying the location of MTA's new stormwater BMP infrastructure for reference and to improve staff awareness of the location of the new

Maine Turnpike Authority  
Urban Impaired Stream Watershed  
Best Management Practices

infrastructure. In its MS4 Permit Annual Compliance Report, MTA will report progress on each of these metrics.

Thatcher Brook BMP #2 –

Plant Shrubs in Wetland and Install Mowing Restriction Signs Around Riparian Zone of Relocated Segment of Unnamed Tributary to Thatcher Brook

In 2021, MTA relocated 490 linear feet of a direct unnamed tributary to Thatcher Brook to accommodate Exit 32 southbound off ramp improvements in Biddeford. The project design included moving the stream as far from the southbound lanes of the Turnpike as feasible with natural meanders, natural “stream bed special fill” with rounded gravel and cobble substrate, and in-stream log features, while remaining within MTA right-of-way. The end result was an overall increase in the distance between the channel and the southbound lanes, including a 121-foot segment of channel that had been previously straightened and routed into the road ditch.

The Thatcher Brook Watershed-Based Plan identifies this location as an area with poor buffering, which has been improved by relocating the channel further from the roadway and maintaining a riparian wetland fringe. One of the goals of the relocation was to improve the opportunity for sheet flow and infiltration of runoff from the outside lane of the Turnpike between the edge of the pavement and the stream to help improve water quality.

As a BMP, in PY 1 or PY2 MTA proposes to plant wetland shrubs in the wetland riparian zone between the relocated stream channel and the toe of the highway fill slope. Planting shrubs would be an augmentation to the riparian zone design that was not included as part of the original stream channel relocation plan or construction contract. The goal of the shrub planting will be to improve the riparian buffer by promoting establishment of shrub cover in the riparian zone, augmenting wetland water quality functions (attenuation or retention of nutrients, sediment, and toxicants), and over time providing some shading over the stream channel and a natural local source of small diameter woody debris for the stream channel. MTA will plant approximately 200 shrubs at a spacing of 10 feet on center throughout the planting zone. Species will include native shrubs with a wetland indicator status of facultative (FAC) or wetter, typically two to three feet in height, and that are commercially available and suited to the site. MTA will also install "No Mowing" signs at the edge of the riparian wetlands along the Exit 32 southbound off ramp stream relocation site to help ensure maintenance staff do not to mow the riparian wetland (adjacent 4:1 highway slopes may be mowed). Not mowing the wetland will help prevent rutting in the wetlands that can lead to channelized flow and erosion, and will

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allow dense herbaceous vegetation and shrub-cover to re-establish in the wetlands as intended.

Thatcher Brook BMP #3 –  
Implement MTA Chloride BMPs

As described under item number eight at the end of this UIS BMP narrative, MTA has prepared Chloride BMPs to help manage the application of chloride for snow and ice control and reduce its environmental impacts. As an UIS BMP, MTA will implement the MTA Chloride BMPs in the Thatcher Brook Watershed.

**2. Goosefare Brook Watershed, Saco**

Goosefare Brook BMP #1, #2, & #3 –  
Construct Three New Underdrained Soil Filters in Goosefare Brook Watershed

MTA is planning to add a new Exit 35 and make improvements to Exit 36 to improve traffic flow to and from the Turnpike beginning in 2022 or 2023. As part of this work three lined underdrained soil filters (USFs) within the Goosefare Brook watershed are proposed to treat runoff from existing and new impervious surface. The USFs are planned to be located to intercept runoff before it discharges directly into Goosefare Brook and an unnamed tributary to the brook at Exit 36, which will help 'disconnect' some of the existing and proposed impervious surface cover. MTA is proposing to collect and treat runoff from approximately 4.8 acres of impervious surface. The exact acreage will be determined as final design of the project is completed. The USFs will also be lined with an impermeable membrane beneath the underdrain system, which may help reduce infiltration of chlorides to the groundwater table, which is identified as a stressor in the watershed.

Goosefare Brook BMP #4 –  
Implement MTA Chloride BMPs

As described under item number eight at the end of this UIS BMP narrative, MTA has prepared Chloride BMPs to help manage the application of chloride for snow and ice control and reduce its environmental impacts. As an UIS BMP, MTA will implement the MTA Chloride BMPs in the Goosefare Brook Watershed.

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**3. Red Brook Watershed, Scarborough & South Portland**

Red Brook BMP #1 & #2 –  
Construct Two New USFs

As part of constructing the Portland Area Widening and the Exit 45 Reconfiguration Project, MTA will complete construction of two new underdrained soil filters in the Red Brook watershed. Project construction is in progress and expected to be completed in 2023. Together, these BMPs will collect and treat runoff from approximately 2.0 acres of existing and new impervious surface. In addition, the two USFs will be located adjacent to Red Brook, to enhance their benefit by 'disconnecting' some of the impervious surface that is adjacent to and drains directly into Red Brook. The USFs will be lined with an impermeable membrane beneath the underdrain system, which may help reduce infiltration of chlorides to the groundwater table, which is identified as a stressor in the watershed.

Red Brook BMP #3 –  
Implement MTA Chloride BMPs

As described under item number eight at the end of this UIS BMP narrative, MTA has prepared Chloride BMPs to help manage the application of chloride for snow and ice control and reduce its environmental impacts. As an UIS BMP, MTA will implement the MTA Chloride BMPs in the Red Brook Watershed.

**4. Nasons Brook Watershed, Portland**

Nasons Brook BMP #1 –  
Construct Stormwater Meadow Buffer

As part of Phase II of the Portland Area Widening Project between MTA mile marker 46.4 and 49.3 in Portland, MTA will construct a stormwater meadow buffer in the Nasons Brook watershed. The meadow buffer will treat approximately 0.16 acres of impervious surface from the Turnpike mainline. The construction contract was awarded in November 2021, and project construction will be completed before the MS4 General Permit expires in July 2027.

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Nasons Brook BMP #2 –  
Improve Awareness of Stormwater BMP Maintenance Requirements

MTA will soon have three new stormwater treatment BMPs constructed in the Nason's Brook watershed, including the new meadow buffer described above and two new lined USFs recently completed in 2020. As described under the discussion of Thatcher Brook BMP #1, the number of MTA's operational stormwater treatment BMPs is increasing rapidly, and improved awareness on behalf of MTA highway operations staff of correct BMP management practices will help ensure optimum function and lifespan.

MTA will include in its annual environmental and stormwater training for highway operations staff correct stormwater BMP maintenance practices in the Nasons Brook watershed. MTA will also install signage around the new soil filter BMPs to alert highway maintenance staff to use only light mowing equipment to prevent rutting, compaction, and damage to filter media and underdrain systems. Foreman and maintenance facilities will be provided with mapping identifying the location of MTA's new stormwater BMP infrastructure for reference and to improve staff awareness of the location of the new infrastructure. In its MS4 Permit Annual Compliance Report, MTA will report progress on each of these metrics.

Nasons Brook BMP #3 –  
Implement MTA Chloride BMPs

As described under item number eight at the end of this UIS BMP narrative, MTA has prepared Chloride BMPs to help manage the application of chloride for snow and ice control and reduce its environmental impacts. As an UIS BMP, MTA will implement the MTA Chloride BMPs in the Nasons Brook Watershed.

**5. Capisic Brook Watershed, Portland**

Capisic Brook BMP #1 –  
Construct Stormwater Meadow Buffer

As part of Phase II of the Portland Area Widening Project between MTA mile marker 46.4 and 49.3 in Portland, MTA will construct a stormwater meadow buffer in the Capisic Brook watershed. The meadow buffer will treat approximately 0.66 acres of impervious surface from the Turnpike mainline. The construction contract was awarded in November 2021

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and project construction will be completed before the MS4 General Permit expires in July 2027.

Capisic Brook BMP #2 -

Improve Awareness of Stormwater BMP Maintenance Requirements

MTA will soon have two new stormwater treatment BMPs constructed in the Capisic Brook watershed, including the new meadow buffer described above and one new lined USF recently completed in 2021. As described under the discussion of Thatcher Brook BMP #1, the number of MTA's operational stormwater treatment BMPs is increasing rapidly, and improved awareness on behalf of MTA highway operations staff of correct BMP management practices will help ensure optimum function and lifespan.

MTA will include in its annual environmental and stormwater training for highway operations staff correct stormwater BMP maintenance practices in the Capisic Brook watershed. MTA will also install signage around the new underdrained soil filter to alert highway maintenance staff to use only light mowing equipment to prevent rutting, compaction, and damage to filter media and the underdrain system. Foreman and maintenance facilities will be provided with mapping identifying the location of MTA's new stormwater BMP infrastructure for reference and to improve staff awareness of the location of the new infrastructure. In its MS4 Permit Annual Compliance Report, MTA will report progress on each of these metrics.

Capisic Brook BMP #3 –

Implement MTA Chloride BMPs

As described under item number eight at the end of this UIS BMP narrative, MTA has prepared Chloride BMPs to help manage the application of chloride for snow and ice control and reduce its environmental impacts. As an UIS BMP, MTA will implement the MTA Chloride BMPs in the Capisic Brook Watershed.

**6. Dole Brook Watershed, Portland**

Dole Brook BMP #1 –

Construct New Stormwater Treatment BMP as Part of Forest Avenue Bridge Rehabilitation Project

Before July 2027 and as part of the Forest Avenue Bridge Rehabilitation Project in Portland, MTA will construct one new stormwater treatment BMP in the Dole Brook watershed, such as a meadow buffer, underdrained soil filter, gravel treatment wetland,

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proprietary tree box filter(s), or comparable BMP. MTA currently estimates that construction would begin in 2024. The specific type of BMP and impervious surface area that would be treated would be determined as part of the project design.

Dole Brook BMP #2 –

Construct New Stormwater Treatment BMP as Part of Riverside Drive Bridge Rehabilitation Project

Before July 2027 and as part of the Riverside Drive Bridge Rehabilitation Project, MTA will construct one new stormwater treatment BMP in the Dole Brook watershed, such as a meadow buffer, underdrained soil filter, gravel treatment wetland, proprietary tree box filter(s), or comparable BMP. MTA currently estimates that construction would begin in 2025. The specific type of BMP and impervious surface area that would be treated would be determined as part of the project design.

Dole Brook BMP #3 –

Implement MTA Chloride BMPs

As described under item number eight at the end of this UIS BMP narrative, MTA has prepared Chloride BMPs to help manage the application of chloride for snow and ice control and reduce its environmental impacts. As an UIS BMP, MTA will implement the MTA Chloride BMPs in the Dole Brook Watershed.

**7. Hart Brook Watershed, Lewiston**

Hart Brook BMP #1 and #2 – New Structural BMPs or Riparian Planting Augmentation

MTA will complete two of the following BMPs before the close of the MS4 permit cycle on June 30, 2027:

- Construct a new lined underdrained soil filter or other structural BMP at the southwest quadrant of the Exit 80 interchange (near the end of the northbound off ramp);
- Construct a new structural BMP at the southeast quadrant of the River Road Bridge crossing such as a tree box filter/ bioretention BMP;
- Augment the riparian wetland buffer of a stream that MTA day lighted and restored in 2015 as part of the Exit 80 interchange reconstruction project with additional tree sapling plantings to further advance shading and forest cover over the stream; or



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- MTA maintains a bridge over Goddard Road at approximate mile marker 79.6. Adjacent to the bridge on the northbound side of the Turnpike, a drainage ditch is located within the MTA right-of-way (ROW) with an unconsolidated bottom that drains directly into Hart Brook. The ditch conveys runoff from Goddard Road and the municipal closed drainage system. MTA will stabilize the approximately 200-foot long drainage ditch to Hart Brook (MTA MS4 discharge point 0029) using either geofabric and riprap, or vegetation and permanent stone check dams. While the ditch is located in MTA's ROW, these improvements would constitute actions above and beyond routine maintenance, because the ditch is not a component of MTA's highway infrastructure and serves as a stormwater conveyance and discharge point for the municipal road. The specific ditch stabilization measures and improvements will be determined based on input from MTA design engineers. Before implementing or designing improvements to the ditch, MTA will consult with Maine DEP licensing staff to obtain concurrence that the ditch stabilization work will not occur in a river, stream, or brook regulated under the Natural Resource Protection Act.

The two BMPs to be implemented will be dependent on additional engineering feasibility assessments and funding, although two of these BMPs would be implemented before the close of the MS4 permit cycle on June 30, 2027.

Hart Brook BMP #3 –  
Implement MTA Chloride BMPs

As described under item number eight at the end of this UIS BMP narrative, MTA has prepared Chloride BMPs to help manage the application of chloride for snow and ice control and reduce its environmental impacts. As an UIS BMP, MTA will implement the MTA Chloride BMPs in the Hart Brook Watershed.

**8. MTA Chloride Best Management Practices**

Chloride from winter maintenance of impervious surfaces has been identified by the Maine Department of Environmental Protection as a stressor of Urban Impaired Streams. Maine Turnpike Authority maintains point source discharges (i.e., outfalls) to seven UIS waterbodies within the Urbanized Area (UA) boundary that is subject to regulation under the Transportation MS4 General Permit. MTA has prepared this Chloride BMP to utilize winter road maintenance materials efficiently, help reduce stressors on the aquatic environment, and meet the requirement of the Transportation MS4 Permit to implement at least three structural or non-structural BMPs for each UIS watershed within the UA.

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MTA has already taken numerous actions in recent years to reduce the impact of roadway deicing on the environment, while meeting the essential requirement to maintain safe road conditions. These actions are based on best practice recommendations outlined in the [Maine Environmental Best Management Practices Manual for Snow and Ice Control \(2015\)](#), as implemented through the *Maine Turnpike Authority Snow and Ice Control Policies and Procedures*. Key elements of MTA's practices relevant to controlling the application of chlorides include:

- Pre-season preparation and equipment calibration;
- Equipment training for highway operations staff;
- Collection and use of weather data to inform application of snow and ice control materials;
- Establishment of level of service and priority snow and ice removal areas;
- Procedures for removal of snow and ice from the Turnpike; and,
- Snow and ice control material tracking, handling, and storage.

The snow and ice control materials available for use on the Maine Turnpike are dry sodium chloride (salt), sodium chloride brine, magnesium chloride liquid, and sand. Sand is rarely used. MTA's practice is to pre-wet solid ice control materials with sodium chloride brine to help prevent the loss of material from the pavement surface. The benefits of pre-wetting sodium chloride with brine are:

- Less bounce & scatter;
- Faster reaction time;
- More effective melting action;
- Lower effective temperature is achieved if pre-wetting with magnesium chloride; and,
- Less salt needed resulting in reduced costs and environmental impact.

Since magnesium chloride has the ability to melt ice at lower temperatures, when temperatures drop below approximately +15°F, MTA generally uses magnesium chloride liquid or sodium chloride brine blended with magnesium chloride liquid to pre-wet dry sodium chloride.

**Annual Reporting:**

The practices outlined above constitute MTA's chloride BMPs, which will be implemented across the MS4 urban impaired stream watersheds where MTA maintains its infrastructure. As described under the preceding discussion of proposed BMPs for each urban impaired stream watershed, MTA proposes these collective practices as a BMP credit in each of MTA's urban impaired stream watersheds. In addition, as part of MTA's

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MS4 Permit Annual Compliance Report, MTA will report on the following related to chloride reduction:

- At least one representative from MTA will attend an annual regional training or roundtable to learn about new chloride reduction techniques coordinated by the Interlocal Stormwater Working Group or another organization; and,
- Over the course of the MS4 permit cycle (July 1, 2022 – June 20, 2027, or as extended), MTA proposes a new chloride tracking pilot program to monitor the application of winter maintenance chemicals for individual plow routes operating from MTA's Crosby Yard maintenance facility in Portland. Plow routes from the Crosby Yard span from Exit 36 in Saco to Exit 53 at the Falmouth Spur. Portions of five of the seven urban impaired stream watersheds with MTA outfalls in the Urbanized Area that are regulated under the MS4 permit are included within the proposed pilot program area (Goosefare Brook, Red Brook, Nasons Brook, Capisic Brook, and Dole Brook). Maine DEP identifies chloride as a stressor in each of these streams. Long Creek, an urban impaired stream which is not regulated under the MS4 permit, is also located within the pilot program area and is impaired by high chloride levels.

MTA uses loader scale data and other tracking tools to monitor and calculate the tonnage of dry sodium chloride and gallons of sodium chloride brine and magnesium chloride liquid applied each winter season. As past practice, these material quantities have been tracked for each MTA maintenance facility that is located along the Turnpike. MTA has not historically tracked this information to the level of individual plow routes, although this is feasible for dry sodium chloride with MTA's tracking systems.

MTA assigns a specific plow route for each truck and driver for the winter season. Each MTA interchange facility has its own defined plow route. Sections of the Turnpike mainline are also divided into individual routes. Approximately 20 individual plow routes operate out of the Crosby Yard. Tracking the application of dry sodium chloride for each plow route will allow for calculation of a seasonal total along the route, and for a relative comparison between plow routes (i.e. the amount of material applied along an interchange plow route over the season could be compared to a mainline plow route). This information could help identify whether there are locations within the watershed where chloride application may tend to be higher or lower.

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Throughout the MS4 permit cycle, MTA will provide the following deliverables to Maine DEP with its MS4 annual report for the Crosby Yard chloride tracking pilot program:

1. Maps or geospatial data (i.e., shapefile or kmz file) of the individual plow routes;
2. For each plow route, a tabular summary of:
  - a. The seasonal application total of dry sodium chloride;
  - b. The total number of Turnpike lane miles associated the plow route; and,
  - c. The seasonal total of dry sodium chloride applied per lane mile for each plow route.
3. The seasonal application total of sodium chloride brine and magnesium chloride liquid used by the Crosby Yard facility.



# DEP INFORMATION SHEET

## Appealing a Department Licensing Decision

**Dated: August 2021**

**Contact: (207) 314-1458**

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### **SUMMARY**

This document provides information regarding a person's rights and obligations in filing an administrative or judicial appeal of a licensing decision made by the Department of Environmental Protection's (DEP) Commissioner.

Except as provided below, there are two methods available to an aggrieved person seeking to appeal a licensing decision made by the DEP Commissioner: (1) an administrative process before the Board of Environmental Protection (Board); or (2) a judicial process before Maine's Superior Court. An aggrieved person seeking review of a licensing decision over which the Board had original jurisdiction may seek judicial review in Maine's Superior Court.

A judicial appeal of final action by the Commissioner or the Board regarding an application for an expedited wind energy development ([35-A M.R.S. § 3451\(4\)](#)) or a general permit for an offshore wind energy demonstration project ([38 M.R.S. § 480-HH\(1\)](#)) or a general permit for a tidal energy demonstration project ([38 M.R.S. § 636-A](#)) must be taken to the Supreme Judicial Court sitting as the Law Court.

### **I. ADMINISTRATIVE APPEALS TO THE BOARD**

#### **LEGAL REFERENCES**

A person filing an appeal with the Board should review Organization and Powers, [38 M.R.S. §§ 341-D\(4\)](#) and [346](#); the Maine Administrative Procedure Act, 5 M.R.S. § [11001](#); and the DEP's [Rule Concerning the Processing of Applications and Other Administrative Matters \(Chapter 2\)](#), 06-096 C.M.R. ch. 2.

#### **DEADLINE TO SUBMIT AN APPEAL TO THE BOARD**

Not more than 30 days following the filing of a license decision by the Commissioner with the Board, an aggrieved person may appeal to the Board for review of the Commissioner's decision. The filing of an appeal with the Board, in care of the Board Clerk, is complete when the Board receives the submission by the close of business on the due date (5:00 p.m. on the 30<sup>th</sup> calendar day from which the Commissioner's decision was filed with the Board, as determined by the received time stamp on the document or electronic mail). Appeals filed after 5:00 p.m. on the 30<sup>th</sup> calendar day from which the Commissioner's decision was filed with the Board will be dismissed as untimely, absent a showing of good cause.

#### **HOW TO SUBMIT AN APPEAL TO THE BOARD**

An appeal to the Board may be submitted via postal mail or electronic mail and must contain all signatures and required appeal contents. An electronic filing must contain the scanned original signature of the appellant(s). The appeal documents must be sent to the following address.

Chair, Board of Environmental Protection  
c/o Board Clerk  
17 State House Station  
Augusta, ME 04333-0017  
[ruth.a.burke@maine.gov](mailto:ruth.a.burke@maine.gov)

The DEP may also request the submittal of the original signed paper appeal documents when the appeal is filed electronically. The risk of material not being received in a timely manner is on the sender, regardless of the method used.

At the time an appeal is filed with the Board, the appellant must send a copy of the appeal to: (1) the Commissioner of the DEP (Maine Department of Environmental Protection, 17 State House Station, Augusta, Maine 04333-0017); (2) the licensee; and if a hearing was held on the application, (3) any intervenors in that hearing proceeding. **Please contact the DEP at 207-287-7688 with questions or for contact information regarding a specific licensing decision.**

#### **REQUIRED APPEAL CONTENTS**

A complete appeal must contain the following information at the time the appeal is submitted.

1. *Aggrieved status.* The appeal must explain how the appellant has standing to bring the appeal. This requires an explanation of how the appellant may suffer a particularized injury as a result of the Commissioner's decision.
2. *The findings, conclusions, or conditions objected to or believed to be in error.* The appeal must identify the specific findings of fact, conclusions of law, license conditions, or other aspects of the written license decision or of the license review process that the appellant objects to or believes to be in error.
3. *The basis of the objections or challenge.* For the objections identified in Item #2, the appeal must state why the appellant believes that the license decision is incorrect and should be modified or reversed. If possible, the appeal should cite specific evidence in the record or specific licensing criteria that the appellant believes were not properly considered or fully addressed.
4. *The remedy sought.* This can range from reversal of the Commissioner's decision on the license to changes in specific license conditions.
5. *All the matters to be contested.* The Board will limit its consideration to those matters specifically raised in the written notice of appeal.
6. *Request for hearing.* If the appellant wishes the Board to hold a public hearing on the appeal, a request for hearing must be filed as part of the notice of appeal, and it must include an offer of proof regarding the testimony and other evidence that would be presented at the hearing. The offer of proof must consist of a statement of the substance of the evidence, its relevance to the issues on appeal, and whether any witnesses would testify. The Board will hear the arguments in favor of and in opposition to a hearing on the appeal and the presentations on the merits of an appeal at a regularly scheduled meeting. If the Board decides to hold a public hearing on an appeal, that hearing will then be scheduled for a later date.
7. *New or additional evidence to be offered.* If an appellant wants to provide evidence not previously provided to DEP staff during the DEP's review of the application, the request and the proposed supplemental evidence must be submitted with the appeal. The Board may allow new or additional evidence to be considered in an appeal only under limited circumstances. The proposed supplemental evidence must be relevant and material, and (a) the person seeking to add information to the record must show due diligence in bringing the evidence to the DEP's attention at the earliest possible time in the licensing process; or (b) the evidence itself must be newly discovered and therefore unable to have been presented earlier in the process. Requirements for supplemental evidence are set forth in [Chapter 2 § 24](#).

#### **OTHER CONSIDERATIONS IN APPEALING A DECISION TO THE BOARD**

1. *Be familiar with all relevant material in the DEP record.* A license application file is public information, subject to any applicable statutory exceptions, and is made accessible by the DEP. Upon request, the DEP will make application materials available to review and photocopy during normal working hours. There may be a charge for copies or copying services.

2. *Be familiar with the regulations and laws under which the application was processed, and the procedural rules governing the appeal.* DEP staff will provide this information upon request and answer general questions regarding the appeal process.
3. *The filing of an appeal does not operate as a stay to any decision.* If a license has been granted and it has been appealed, the license normally remains in effect pending the processing of the appeal. Unless a stay of the decision is requested and granted, a licensee may proceed with a project pending the outcome of an appeal, but the licensee runs the risk of the decision being reversed or modified as a result of the appeal.

### **WHAT TO EXPECT ONCE YOU FILE A TIMELY APPEAL WITH THE BOARD**

The Board will acknowledge receipt of an appeal, and it will provide the name of the DEP project manager assigned to the specific appeal. The notice of appeal, any materials admitted by the Board as supplementary evidence, any materials admitted in response to the appeal, relevant excerpts from the DEP's administrative record for the application, and the DEP staff's recommendation, in the form of a proposed Board Order, will be provided to Board members. The appellant, the licensee, and parties of record are notified in advance of the date set for the Board's consideration of an appeal or request for a hearing. The appellant and the licensee will have an opportunity to address the Board at the Board meeting. The Board will decide whether to hold a hearing on appeal when one is requested before deciding the merits of the appeal. The Board's decision on appeal may be to affirm all or part, affirm with conditions, order a hearing to be held as expeditiously as possible, reverse all or part of the decision of the Commissioner, or remand the matter to the Commissioner for further proceedings. The Board will notify the appellant, the licensee, and parties of record of its decision on appeal.

## **II. JUDICIAL APPEALS**

Maine law generally allows aggrieved persons to appeal final Commissioner or Board licensing decisions to Maine's Superior Court (see [38 M.R.S. § 346\(1\)](#); 06-096 C.M.R. ch. 2; [5 M.R.S. § 11001](#); and M.R. Civ. P. 80C). A party's appeal must be filed with the Superior Court within 30 days of receipt of notice of the Board's or the Commissioner's decision. For any other person, an appeal must be filed within 40 days of the date the decision was rendered. An appeal to court of a license decision regarding an expedited wind energy development, a general permit for an offshore wind energy demonstration project, or a general permit for a tidal energy demonstration project may only be taken directly to the Maine Supreme Judicial Court. See 38 M.R.S. § 346(4).

Maine's Administrative Procedure Act, DEP statutes governing a particular matter, and the Maine Rules of Civil Procedure must be consulted for the substantive and procedural details applicable to judicial appeals.

### **ADDITIONAL INFORMATION**

If you have questions or need additional information on the appeal process, for administrative appeals contact the Board Clerk at 207-287-2811 or the Board Executive Analyst at 207-314-1458 [bill.hinkel@maine.gov](mailto:bill.hinkel@maine.gov), or for judicial appeals contact the court clerk's office in which the appeal will be filed.

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**Note: This information sheet, in conjunction with a review of the statutory and regulatory provisions referred to herein, is provided to help a person to understand their rights and obligations in filing an administrative or judicial appeal. The DEP provides this information sheet for general guidance only; it is not intended for use as a legal reference. Maine law governs an appellant's rights.**

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## APPENDIX D – Stormwater Awareness Affidavit



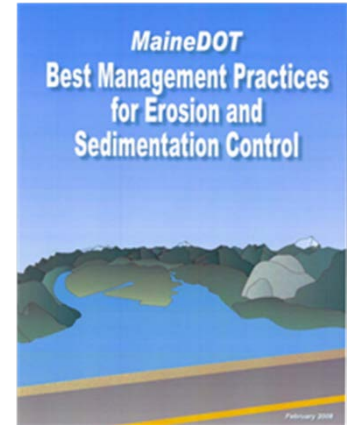


# MTA Contractor Stormwater Awareness Affidavit

Contract Name:		Contract #:	
Contractor Name:			

## PROJECT INFORMATION

MS4 Urbanized Area:	<input type="checkbox"/> Yes _____ Community Name(s)
	<input type="checkbox"/> No
Urban Impaired Stream (UIS) Watershed:	<input type="checkbox"/> Yes _____ UIS Name(s)
	<input type="checkbox"/> No



Stormwater runoff is among the most significant pollution sources impacting Maine waters, and is regulated on MTA construction sites under state and federal regulations. For these reasons, it is essential that MTA's stormwater infrastructure is constructed, operated, and maintained to reduce and minimize stormwater pollution. Contractors are required to implement appropriate stormwater best management practices (BMPs) to further minimize stormwater pollutants associated with their work for the MTA. Maine relies on clean water for drinking, fishing, swimming, and many other important uses. Polluted stormwater runoff impacts everyone in Maine, and must be controlled by the Contractor at MTA construction sites as a matter of compliance with MTA's permits and state and federal regulations.

Contractors must comply with stormwater specifications and pollution prevention measures as required by project-specific permits, and as detailed in **MTA's Supplemental Specification – Section 656 – Temporary Soil Erosion and Water Pollution Control**, as generally summarized below:

Designate and document an On-Site Responsible Party (OSRP) responsible for erosion and sediment control at the site that is certified by DEP's NPS Training Program to be knowledgeable of stormwater pollution prevention measures, specifically erosion prevention, sedimentation control and other potential impacts to water quality in Maine.

Install, inspect, and maintain all temporary erosion and sedimentation control materials in accordance with the manufacturer's recommendations. Refer to the Maine Erosion and Sediment Control Practices Field Guide for Contractors for detailed information on installing and maintaining erosion and sediment control measures.

Implement and maintain stormwater best management practices (BMPs) to minimize the mobilization and discharge of pollutants in stormwater to waterbodies by controlling construction site runoff. Implementing appropriate BMPs, as described in MaineDOT's BMPs Manual, to all MTA related construction activities will help to minimize stormwater pollutants introduced to Maine's waterbodies.

Develop and provide to the Resident Engineer a Spill Prevention Control and Countermeasure (SPCC) Plan for any areas where petroleum products, oils or non-petroleum hazardous materials are handled or stored.

Control spills and properly cleanup, report, containerize, and dispose of petroleum and/or other hazardous material waste that results from the actions and/or equipment of the Contractor or his employees, subcontractors, and suppliers.

## SIGNATURE

By signing below, you acknowledge that you have read, understand, and will disseminate this information to individuals working on this project.

_____ Name	_____ Title
_____ Signature	_____ Date

## APPENDIX E – IDDE Plan

# MAINE TURNPIKE AUTHORITY

**GENERAL PERMIT FOR THE DISCHARGE OF  
STORMWATER FROM MAINE DEPARTMENT OF  
TRANSPORTATION AND MTA MUNICIPAL SEPARATE  
STORM SEWER SYSTEMS**

## **ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDDE) PLAN**

prepared for



*Prepared by*

**GZA GeoEnvironmental, Inc.**

707 Sable Oaks Drive  
Suite 150  
South Portland, Maine 04106



**Prepared: August 2021**

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# MTA - Illicit Discharge Detection and Elimination (IDDE) Plan

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# MTA - Illicit Discharge Detection and Elimination (IDDE) Plan

## 1. INTRODUCTION

The Maine Turnpike Authority (MTA) implements and maintains a Stormwater Management Plan (SWMP) to comply with the State of Maine Department of Environmental Protection (Maine DEP) Bureau of Water Quality's *General Permit for the Discharge of Stormwater from Maine Department of Transportation and Maine Turnpike Authority Municipal Separate Storm Sewer Systems* (TS4 GP) issued on August 18, 2021. This document has been prepared to meet the written illicit discharge detection and elimination (IDDE) Plan requirement under Minimum Control Measure 3 (MCM 3) of the TS4 GP.

The goal of MCM 3 is to detect and eliminate illicit discharges, and the written IDDE Plan is intended to serve as a protocol to help identify any discharge that is not uncontaminated groundwater, water from a natural resource, or an allowable non-stormwater discharge. **Table 1** identifies the MCM 3 written IDDE Plan requirements identified in Part IV(C)(3)(a) of the TS4 GP.

**Table 1: MCM 3 Written IDDE Plan Requirements**

Requirement	Description
i.	A reference or citation of the authority the permittee will use to implement all aspects of the IDDE program
ii.	Clearly identify in the written IDDE Plan the responsibilities with regard to eliminating illicit discharges. The written IDDE Plan must identify the lead office, bureau or department responsible for implementing the IDDE Program as well as any other office, bureau or department that may have responsibilities for aspects of the program. Where multiple offices, bureaus or departments have responsibilities with respect to the IDDE program, specific areas of responsibility must be defined and processes for coordination and data must be established and documented.
iii.	Written procedures for dry weather outfall inspections and wet weather assessments must be consistent with Part IVC(3)(c) and Part IVC(3)(d) respectively, of the TS4 GP.
iv.	Steps that must be taken when a potential illicit discharge is identified (whether during dry weather inspections, during routine work, during opportunistic inspection of other infrastructure or through other methods), including but not limited to: performing an initial investigation to identify the source(s) and nature of discharge; reporting; clean up; corrective actions/elimination; and enforcement.
v.	Steps that must be taken, upon verification of the source of the illicit discharge, to notify all responsible parties for any such discharge and require immediate cessation of improper disposal practices in accordance with the permittee's legal authorities. Where elimination of an illicit discharge within 60 calendar days of its identification and verification as an illicit discharge is not possible, the permittee must establish an expeditious schedule for its elimination and report the dates of identification and schedules for removal in the permittee's annual reports. The permittee must immediately commence and continue actions identified in the schedule as necessary for elimination. The permittee must diligently pursue actions identified in the schedule to be consistent with the intent of the TS4 GP. In the interim, the permittee must take all reasonable and prudent measures to minimize the discharge of pollutants to and from the MS4, including follow-up screening and inspection to confirm permanent elimination of the discharge.
vi.	A Quality Assurance Project Plan (QAPP) describing the procedures to be used during the investigation and monitoring of those outfalls identified as flowing during outfall inspections.

## 2. IDDE PROGRAM

The following sub-sections describe MTA's IDDE Program.

### 2.1 AUTHORITY

The MTA, as created by Private and Special Law 1941, chapter 69 and as authorized by Title 5, section 12004-F, subsection 4, is the owner and operator for its stormwater infrastructure within its right-of-way and owned property. MRS Title 23, §1965 authorizes MTA to construct, maintain, reconstruct, and operate a toll turnpike from a point at or near Kittery in York County to a point at or near Augusta in Kennebec County.

MTA has developed a process to implement all aspects of the IDDE program as part of MTA operations. **Section 2.5** describes the process followed by MTA staff which includes contacting the landowner, municipality, and/or Maine DEP to enforce elimination of illicit discharges. If MTA is unable to resolve a suspected illicit discharge with a landowner, MTA would refer the matter to Maine DEP for subsequent investigation and/or enforcement in accordance with Maine DEP's statutory authority under the Maine Pollutant Discharge Elimination System (MEPDES).

## 2.2 RESPONSIBILITIES

The MTA Permitting Coordinator / Environmental Liaison is the primary person responsible for MTA's IDDE Program. MTA highway maintenance staff, resident engineers, and construction inspectors have been trained in stormwater awareness and water pollution prevention to report potential illicit discharges to the MTA Permitting Coordinator / Environmental Liaison. Potential illicit discharges are documented on the Suspected Illicit Discharge Form (see **Appendix A**).

## 2.3 PROCEDURES

The MTA uses the following methods to identify potential illicit discharges:

1. Observations during routine maintenance;
2. Dry weather outfall inspections; and
3. Wet weather assessment.

In accordance with Part IV(C)(3)(b) of the TS4 GP, MTA has developed and maintains a stormwater GIS database and series of watershed-based IDDE maps of MTA's territory within the UA showing the following:

- Location of all stormwater catch basins and their outlets;
- Connection and direction of surface and subsurface in-flow and out-flow; and
- The locations of all discharges from all stormwater outfalls operated by MTA.

These maps and the stormwater database are maintained at MTA headquarters and are available to each Highway Maintenance Facility responsible for the stormwater infrastructure. MTA typically updates these maps annually to reflect modifications in infrastructure (e.g., infrastructure removal/installation, more accurate mapping data, etc.). Maps and tracking forms are provided to each maintenance facility every spring to facilitate catch basin cleaning and dry weather inspections.

### 2.3.1 Observations During Routine Maintenance

MTA highway maintenance staff, resident engineers, and construction inspectors have been trained in stormwater awareness and water pollution prevention. During annual stormwater training, MTA staff are taught to look for oil sheen, litter, sewage, or other evidence of illicit discharges while performing routine maintenance activities such as catch basin cleaning, slope and ditch repairs, litter picking, roadside mowing, and street sweeping.

If a potential illicit discharge is observed during routine maintenance activities, it is reported to the MTA Permitting Coordinator / Environmental Liaison and documented on the Suspected Illicit Discharge Form (see **Appendix A**). **Section 2.4** details the steps that must be taken when a potential illicit discharge is identified.

### 2.3.2 Dry Weather Outfall Inspections

In accordance with Part IV(C)(3)(c) of the TS4 GP, MTA has developed and implemented an annual prioritized dry weather outfall inspection plan. MTA's stormwater GIS database and watershed-based IDDE maps are utilized to prioritize outfalls that will be inspected during periods of dry weather (defined in the TS4

GP as no measurable precipitation greater than ¼ of an inch, or snow melt within 72 hours prior to the outfall inspection). Outfalls from MTA stormwater catchments containing: cross-connections with nested MS4 systems, concentrated stormwater inflows (i.e., culvert outlets or drainage ditches) from non-MTA ROW areas, or sanitary sewer lines or septic systems within the MTA ROW are given priority, except when the area around the outfall is under construction, in which case the outfall is inspected either following construction or as part of the final walkthrough at the close of the construction project.

Each catch basin, outlet, and outfall is uniquely identified to facilitate control of potential illicit discharges, and to ensure proper operation and maintenance of the structures. For each outfall, the following information is kept in MTA's stormwater GIS database:

- Type, material, and size of conveyance; and
- Name and location of the immediate surface waterbody or wetland to which the outfall eventually discharges.

In accordance with Part IV(C)(3)(c)(ii), MTA will conduct visual dry weather inspections on 100% of its identified outfalls during the 5-year term of the TS4 GP, except that outfalls meeting the condition in Part IV(C)(3)(c)(vi)(1) which are associated with roadway drainage in undeveloped areas with no dwellings and no sanitary sewers are exempt from visual dry weather inspection. Outfalls that meet this exemption will be identified in MTA's stormwater GIS database and reviewed during annual IDDE map updates.

Dry weather inspections will be documented on the Dry Weather Outfall Inspection Form. If an outfall is inaccessible due to safety concerns, MTA will conduct a substitute inspection at the closest accessible inspection location (e.g., catch basin, manhole, pipe, etc.) that drains to the inaccessible outfall. The inspection of a substitute location will be noted on the Dry Weather Outfall Inspection Form.

If an outfall is observed to be flowing during dry weather and is not exempt from dry weather investigation in Part IV(C)(3)(c)(vi) of the TS4 GP, MTA will sample the discharge to evaluate whether it is an illicit discharge. If a potential illicit discharge is observed during dry weather inspections, it is reported to the MTA Permitting Coordinator / Environmental Liaison and documented on the Suspected Illicit Discharge Form (see **Appendix A**). **Section 2.4** details the steps that must be taken when a potential illicit discharge is identified.

**Section 2.6** describes the procedures that MTA will use to sample discharges from outfalls flowing during dry weather. MTA may rely on screening conducted under previous permits to the extent it meets the requirements in Part IV(C)(3)(c)(iv) of the TS4 GP and no new construction or redevelopment has occurred in the outfall drainage area since the screening.

### 2.3.3 Wet Weather Assessment

In accordance with Part IV(C)(3)(d) of the TS4 GP and prior to June 30, 2027, MTA will perform a wet weather assessment for the potential for illicit discharges during wet weather events. This assessment will consist of a desktop study utilizing available GIS data, including aerial imagery, and field observations, as applicable. The outcome of this desktop study will be a list of outfalls identified for wet weather monitoring and testing, if applicable, by MTA in the next permit cycle. Following the wet weather assessment, this IDDE Plan will be updated to include a brief description of the data and process used to perform the assessment, the list of outfalls identified for wet weather monitoring, the rationale for including these outfalls, and the timing and frequency of wet weather monitoring to be completed during the next permit cycle.

## 2.4 POTENTIAL ILLICIT DISCHARGE IDENTIFICATION AND INVESTIGATION

MTA's Permitting Coordinator / Environmental Liaison is the primary person responsible for investigating potential illicit discharges. The following techniques should be utilized to locate the source of the potential illicit discharge. **Section 2.5** details the steps that must be taken to verify and eliminate an illicit discharge once the source has been identified.

#### 2.4.1 Field Reconnaissance

Visual observations at the location of the potential illicit discharge are essential for identifying the source of the discharge. MTA will attempt to trace the source of an observed discharge upstream to the point of origin or the point where the discharge is no longer present to narrow down where the discharge enters MTA's stormwater system. If the discharge's point of origin can be traced back to the source, then MTA will document the source and refer to **Section 2.5** for information on eliminating the discharge. If the source of the discharge cannot be determined in the field, MTA will narrow down the area where the discharge enters MTA's stormwater system and continue the investigation by conducting a document review and/or sampling the discharge as described in **Section 2.6**.

#### 2.4.2 Document Review

Review of MTA's stormwater GIS database and watershed-based IDDE maps can be helpful when investigating a potential illicit discharge. In some cases, review of additional documents, such as construction and as-built plans, may be required. If the document review produces information beyond what was observed during field reconnaissance, then additional field reconnaissance may be necessary, and the stormwater GIS database may need to be updated to reflect the information found.

#### 2.4.3 Additional Investigation

If warranted, MTA may perform additional investigation to attempt to identify the source of a potential illicit discharge. This may include, but is not limited to, visual/video inspections of the storm sewer systems, smoke/dye testing of the storm sewer systems, and/or other methods based on the EPA New England bacterial source tracking protocol or other acceptable protocol. Additional investigation efforts should be employed until the source of the discharge is identified. If additional investigative efforts fail to identify the source of the potential illicit discharge this should be documented in the annual TS4 GP compliance report following the investigation.

### 2.5 VERIFICATION AND ELIMINATION OF ILLICIT DISCHARGE

Once the source of the discharge has been identified, it must be verified to be an illicit discharge or an allowable non-stormwater discharge.

#### 2.5.1 Allowable Non-Stormwater Discharge

In accordance with Part IV(C)(3)(e) of the TS4 GP, the following non-stormwater discharges are allowed as long as the MTA does not identify any of these sources to be a significant contributor of pollutants:

- landscape irrigation
- diverted stream flows
- rising ground waters
- uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20))
- uncontaminated pumped ground water
- uncontaminated flows from foundation drains
- air conditioning and compressor condensate
- irrigation water
- flows from uncontaminated springs
- uncontaminated water from crawl space pumps
- uncontaminated flows from footing drains



- lawn watering runoff
- flows from riparian habitats and wetlands
- residual street wash water (where spills/leaks of toxic or hazardous materials have not occurred, unless all spilled material has been removed and detergents are not used)
- hydrant flushing and firefighting activity runoff
- water line flushing and discharges from potable water sources
- individual residential car washing
- dechlorinated swimming pool discharges

If the discharge is determined to be an allowable non-stormwater discharge, such as uncontaminated groundwater, then this should be documented in MTA's SWMP and the annual TS4 GP compliance report following the determination.

### 2.5.2 Illicit Discharge

If the discharge is not an allowable non-stormwater discharge, then it is an illicit discharge and must be eliminated as expeditiously as possible.

Once the source has been identified and the discharge is determined to be illicit, the responsible party must be contacted as soon as practicable to make them aware of the situation. If the illicit discharge is caused by a private landowner, MTA's Permitting Coordinator / Environmental Liaison will attempt to contact the landowner in person or by telephone, if possible. Additionally, the local MS4 Coordinator and the Maine DEP will be contacted by telephone or email to notify them of the illicit discharge. MTA will work with the landowner, MS4 Coordinator, and/or Maine DEP to resolve the situation as soon as possible and eliminate the illicit discharge.

## 2.6 QUALITY ASSURANCE PROJECT PLAN (QAPP)

The objective of sampling is to collect data that can be used to determine if a discharge is illicit or an allowable non-stormwater discharge. The purpose of the Quality Assurance Project Plan (QAPP) is to provide sampling personnel information that will assist them in collecting samples and analyzing the samples using field equipment/test kit(s) and/or laboratories in a manner that ensures sufficient accuracy and precision for the purpose of compliance with the TS4 GP.

The following parameters will be sampled when flow is observed during dry weather or a potential illicit discharge is being investigated:

- E. coli, enterococci, total fecal coliform or human bacteroides;
- Ammonia, total residual chlorine, temperature, and conductivity; and
- Optical enhancers or surfactants.

**Appendix C** contains MTA's Stormwater Monitoring QAPP that has been developed to comply with the TS4 GP.

MTA will use the thresholds listed in Table 3 of the Stormwater Monitoring QAPP (**Appendix C**) and the following general guidance to make determinations whether an outfall requires additional investigation for illicit discharges:

Outfalls that have some visual evidence of an illicit discharge and exceed at least one of the thresholds in Table 3 of the Stormwater Monitoring QAPP will be investigated further using techniques described in **Section 2.4**.

Outfalls that do not have any visual evidence of an illicit discharge but exceed more than one of the thresholds in Table 3 of the Stormwater Monitoring QAPP will be investigated further using techniques described in **Section 2.4**.

## 2.7 PROGRAM EVALUATION AND ASSESSMENT

This IDDE Plan will be reviewed periodically and amended whenever there are changes to MTA's IDDE procedures or it is determined that the procedures should be amended to improve the detection and elimination of illicit discharges.

## 3. REFERENCES

CWP and Robert Pitt 2004. Illicit Discharge Detection and Elimination Manual – A Guidance Manual for Plan Development and Technical Assessments. October 2004  
[https://www3.epa.gov/npdes/pubs/idde\\_manualwithappendices.pdf](https://www3.epa.gov/npdes/pubs/idde_manualwithappendices.pdf)

USEPA New England Bacterial Source Tracking Protocol 2012.  
<https://www3.epa.gov/region1/npdes/stormwater/ma/2014AppendixL.pdf>

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## APPENDIX A – SUSPECTED ILLICIT DISCHARGE FORM

**MAINE TURNPIKE AUTHORITY**  
**Suspected Illicit Discharge Form**

<b>Complete this form when a suspected illicit discharge is observed during routine maintenance activities</b> Submit to Foreman at the end of the day and send to MTA's Permitting Coordinator / Environmental Liaison as soon as possible				
<b>Date:</b> _____		<b>MM:</b> _____		<input type="checkbox"/> Shoulder <input type="checkbox"/> Median
		<input type="checkbox"/> NB <input type="checkbox"/> SB		<b>CB/OF/DP:</b> _____
<b>ODOR</b> <input type="checkbox"/> None <input type="checkbox"/> Petroleum <input type="checkbox"/> Rancid/Sour <input type="checkbox"/> Sewage/Septic <input type="checkbox"/> Sulfide <input type="checkbox"/> Organic <input type="checkbox"/> Other	<b>COLOR</b> <input type="checkbox"/> None <input type="checkbox"/> Brown <input type="checkbox"/> Green <input type="checkbox"/> Grey <input type="checkbox"/> Orange <input type="checkbox"/> Black <input type="checkbox"/> Other	<b>FLOATABLES</b> <input type="checkbox"/> None <input type="checkbox"/> Excessive Algae <input type="checkbox"/> Sewage <input type="checkbox"/> Foam <input type="checkbox"/> Garbage <input type="checkbox"/> Sheen <input type="checkbox"/> Other	<b>DEPOSITS/ STAINING</b> <input type="checkbox"/> None <input type="checkbox"/> Petroleum <input type="checkbox"/> Along Flow Line <input type="checkbox"/> Leaves <input type="checkbox"/> Iron <input type="checkbox"/> Sediment <input type="checkbox"/> Other	<b>Type Of Flow</b> <input type="checkbox"/> None (Dry) <input type="checkbox"/> Trickle <input type="checkbox"/> Flowing Water or stream <input type="checkbox"/> Stagnant Pool  <b>Viscosity</b> <input type="checkbox"/> None <input type="checkbox"/> Low - Like Water <input type="checkbox"/> High - Like Oil
<b>Notes:</b> _____ _____ _____				

An illicit discharge is defined as “any non-permitted discharge to a regulated MS4 or the waters of the State that does not consist entirely of stormwater or authorized non-stormwater discharges (see definition below).

An authorized non-stormwater discharge includes the one or more of following:

- Landscape irrigation
- Lawn watering runoff
- Diverted stream flows
- Rising ground waters
- Uncontaminated groundwater infiltration and/or pumped groundwater
- Uncontaminated flows from foundation drains, footing drains and/or crawl space pumps
- Air conditioning and air compressor condensate
- Irrigation water
- Flows from uncontaminated springs
- Flows from riparian habitats and wetlands
- Residual street wash water (where spills/leaks of toxic or hazardous materials have not occurred, unless all spill material has been removed and detergents are not used)
- Hydrant flushing and fire fighting activity runoff
- Water line flushing and discharges of potable water sources

## APPENDIX B – DRY WEATHER OUTFALL INSPECTION FORM

**MAINE TURNPIKE AUTHORITY**  
**Dry Weather Outfall Inspection Form**

OUTFALL ID	OUTFALL LOCATION with nearest Mile Marker <small>(Example: 41.77 NB/Med. Shoulder)</small>	TOWN	WATERSHED	MAP SHEET NUMBER	DATE OF INSPECTION	SUSPECTED ILLICIT DISCHARGE <sup>1</sup>	PHOTO TAKEN Yes/No	ANY COMMENTS OR REQUIRED MAINTENANCE <small>include any damage observed and/or follow-up maintenance needed</small>

<sup>1</sup> If an illicit discharge is suspected, complete the Suspected Illicit Discharge Form and notify MTA's Permitting Coordinator / Environmental Liaison

**APPENDIX C – STORMWATER MONITORING QUALITY  
ASSURANCE PROJECT PLAN**

# **MAINE TURNPIKE AUTHORITY**

**GENERAL PERMIT FOR THE DISCHARGE OF  
STORMWATER FROM MAINE DEPARTMENT OF  
TRANSPORTATION AND MTA MUNICIPAL SEPARATE  
STORM SEWER SYSTEMS**

## **STORMWATER MONITORING QUALITY ASSURANCE PROJECT PLAN (QAPP)**

prepared for



*Prepared by*

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**Prepared: August 2021**



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# **MTA - Stormwater Monitoring Quality Assurance Project Plan (QAPP)**

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# MTA - Stormwater Monitoring Quality Assurance Project Plan (QAPP)

## 1. INTRODUCTION

The Maine Turnpike Authority (MTA) implements and maintains a Stormwater Management Plan (SWMP) to comply with the State of Maine Department of Environmental Protection (Maine DEP) Bureau of Water Quality's *General Permit for the Discharge of Stormwater from Maine Department of Transportation and Maine Turnpike Authority Municipal Separate Storm Sewer Systems* (TS4 GP) issued on August 18, 2021. This document is an appendix to MTA's Illicit Discharge Detection and Elimination (IDDE) Plan and has been prepared to meet one of the requirements under Minimum Control Measure 3 (MCM 3) of the TS4 GP.

The objective of stormwater monitoring is to collect data that can be used to determine if a discharge is illicit or an allowable non-stormwater discharge. The purpose of the Quality Assurance Project Plan (QAPP) is to provide sampling personnel information that will assist them in collecting and analyzing the samples using field equipment/test kit(s) and/or laboratories in a manner that ensures sufficient accuracy and precision for the purpose of compliance with the TS4 GP.

## 2. SAMPLING PREPARATION

The following parameters will be sampled when flow is observed during dry weather or a potential illicit discharge is being investigated:

- E. coli, enterococci, total fecal coliform or human bacteroides;
- Ammonia, total residual chlorine, temperature, and conductivity; and
- Optical enhancers or surfactants.

If an outfall is observed to be flowing during dry weather and is not exempt from dry weather investigation in Part IV(C)(3)(c)(vi) of the TS4 GP, MTA will sample the discharge. Additionally, if a potential illicit discharge is observed during routine maintenance activities, it may be sampled to help determine its origin.

Personnel should be prepared to collect samples during any outfall inspection, because dry weather flow is sometimes intermittent, and if personnel need to return to the site later in the same day, or several days later, the flow may no longer be present. **Table 1** contains a list of equipment that should be prepared and available in order to conduct dry weather monitoring.

When using a third-party laboratory for any off-site analysis, sample bottles should be obtained before the sampling event. Coordination with the laboratory is also recommended to ensure that sample hold times and preservation requirements are being met. If samples are being collected on a Friday, some laboratories need prior notice to meet short hold times. Analytical methods, hold times, and other pertinent information is described in **Section 4** (Sampling Analyses and Reporting Limits) of this QAPP.

**Table 1** provides a list of equipment that should be gathered and available for use in the event stormwater monitoring will be conducted.

**Table 1 – Field Equipment for Stormwater Monitoring**

Safety Vest (Class 3)
Equipment to remove and access catch basin covers if needed (pull, hammer, crowbar)
Sampling pole and or sampling pump and tubing
Clean plastic beakers or bottles for water sample collection
Nitrile gloves
Plastic bags (1 gallon size)
Distilled water for rinsing
Paper or clean reusable towels
Cooler with ice
Sample bottles and labels for any laboratory samples or off-site analysis
Field equipment/test kits (see Table 2)
Field Data Sheets (See Attachment 1)
Chain of Custody (See Attachment 3)
Permanent marker and water-proof pens
Camera or phone
Paper or small white board with pen to mark outfall ID, date, and time in photo

### 3. SAMPLING PROCEDURES

Samples will be collected from a flowing source only and where the pipe outlet has at least one or two inches of free-flowing drop before any standing water or pool below it. Stagnant water should not be sampled.



This outfall, though in poor condition because it is cantilevered, provides a good opportunity for a clean catch of its discharge.



This outfall is partially submerged and a clean catch of its discharge is not possible. If tidal influences are strong, wait until low tide to sample. Additional options include: sampling upstream structures or using sand bags around the outfall to prevent contamination from backflow.

For each outfall sampled, a Field Data Sheet (See **Attachment 1**) will be used to document the date, time, and location of sample(s) collected, weather conditions, general observations related to the samples or tests being performed, and results of any parameters analyzed using field equipment or test kits. Note that the Field Data Sheet contains spaces to document sample observations including odor, color, turbidity, presence of algae, etc. These observations can be documented on this form or the dry weather inspection form when performing a dry weather inspection.

Sample bottles that will be sent for laboratory analysis will be labelled with the date, time, sample location, and the name of the sampler.

After sampling events, any reusable sample collection containers will be cleaned with an appropriate decontamination solution (such as Alconox and water). Decontamination cleaning will be completed in a location where wash water can be discharged to a licensed wastewater treatment plant, sanitary sewer, or septic system.

#### 4. SAMPLING ANALYSES AND REPORTING LIMITS

The TS4 GP does not require samples to be analyzed using Clean Water Act (CWA) Methods published in 40 Code of Federal Regulations Part 136. The use of field equipment/ test kit(s) and laboratories are both allowed. The TS4 GP does not require samples to be analyzed by a laboratory that is certified by the Maine DEP. However, this QAPP specifies that when a commercial laboratory is used for a CWA method, it will be certified by the Maine DEP<sup>1</sup> for the CWA method specified. Use of a certified laboratory is specified in this QAPP because the data generated by a certified lab is anticipated to be useable for both investigative and regulatory purposes. This QAPP does not specify CWA methods or Maine DEP certification for use of field equipment/test kit(s).

**Table 2** provides summary information for the sampling parameters, analysis methods, and sample preservation and holding times that may be used during dry weather outfall monitoring. Analysis methods specified in **Table 2** include CWA methods, field equipment, and test kits, where applicable. **Table 2** also provides information on when a given CWA method, field equipment, or test kit might be preferable if there are multiple options for a given parameter.

Prior to sampling, MTA's Permitting Coordinator / Environmental Liaison will determine which analysis method (CWA method, field equipment, or test kit) will be used.

User manual(s) and safety data sheets (SDS) for field equipment and/or test kit(s) that will be utilized for dry weather monitoring are included as **Attachment 3** to this QAPP.

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<sup>1</sup> A list of commercial certified laboratories is available on the Maine DEP website at: <https://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml>.

## MTA - Stormwater Monitoring Quality Assurance Project Plan (QAPP)

**Table 2 – Sampling Parameters, Analysis Methods, and Sample Preservation and Holding Times**

<b>Parameter for all Potential Illicit Discharges</b>	<b>CWA Method, Field Equipment, or Test Kit</b>	<b>Preservation</b>	<b>Holding time</b>	<b>Bottle needed</b>	<b>Notes on Use</b>
Temperature	Temperature/ Conductivity probe	None	Immediate (w/in 15 minutes) in Field	Field jar or beaker	Use to distinguish between groundwater and surface water.
Conductivity	Temperature/ Conductivity probe	None	Immediate (w/in 15 minutes) in Field	Field jar or beaker	Use to distinguish between salt water and fresh water.
<b>Parameter for Potential Bacteria Illicit Discharges</b>	<b>CWA Method, Field Equipment, or Test Kit</b>	<b>Preservation</b>	<b>Holding time</b>	<b>Bottle needed</b>	<b>Notes on Use</b>
Bacteria - E. coli	SM 9223 B (IDEXX Colilert Quanti-Tray) EPA 1603 (membrane filtration, MF) Or SM 9221 B (Most probable number, MPN)	Ice	To lab within 6 hours Analyze within 2 hours of receipt	120 ml or 250 ml plastic sterile bottle with lid from lab	Use for discharges to freshwater (with ammonia and either optical enhancers or surfactants)
Bacteria - enterococcus	SM 9230 B, C or D, (MPN including IDEXX Enterolert, or MF) EPA 1600 (MF)	Ice	To lab within 6 hours Analyze within 2 hours of receipt	120 ml or 250 ml plastic sterile bottle with lid from lab	Use for discharges to salt water (with ammonia and either optical enhancers or surfactants)
Bacteria – Fecal Coliform	SM 9222 D (MF CFU/100ml) Or SM 9221 C, E (Multitube MPN/100ml)	Ice	To lab within 6 hours Analyze within 2 hours of receipt	120 ml or 250 ml plastic sterile bottle with lid from lab	Use for discharges to salt or freshwater (with ammonia and either optical enhancers or surfactants)
Bacteria – Human Bacteroides	Labs: EMSL (NJ), Microbial Insights (TN) or Source Molecular (FL) Or Dr. Steve Jones, UNH	Ice	To lab within 24 hours Analyze within 48 hours	1000 ml plastic bottle with sodium thiosulfate from lab (with insulated shipping box)	Use for discharges to salt or freshwater (with ammonia and either optical enhancers or surfactants). Not a CWA method, so Maine Laboratory certification not required.

Parameter for Potential Bacteria Illicit Discharges (continued)	CWA Method, Field Equipment, or Test Kit	Preservation	Holding time	Bottle needed	Notes on Use
Surfactants	SM5540C	Ice	To lab within 24 hours Analyze within 48 hours	500 ml plastic bottle from lab	Works on most soaps (laundry detergent, personal care products, dish soap)
Optical brighteners	VWR handheld UV lamp: UV-A: 360-365 nm, model number 89131-488	None	Analyze within 7 days	Unbleached cotton pad wetted with sample placed in sealed baggie	Works only on water with high to moderate laundry detergent. Provides only presence/absence.
Optical brighteners	Maine Healthy Beaches Fluorometer (\$15,000 unit)	None	Keep in a dark container, provide to MHB in 1-2 days, analyze within 7 days	Whirl bag or 100 ml plastic bottle.	Provides semi-quantitative numeric fluorescence of sample. Need to provide sample to MHB in bottle or whirl bag (in a box or cooler). One week hold time. Provide advanced notice to coordinate delivery to office. Organic matter or tannins, or color will interfere.
Ammonia	Hach Ammonia Test Strips	None	Immediate (w/in 15 minutes) in field	Field jar or beaker	
Ammonia	Laboratory Method EPA 350.1/350.2	H <sub>2</sub> SO <sub>4</sub> (pH <2) + Ice	28 days	250 ml plastic bottle from lab	
Parameter for Potential Chlorine based Illicit Discharges	CWA Method, Field Equipment, or Test Kit	Preservation	Holding time	Bottle needed	Notes on Use
Chlorine	Field kit – Hach Colorimeter II low range	None	Immediate (w/in 15 minutes) in Field	Field jar or beaker	Instructional video available at: <a href="https://www.youtube.com/watch?v=WTTUD0Hq1Vw">https://www.youtube.com/watch?v=WTTUD0Hq1Vw</a>
Chlorine	Industrial test Systems Ultra-Low Total Chlorine Test Strips	None	Immediate (w/in 15 minutes) in Field	Field jar or beaker	As of 6/2020, USEPA had not used this set of test strips, but the strips can detect to an appropriate lower limit for chlorine.

Parameter for Potential Detergent based Illicit Discharges	CWA Method, Field Equipment, or Test Kit	Preservation	Holding time	Bottle needed	Notes on Use
See Surfactants					
Other Optional Parameters	CWA Method, Field Equipment, or Test Kit	Preservation	Holding time	Bottle needed	Notes on Use
Dissolved Oxygen	Hach DO Test kit Model OX-2P	None	Immediate (w/in 15 minutes) in Field	Field jar or beaker	Waters of the state have Dissolved Oxygen standards. This test can show whether outfall contributions are affecting Dissolved Oxygen content of receiving waters.
Total Phosphorus	EPA 365.3	Sulfuric Acid (pH <2) + Ice (4°C)	28 days	250 ml glass bottle from lab.	Provides data regarding nutrient contributions to receiving waters which can originate from paved surfaces, fertilizers and eroding soils.
Personal Care Products	EPA 1694	Sulfuric Acid (pH <2) + Ice (4°C)	7 day to extraction 40 days after extraction	1000 ml amber jar	EPA Lab Chelmsford can run if capacity. Contact Todd Borci. Otherwise need to use a commercial laboratory.  EPA recommends analyzing only for following subset: Caffeine, 1,7-DMX (metabolite of caffeine), Acetaminophen, Carbamazepine (anti-depressant), Primidone (anti-epilepsy drug), Atenolol (high Blood pressure med), Cotinine (metabolite of nicotine), urobilin (by product of hemoglobin breakdowns), Azithromycin (antibiotic)
Total Suspended Solids	EPA 160.2 or SM2549D	Ice	7 days	1000 ml plastic bottle from lab	
Biochemical Oxygen Demand	EPA 405.1 or SM5210B	Ice	To lab within 24 hours, analyze within 48 hours		Provides general water quality information.

Other Optional Parameters (continued)	CWA Method, Field Equipment, or Test Kit	Preservation	Holding time	Bottle needed	Notes on Use
Total Petroleum Hydrocarbons DRO and GRO	SW 8015C	Ice	7 Days to extraction 40 days after extraction	500 ml amber glass jar and  3 40 ml VOA containers from lab with sulfuric acid	DRO is Diesel Range Organics (C10 to C28) GRO is Gasoline Range Organics (C5 to C10)
Nitrate + Nitrite	SM 4500 or EPA 300	Sulfuric Acid (pH <2) + Ice (4°C)	28 days	125 ml plastic bottle from lab	Provides data regarding nutrient contributions to receiving waters which can originate from paved surfaces, fertilizers, eroding soils or wastewaters.
Total Kjeldahl Nitrogen	SM 4500 or EPA 300	Sulfuric Acid (pH <2) + Ice (4°C)	28 days	1000 ml amber glass bottle from lab	Provides data regarding nutrient contributions to receiving waters which can originate from paved surfaces, fertilizers, eroding soils or wastewaters.



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# MTA - Stormwater Monitoring Quality Assurance Project Plan (QAPP)

## 5. QUALITY CONTROL

The following are the reporting limits required by the TS4 GP:

Ammonia: 0.5 mg/L  
Surfactants: 0.25 mg/L  
Total Residual Chlorine: 0.05 mg/L  
E. coli bacteria: 4 cfu/100 ml  
Enterococcus: 10 cfu/100 ml

To ensure the data collected meets the required reporting limits, the MTA will use either a Maine Certified Laboratory or one of the field equipment/test kit methods listed in **Table 2** to assess dry weather flow.

Each of the test kits listed in **Table 2** has a use range that is appropriate for the work being conducted, and which meets the TS4 GP required reporting limits.

Test kit reagents that have expired will not be used. Test kit and temperature/conductivity probes that have useful life limits will be replaced when they have reached the end of their useful lives.

Maine Certified Laboratories have standard reporting limits for the parameters that conform to the TS4 GP required reporting limits.

For most instances, dedicated equipment and containers will be used to collect samples, so that equipment and rinsate blanks are not required to be collected and analyzed. However, if equipment or collection containers are being used multiple times in the field for different sample locations, they will be cleaned in between samples, wash water will be collected in the field and disposed of when returning to office or lab spaces, and equipment or rinsate blanks will be collected and assessed. The USEPA Volunteer Monitor's Guide to Quality Assurance Project Plans has additional information on how to complete these tasks (EPA Document 841-B-96-003).

## 6. FIELD DATA SHEETS AND CHAIN OF CUSTODY

As described in **Section 3** (Sampling Procedures), Field Data Sheets will be used to document sample collection. Field Data sheets will be used to document the type of field equipment or test kit(s) used and results of any in-situ analysis. A Field Data Sheet is provided as **Attachment 1** of this QAPP.

Whenever samples will be sent to a laboratory for analysis, a Chain of Custody will be used to document sample collection dates, times, analytical methods requested, and custody of the sample from the time it was collected, until the time it was analyzed. An example Chain of Custody is provided as **Attachment 2** of this QAPP.

## 7. DATA REPORTS

Field data collection sheets shall constitute data reports for analyses using field equipment or test kits.

Whenever samples are sent to a laboratory for analysis, data reports are provided by the laboratory and document the sample location, date and time of collection, results of the analysis, the reporting limit, the person who conducted the analysis, the analytical method used.

## 8. DATA REVIEW AND FOLLOW UP

Once all data has been received, it will be reviewed by MTA's Permitting Coordinator / Environmental Liaison. Data shall also be stored electronically or in paper format for at least 3 years following the expiration date of the TS4 GP, as required.

If the sampling is performed by MTA's Permitting Coordinator / Environmental Liaison, they may opt to have another staff person or an outside consultant review the data. Data should be reviewed within two weeks of receipt and additional investigations should be implemented to identify the source of any potential illicit discharge if any of the thresholds in **Table 3** are exceeded.

**Table 3 Thresholds for Additional Investigation**

Parameter	Threshold Level for Additional Investigation	Notes/Discussion
E. coli	236 cfu/100 ml – discharges into freshwater rivers or streams	The standard for all classifications of flowing fresh surface water in Maine (AA, A, B and C) requires that no more than 10% of the samples may exceed this concentration in any 90-day period. A freshwater river or stream is at risk of impairment if it is receiving significant discharges from human sources above this concentration.
E. coli	194 cfu/100 ml – discharges into freshwater ponds	The standard for Great Ponds and lakes less than 10 acres requires that no more than 10% of the samples may exceed this concentration in any 90-day period. A water of this type is at risk of impairment if it is receiving significant discharges from human sources above this concentration.
Enterococci	54 CFU/100 ml – discharges into saline/estuarine Class SA or SB	The standard for these waters requires no more than 10% of the samples may exceed this concentration in any 90-day period. A water is at risk of impairment if it is receiving significant discharges from human sources above this concentration. (Note Maine Healthy Beaches threshold is 104 MPN/100 ml)
Enterococci	94 CFU/100 ml – discharges into saline/estuarine Class SC	The standard for these waters requires that no more than 10% of the samples may exceed this concentration in any 90-day period. A water is at risk of impairment if it is receiving significant discharges from human sources above this concentration. (Note Maine Healthy Beaches threshold is 104 MPN/100 ml)
Fecal Coliform	61 cfu/100 ml (2 times 31 cfu/100 ml for MF) to 100 cfu/100ml	The low end of this threshold is two times the 90 <sup>th</sup> percentile standards that DMR applies for approved (open) shellfish harvesting areas and is very conservative (90% of the samples collected from the area must be above these concentrations for the harvesting area to remain open and completely unrestricted for shellfish harvesting. See Addendum 2 for additional info from DMR)

Parameter	Threshold Level for Additional Investigation	Notes/Discussion
Human Bacteroides	Any concentration may be indicative of human sewage, but MHB considers 4,200 col/100ml HB to be equivalent to the level of contamination that exceeds the EPA acceptable risk of gastrointestinal illness to swimmers. (Rothenburger and Jones, 2018 and Boehm, Soller and Shanks 2015)	Any concentration indicating the presence of human source sewage should be investigated.
Ammonia	$\geq 0.50$ mg/L	This is the effective reporting limit of the ammonia test strips and was taken from USEPA Draft 2012 Bacteria Source Tracking Protocol.
Chlorine	$\geq 0.05$ mg/L	Limit of test kit and was taken from USEPA Draft 2012 Bacteria Source Tracking Protocol.
Surfactants	$\geq 0.25$ mg/L	Taken from USEPA Draft 2012 Bacteria Source Tracking Protocol.
Optical Brighteners	$\geq 100$ ug/L )  ( $\geq 0.10$ mg/L)	This is used by Maine Healthy Beaches as an actionable threshold. If using a handheld fluorometer, conduct further investigation if presence of optical brighteners is detected

As described in the IDDE Plan, if the above thresholds are not exceeded, the MTA may make the determination that the flow is from uncontaminated groundwater, water from a natural resource, or an allowable non-stormwater discharge.

## 9. REFERENCES

Rothenheber and Jones 2018. *Enterococci Concentrations in a Coastal Ecosystem are a function of fecal source input*. Published in Applied Environmental Microbiology, July 13, 2018.

Boehm, Soller and Shanks 2015. *Human-Associated Fecal Quantitative Polymerase Chain reaction Measurements and Simulated Risk of Gastrointestinal Illness in Recreational Waters Contaminated with Raw Sewage*. Published in Environmental Science and Technology Letters 2015, 2, 270-275.

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## ATTACHMENT 1 – FIELD DATA SHEET

Field Data Collection Sheet for Dry Weather Outfall Monitoring			
Date: _____		Time: _____	
Sampler's Name: _____			
Location / Outfall: _____			
Weather: _____			
Sample Type: (Circle)		Dry Weather Flow	Potential Illicit Discharge
Sample Notes: _____		Other	
Field Parameters to Monitor			
Parameter	Result (units)	Equipment Used	Threshold triggering additional investigation (see QAPP)
Temperature (all flows)	C/F		No threshold. FYI: Temp. is dependent on season. Groundwater is typically 40-55 F. Surface water can be hotter or colder.
Conductivity (all flows)	µs		No threshold. FYI: Groundwater is typ. Less than 1000 µs. Freshwater can be as high as 2000 µs. Saltwater can be as high as 55,000 µs.
Ammonia (potential bacteria sources)	mg/L	Hach Test Strips	≥ 0.50 mg/L
Chlorine (potential chlorine sources)	mg/l	Ultra-Low Total Chlorine Test Strips	≥ 0.05 mg/L
Observations (unless already documented as part of outfall inspection: odor, color, turbidity, algae, etc): _____			
Laboratory Analyses (see QAPP for thresholds)			
Parameter		Method / Lab Code	Comments
Choose One	E. coli	SM 9223 B, EPA 1603, or SM 9221 B (To lab within 6 hours, analyze within 2 hours of receipt)	For freshwaters
	Enterococci	SM 9230 or EPA 1600 (To lab within 6 hours, analyze within 2	For marine/estuarine waters
	Fecal Coliform	SM 9222 D or SM 9221 D, E (To lab within 6 hours, analyze within 2 hours of receipt)	For fresh or marine/estuarine waters
	Human Bacteriodes	qPCR (To lab within 24 hours, analyze within 48 hours)	For fresh or marine/estuarine waters
Ammonia		EPA 350.1/350.2 (H2SO4 + Ice preserved, 28 day hold time)	For fresh or marine/estuarine waters
Surfactants		SM5540C (To lab within 24 hours, analyze within 48 hours)	For fresh or marine/estuarine waters
Comments/Field Notes			

## ATTACHMENT 2 – GENERIC COC

# Laboratory Sample Chain of Custody

Client:		Contact:		Phone #:		Email								
Address:		City:		State:		Zip Code:								
Purchase Order #:		Proj. Name/No.:		Quote #:										
Bill (if different than above):				Address:										
Sampler (Print/Sign):				Copies To:										
LAB USE ONLY		Work Order #:			Analysis and Container Type Preservatives									
Remarks:  Shipping Info: FEDEX UPS CLIENT Airbill No: Temp C Temp Blank Intact Not Intact					Filt. Y / N	Filt. Y / N	Filt. Y / N	Filt. Y / N	Filt. Y / N	Filt. Y / N	Filt. Y / N	Filt. Y / N	Filt. Y / N	Filt. Y / N
*	Sample Description	Date/Time Collected	Matrix water/soil /other	No. of Containers										
COMMENTS:														
Relinquished By:		Date/Time	Received By:		Relinquished By:			Date/Time		Received By:				
Relinquished By:		Date/Time	Received By:		Relinquished By:			Date/Time		Received By:				

## ATTACHMENT 3 – FIELD EQUIPMENT USER MANUALS





# INSTRUCTION MANUAL

## MULTI-PARAMETER TESTR 35 SERIES

pH / Conductivity / TDS / Salinity / Temperature

EUTECH INSTRUMENTS OAKTON®



Part of Thermo Fisher Scientific 68X441601 Rev. 1 March 2010

Thank you for selecting our Multi-Parameter Testr. This manual serves the following (3) models:

- PCTestr 35 (Eutech PCTEST35-01X441504 / Oakton 35425-00)

pH / Conductivity / Temperature

- PTestr 35 (Eutech PCTEST35-01X441505 / Oakton 35425-05)

pH / Total Dissolved Solids / Temperature

- PCSTestr 35 (Eutech PCSTEST35-01X441506 / Oakton 35425-10)

pH / Conductivity / Total Dissolved Solids / Salinity / Temperature

## Getting Started:

Your instrument has been factory calibrated and usually works well out of the box. However, after extended periods of non-use, it's best to remove the sensor cap and soak the sensor (pictured here) in warm tap water or pH buffer for 10 minutes or so. A brief rinse with deionized (DI) water is OK, but avoid soaking or storing in deionized water as this will shorten the pH electrode life. Prior to taking measurements, periodic calibration with certified standards is recommended for best accuracy.

Your Testr begins in the measuring mode that was previously used. Just prior to measurement or when switching modes, you will see the setting associated with each parameter i.e.) pH (buffer group selected), Conductivity (Auto), TDS (factor), Salinity (unit of measure).

## Setup:

Your Testr allows customization of various settings. To access the setup mode:

1. With the Testr off, keep the pressed down while you press and release . (Setup) will appear, then as you release , (Parameter) will appear.
2. Press or to choose (Parameter Setup) or (System Setup) menu.
3. Press to enter the selected setup menu.

**\*IMPORTANT\*** It is necessary to save your Parameter and System changes in order for them to take effect.

1. When you are finished making your desired changes, press both and at the same time and keep them pressed until you see "SA" (Save) on the display.
2. With the primary display "SA" and secondary display "YES", press to save the changes. The instrument will resume measurement mode with new setting(s).

Note: If auto-shut off is used, changes will be automatically saved 8.5 minutes after the last change was made.

**Parameter Setup:** Select to make changes relating to the parameters — pH, Conductivity TDS, Salinity. Note: only the PCS Testr will have all of these options. See below for menus available from each parameter. To Navigate the menus:

- Press to select or confirm the displayed option.
- Press or to scroll thru options or change values.

### pH Options:

- USA or NIST Buffer Group for calibration buffer option.
  - 5-pt calibration (all points) or 3-pt calibration (middle three points only).

### Salinity (SALT) Option (PCS Testr only)

- Choose PPT (parts per thousand) or Per (percentage %) as unit of measure.

### Total Dissolved Solids (tDS) Option (PT and PCS Tester only)

- FACT factor the instrument uses to convert from conductivity to TDS value. Adjustable from 0.40 to 1.00 (default factor is 0.71).

### Conductivity Options (PC and PCS Tester only)

- A.Cal (Automatic Calibration) Choose YES or NO (manual).

**TIP:** The PC Testr 35 and PCS Testr 35 are capable of automatic or manual conductivity calibration. In automatic calibration mode, the meter will automatically choose one of (3) conductivity calibration standards depending on the ranges listed below. If you will only use 84 µS, 1413 µS, or 12.88 mS calibration standards, automatic calibration is a time saving option. If you intend to calibrate with one or more standards that are **not** listed below, choose "NO" which will disable auto calibration and allow you to enter your desired value manually.

Conductivity Range	Automatic Calibration Value	Available with
0.0 – 200.0 µS	84 µS	PCS only
201 – 2000 µS	1413 µS	PC or PCS
2.01 – 20.00 mS	12.88 mS	PC or PCS

- SPC (Single-Point Calibration) Choose YES or NO (multi-point calibration).

**TIP:** The PC Testr 35 and PCS Testr 35 are capable of single or multi-point conductivity calibration. Use Single-Point Calibration to apply a single calibration value across all ranges. Use Multi-Point Calibration for individual calibration in each range. This will restrict an individual calibration so that it is applied to one range only. When using multi-point calibration, perform a calibration in each range that you expect to use for best results.

## System Setup:

Select to make changes relating to the system. See below for available menus. Note: other than changing Temperature units, it is advised to keep the factory default settings for best results. To Navigate the System menus:

- Press to select or confirm the displayed option.

- Press or to scroll thru menu options or change values.

### Unit rSt (Instrument reset)

- PH (pH) or EC (electrical conductivity / TDS / Salinity)
- CAL (calibration reset) or Fct (Reset to factory default settings)
- Set A.Off (Automatic shut off after 8.5 minutes) Choose YES or NO.
- Set t.C (Temperature Coefficient) 0.0-10.0% (2.1% is default)
- Set AtC (Auto Temperature Compensation) Choose YES or NO (25°C is used).
- Set °C °F (select temperature units) Choose °Celsius or °Fahrenheit.

## Temperature Calibration:

The factory temperature calibration should last for the life of the original sensor since it doesn't normally drift. Temperature calibration is always recommended upon sensor replacement. It may also be desirable to adjust the temperature to match a certified accurate thermometer or another Testr. The temperature value is common to all parameters so only one calibration is needed. To perform temperature calibration:

1. Press to turn on meter. Place the reference thermometer and your Testr into the same sample. Allow enough time for both to stabilize.
2. Press as needed to select the pH measuring mode. Press to begin pH calibration mode.
3. Press for 5 seconds to begin temperature calibration mode. The current temperature will be displayed on top while the factory default temperature is below.
4. Press or to manually adjust to the desired temperature—up to ± 5° C or ± 9° F of the factory default value.
5. Press to confirm and return to the pH measuring mode.

## pH Calibration:





For best results, calibrate with certified accurate pH calibration standards (buffers). You may calibrate up to five points with the USA (1.68, 4.01, 7.00, 10.01, 12.45) or the NIST (1.68, 4.01, 6.86, 9.18, 12.45) buffer group.

1. Press to turn meter on and to select pH mode as needed.
2. Rinse the sensor with clean water. Immerse the sensor into your pH buffer and press . The primary display will show the un-calibrated pH value, while the secondary display should search for and lock on the closest automatic calibration value.
3. Allow the primary display to stabilize, then press to confirm the calibration value. The primary value will blink briefly before the secondary value automatically scrolls thru the remaining pH buffers available for calibration.
4. Repeat steps 2 & 3 with additional buffers or press to return to measurement mode.

Conductivity Calibration (Automatic):

For best results, calibrate with certified accurate conductivity calibration standards. Selection of multi-point calibration will allow up to three of the following values, while Single-point calibration will allow only one; choose 84 µS, 1413 µS, or 12.88 mS.

Conductivity Range	Automatic Calibration Value	Available with
0.0 – 200.0 µS	84 µS	PCS only
201 – 2000 µS	1413 µS	PC or PCS
2.01 – 20.00 mS	12.88 mS	PC or PCS







- Press  to turn meter on and  to select conductivity mode as needed.
- Rinse the sensor with clean water. Immerse the sensor into your standard and press . The primary display will show the un-calibrated value, while the secondary display should search for and lock on the closest automatic calibration value.
- Allow the primary display to stabilize, then press  to confirm the calibration value. The primary value will blink briefly before returning to measurement mode.
- Repeat steps 2 & 3 with additional calibrations standards if desired.

Conductivity, TDS, & Salinity Calibration (Manual):



For best results, calibrate with certified accurate calibration standards. 1 point per range.

Conductivity (3-pt)	TDS (3-pt)	Salinity (1-pt)
0.0 – 200.0 µS*	0.0 – 99.9 ppm*	1.00 – 10 ppt
201 – 2000 µS	100 – 999 ppm	
2.01 – 20.00 mS	1.00 – 10 ppt	

\*Range only available with PCS Testr 35

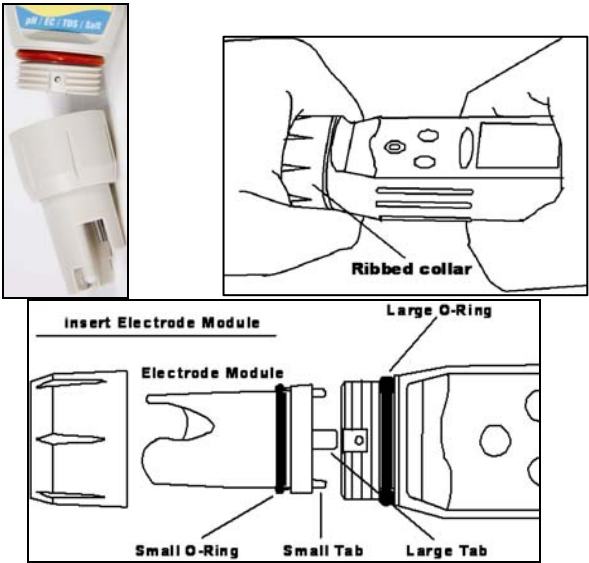
- Press  to turn meter on and  to select conductivity, TDS, or salinity mode.
- Rinse the sensor with clean water. Immerse the sensor into your standard and press . The primary display will show the un-calibrated value, while the secondary display will display the factory default calibration.
- Press  or  to manually adjust the primary display to your calibration standard.
- Press  to confirm the new adjusted value. The primary value will blink briefly before returning to measurement mode.
- Repeat steps 2 & 3 with additional calibration standards if desired.

Hold Function:

For prolonged observation of a reading, press  during measurement mode to freeze the display. The “HOLD” indicator will display when the reading is held. To release the held value and resume live measurement, press .

Sensor Replacement:

Your instrument includes a replaceable sensor (Eutech PCSENSOR - 01X097108 / Oakton 35425-50). If the tip gets damaged or as the sensor wears over time, the entire sensor can easily be replaced. To remove the old sensor, simply twist off the ribbed collar and pull the sensor straight out.







To install the new sensor, line up the tabs and 8 pins of the sensor to the instrument body. Twist ribbed collar back on to keep waterproof rating and secure sensor. The O-rings should create a watertight seal and provide some resistance when twisting.

Battery Replacement:

Your Testr includes (4) 1.5V alkaline batteries. LR44 or A76 battery types are suitable and commonly available. Replace all (4) batteries together. Waiting too long to replace the batteries can lead to inaccurate readings and is the most common cause of problems. Twist and unscrew to remove the battery cover at the top of the Testr. Pull on the white ribbon to remove the batteries. Note the correct polarity of the instrument before installing. The flat side of the battery is +. Place new batteries on top of the white ribbon so they can be easily removed next time. Hand tighten the battery cover to keep waterproof rating.

Storage:

The sensor does not require special storage. Rinse with clean water after use and cover the sensor with the included cap. Keep at room temperature away from extreme temperatures. The sensor can easily be re-hydrated by soaking if stored dry.

Message	Indicates
	>75% battery life remaining
	50-75% battery life remaining
	25-50% battery life remaining
	No bars & blinking = replace batteries
Err	Calibration error, usually attempting to calibrate to a value which is out of range or under range.
Unstable pH reading / Slow response	Broken or dirty sensor. Clean, rehydrate, and replace if necessary. Could also be due to low battery condition or sample with temperature that has not stabilized.
“Ur” (Under range) or “Or” (Over range)	Measured value is out of range. Most often caused by dry electrode that needs to be re-hydrated / soaked. Sensor may not be completely submersed or is not connected to Testr body properly.
Meter not responsive	If “Hold” on display, press Hold key to resume live measurement.
Secondary display continually scrolls	The automatic calibration standard is not within expected calibration range. Use fresh standard or an alternate calibration standard.

Warranty:

The waterproof Testrs are warranted to be free from manufacturing defects for 1 year and the electrode module is warranted for 6 months, unless otherwise stated. If repair, adjustment or replacement is necessary and has not been the result of abuse or misuse within the time period specified, please return the tester – freight prepaid – and correction will be made without charge. Out of warranty products will be repaired on a charge basis.

Return of Items:

Authorization must be obtained from your distributor before returning items for any reason. When applying for authorization, please include information regarding the reason the item(s) are to be returned. Note: We reserve the right to make improvements in design, construction and appearance of products without notice. Prices are subject to change without notice.

For more information on our products, please contact us or visit our websites:	
<b>Oakton Instruments</b> 625 E Bunker Court Vernon Hills, IL 60061, USA Tel: (1) 888-462-5866 Fax: (1) 847-247-2984 <a href="mailto:info@4oakton.com">info@4oakton.com</a> <a href="http://www.4oakton.com">www.4oakton.com</a>	<b>Eutech Instruments Pte Ltd</b> Blk 55, Ayer Rajah Crescent, #04-16/24, Singapore 139949 Tel: (65) 6778 6876 Fax: (65) 6773 0836 <a href="mailto:eutech@thermofisher.com">eutech@thermofisher.com</a> <a href="http://www.eutechinst.com">www.eutechinst.com</a>

# Multiparameter 35-Series Testrs™

**Our most versatile Testrs combine up to five measurements in one pocket-sized meter**

**Determine pH, conductivity, TDS, salinity, and temperature** – Great for water, wastewater, laboratory, or plant use

**Accuracy up to  $\pm 0.01$  for pH;  $\pm 1\%$  full-scale for EC/TDS/salt** – Ideal for a wide variety of applications

**Long-lasting pH sensor with PVDF reference junction** – Large volume of polymer gel reference gives long, clog-free sensor lifespan

**Stainless steel pin-style conductivity sensors** – Durable and compatible with a wide range of samples

**Adjustable TDS factor, temperature coefficient, and salinity factor** – Provide accurate readings under changing conditions

**Push-button calibration** – Calibrate more precisely than trimpot adjustment; no screwdrivers necessary

**Automatic temperature compensation (ATC)** – Gives you accurate readings even with fluctuating temperatures

**Waterproof, dustproof housing** – Meets IP67 rating, plus it floats!

**Hold function** – Freezes reading until you can record it

**Auto shutoff** – Extends the life of batteries



Sensor includes both pH and conductivity/TDS/salt probes.



35425-00

35425-05

35425-10

## Ordering Information

Catalog number	Description
WD-35425-00	PCTestr 35 (pH/conductivity)
WD-35425-05	PTTestr 35 (pH/TDS)
WD-35425-10	PCSTestr 35 (pH/conductivity/TDS/salt)

## Accessories

**WD-35425-50 Replacement pH/conductivity/TDS/salinity sensor module** for all 35-series Testrs

## Applications

**Water quality:** Hydroponics/agriculture, research labs, industrial process checks, pools, and spas, drinking water, wastewater, aquaculture.

## Specifications

ISO9001:2000  
CERTIFIED SUPPLIER



1 year  
warranty  
meter only

	Model	PCTestr 35	PTTestr 35	PCSTestr 35
Range	pH	0.0 to 14.0 pH	0.0 to 14.0 pH	0.00 to 14.00 pH
	Conductivity	0 to 2000 $\mu$ S; 2.00 to 20.00 mS	—	0 to 200 $\mu$ S, 201 to 2000 $\mu$ S; 2.01 to 20.00 mS
	TDS	—	0 to 1000 ppm; 1.00 to 10.00 ppt	0.0 to 99.9 ppm, 100 to 999 ppm; 1.00 to 10.00 ppt
	Salinity	—	—	0 to 10.00 ppt
	Temperature	0 to 50°C (32 to 122°F)	0 to 50°C (32 to 122°F)	0 to 50°C (32 to 122°F)
Resolution	pH	0.1 pH	0.1 pH	0.01 pH
	Conductivity	10 $\mu$ S; 0.1 mS	—	0.1 $\mu$ S, 1 $\mu$ S; 0.01 mS
	TDS	—	1 ppm; 0.01 ppt	0.1 ppm, 1 ppm; 0.01 ppt
	Salinity	—	—	0.1 ppm, 1 ppm; 0.01 ppt; 0.01%
	Temperature	0.1°	0.1°	0.1°
Accuracy	pH	$\pm 0.1$ pH	$\pm 0.1$ pH	$\pm 0.01$ pH
	Conductivity	$\pm 1\%$ full-scale	—	$\pm 1\%$ full-scale
	TDS	—	$\pm 1\%$ full-scale	$\pm 1\%$ full-scale
	Salinity	—	—	$\pm 1\%$ full-scale
	Temperature	$\pm 0.5^\circ\text{C}$ ( $\pm 0.9^\circ\text{F}$ )	$\pm 0.5^\circ\text{C}$ ( $\pm 0.9^\circ\text{F}$ )	$\pm 0.5^\circ\text{C}$ ( $\pm 0.9^\circ\text{F}$ )
Calibration	pH	3 points	3 points	5 points
	Conductivity	2 points	—	3 points
	TDS	—	2 points	3 points
	Salinity	—	—	1 point
	Temperature	1 point	1 point	1 point

**Temperature compensation:** automatic (ATC), from 0 to 50°C (32 to 122°F) or manual  
**Operating temperature:** 0 to 50°C (32 to 122°F)  
**Power:** four 1.5 V alkaline batteries (included), approximately 250 hours continuous use; Eveready® A76 or LR44 equivalent replacement

### Dimensions

**Unit only:** 6½" x 1½" dia (16.5 x 3.8 cm)

**Boxed:** 7¼" x 2½" x 2" (18.4 x 6.4 x 5.0 cm)

### Weight

**Unit only:** 3.25 oz (90 g); **Boxed:** 6 oz (170 g)



## Ammonia (Nitrogen) Test Strips, 0-6.0 mg/L

**Product #:** 2755325  
**USD Price:** \$26.39  
**Available**

Suitable for both lab and field testing, Hach Test Strips are easy to use and easy to read. Ammonia (Nitrogen) is a product of microbiological decay of plant and animal protein. Its presence in raw surface waters usually indicates domestic or agricultural pollution. Above certain levels, it is toxic to fish. Contains 25 tests.

**Easy to use, disposable, and inexpensive**

**A great way to obtain quick, quantitative answers in the field or in the lab**

---

### Specifications

Footnote:	*mg/L unless otherwise noted, ppb = $\mu\text{g/L}$ , ppm = mg/L.; gpg = grains per gallon; 1 gpg = 17.1 mg/L or 17.1 ppm.
Model:	Test Strips
Number of tests:	25
Parameter:	Ammonia, Nitrogen, low range - As $\text{NH}_3\text{-N}$ , For freshwater
Platform :	Test Strip
Range:	0 - 6 ppm
Ship Wt. (lbs):	0.25
Smallest Increment Steps:	Steps: 0, 0.25, 0.5, 1.0, 3.0, 6.0 ppm
Units:	25 tests



## Hach Test Strips



### Obtain quick, quantitative answers in the field or lab

Test strips are one of the easiest methods of testing water. Simply dip the strip in water, following the instructions and compare the color of the strip to determine the result. Use test strips when a general range is sufficient. Test strips should not be used when an exact measurement is required.

With Hach Water Quality Test Strips, technicians in the field can test many samples in only a few minutes, and make immediate evaluations on-site. No measuring, set-up, clean-up, or chemical handling are necessary. Hach test strips are also used in laboratories all over the world for pre-test screening-to detect the presence of materials that might interfere with lab testing.

- Easy to use
- Disposable
- Inexpensive



### How to Use Test Strips

Test strips are one of the simplest types of tests to use. Simply dip the strip into the water according to directions on the bottle or package. The test strip will change color. Then compare the color of the test strip to the chart provided in the package to determine the test result.

For common questions about test strips, see our [FAQ page](#).



### What is the accuracy of Hach Test Strips?

Hach Test Strips are semi-quantitative and are accurate to +/- one half of a color block. Quantab strips are accurate to +/- 10 percent. Specific accuracies vary by parameter and are denoted on the product ordering page as well as on the package itself. If you are looking for a more precise method of testing, for instance if you are reporting to the EPA, please view our [other test kits](#).

### Most Popular Test Strips



[5 in 1 Water Quality Test Strips](#)



[Free & Total Chlorine Test Strips, 0-10 mg/L](#)



[pH Test Strips, 4-9 pH units](#)



[Total Hardness Test Strips, 0-425 mg/L, 250 tests, Individually Wrapped](#)



**SenSafe®**

Contains 30 Test Strips  
Part Number: 480007

# Ultra-Low Total Chlorine

Visual Dip & Read Test Strips

Tests Total Chlorine from 0 - 0.20 ppm and from 0 - 0.05 ppm.  
Test strips are individually wrapped in foil packets.  
US Patent #6541269



SCAN FOR INFO

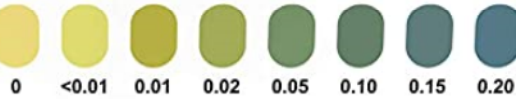


## Ultra-Low Total Chlorine

Part Number: 480007-EZCC

METHOD A:

ppm (mg/L)



METHOD B:

ppm (mg/L)



©2016 Industrial Test Systems, Inc.

EASY-READ

Help us build a sustainable future.

Please Recycle



### METHOD A TEST PROCEDURE:

1. Remove 1 test strip from foil packet and dip the test strip into a fresh 100mL (about 4oz) water sample for 20 seconds with a constant, gentle back and forth motion.
2. Remove the strip and shake once, briskly, to remove excess water.
3. Wait 20 seconds.
4. Match to the Method A color chart included. Complete color matching within 20 seconds. Gently dry off excess water from color chart after matching.



Suggestion: For best accuracy, scan the QR code on front and consult the temperature compensation chart.

### METHOD B TEST PROCEDURE:

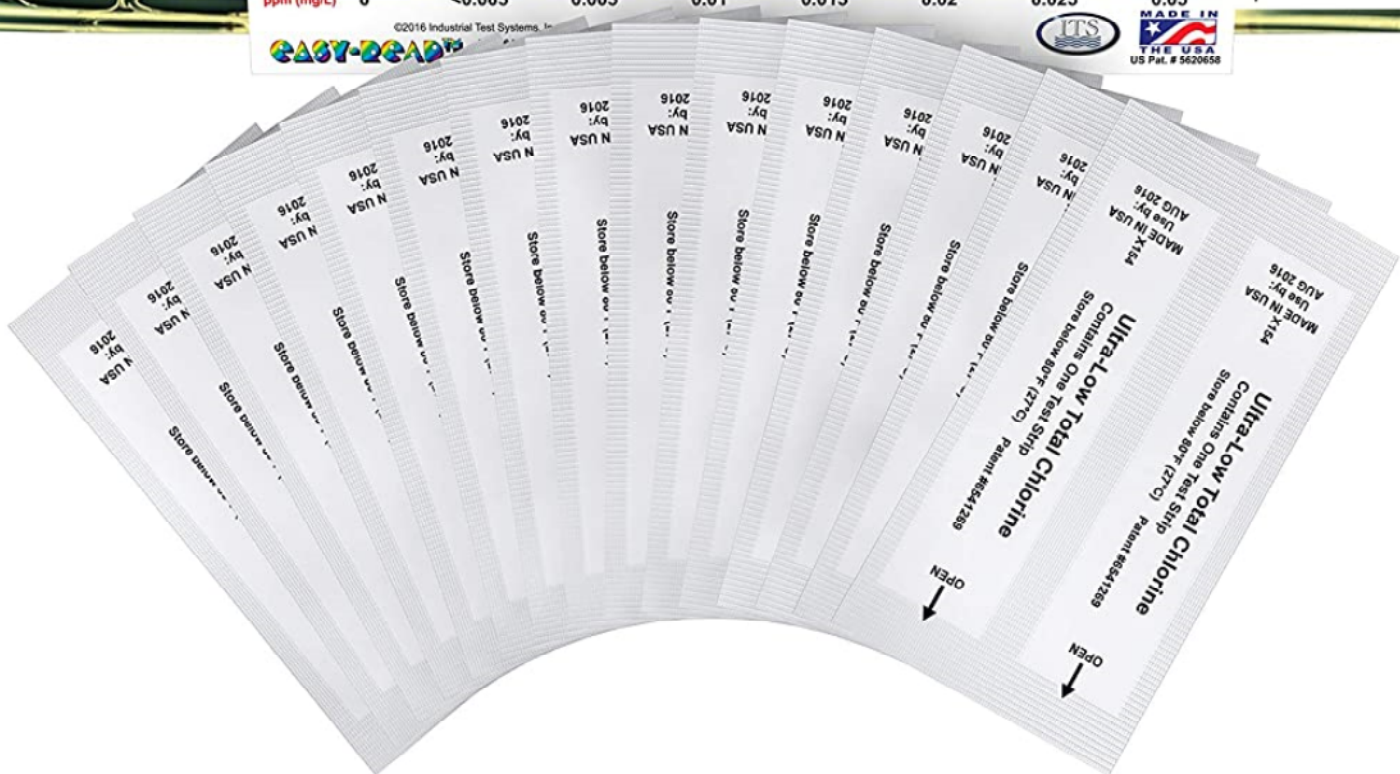
1. Remove 1 test strip from foil packet and dip the test strip into a 100mL water sample for 40 seconds with a constant, gentle back and forth motion.
2. Remove the strip and shake once, briskly, to remove excess water.
3. Match to the Method B color chart included. Complete color matching within 20 seconds. Gently dry off excess water from color chart after matching.



Interferences: Other oxidizers. Metals will develop brown tint.

### Total Chlorine

For best results, run test immediately after collecting a fresh water sample. Total Chlorine is the measurement of both Free Chlorine and Combined Chlorine as a sanitizer & oxidizer. This information is used in many applications to determine the total amount of chlorine in a body of water. Chlorine can be used as a disinfectant in the medical industry to clean medical



## APPENDIX F – MCM6 Written Procedures

# MAINE TURNPIKE AUTHORITY

## GENERAL PERMIT FOR THE DISCHARGE OF STORMWATER FROM MAINE DEPARTMENT OF TRANSPORTATION AND MTA MUNICIPAL SEPARATE STORM SEWER SYSTEMS MINIMUM CONTROL MEASURE 6 WRITTEN PROCEDURES

prepared for



*Prepared by*

**GZA GeoEnvironmental, Inc.**

707 Sable Oaks Drive

Suite 150

South Portland, Maine 04106



**Prepared: August 2021**



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# MTA - Minimum Control Measure 6 Written Procedures

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# MTA - Minimum Control Measure 6 Written Procedures

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## 1. INTRODUCTION

The Maine Turnpike Authority (MTA) implements and maintains a Stormwater Management Plan (SWMP) dated September 2021 to comply with the State of Maine Department of Environmental Protection (MEDEP) Bureau of Land and Water Quality's *General Permit for the Discharge of Stormwater from Maine Department of Transportation and MTA Municipal Separate Storm Sewer Systems* (TS4 GP). This document has been prepared as a supplement to MTA's SWMP to demonstrate MTA's compliance with fulfilling Minimum Control Measure 6 (MCM 6) of the TS4 GP.

The goal of MCM 6 is pollution prevention and good housekeeping in community/ facility operations. **Table 1** identifies the TS4 GP MCM 6 BMPs and their documentation requirements.

**Table 1: MCM 6 BMPs**

BMP	Description	TS4 Documentation
<b>BMP 6.1</b>	Implement written operations and maintenance procedures	See Section 3
<b>BMP 6.2</b>	Train employees on pollution prevention as well as erosion and sediment control annually	TS4 Annual Report MCM 1 Training Documentation
<b>BMP 6.3</b>	Sweep paved areas within the Urbanized Area at least once per year as soon as possible after snowmelt.	TS4 Annual Report MCM 6 Street Sweeping Documentation
<b>BMP 6.4</b>	Complete catch basin inspections and cleanout within the Urbanized Area at least once every other year.	TS4 Annual Report Catch Basin Inspection and Clean Out Documentation
<b>BMP 6.5</b>	Inspect infrastructure (including stormwater conveyance structures and outfalls) and prioritize repairs and upgrades.	<i>Operation and Maintenance Annual Report</i>
<b>BMP 6.6</b>	Implement Stormwater Pollution Prevention Plans (SWPPPs) for vehicle maintenance facilities operated by the permittee within the Urbanized Area.	Not Applicable

## 2. APPROACH

The following sub-sections describe MTA's approach for implementing the pollution prevention and good housekeeping BMPs identified in MCM 6.

### 2.1 BMP 6.1: IMPLEMENT WRITTEN OPERATIONS AND MAINTENANCE PROCEDURES

The MTA has developed an inventory of operations and associated potential pollutant sources which is summarized in **Section 3** along with the written Operations and Maintenance (O&M) procedures that are implemented in company policies and Standard Operating Procedures (SOPs) to reduce stormwater pollution. Policies/ SOPs are referenced in the text or included in the **Appendices** of this document.

**Table 2** identifies the nonstructural controls to reduce stormwater pollution from operations with potential stormwater pollutants.

## MTA - Minimum Control Measure 6 Written Procedures

**Table 2: Operations, Potential Pollutants, and Policy/SOP Names**

Operation(s)	Potential Pollutant Source	Policy/SOP Name	Document Location
<b>Catch Basin Cleaning</b>	Catch Basin Sediment	Catch Basin Sediment Management SOP	Appendix A
<b>Equipment &amp; Vehicle Maintenance</b>	Hazardous Materials or Hazardous Waste	Waste Management Plan	On file in Environmental Services Coordinator office and Environmental File at each Maintenance Facility.
<b>Fuel Oil Delivery</b>	Petroleum Products	Notice to Oil/ Fuel Delivery Truck Drivers	Posted at Loading/ Unloading Areas
<b>Mobile Equipment Refueling</b>	Petroleum Products	Mobile Refueling SPCC Plan	On file in Environmental Services Coordinator office.
<b>Road-Killed Wildlife</b>	Solid Waste	Road Kill Policy	Appendix B
<b>Solid Waste Collection</b>	Solid Waste	Litter Removal and Solid Waste Management SOP	Appendix C
<b>Spills from Motor Vehicle Accidents</b>	Petroleum or Hazardous Materials	Approaching Collisions and Hazardous Material Incidents - First on the Scene Emergency Procedures	On file in Environmental Services Coordinator office.
<b>Street Sweeping</b>	Street Dust Within the Travel Lanes	Street Sweepings Management SOP	Appendix D
<b>Universal Waste Collection</b>	Universal Waste	Waste Management Plan	On file in Environmental Services Coordinator office and Environmental File at each Maintenance Facility.
<b>Vegetation Management</b>	Landscaping Chemicals (e.g., Pesticides, Herbicides, etc.)	Mowing Policy	Appendix E
		Pesticide Manual	On file in Environmental Services Coordinator office.
<b>Winter Road Maintenance</b>	Deicer Products	MTA Snow and Ice Control Policies and Procedures	On file in Environmental Services Coordinator office.
		Maine Environmental BMP Manual for Snow and Ice Control	On file in Environmental Services Coordinator office.

### 2.2 BMP 6.2: ANNUAL EMPLOYEE TRAINING

The MTA conducts annual training for its staff (in accordance with the SWMP implementation guidelines for MCM 1) that includes awareness and pollution prevention SOPs for the source areas listed above.

### 2.3 BMP 6.3: ANNUAL STREET SWEEPING PROGRAM

The MTA conducts annual street-sweeping to remove grit and fines associated with winter road maintenance activities each spring after snow-melt. Materials recovered during the annual sweeping operations are managed in accordance with the Street Sweepings Management SOP (**Appendix D**).

### 2.4 BMP 6.4: CATCH BASIN CLEANING AND INSPECTION IN THE URBANIZED AREA

The MTA conducts catch basin cleanout and inspection within the Urbanized Area at least once every other year. Materials recovered during the catch basin cleanout are managed in accordance with the Catch Basin Sediment Management SOP (**Appendix A**).

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## MTA - Minimum Control Measure 6 Written Procedures

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### 2.5 BMP 6.5: STORMWATER INFRASTRUCTURE INSPECTION

A comprehensive inspection of the MTA infrastructure is conducted on an annual basis by MTA's general engineering consultant. This annual inspection includes observation of MTA-owned infrastructure, including conveyance structures and outfalls. A prioritized list of repairs and upgrades are then presented to MTA Highway Maintenance and Engineering for consideration.

### 2.6 BMP 6.6: STORMWATER POLLUTION PREVENTION PLANS FOR VEHICLE MAINTENANCE FACILITIES WITHIN THE URBANIZED AREA.

The MTA does not currently operate any vehicle maintenance facilities within the Urbanized Area.

## 3. FACILITIES, OPERATIONS, AND POTENTIAL POLLUTANTS

The following sub-sections describe MTA facilities, the associated operations, and an inventory of potential pollutant sources.

### 3.1 TOLL PLAZAS

The MTA operates both barrier and interchange toll plazas. **Table 3** summarizes the toll plazas within the Maine Turnpike corridor, and those which are located in the Urbanized Area and subject to TS4 GP requirements are indicated with an asterisk (\*).

**Table 3: Toll Plaza Facilities List**

Plaza Name	Mile Marker	Plaza Name	Mile Marker
Exit 1 Toll Plaza*	0.7	Exit 46 Toll Plaza*	46.3
Exit 2 Toll Plaza*	1.1	Exit 47 Toll Plaza*	47.3
Exit 3 Toll Plaza*	1.3	Exit 48 Toll Plaza*	48.5
York Barrier Toll Plaza*	7.3	Exit 52 Toll Plaza	FS 2.8
Exit 19 Toll Plaza	19.3	Exit 53 Toll Plaza*	52.4
Exit 25 Toll Plaza	25.5	Exit 63 Toll Plaza	63.1
Exit 32 Toll Plaza*	31.6	New Gloucester Barrier Toll Plaza	67.0
Exit 36 Toll Plaza*	35.7	West Gardiner Barrier Toll Plaza	100.2
Exit 42 Toll Plaza*	42.5	Exit 102 Toll Plaza	102.0
Exit 44 Toll Plaza*	44.3	Exit 103 Toll Plaza	103.0
Exit 45 Toll Plaza*	44.9		

\* Indicates a toll plaza located in the Urbanized Area.

FS = Falmouth Spur

The toll plazas are operated solely for toll fare collection purposes and generally include an employee building, multiple toll booths, and an employee parking area. Potential pollutants at the toll plazas include petroleum products from motor vehicle accidents and leaks, universal waste, deicer products from winter maintenance operations, and solid waste.

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## MTA - Minimum Control Measure 6 Written Procedures

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### 3.2 MAINTENANCE FACILITIES

The MTA operates eight maintenance facilities (**Table 4**). None of the maintenance facilities are located within the Urbanized Area.

**Table 4: Maintenance Facilities List**

Facility Name	Mile Marker	Facility Name	Mile Marker
York Maintenance Facility	6.3	Gray Maintenance Facility	63.3
Kennebunk Maintenance Facility	25.3	Auburn Maintenance Facility	76.9
Crosby (South Portland) Maintenance Facility	45.8	Litchfield Maintenance Facility	92.6
Sign Shop/Central Inventory Warehouse (Cumberland)	58.3	West Gardner Maintenance Facility	101.8

Various potential pollutant sources are associated with each facility depending on the operations performed and materials stored at a respective facility. Typical operations include equipment maintenance, equipment storage, loading/unloading of bulk products (e.g., liquid deicer, sand, and salt), and fuel delivery. In an effort to address potential pollutant sources, the MTA has implemented Spill Prevention and Stormwater Best Management Practices (SW BMP) Plans at the maintenance facilities (with the exception of the Sign Shop). The Plans are reviewed and modified as appropriate to address changes at a respective facility.

The MTA conducts annual training for maintenance personnel that includes stormwater pollution prevention, facility-specific spill prevention and SW BMP plan elements, erosion and sediment control practices, hazardous/ universal waste management, and emergency response procedures.

### 3.3 SERVICE PLAZAS

The MTA operates five service plazas (**Table 5**). None of the service plazas are located within the Urbanized Area.

**Table 5: Service Plazas**

Facility Name	Mile Marker	Facility Name	Mile Marker
Kennebunk Service Plaza	25.5 (NB)	Gray Service Plaza	59.0 (NB)
Kennebunk Service Plaza	25.5 (SB)	West Gardiner Service Plaza	101.7 (NB)
Cumberland Service Plaza	58.5 (SB)		

The service plazas generally include restaurants, gas/diesel stations, and a parking area. Potential pollutants at the service plazas include petroleum products (fuel loading/ unloading, motor vehicle refueling and motor vehicle accidents and leaks), universal waste, deicer products from winter maintenance operations, and solid waste.

### 3.4 PARK AND RIDE LOTS

The MTA owns and operates nine park and ride lots (**Table 6**), and those which are located in the Urbanized Area and subject to TS4 GP requirements are indicated with an asterisk (\*).

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## MTA - Minimum Control Measure 6 Written Procedures

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**Table 6: Park and Ride Lots List**

Facility Name	Capacity	Facility Name	Capacity
Exit 19, Wells	100	Exit 63, Gray	129
Exit 25, Kennebunk	52	Exit 75, Auburn*	137
Exit 32, Biddeford*	155	Exit 80, Lewiston*	92
Exit 42, Scarborough*	66	Exit 102, West Gardiner	54
Exit 46, South Portland*	68		

\* Indicates Park & Ride Lot located in the Urbanized Area

The park and ride lots are intended for commuter use only, for 24 hours or less. Recreational vehicles and commercial trucks are not allowed in these lots. Potential pollutants at the park and ride lots include petroleum products from motor vehicle accidents and leaks, litter, and deicer products from winter maintenance operations.

### 3.5 ADMINISTRATIVE BUILDING

The MTA operates an administrative building located at 2360 Congress Street in Portland. The administrative building was constructed in 2007 under a Site Location of Development Act Permit. The potential pollutant sources at the administrative building include petroleum products from motor vehicle accidents and leaks, universal waste, deicer products from winter maintenance operations, and solid waste.

### 3.6 MAINLINE (TRAVEL LANES) AND INTERCHANGES

The MTA operates 109 miles of travel lanes and associated access ramps and rights-of-way that are maintained along the mainline corridor. The primary sources of pollutants along the mainline corridor are related to motor vehicle usage and maintenance of the roadways and rights of way, and litter. Such pollutant sources include mobile refueling, vegetation management, and winter maintenance. Occasionally motor vehicle accidents (between vehicles as well as between vehicles and animals) may result in additional pollutant sources.

## APPENDIX A - CATCH BASIN SEDIMENT MANAGEMENT SOP

## MAINE TURNPIKE AUTHORITY

### Storage, Handling and Management Procedures For Catch Basin Sediment

- All catch basin sediment collected from roadways and parking areas that are not managed under other programs (i.e., Hazardous Waste) will be managed in accordance with the requirements of Maine's Solid Waste Management Rules: *Chapter 418 Beneficial Use of Solid Wastes*.
- Sediment shall be collected and stockpiled at a nearby maintenance facility prior to sampling, disposal, and/or reuse.
- If the sediment shows obvious signs of grease, petroleum or litter, the sediment shall be sampled and disposed of in accordance with current State regulations (rules).
- If the sediment is free of obvious grease, petroleum or litter, the sediment will be used as construction fill.





## APPENDIX B – ROAD KILL POLICY

## **Chapter 9**

### **Road Kill Disposal**

#### **MAINE TURNPIKE AUTHORITY ROAD KILL POLICY Issued: DRAFT**

##### **Introduction**

This policy documents details the Maine Turnpike Authority's position on animal road kill disposal procedures resulting from the Turnpike roadway.

##### **Notification**

MTA employees while on duty on the Turnpike roadway must notify the radio dispatcher at Headquarters as soon as possible upon discovery of a dead animal in the Turnpike right-of-way.

##### **Disposal Options:**

###### **Option #1:**

The MTA employee will move the dead animal out of the Turnpike right-of-way and if feasible, will place the animal carcass into the adjacent woods as a means of disposal.

###### **Option #2:**

If there are nearby residential and or commercial properties that makes Option #1 not feasible, then the MTA employee will transport the animal carcass to the nearest MTA Highway Maintenance Facility located at (Gardiner, Litchfield, Auburn, Gray, Crosby, or York) for burial.

The MTA employee will bury the animal carcass in the back section of the highway maintenance facility. MTA prohibits burying dead animals into wetlands adjacent to the existing yards at the highway maintenance facilities.

**APPENDIX C - LITTER REMOVAL AND SOLID WASTE  
MANAGEMENT SOP**

## **MAINE TURNPIKE AUTHORITY**

### **Storage, Handling and Management Procedures For Litter Removal and Solid Waste Management**

- Periodically MTA staff shall remove litter from MTA-owned roadways, parking areas, and facilities. All solid waste collected from roadways and parking areas that are not managed under other programs (i.e., Hazardous Waste) must be properly disposed of in solid waste collection areas.
- Solid waste receptacles (dumpsters) shall be covered, maintained to minimize leakage, and placed on a flat surface so as not to obstruct any stormwater infrastructure such as catch basins or ditches.
- The area around the solid waste receptacles shall be kept clean and free of litter and debris.
- Solid waste receptacles shall be emptied periodically and contents disposed of at a licensed solid waste disposal facility.



## APPENDIX D – STREET-SWEEPINGS MANAGEMENT SOP

## **MAINE TURNPIKE AUTHORITY**

### **Storage, Handling and Management Procedures For Street Dust Sweepings**

- All sweepings collected from roadways and parking areas that are not managed under other programs (i.e., Hazardous Waste) may be reused as construction fill.
- Sweepings shall be collected and stockpiled at a nearby maintenance facility for reuse as construction fill.



## APPENDIX E – MOWING POLICY

# MAINE TURNPIKE AUTHORITY

## Standard Operating Procedure

### For Mowing and Vegetation Control

- For the purposes of this SOP, four vegetation control areas have been defined: the mainline, the interchanges, the toll plazas, and the service plazas.
- The mowing timelines have been developed in order to provide ground-nesting birds the opportunity to raise a brood and to permit insects the opportunity to complete their lifecycles. These timelines also allow vegetation to regenerate and provide nesting cover the following year.
- The mainline mowing of the median and side slopes will occur as required to keep the area free of obstructions. Ditch mowing will begin no earlier than July 15, and the side slopes will not be mowed prior to August 1.
- The interchange ramp mowing will be conducted the in the same manner as the mainline, median and side slopes. The interchange infield area (generally the area between the ramp and the mainline) will not be mowed prior to August 1st.
- The toll plaza and service plaza areas will be mowed as required.





## APPENDIX G –Urban Impaired Stream BMPs



## URBAN IMPAIRED STREAM WATERSHED BEST MANAGEMENT PRACTICES

This narrative provides a summary of Maine Turnpike Authority's (MTA) proposed best management practices (BMPs) in seven urban impaired stream (UIS) watersheds where MTA maintains direct stormwater discharges to an UIS. The purpose of the BMPs described in this narrative are to meet the requirements of Part IV.E.3. of the *General Permit for the Discharge of Stormwater from Maine Department of Transportation and Maine Turnpike Authority Municipal Separate Storm Sewer Systems* (MER 043000) issued on August 18, 2021. The proposed BMPs are based on MTA's current work plan, which is a dynamic document subject to changes and schedule revisions, and is also subject to funding based on MTA's toll revenues and capacity to fund projects through bond solicitations. If changes to MTA's work plan occur that effect implementation of the BMPs proposed in this narrative, MTA will notify the Maine Department of Environmental Protection and make the necessary modifications to its Stormwater Management Plan.

### 1. Thatcher Brook Watershed, Biddeford

#### Thatcher Brook BMP #1 – Improve Awareness of Stormwater BMP Maintenance Requirements

In 2016 MTA constructed two underdrained soil filters at the Exit 32 interchange in the ditch line adjacent to the northbound on ramp to treat stormwater in the Thatcher Brook watershed. Across MTA's footprint, the number of operational stormwater treatment BMPs has grown rapidly. Prior to the start of the 2013-2022 MS4 permit cycle MTA had 11 stormwater BMPs. Currently, MTA has 32 stormwater treatment BMPs in operation, and that is anticipated increase to approximately 63 by the close of the 2022-2027 MS4 permit cycle. With the expansion of stormwater treatment infrastructure, improved awareness on behalf of highway operations staff of correct BMP management practices will help ensure optimum function and lifespan.

MTA will include in its annual environmental and stormwater training for highway operations staff correct stormwater BMP maintenance practices in the Thatcher Brook watershed. MTA will also install signage around the two soil filter BMPs to alert highway maintenance staff to use only light mowing equipment to prevent rutting, compaction, and damage to filter media and underdrain systems. Foreman and maintenance facilities will be provided with mapping identifying the location of MTA's new stormwater BMP infrastructure for reference and to improve staff awareness of the location of the new

Maine Turnpike Authority  
Urban Impaired Stream Watershed  
Best Management Practices

infrastructure. In its MS4 Permit Annual Compliance Report, MTA will report progress on each of these metrics.

Thatcher Brook BMP #2 –

Plant Shrubs in Wetland and Install Mowing Restriction Signs Around Riparian Zone of Relocated Segment of Unnamed Tributary to Thatcher Brook

In 2021, MTA relocated 490 linear feet of a direct unnamed tributary to Thatcher Brook to accommodate Exit 32 southbound off ramp improvements in Biddeford. The project design included moving the stream as far from the southbound lanes of the Turnpike as feasible with natural meanders, natural “stream bed special fill” with rounded gravel and cobble substrate, and in-stream log features, while remaining within MTA right-of-way. The end result was an overall increase in the distance between the channel and the southbound lanes, including a 121-foot segment of channel that had been previously straightened and routed into the road ditch.

The Thatcher Brook Watershed-Based Plan identifies this location as an area with poor buffering, which has been improved by relocating the channel further from the roadway and maintaining a riparian wetland fringe. One of the goals of the relocation was to improve the opportunity for sheet flow and infiltration of runoff from the outside lane of the Turnpike between the edge of the pavement and the stream to help improve water quality.

As a BMP, in PY 1 or PY2 MTA proposes to plant wetland shrubs in the wetland riparian zone between the relocated stream channel and the toe of the highway fill slope. Planting shrubs would be an augmentation to the riparian zone design that was not included as part of the original stream channel relocation plan or construction contract. The goal of the shrub planting will be to improve the riparian buffer by promoting establishment of shrub cover in the riparian zone, augmenting wetland water quality functions (attenuation or retention of nutrients, sediment, and toxicants), and over time providing some shading over the stream channel and a natural local source of small diameter woody debris for the stream channel. MTA will plant approximately 200 shrubs at a spacing of 10 feet on center throughout the planting zone. Species will include native shrubs with a wetland indicator status of facultative (FAC) or wetter, typically two to three feet in height, and that are commercially available and suited to the site. MTA will also install "No Mowing" signs at the edge of the riparian wetlands along the Exit 32 southbound off ramp stream relocation site to help ensure maintenance staff do not to mow the riparian wetland (adjacent 4:1 highway slopes may be mowed). Not mowing the wetland will help prevent rutting in the wetlands that can lead to channelized flow and erosion, and will

Maine Turnpike Authority  
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Best Management Practices

allow dense herbaceous vegetation and shrub-cover to re-establish in the wetlands as intended.

Thatcher Brook BMP #3 –  
Implement MTA Chloride BMPs

As described under item number eight at the end of this UIS BMP narrative, MTA has prepared Chloride BMPs to help manage the application of chloride for snow and ice control and reduce its environmental impacts. As an UIS BMP, MTA will implement the MTA Chloride BMPs in the Thatcher Brook Watershed.

**2. Goosefare Brook Watershed, Saco**

Goosefare Brook BMP #1, #2, & #3 –  
Construct Three New Underdrained Soil Filters in Goosefare Brook Watershed

MTA is planning to add a new Exit 35 and make improvements to Exit 36 to improve traffic flow to and from the Turnpike beginning in 2022 or 2023. As part of this work three lined underdrained soil filters (USFs) within the Goosefare Brook watershed are proposed to treat runoff from existing and new impervious surface. The USFs are planned to be located to intercept runoff before it discharges directly into Goosefare Brook and an unnamed tributary to the brook at Exit 36, which will help 'disconnect' some of the existing and proposed impervious surface cover. MTA is proposing to collect and treat runoff from approximately 4.8 acres of impervious surface. The exact acreage will be determined as final design of the project is completed. The USFs will also be lined with an impermeable membrane beneath the underdrain system, which may help reduce infiltration of chlorides to the groundwater table, which is identified as a stressor in the watershed.

Goosefare Brook BMP #4 –  
Implement MTA Chloride BMPs

As described under item number eight at the end of this UIS BMP narrative, MTA has prepared Chloride BMPs to help manage the application of chloride for snow and ice control and reduce its environmental impacts. As an UIS BMP, MTA will implement the MTA Chloride BMPs in the Goosefare Brook Watershed.

Maine Turnpike Authority  
Urban Impaired Stream Watershed  
Best Management Practices

**3. Red Brook Watershed, Scarborough & South Portland**

Red Brook BMP #1 & #2 –  
Construct Two New USFs

As part of constructing the Portland Area Widening and the Exit 45 Reconfiguration Project, MTA will complete construction of two new underdrained soil filters in the Red Brook watershed. Project construction is in progress and expected to be completed in 2023. Together, these BMPs will collect and treat runoff from approximately 2.0 acres of existing and new impervious surface. In addition, the two USFs will be located adjacent to Red Brook, to enhance their benefit by 'disconnecting' some of the impervious surface that is adjacent to and drains directly into Red Brook. The USFs will be lined with an impermeable membrane beneath the underdrain system, which may help reduce infiltration of chlorides to the groundwater table, which is identified as a stressor in the watershed.

Red Brook BMP #3 –  
Implement MTA Chloride BMPs

As described under item number eight at the end of this UIS BMP narrative, MTA has prepared Chloride BMPs to help manage the application of chloride for snow and ice control and reduce its environmental impacts. As an UIS BMP, MTA will implement the MTA Chloride BMPs in the Red Brook Watershed.

**4. Nasons Brook Watershed, Portland**

Nasons Brook BMP #1 –  
Construct Stormwater Meadow Buffer

As part of Phase II of the Portland Area Widening Project between MTA mile marker 46.4 and 49.3 in Portland, MTA will construct a stormwater meadow buffer in the Nasons Brook watershed. The meadow buffer will treat approximately 0.16 acres of impervious surface from the Turnpike mainline. The construction contract was awarded in November 2021, and project construction will be completed before the MS4 General Permit expires in July 2027.

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Nasons Brook BMP #2 –  
Improve Awareness of Stormwater BMP Maintenance Requirements

MTA will soon have three new stormwater treatment BMPs constructed in the Nason's Brook watershed, including the new meadow buffer described above and two new lined USFs recently completed in 2020. As described under the discussion of Thatcher Brook BMP #1, the number of MTA's operational stormwater treatment BMPs is increasing rapidly, and improved awareness on behalf of MTA highway operations staff of correct BMP management practices will help ensure optimum function and lifespan.

MTA will include in its annual environmental and stormwater training for highway operations staff correct stormwater BMP maintenance practices in the Nasons Brook watershed. MTA will also install signage around the new soil filter BMPs to alert highway maintenance staff to use only light mowing equipment to prevent rutting, compaction, and damage to filter media and underdrain systems. Foreman and maintenance facilities will be provided with mapping identifying the location of MTA's new stormwater BMP infrastructure for reference and to improve staff awareness of the location of the new infrastructure. In its MS4 Permit Annual Compliance Report, MTA will report progress on each of these metrics.

Nasons Brook BMP #3 –  
Implement MTA Chloride BMPs

As described under item number eight at the end of this UIS BMP narrative, MTA has prepared Chloride BMPs to help manage the application of chloride for snow and ice control and reduce its environmental impacts. As an UIS BMP, MTA will implement the MTA Chloride BMPs in the Nasons Brook Watershed.

**5. Capisic Brook Watershed, Portland**

Capisic Brook BMP #1 –  
Construct Stormwater Meadow Buffer

As part of Phase II of the Portland Area Widening Project between MTA mile marker 46.4 and 49.3 in Portland, MTA will construct a stormwater meadow buffer in the Capisic Brook watershed. The meadow buffer will treat approximately 0.66 acres of impervious surface from the Turnpike mainline. The construction contract was awarded in November 2021

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and project construction will be completed before the MS4 General Permit expires in July 2027.

*Capisic Brook BMP #2 -*

*Improve Awareness of Stormwater BMP Maintenance Requirements*

MTA will soon have two new stormwater treatment BMPs constructed in the Capisic Brook watershed, including the new meadow buffer described above and one new lined USF recently completed in 2021. As described under the discussion of Thatcher Brook BMP #1, the number of MTA's operational stormwater treatment BMPs is increasing rapidly, and improved awareness on behalf of MTA highway operations staff of correct BMP management practices will help ensure optimum function and lifespan.

MTA will include in its annual environmental and stormwater training for highway operations staff correct stormwater BMP maintenance practices in the Capisic Brook watershed. MTA will also install signage around the new underdrained soil filter to alert highway maintenance staff to use only light mowing equipment to prevent rutting, compaction, and damage to filter media and the underdrain system. Foreman and maintenance facilities will be provided with mapping identifying the location of MTA's new stormwater BMP infrastructure for reference and to improve staff awareness of the location of the new infrastructure. In its MS4 Permit Annual Compliance Report, MTA will report progress on each of these metrics.

*Capisic Brook BMP #3 –*

*Implement MTA Chloride BMPs*

As described under item number eight at the end of this UIS BMP narrative, MTA has prepared Chloride BMPs to help manage the application of chloride for snow and ice control and reduce its environmental impacts. As an UIS BMP, MTA will implement the MTA Chloride BMPs in the Capisic Brook Watershed.

**6. Dole Brook Watershed, Portland**

*Dole Brook BMP #1 –*

*Construct New Stormwater Treatment BMP as Part of Forest Avenue Bridge Rehabilitation Project*

Before July 2027 and as part of the Forest Avenue Bridge Rehabilitation Project in Portland, MTA will construct one new stormwater treatment BMP in the Dole Brook watershed, such as a meadow buffer, underdrained soil filter, gravel treatment wetland,



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proprietary tree box filter(s), or comparable BMP. MTA currently estimates that construction would begin in 2024. The specific type of BMP and impervious surface area that would be treated would be determined as part of the project design.

Dole Brook BMP #2 –

Construct New Stormwater Treatment BMP as Part of Riverside Drive Bridge Rehabilitation Project

Before July 2027 and as part of the Riverside Drive Bridge Rehabilitation Project, MTA will construct one new stormwater treatment BMP in the Dole Brook watershed, such as a meadow buffer, underdrained soil filter, gravel treatment wetland, proprietary tree box filter(s), or comparable BMP. MTA currently estimates that construction would begin in 2025. The specific type of BMP and impervious surface area that would be treated would be determined as part of the project design.

Dole Brook BMP #3 –

Implement MTA Chloride BMPs

As described under item number eight at the end of this UIS BMP narrative, MTA has prepared Chloride BMPs to help manage the application of chloride for snow and ice control and reduce its environmental impacts. As an UIS BMP, MTA will implement the MTA Chloride BMPs in the Dole Brook Watershed.

**7. Hart Brook Watershed, Lewiston**

Hart Brook BMP #1 and #2 – New Structural BMPs or Riparian Planting Augmentation

MTA will complete two of the following BMPs before the close of the MS4 permit cycle on June 30, 2027:

- Construct a new lined underdrained soil filter or other structural BMP at the southwest quadrant of the Exit 80 interchange (near the end of the northbound off ramp);
- Construct a new structural BMP at the southeast quadrant of the River Road Bridge crossing such as a tree box filter/ bioretention BMP;
- Augment the riparian wetland buffer of a stream that MTA day lighted and restored in 2015 as part of the Exit 80 interchange reconstruction project with additional tree sapling plantings to further advance shading and forest cover over the stream; or

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- MTA maintains a bridge over Goddard Road at approximate mile marker 79.6. Adjacent to the bridge on the northbound side of the Turnpike, a drainage ditch is located within the MTA right-of-way (ROW) with an unconsolidated bottom that drains directly into Hart Brook. The ditch conveys runoff from Goddard Road and the municipal closed drainage system. MTA will stabilize the approximately 200-foot long drainage ditch to Hart Brook (MTA MS4 discharge point 0029) using either geofabric and riprap, or vegetation and permanent stone check dams. While the ditch is located in MTA's ROW, these improvements would constitute actions above and beyond routine maintenance, because the ditch is not a component of MTA's highway infrastructure and serves as a stormwater conveyance and discharge point for the municipal road. The specific ditch stabilization measures and improvements will be determined based on input from MTA design engineers. Before implementing or designing improvements to the ditch, MTA will consult with Maine DEP licensing staff to obtain concurrence that the ditch stabilization work will not occur in a river, stream, or brook regulated under the Natural Resource Protection Act.

The two BMPs to be implemented will be dependent on additional engineering feasibility assessments and funding, although two of these BMPs would be implemented before the close of the MS4 permit cycle on June 30, 2027.

Hart Brook BMP #3 –  
Implement MTA Chloride BMPs

As described under item number eight at the end of this UIS BMP narrative, MTA has prepared Chloride BMPs to help manage the application of chloride for snow and ice control and reduce its environmental impacts. As an UIS BMP, MTA will implement the MTA Chloride BMPs in the Hart Brook Watershed.

**8. MTA Chloride Best Management Practices**

Chloride from winter maintenance of impervious surfaces has been identified by the Maine Department of Environmental Protection as a stressor of Urban Impaired Streams. Maine Turnpike Authority maintains point source discharges (i.e., outfalls) to seven UIS waterbodies within the Urbanized Area (UA) boundary that is subject to regulation under the Transportation MS4 General Permit. MTA has prepared this Chloride BMP to utilize winter road maintenance materials efficiently, help reduce stressors on the aquatic environment, and meet the requirement of the Transportation MS4 Permit to implement at least three structural or non-structural BMPs for each UIS watershed within the UA.

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MTA has already taken numerous actions in recent years to reduce the impact of roadway deicing on the environment, while meeting the essential requirement to maintain safe road conditions. These actions are based on best practice recommendations outlined in the [Maine Environmental Best Management Practices Manual for Snow and Ice Control \(2015\)](#), as implemented through the *Maine Turnpike Authority Snow and Ice Control Policies and Procedures*. Key elements of MTA's practices relevant to controlling the application of chlorides include:

- Pre-season preparation and equipment calibration;
- Equipment training for highway operations staff;
- Collection and use of weather data to inform application of snow and ice control materials;
- Establishment of level of service and priority snow and ice removal areas;
- Procedures for removal of snow and ice from the Turnpike; and,
- Snow and ice control material tracking, handling, and storage.

The snow and ice control materials available for use on the Maine Turnpike are dry sodium chloride (salt), sodium chloride brine, magnesium chloride liquid, and sand. Sand is rarely used. MTA's practice is to pre-wet solid ice control materials with sodium chloride brine to help prevent the loss of material from the pavement surface. The benefits of pre-wetting sodium chloride with brine are:

- Less bounce & scatter;
- Faster reaction time;
- More effective melting action;
- Lower effective temperature is achieved if pre-wetting with magnesium chloride; and,
- Less salt needed resulting in reduced costs and environmental impact.

Since magnesium chloride has the ability to melt ice at lower temperatures, when temperatures drop below approximately +15°F, MTA generally uses magnesium chloride liquid or sodium chloride brine blended with magnesium chloride liquid to pre-wet dry sodium chloride.

**Annual Reporting:**

The practices outlined above constitute MTA's chloride BMPs, which will be implemented across the MS4 urban impaired stream watersheds where MTA maintains its infrastructure. As described under the preceding discussion of proposed BMPs for each urban impaired stream watershed, MTA proposes these collective practices as a BMP credit in each of MTA's urban impaired stream watersheds. In addition, as part of MTA's

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MS4 Permit Annual Compliance Report, MTA will report on the following related to chloride reduction:

- At least one representative from MTA will attend an annual regional training or roundtable to learn about new chloride reduction techniques coordinated by the Interlocal Stormwater Working Group or another organization; and,
- Over the course of the MS4 permit cycle (July 1, 2022 – June 20, 2027, or as extended), MTA proposes a new chloride tracking pilot program to monitor the application of winter maintenance chemicals for individual plow routes operating from MTA's Crosby Yard maintenance facility in Portland. Plow routes from the Crosby Yard span from Exit 36 in Saco to Exit 53 at the Falmouth Spur. Portions of five of the seven urban impaired stream watersheds with MTA outfalls in the Urbanized Area that are regulated under the MS4 permit are included within the proposed pilot program area (Goosefare Brook, Red Brook, Nasons Brook, Capisic Brook, and Dole Brook). Maine DEP identifies chloride as a stressor in each of these streams. Long Creek, an urban impaired stream which is not regulated under the MS4 permit, is also located within the pilot program area and is impaired by high chloride levels.

MTA uses loader scale data and other tracking tools to monitor and calculate the tonnage of dry sodium chloride and gallons of sodium chloride brine and magnesium chloride liquid applied each winter season. As past practice, these material quantities have been tracked for each MTA maintenance facility that is located along the Turnpike. MTA has not historically tracked this information to the level of individual plow routes, although this is feasible for dry sodium chloride with MTA's tracking systems.

MTA assigns a specific plow route for each truck and driver for the winter season. Each MTA interchange facility has its own defined plow route. Sections of the Turnpike mainline are also divided into individual routes. Approximately 20 individual plow routes operate out of the Crosby Yard. Tracking the application of dry sodium chloride for each plow route will allow for calculation of a seasonal total along the route, and for a relative comparison between plow routes (i.e. the amount of material applied along an interchange plow route over the season could be compared to a mainline plow route). This information could help identify whether there are locations within the watershed where chloride application may tend to be higher or lower.

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Throughout the MS4 permit cycle, MTA will provide the following deliverables to Maine DEP with its MS4 annual report for the Crosby Yard chloride tracking pilot program:

1. Maps or geospatial data (i.e., shapefile or kmz file) of the individual plow routes;
2. For each plow route, a tabular summary of:
  - a. The seasonal application total of dry sodium chloride;
  - b. The total number of Turnpike lane miles associated the plow route; and,
  - c. The seasonal total of dry sodium chloride applied per lane mile for each plow route.
3. The seasonal application total of sodium chloride brine and magnesium chloride liquid used by the Crosby Yard facility.