



VIA E-MAIL

September 14, 2023

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Division of Water Quality Management  
Bureau of Water Quality  
Maine Department of Environmental Protection  
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**SUBJECT: Municipal Separate Storm Sewer System Permit # MER043001  
Annual Report for Permit Year One (July 1, 2022 through June 30, 2023)**

Ms. Keen:

This report is intended to satisfy the requirements in *Part IV(G)* of the 2021 Maine Pollutant Discharge Elimination System (MEPDES) General Permit for the Discharge of Stormwater from Maine Department of Transportation (MaineDOT) and Maine Turnpike Authority (MTA) Municipal Separate Storm Sewer Systems (MS4s), and the associated permittee-specific Maine Department of Environmental Protection (Maine DEP) Order MS4 General Permit #MER043000 Final – MER 043001. On behalf of MTA, we are pleased to submit this Annual Report for Permit Year One (PY1, defined as July 1, 2022 through June 30, 2023). This Annual Report specifically describes the status of MTA's Best Management Practices (BMPs) and Measurable Goals (MGs) program for each of the six Minimum Control Measures (MCMs) presented in MTA's Stormwater Program Management Plan (SWMP or Plan) (dated July, 2022) for PY1.

## BACKGROUND

MTA's SWMP was developed in accordance with *Part IV* of the MPDES MS4 General Permit for the purpose of establishing, implementing and enforcing a stormwater management program to reduce the discharge of pollutants from MTA's roadways, drainage areas and facilities located within Urbanized Areas (UAs). For each MCM established in the SWMP, MGs have been established to evaluate the effectiveness of the designated BMPs. A schedule with milestones for implementation of applicable BMPs have been established for these goals as part of the SWMP. The SWMP has not been modified or updated since it was approved by Maine DEP with the issuance of the permittee-specific Maine DEP Order; therefore, a copy of the SWMP is not included with this report.

In accordance with *Part IV(G)* of the MPDES MS4 General Permit, the following subsections of this Annual Report document MTA's compliance with the conditions of the MPDES MS4 General Permit and the permittee-specific Maine DEP Order through implementation of MTA's SWMP during PY1. As applicable to each MCM and associated BMPs and MGs, the following subsections address:

- An assessment of the effectiveness of the stormwater management program, appropriateness of the BMPs, progress towards achieving identified MGs for each MCM, and progress toward achieving the goal of reducing the discharge of pollutants to the maximum extent practicable;

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- A summary of information or monitoring data (if applicable) collected and analyzed during the permit year;
- A summary of anticipated stormwater management actions MTA intends to take during the next reporting cycle;
- Any changes to BMPs or MGs proposed under the SWMP;
- A description of activities, progress, and accomplishments for each MCM and urban impaired stream (UIS) watershed.

## **MCM 1 - PUBLIC EDUCATION AND OUTREACH ON STORMWATER IMPACTS**

### ***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**

#### **MEASURABLE GOAL 1.1A – ANNUAL EMPLOYEE STORMWATER TRAINING**

MTA's annual stormwater training program was conducted for highway operations personnel and construction project inspectors to address pollution reduction in stormwater runoff. The highway operations personnel stormwater training program, which is combined with Spill Prevention, Control and Countermeasures (SPCC) and Erosion and Sedimentation Control (ESC) practices training, was completed in May and June 2023 by MTA staff and regulatory specialists from GZA GeoEnvironmental, Inc. (GZA).

MTA SPCC/ Stormwater/ ESC training sessions held in PY1 addressed the following topics:

- Sources of stormwater pollution, and the impacts of stormwater runoff on surface waters;
- Applicable stormwater regulations and permits that MTA operates under;
- MS4 permit compliance resources available to highway operations staff, such as stormwater management system maps;
- Correct procedures for completing and documenting street sweeping, catch basin inspection and clean out, and illicit discharge detection;
- Stormwater pollution prevention BMPs for highway operations, maintenance yard facilities, including structural and non-structural BMPs, and best practices for equipment storage/ maintenance, vehicle rinsing and washing, and materials handling and storage;
- Erosion and sedimentation control BMPs for construction sites, including maintaining limits of disturbance, erosion control barriers and other structural BMPs, BMP inspection and maintenance, mulch application, winter construction requirements, ditch maintenance, and appropriate re-establishment of vegetation cover;
- Post-construction stormwater BMP inspection obligations and maintenance practices for highway operations staff;
- MTA's Spill Prevention, Control, and Countermeasure (SPCC) Refresher Training, including regulatory background, SPCC/Stormwater Facility Plans and potential sources, Spill Prevention and Control BMPs, spill response procedures and notifications; and

- MTA’s Mobile SPCC Plan, which includes procedures for refueling of mobile equipment, such as mowers, loaders, and other heavy equipment, and to avoid/ minimize refueling in environmentally sensitive areas, such as within UA and UIS watersheds.

These training topics were selected to help ensure that MTA highway operations staff, and construction site inspectors are aware of their roles in achieving the goals of MTA’s Stormwater Management Plan. Additional reportable indicators regarding the progress of MTA’s annual employee stormwater training during PY1 are provided below:

- Number of employee training sessions: **Six**
  - A total of **five** in-person training sessions were completed at the following MTA highway maintenance facilities: York, Kennebunk, Crosby/ South Portland, Gray, and Litchfield/ West Gardiner; and,
  - **One** in-person make up training session was completed at MTA Headquarters for staff that missed the original training session
- Duration of training sessions: Typically, **two** hours
- Number of MTA employees trained: **104** MTA highway operations staff, and **5** MTA resident engineers/ MTA construction inspectors
- Average score on stormwater/ erosion and sediment control quiz covering material presented during the training session: **95%**

In addition to the annual training targeting MTA highway operations staff, as part of MTA’s Annual Resident Engineer and Construction Inspector Training on February 28, 2023, MTA’s construction program managers also provided a brief review of MTA’s erosion and sediment control contract specifications and MTA’s standards for implementation on MTA construction projects. The resident engineer and construction inspector training was attended by:

- **Three** MTA engineering and construction management staff members;
- **Six** MTA resident engineers/ construction inspectors; and,
- **13** contracted resident engineers/ inspectors.

### **MEASURABLE GOAL 1.1B – CONTRACTOR STORMWATER AWARENESS**

MTA requires that contractors working on MTA construction projects involving more than an acre of ground disturbance within the MS4 UA receive, review, and sign a copy of MTA’s Stormwater Awareness Affidavit and complete their contracted responsibilities in accordance with MTA’s Supplemental Specification – Section 656 – Temporary Soil Erosion and Water Pollution Control, the MaineDOT Best Management Practices for Erosion and Sedimentation Control, and the contractor’s Spill Prevention Control and Countermeasure Plan approved by the MTA resident engineer. The Stormwater Awareness Affidavit has been previously provided as Appendix D of MTA’s SWMP.

MTA’s Supplemental Specification Section 656 and the Stormwater Awareness Affidavit further require that the contractor designate an On-Site Responsible Party (OSRP) for erosion and sediment control at the site that is certified by Maine DEP’s Non-Point Source (NPS) Training Program or holds professional licensure requiring equivalent knowledge, and apply and maintain appropriate erosion and sedimentation controls during construction. The contractor’s adherence to MTA’s construction-phase stormwater and erosion and sediment control requirements are monitored on a daily basis by the MTA resident engineer assigned to the project. The resident engineer or their designated inspector document erosion and sediment control conditions at the site with weekly reports. In addition to the daily construction site supervision and weekly inspection reports managed by the MTA

resident engineer and inspector, projects involving more than an acre of ground disturbance are periodically inspected and audited for all aspects of environmental compliance during construction. In PY 1:

- MTA commenced **one** new contracted construction project with more than an acre of ground disturbance within the MS4 UA:
  - 2022.07 – New Saco Interchange – Exit 35
- **One** contractor signed MTA’s Stormwater Awareness Affidavit, and committed to the associated erosion and sedimentation control requirements.

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

In PY1, MTA continued education and outreach efforts established during the previous permit cycle and that are intended to motivate MTA staff and contractors to use BMPs to minimize stormwater pollution, as described above under Measurable Goals 1.1A and 1.1B.

#### **MEASURABLE GOAL 1.2A – STAFF TRAINING ON CORRECT APPLICATION OF BMPS**

As reported under Measurable Goal 1.1A, **104** MTA highway operations staff and **5** MTA resident engineers/construction inspectors received training that included the correct application of construction-phase BMPs. The PY 1 training addressed correct implementation and maintenance of construction-phase BMPs including: hay and straw mulch, erosion control blanket, stone check dams, silt fence, and erosion control mix berms, as well as highway drainage ditch maintenance practices and post-construction stormwater management BMP maintenance. The PY1 training also addressed MTA’s regulatory obligations under stormwater-related permits and laws, including:

- Memorandum of Agreement for Stormwater Management Between the Maine Department of Transportation, Maine Turnpike Authority and Maine Department of Environmental Protection (Stormwater MOA), and associated requirements of Maine Stormwater Management Law, the Maine Construction General Permit, and Maine Erosion and Sedimentation Control Law;
- MTA’s MS4 General Permit; and,
- General Permit – Post Construction Discharge of Stormwater in the Long Creek Watershed.

#### **MEASURABLE GOAL 1.2B – SUMMARY OF NEW PROJECTS WITHIN THE MS4 URBANIZED AREA**

New MTA construction projects with an acre or more of ground disturbance that commenced during PY1 in the MS4 UA, and that required the contractor to provide erosion and sedimentation control credentials are listed under Measurable Goal 1.1B.

### **BMP 1.3 REPORT PROGRESS**

Progress in continuing education and outreach efforts has been reported under the preceding measurable goals. Evaluation and assessment of this progress is provided below.

#### **MEASURABLE GOAL 1.3A – EMPLOYEE TRAINING INDICATORS**

As reported under Measurable Goal 1.1A, MTA implemented a robust annual training program related to construction and post-construction stormwater management. The training sessions were well-attended by MTA

highway operations, construction, and engineering staff. Based on constructive questions asked by staff related to catch basin clean out and street sweeping, refueling procedures, spill response, and stormwater treatment BMP maintenance during the trainings, the trainings remain an effective tool for keeping both new and experienced MTA staff current on stormwater BMPs. The average stormwater and erosion and sediment control quiz score of 95% demonstrates that staff are retaining information covered during the training sessions. MTA will continue its annual staff training program in PY2, with no proposed changes to BMPs or MGs specified in the SWMP.

### **MEASURABLE GOAL 1.3B – CONSTRUCTION SITE ENVIRONMENTAL AUDIT INDICATORS**

During PY1, MTA managed five ongoing or new active construction projects within the MS4 UA with more than one acre of soil disturbance:

- Contracts 2020.03/ 2021.08 – Portland Area Widening I/ II;
- Contract 2021.05 - York Toll Demolition Mile Marker 7.3;
- Contract 2021.07 - Exit 45 Reconstruction;
- Contract 2022.02 – Saco Interchange Paving; and,
- Contract 2022.07 – New Saco Interchange - Exit 35.

MTA environmental staff completed **nine** Construction Project Environmental Compliance (CPEC) audits at these sites within the MS4 UA during PY1. **One** additional final walk through of the York Toll Demolition project was also completed by MTA environmental staff. Additional ad hoc inspections of these construction sites were completed by MTA environmental and engineering staff on an as needed basis during PY1. These inspections are in addition to the daily oversight of the construction contractor provided by MTA’s on-site resident engineers and construction inspectors.

CPEC site audits and other inspections confirmed that MTA’s contractors are successfully implementing construction-phase BMPs under the direction of MTA’s resident engineers and construction inspectors on a consistent basis. Silt fence, erosion control mix berm, or similar sediment barriers are typically in-place and well-maintained. Sediment is generally kept within the project’s limits of disturbance. When the need for corrective action was identified during the CPEC site audits, the deficiencies that needed to be addressed were usually minor and routine. The most common corrective actions needed were the need to apply additional hay or straw mulch, sediment barrier repairs, and repair of minor slope erosion before full vegetation cover was achieved. When needed, corrective actions were implemented in a timely manner before significant sedimentation occurred outside of the project limits of disturbance or into protected natural resource areas. Maine DEP or the U.S. Army Corps of Engineers did not issue any permit violation notices or enforcement actions to MTA within the MS4 UA during PY1. MTA has contractual authority to levy daily fines to contractors for erosion and sedimentation control non-compliance, but did not need to impose fines on any of its contractors during PY1.

MTA’s multifaceted CPEC program and construction supervision program remains effective in supervising construction contractors and promoting adherence to construction-phase BMPs to prevent erosion, sedimentation, and stormwater pollution. The current system of daily project oversight by the resident engineer and construction inspectors, weekly erosion and sedimentation control inspections/reports prepared by the resident engineer or construction inspector, periodic CPEC audits, and additional ad hoc inspection is robust. MTA intends to continue this program during PY2. No changes to BMPs or MGs are proposed.

## **MCM 2 – PUBLIC INVOLVEMENT AND PARTICIPATION**

### ***Goals:***

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

MTA involves its various internal departments as well as neighboring communities in the implementation of its stormwater program, including public noticing and coordination with municipalities as described under BMPs 2.1 and 2.2 and associated MGs.

### **BMP 2.1 PUBLIC NOTICE REQUIREMENT**

#### **MEASURABLE GOAL 2.1 – STAKEHOLDER MEETING DOCUMENTATION**

MTA maintains a written public notice policy and complies with the Maine Freedom of Access Act. In PY1, MTA did not host any public meetings involving MS4 stakeholders related to the implementation of the MS4 General Permit. In PY2, should MTA hold public meetings relevant to the implementation of the MS4 General Permit, MTA will document the meeting and its attendance in the PY2 annual report. At this time, no MS4 stakeholder meetings or changes to MTA’s BMPs or MGs are planned or proposed.

### **BMP 2.2 COORDINATE WITH REGULATED COMMUNITIES**

In PY1, MTA maintained communication with MS4 communities and their respective Stormwater Coordinators, primarily through participation in the Greater Portland 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 that addresses 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 Maine DEP and host municipalities regarding watershed management planning efforts within MTA’s right-of-way (ROW).

#### **MEASURABLE GOAL 2.2 – LOCAL AND REGIONAL STORMWATER MEETING DOCUMENTATION**

MTA participated in the following local or regional stormwater meetings in fulfillment of BMP 2.2 and MG 2.2 in PY1:

- MTA personnel attended **two** ISWG meetings;
- MTA personnel attended **three** SMSWG meetings;
- Maintained a position on the Long Creek Watershed Management District (LCWMD) Governing Board. MTA personnel attended and participated in **five** LCWMD Governing Board or related LCWMD meetings in PY1;
- MTA personnel attended **one** annual Stormwater Memorandum of Agreement progress update with Maine DEP and the Maine Department of Transportation;
- **Two** MTA personnel attended the Maine Stormwater Conference and delivered a presentation on stormwater management in the MTA ROW;

- MTA was a bronze level sponsor of Maine’s Envirothon, which is a natural resource problem-solving competition where high school students are tested, in an outdoor setting, in five natural resource areas: aquatics, forestry, soils, wildlife, and a current nationwide environmental issue; and,
- MTA notified municipal MS4 Stormwater Coordinators when a spill or release of oil or hazardous materials occurred within MTA’s ROW within the MS4 UA boundary shared with the municipality.

MTA’s coordination efforts related to stormwater management with neighboring regulated communities and other entities continued to be an effective approach to maintaining awareness of issues and trends in the MS4 regulatory program, ongoing stormwater management efforts of neighboring MS4 communities, and BMP implementation in shared MS4 and UIS watersheds. MTA intends to continue its existing coordination program with regulated communities and stakeholders in PY2. No changes to BMPs or MGs under the SWMP are proposed, although MTA’s goal is to attend more of the ISWG and SMWSG meetings in PY2. In PY1, ISWG meetings were often held during periods of schedule conflicts with other essential MTA recurring meetings.

### **MCM 3 – ILLICIT DISCHARGE DETECTION AND ELIMINATION**

***Goals:***

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

#### **BMP 3.1 ILLICIT DISCHARGE DETECTION AND ELIMINATION PLAN**

MTA has developed an Illicit Discharge Detection and Elimination (IDDE) Plan previously submitted as Appendix E of MTA’s SWMP to address any discharge that is not uncontaminated groundwater, water from a natural resource, or an allowable non-stormwater discharge. The IDDE Plan is implemented by MTA throughout the five-year MS4 General Permit cycle.

#### **MEASURABLE GOAL 3.1 – PERIODIC REVIEW AND UPDATE TO IDDE PROGRAM**

MTA’s IDDE program as outlined in Appendix E of MTA’s SWMP remains appropriate to its stormwater infrastructure. During PY1, no updates or changes to the IDDE Program were made. No changes to the IDDE Program, or associated SWMP BMPs and MGs are anticipated in PY2 at this time.

#### **BMP 3.2 MAINTAIN MAPS**

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. MTA updates its storm sewer system map annually based on recently completed construction projects and other infrastructure modifications within the portion of the MTA ROW within the UA.

#### **MEASURABLE GOAL 3.2 – REPORT ON MAP UPDATES**

MTA updated its MS4 storm sewer system map in PY1 to reflect changes to the system resulting from completion of the following construction projects:

- 2022.02 – Saco Interchange Paving;
- 2022.12 – Bridge Repairs Ramp J, Wilson Road, Littlefield Road;
- 2022.13 – Bridge Repairs Route 236 and Ramp H;
- 2021.01 – Paving Mile Marker 30 – 35.5;
- 2021.03 – Northern Bridge Repairs;
- 2021.05 – York Toll Demolition;
- 2020.07 – Bridge Repairs; and,
- 2020.09 – Riverside Industrial Parkway Emergency Vehicle Ramps MM50.

**One** new outfall was added to MTA’s MS4 storm sewer system map as part of the York Toll Demolition project. In addition, MTA updated its MS4 storm sewer map in the municipalities of Biddeford, Saco, Auburn, and Lewiston based on early summer field inspections completed at the end of the preceding permit cycle/ year and dry weather outfall inspections completed during PY1. These field reviews resulted in identification and mapping of **two** new outfalls and removal of **four** previously mapped outfalls based on the field investigations and ground truthing.

MTA’s program of MS4 storm sewer system map updates was effective in keeping MTA’s storm sewer system map up-to-date in PY1. The program incorporates planned improvements resulting from completed construction projects, observations made during dry weather outfall and other inspections, and incidental observations made during the course of PY1. No changes to the map update program are recommended or proposed in PY2.

### **BMP 3.3 DRY WEATHER OUTFALL INSPECTION PROGRAM**

MTA’s IDDE Plan outlines the conditions under which dry weather outfall inspections will be conducted. MTA’s goal is to complete visual dry weather outfall inspections on 100% of its identified outfalls during the 5-year term of the MS4 GP, except outfalls meeting the condition in MS4 General Permit 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 by MTA environmental staff and consultants each year and cumulatively over the permit cycle will be reported in MTA’s annual reports. In addition to MTA’s dry weather outfall inspection program, additional incidental observation of catch basin outlets, some of which are MS4 outfalls, are made when annual catch basin inspection and cleanout is completed by MTA maintenance staff.

### **MEASURABLE GOAL 3.3 – REPORT ON DRY WEATHER OUTFALL INSPECTIONS**

In PY1 MTA environmental staff and GZA inspected **30** MS4 stormwater outfalls during conditions meeting dry weather criteria in the municipalities of Biddeford and Saco. None of the inspected outfalls were observed to be flowing and no illicit discharges were observed or sampled. All outfalls that were targeted by the planned inspections were able to be accessed. Based on the field observations, MTA’s MS4 stormwater system mapping, and desktop analysis of sanitary sewer utility mapping, 22 of the inspected outfalls are exempt from future dry weather inspection because field observations and mapping sources confirm they are associated with roadway drainage in undeveloped areas with no dwellings and no sanitary sewers. Eight of the outfalls remain subject to dry weather inspection due to the presence of a public sanitary sewer in the outfall’s sub-catchment, or because they collect runoff from developed areas outside of MTA’s ROW. In addition to MTA’s specific dry weather outfall inspection efforts, MTA highway operations staff or contractors inspected approximately **496** catch basins/ catch basin outlets in PY1, some of which also constitute MS4 outfalls. No illicit discharges were documented.

In PY1, MTA’s dry weather outfall inspection program completed by MTA environmental staff and consultants, which was augmented by additional catch basin and catch basin outlet observations during annual inspection and clean outs, were an effective start to the outfall inspections required during the permit cycle. The inspections confirmed exempt/ non-exempt status of each outfall, confirmed no dry weather flow or suspected illicit discharges,



and identified a total of **three** new or previously unmapped outfalls. MTA will continue working through its remaining outfalls during the permit cycle until all of MTA’s safely accessible MS4 outfalls have been inspected over the course of the permit cycle. In PY2 MTA plans to target outfalls in the municipalities of Kittery and York. No changes to the outfall inspection program or associated BMPs or MGs are proposed.

### **BMP 3.4 WET WEATHER ASSESSMENT**

Part IV(C)(3)(d) of the MS4 GP requires that prior to June 30, 2027, MTA will perform a wet weather assessment of the potential for illicit discharges during wet weather events. MTA’s IDDE Plan (Appendix E of MTA’s SWMP) discusses the wet weather assessment that MTA will perform. 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 future 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.

### **MEASURABLE GOAL 3.4 – REPORT ON WET WEATHER ASSESSMENT**

In PY1, MTA collected information on **30** outfalls inspected as part of MTA’s dry weather assessment to inform MTA’s future wet weather assessment before the close of the permit cycle. Each inspected outfall was evaluated based on field observations and desktop mapping to confirm if it collected drainage from outside of MTA’s highway ROW, and if it collected drainage from developed areas or areas with dwellings or sanitary sewers. Collecting this information during PY1 dry weather outfall inspections proved efficient and informative. Observations were documented in an inspection report that will be used to inform the future wet weather assessment once all MTA MS4 outfalls have been inspected. No changes to the wet weather assessment protocol or data collection work are proposed, and MTA will repeat this process for MS4 outfalls that will be inspected during PY2.

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

A limited number of allowable non-stormwater discharges have been previously identified and documented in MTA’s ROW. 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 – REPORT NEWLY IDENTIFIED ALLOWABLE NON-STORMWATER DISCHARGES**

In PY1, MTA identified no new allowable non-stormwater discharges to the MS4. No changes to BMPs or MGs for identifying allowable non-stormwater discharges were implemented in PY1 or proposed in PY2. **13** vehicle accident-related spills within the UA or in areas adjacent to and that drain into the UA occurred in PY1, which were reported to Maine DEP and cleaned up in coordination with Maine DEP as soon as possible. Copies of the spill reports are available to Maine DEP upon request. MTA also notifies nested MS4 municipalities when there is an accident-related spill within the UA on the Turnpike into waters of the state, the municipal stormwater drainage system, or shared municipal/ MTA stormwater drainage infrastructure. MTA’s program for responding to, reporting and cleaning up accident-related spills has proven effective in reducing the potential discharge of pollutants to waters of the state, and no changes to the program were made in PY1 or are proposed in PY2.

## **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 Memorandum of Agreement for Stormwater Management Between the Maine Department of Transportation, Maine Turnpike Authority and Maine Department of Environmental Protection to minimize or eliminate pollutants in stormwater runoff from construction activities that result in disturbed area of greater than or equal to one acre.*

MTA's Supplemental Specification 656 construction contract requirements and MTA's Construction Project Environmental Compliance Program are the primary means by which the MTA implements its construction site runoff program to adhere to the Stormwater MOA and Chapter 500 of Maine's Stormwater Management Law. These are implemented on an ongoing basis as construction projects are initiated, continued, and completed throughout the MS4 permit cycle. The CPEC Program also includes MS4 compliance elements and requirements associated with Maine's Natural Resource Protection Act, the Maine Construction General Permit, Maine's Site Location of Development Law, and Section 404 of the Federal Clean Water Act, as applicable to each construction project. The CPEC Program includes elements intended to reduce pollutants in stormwater from construction sites, such as:

- Contractual requirements for implementing and maintaining stormwater BMPs that meet or exceed the Chapter 500 basic standards and MaineDOT's BMP/ESC Manual throughout construction, and contractor acknowledgement of these requirements and that the project site is in an MS4 area or urban impaired stream watershed through review and signature of MTA's Stormwater Awareness Affidavit;
- Requiring contractors to provide Maine DEP erosion and sediment control training certificates for the delegated OSRP for each contracted construction project;
- Applying, inspecting, and maintaining structural and non-structural BMPs throughout construction; and,
- Erosion and sediment control inspections, on at least a weekly basis, and preceding and following a significant precipitation/ storm event during construction by a qualified MTA representative (e.g., resident engineer or construction inspector) along with the contractor's OSRP.

### **BMP 4.1 CONSTRUCTION SITE RUNOFF PROGRAM**

#### **MEASURABLE GOAL 4.1a – IDENTIFY NUMBER OF CONSTRUCTION PROJECTS WITHIN THE UA WHERE SUPPLEMENTAL SPECIFICATION 656 WAS APPLIED**

In PY1, MTA managed **five** active construction projects within the UA disturbing one acre or more where Supplemental Specification 656 was applied:

- Contracts 2020.03/ 2021.08 – Portland Area Widening I/ II;
- Contract 2021.05 - York Toll Demolition Mile Marker 7.3;
- Contract 2021.07 - Exit 45 Reconstruction;
- Contract 2022.02 – Saco Interchange Paving; and,
- Contract 2022.07 – New Saco Interchange - Exit 35.

## **MEASURABLE GOAL 4.1b – IDENTIFY PLANNED PROJECTS WITH ONE ACRE OR MORE OF DISTURBED AREA WITHIN THE UA**

In PY1, MTA initiated or continued planning efforts for **two** future construction projects within the UA that would disturb one or more acres. These included:

- The Riverside Street Bridge Replacement Project located in Portland; and,
- The Gorham Connector Project located in Gorham, Scarborough, and South Portland.

Neither of these projects are planned for construction in PY2. The Riverside Street Bridge Replacement Project is located entirely within the MS4 UA, and the Gorham Connector project has very limited areas of overlap with the UA. As part of MTA's project development process, both projects are being evaluated for permit, stormwater management, and Stormwater MOA compliance obligations. Planning and design work for both projects is not yet complete. MTA has had initial discussions with Maine DEP to review Stormwater MOA requirements applicable to the Gorham Connector, and MTA has identified conceptual stormwater treatment BMP locations for the Riverside Street Bridge Replacement Project, which is further along in the design process. Before plans for either project are finalized, MTA will complete additional coordination with Maine DEP, the U.S. Army Corps of Engineers, and municipalities as part of the project development and permitting processes. MTA would not begin construction on either project until the necessary state and federal permits are obtained, and consultations with Maine DEP regarding MTA's plans for stormwater management and meeting Stormwater MOA obligations are completed.

## **MEASURABLE GOAL 4.1c – SUMMARY OF CONSTRUCTION SITE ENVIRONMENTAL AUDIT FINDINGS**

During PY1, MTA environmental staff completed **nine** CPEC audits at construction sites with more than one acre of disturbance within the MS4 UA. **One** additional final walk through of the York Toll Demolition project was also completed by MTA environmental staff. Additional ad hoc inspections of these construction sites were completed by MTA environmental and engineering staff on an as needed basis during PY1. These inspections were in addition to the daily oversight of the construction contractor provided by MTA's on-site resident engineers and construction inspectors, and the weekly erosion and sediment control reports prepared by MTA's resident engineers or construction inspectors and filed with the project records.

CPEC site audits and other inspections confirmed that MTA's contractors are successfully implementing construction-phase BMPs under the supervision of MTA's resident engineers and construction inspectors on a consistent basis. Silt fence, erosion control mix berm, or similar sediment barriers are typically in-place and well-maintained. Sediment is generally kept within the project's limits of disturbance. When the need for corrective action was identified during the CPEC site audits, the deficiencies that needed to be addressed were usually minor and routine. The most common corrective actions were the need to apply additional hay or straw mulch, sediment barrier repairs, and repair of minor slope erosion before full vegetation cover was achieved. When needed, corrective actions were implemented in a timely manner before significant sedimentation occurred outside of the project limits of disturbance or into protected natural resource areas.

MTA's construction site stormwater management program was effective in PY 1, and no changes to MCM4 or associated BMPs and MGs are proposed in PY2. The program is multi-layered, including contractual obligations, documentation of contractor erosion and sediment control credentials, daily oversight by the MTA resident engineer and construction inspectors augmented with weekly inspection reports, routine supervision by MTA engineering staff, and compliance reviews by MTA environmental staff. Observations made during compliance reviews and

MTA staff inspections demonstrated that appropriate construction stormwater management measures were typically incorporated as part of project construction. In PY2 MTA will continue implementation of its construction site stormwater management and CPEC programs.

**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**

For new development projects and redevelopment projects that disturb greater than or equal to one acre within the UA, MTA evaluates and implements structural and non-structural BMPs following the guidelines and standards specified in the most current version of the Stormwater MOA. Structural BMPs are implemented 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).

**MEASURABLE GOAL 5.1a – REPORT ON STRUCTURAL POST-CONSTRUCTION STORMWATER BMPS**

Table 1 summarizes the location and type of MTA’s structural post-construction stormwater BMPs serving the MS4 UA and associated UIS watersheds at the close of PY1. New stormwater BMPs that were completed and went into service during PY1 are highlighted in **bold underlined text**. MTA had **ten** stormwater BMPs serving the UA and associated UIS watersheds at the start of PY1. **Four** new BMPs went into service during PY1, increasing the number of UA and UIS stormwater BMPs to **14** by the end of PY1.

<b>Table 1 - MTA Stormwater Treatment BMPs Serving the MS4 UA and Associated UIS Watersheds as of June 30, 2023</b>			
<b>Project</b>	<b>Approximate Mile Marker</b>	<b>Municipality</b>	<b>BMP</b>
Warren Avenue Bridge	Mile 49	Portland	One underdrained soil filter in northbound highway ditch
MCRR Bridge	Mile 47.9	Portland	Two underdrained soil filters, one on each side of mainline
MTA Headquarters <sup>1</sup>	NA	Portland	One underdrained soil filter
Exit 44 Toll Plaza	Mile 44	Scarborough	One underdrained soil filter in northbound highway ditch
Portland Area Widening I <sup>1</sup>	Mile 44.4	South Portland	<b><u>Two underdrained soil filters adjacent to Red Brook<sup>3</sup></u></b>
Cummings Road Bridge	Mile 44.6	South Portland	Three Filtera box filters
Exit 32	Mile 32	Biddeford	Two underdrained soil filters at northbound on ramp
Relocated York Toll Plaza <sup>2</sup>	Mile 7.3	York	<b><u>Two underdrained soil filters at old toll plaza location<sup>3</sup></u></b>

<sup>1</sup>Additional stormwater treatment BMPs serve the project within the UA, but are within the Long Creek watershed, which is regulated under a separate permit, so those BMPs are not reported in this table.

<sup>2</sup>Additional stormwater treatment BMPs serve the project, but are located well outside of the UA, or do not receive runoff from within the UA, so those BMPs are not reported in this table.

<sup>3</sup>Bold underlined text are new USFs that were completed and went into service during PY1.

## **MEASURABLE GOAL 5.1b – REPORT ON NON-STRUCTURAL STORMWATER BMPS**

MTA’s program of non-structural BMPs includes employee training, public/ community outreach, outfall inspections, catch basin cleaning, and street sweeping as reported under the discussion of MCM’s 1, 2, 3, and 6 and associated BMPs and MGs in this report.

### **BMP 5.2 ANNUAL INSPECTIONS OF POST-CONSTRUCTION STORMWATER TREATMENT BMPS**

MTA completed inspections of post-construction stormwater treatment BMPs during PY1. Annual inspections were completed by MTA environmental and engineering department staff that are knowledgeable on the design, operation, and maintenance of the BMPs. The inspections evaluated the condition of inlets and outlets, slope stability, vegetative cover, hydrologic function and drainage, and sediment accumulation.

### **MEASURABLE GOAL 5.2a – SUMMARIZE FINDINGS OF POST-CONSTRUCTION BMP INSPECTIONS**

MTA staff inspected each of MTA’s stormwater treatment BMPs at least once during PY1. Inspection dates included July 5, November 10, November 17, and June 13 during PY1. Stormwater treatment BMPs were found to be in good condition and draining properly with no major problems or corrective actions needed. Minor maintenance needs were identified including mowing, leaf removal, and sediment removal. Rutting from prior mowing activities was noted at the Exit 44 and Exit 32 underdrained soil filters (USFs), but no new rutting was observed. The observed rutting occurred during a prior PY when heavy mowing equipment was used in the USFs. The rutting was not impeding the function of the USFs. As described in the final section of this report addressing UIS best management practices, MTA has implemented a new program of BMP maintenance training and signage to prevent the use of heavy equipment in stormwater BMPs by highway maintenance staff, and to avoid additional or future rutting within stormwater treatment BMPs.

### **MEASURABLE GOAL 5.2b – SUMMARIZE CORRECTIVE ACTIONS IMPLEMENTED DURING THE PY**

In PY1, routine maintenance of existing stormwater treatment BMPs within the UA included vegetation trimming/ mowing with light weight equipment or weed whackers, removal of trash, and removal of leaves and sediment where needed. In PY1, MTA also installed new BMP signage around stormwater BMPs within the UA to alert maintenance staff not to mow BMPs with heavy equipment to prevent damage to the BMPs.

In summary, MTA’s program has been effective in improving the management of stormwater from MTA’s infrastructure and ROW. MTA now has **14** operational stormwater BMPs serving the MS4 UA and associated UIS watersheds, including **four** that were new in PY1. In PY2 additional meadow buffer and underdrained soil filter BMPs will be under construction or completed in the Capisic Brook, Nason’s Brook, Red Brook, and Goosefare Brook UIS watersheds and the UA. MTA’s staff of environmental professionals, engineers, and construction managers have been successful in monitoring the operation and condition of MTA’s stormwater BMPs and addressing needed corrective actions with the assistance of MTA highway operations staff. As addressed in other sections of this report, MTA’s program of non-structural BMPs (employee training, public/ community outreach, outfall inspections, catch basin cleaning, and street sweeping) also remains effective as documented by associated MGs and reportable metrics.

## **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 OPERATIONS AND MAINTENANCE PROCEDURES**

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 and provided as Appendix F of MTA's SWMP. This 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 – ANNUAL REVIEW OF WRITTEN PROCEDURES**

MTA has reviewed its MCM 6 Written Procedures, and no new potential pollutant sources have been identified, and no procedural modifications warranted or proposed.

### **BMP 6.2 ANNUAL EMPLOYEE TRAINING**

As discussed in BMP 1.1, MTA's annual employee training program addresses spill response, 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 – REPORT ON ANNUAL EMPLOYEE TRAINING**

MTA completed extensive employee training related to stormwater pollution and management in PY1. A discussion of the number and duration of training sessions, the type and content of the training, and the number of employees trained is provided under the discussion of BMP 1.1.

### **BMP 6.3 STREET SWEEPING**

MTA conducts annual street-sweeping to remove grit and fines associated with winter road maintenance activities and other sources each year, usually in the spring after snow-melt.

#### **MEASURABLE GOAL 6.3 – SUMMARY OF COMPLETED STREET SWEEPING**

UA Street Sweeping Summary for PY1:

- Approximate number of lane miles swept: **95**
- Approximate number of toll, interchange, and bridge decks swept: **16**
- Approximate number of park and rides swept: **1**

In PY1, MTA managed five large construction projects within the UA, including the Old York Toll Plaza Demolition Project, the New Saco Interchange – Exit 35 Project, the Saco Interchange Paving Project, the Exit 45 Reconfiguration Project, and the Portland Area Widening and Safety Improvements Project. In order to keep these work zones safe and well managed by MTA's contractors, these project sites were often not accessible or available

to MTA highway operations staff for street sweeping. However, it is the construction contractor's responsibility to keep the pavement in work zones clean, and additional sweeping and pavement cleaning not reported here was completed by the construction contractor in the work zones for these projects.

#### **BMP 6.4 CATCH BASIN INSPECTION AND CLEANING**

MTA implements a program that includes inspection and catch basin cleanout, as needed, for those catch basins which can be accessed safely within the UA. Catch basin sediment is 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 – REPORT ON CATCH BASIN INSPECTION AND CLEANING**

UA Catch Basin Maintenance Summary for PY1:

- Approximate number of catch basins within the UA: **701**
- Approximate number of catch basins inspected: **496**
- Approximate number of catch basins cleaned: **216**
- Approximate number of catch basins or outlet pipes repaired: **10**

Catch basin inspection and cleaning was completed by MTA highway operations staff or by contractors as part of active construction projects.

#### **BMP 6.5 STORMWATER INFRASTRUCTURE INSPECTION AND PRIORITIZATION**

#### **MEASURABLE GOAL 6.5–ANNUAL INSPECTION, OPERATION, AND MAINTENANCE REPORTS**

MTA's professional engineering consultant completed an annual inspection of MTA's infrastructure and submitted associated reports to MTA during PY1. An *Annual Inspection Report* was received by MTA in July 2022, and an *Operation and Maintenance Annual Report* was received by MTA in October 2022. The findings of the annual infrastructure inspection is summarized in the *Operation and Maintenance Annual Report* saved on MTA's website: <https://www.maineturnpike.com/cmstemplatesshowAttachment.aspx?url=/Projects/Planning/Maine-Turnpike-2022-O-M-Report.pdf>. The report summarizes the condition of MTA's infrastructure (including drainage infrastructure) and identifies deficiencies observed. MTA uses the information presented in the *Annual Inspection Report* and the *Operation and Maintenance Annual Report* to evaluate and implement a prioritized schedule for repairing or upgrading MTA's infrastructure, including conveyances, structures, and outfalls as required under this MCM.

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

MTA does not currently operate any vehicle maintenance facilities within the UA, so no SWPPs have been provided as part of MTA's SWMP or with this report. However, MTA continued to maintain the following measures relative to the objectives of MCM 6 in PY1:

- SPCC Plans with integrated stormwater pollution prevention measures for all MTA Highway/Equipment Maintenance Facilities that address the proper use, storage, and disposal of petroleum products, and additionally address vehicle and equipment storage, maintenance, and refueling practices;

- A Mobile SPCC Plan for MTA’s entire ROW to supplement spill response and prevention measures in the facility specific SPCC Plans and specifically addresses more stringent practices within UA and UIS watersheds; and,
- Quarterly facility inspections at its Highway/Equipment Maintenance Facilities.

MTA’s annual MCM 6 Written Procedures review, employee training, street sweeping, catch basin inspection and cleanout, and infrastructure inspection and maintenance prioritization program was an effective and multi-faceted pollution prevention and good housekeeping program in PY1. The program is appropriate to the infrastructure that MTA operates and maintains. MTA intends to continue this good housekeeping and pollution prevention program in PY2, with no changes to the BMPs or MGs proposed.

## **URBAN IMPAIRED STREAM – BEST MANAGEMENT PRACTICES**

Progress on the implementation of UIS BMPs proposed in Appendix G of MTA’s SWMP are reported below for each of the UIS watersheds in the UA where MTA operates and maintains infrastructure.

### **THATCHER BROOK WATERSHED, BIDDEFORD**

#### **BMP #1 – IMPROVE AWARENESS OF STORMWATER BMP MAINTENANCE REQUIREMENTS**

In order to ensure that MTA’s growing number of stormwater treatment BMPs are appropriately maintained, in PY1 MTA implemented a program to improve MTA highway operations staff awareness of correct stormwater BMP maintenance practices. This included a module on stormwater BMP maintenance as part of the annual environmental, stormwater, and erosion and sediment control training for MTA highway operations staff held during the spring of 2023, and the installation of mowing restriction signs around many of MTA’s stormwater BMPs (see Photo 1, below). The training module included correct vegetation and mowing practices, discussion of which types of BMPs need to be mowed and the correct type of mowing equipment to use, inlet and outlet maintenance, and adjacent slope and swale maintenance.

In addition, each of MTA’s highway operations foreman and maintenance facilities were provided with maps identifying the location of MTA’s stormwater BMP infrastructure, and MTA environmental or engineering staff inspected each of MTA’s stormwater treatment BMPs and communicated maintenance needs to MTA highway operations staff for corrective action, as applicable. In PY1, these stormwater BMP awareness activities included the Thatcher Brook watershed and the two underdrained soil filters located at the Exit 32 northbound on-ramp in the watershed.





**Photo 1 – Example of mowing restriction signage installed around stormwater BMPs that require annual mowing, but where heavy equipment should not be used, such as underdrained soil filters. The purpose of the signs is to alert maintenance staff of BMPs that could be damaged by heavy mowing tractors during mowing operations.**

**BMP#2 – PLANT SHRUBS IN WETLAND AND INSTALL MOWING RESTRICTION SIGNS AROUND RIPARIAN ZONE OF RELOCATED SEGMENT OF UNNAMED TRIBUTARY TO THATCHER BROOK**

In PY1 MTA initiated planning for a shrub planting within the riparian wetlands of a recently relocated segment of an unnamed tributary to Thatcher Brook. A significant portion of the tributary stream had previously been aligned with the highway road ditch, but in 2021 MTA relocated the stream further from the edge of the road as part of other permitted improvements to the Exit 32 southbound off ramp. MTA has received an initial cost estimate for the shrub planting and intends to complete applicable permitting requirements during the fourth quarter of 2023. The shrub planting is planned for the spring of 2024 pending receipt of permits.

In PY1 several ‘Do Not Mow’ signs were installed along the upland edge of the riparian wetland to protect the riparian wetlands during annual highway mowing operations. The wetlands are located between the toe of the highway fill slope and the relocated stream (see Photo 2, below), and would be at risk of inadvertent mowing if not for efforts to promote a more natural cover type, such as MTA’s sign installations and coordination efforts with the local highway foreman and other MTA highway operations staff.



**Photo 2 – Unnamed tributary to Thatcher Brook at the Exit 32 southbound off ramp in Biddeford. MTA relocated the stream further from the road in 2021, and has been implementing measures to keep the riparian buffer in an unmowed condition. MTA plans to augment the unmowed riparian buffer with a shrub planting in 2024.**

### **BMP#3 – IMPLEMENT CHLORIDE BMPS**

As described in Appendix G (Urban Impaired Stream Watershed Best Management Practices) of MTA’s SWMP, MTA manages an advanced winter road maintenance program across its infrastructure footprint for safe operation of the Maine Turnpike and has prepared Chloride BMPS. The Chloride BMPS are intended to promote efficient use of winter road maintenance materials, help reduce stressors on the aquatic environment, and provide a non-structural BMP for UIS watersheds. In PY1, the Chloride BMPS described in Appendix G of MTA’s SWMP were implemented in all of the UIS watersheds where MTA operates and maintains infrastructure, including the Thatcher Brook watershed.

### **GOOSEFARE BROOK WATERSHED, SACO**

#### **BMP #1, #2, #3 – CONSTRUCT THREE NEW UNDERDRAINED SOIL FILTERS IN GOOSEFARE BROOK WATERSHED**

In PY1, MTA awarded Contract 2022.07 Interchange Improvements Saco (Exits 35 & 36) mile marker (MM) 34.7 to MM 36.6, and began construction of the project. As part of the project scope, three new underdrained soil filters will be constructed in the Goosefare Brook watershed. The project is currently under construction, and is expected to be completed by Fall of 2025 during PY4.

### **BMP#4 – IMPLEMENT MTA CHLORIDE BMPS**

As described in Appendix G (Urban Impaired Stream Watershed Best Management Practices) of MTA’s SWMP, MTA manages an advanced winter road maintenance program across its infrastructure footprint for safe operation of the Maine Turnpike and has prepared Chloride BMPS. The Chloride BMPS are intended to promote efficient use

of winter road maintenance materials, help reduce stressors on the aquatic environment, and provide a non-structural BMP for UIS watersheds. In PY1, the Chloride BMPs described in Appendix G of MTA’s SWMP were implemented in all of the UIS watersheds where MTA operates and maintains infrastructure, including the Goosefare Brook watershed.

### **RED BROOK WATERSHED, SCARBOROUGH & SOUTH PORTLAND**

#### **BMP#1 & #2 – CONSTRUCT TWO NEW USFs**

In PY1, Contract 2020.03 Portland Area Widening & Safety Improvements MM 43.0 to MM 46.4 reached substantial completion. The project included construction of two new underdrained soil filters adjacent to Red Brook at approximate mile marker 44.4, which are now functioning and in-service.

#### **BMP#3 – IMPLEMENT MTA CHLORIDE BMPs**

As described in Appendix G (Urban Impaired Stream Watershed Best Management Practices) of MTA’s SWMP, MTA manages an advanced winter road maintenance program across its infrastructure footprint for safe operation of the Maine Turnpike and has prepared Chloride BMPs. The Chloride BMPs are intended to promote efficient use of winter road maintenance materials, help reduce stressors on the aquatic environment, and provide a non-structural BMP for UIS watersheds. In PY1, the Chloride BMPs described in Appendix G of MTA’s SWMP were implemented in all of the UIS watersheds where MTA operates and maintains infrastructure, including the Red Brook watershed.

### **NASON’S BROOK WATERSHED, PORTLAND**

#### **BMP #1 – CONSTRUCT STORMWATER MEADOW BUFFER**

In PY1, Contract 2021.08 Portland Area Widening & Safety Improvements II MM 46.4 to MM 49.3 was under construction. The project includes construction of a new stormwater meadow buffer in the Nason’s Brook watershed on the southbound side of the Turnpike at approximate mile marker 48. The buffer also extends into the Capisic Brook watershed. The project is expected to reach substantial completion in October 2023 during PY2.

#### **BMP#2 – IMPROVE AWARENESS OF STORMWATER BMP MAINTENANCE REQUIREMENTS**

As described under BMP#1 for the Thatcher Brook watershed, in order to ensure that MTA’s growing number of stormwater treatment BMPs are appropriately maintained, MTA implemented a program to improve MTA highway operations staff awareness of correct stormwater BMP maintenance practices. This included a module on stormwater BMP maintenance as part of the annual environmental, stormwater, and erosion and sediment control training for MTA highway operations staff held during the spring of 2023, and the installation of mowing restriction signs around many of MTA’s stormwater BMPs. In PY1, these stormwater BMP awareness activities included the Nason’s Brook watershed and two underdrained soil filters located in the watershed at the Maine Coast Railroad Bridge near mile marker 48 in Portland.

#### **BMP#3 – IMPLEMENT MTA CHLORIDE BMPs**

As described in Appendix G (Urban Impaired Stream Watershed Best Management Practices) of MTA’s SWMP, MTA manages an advanced winter road maintenance program across its infrastructure footprint for safe operation of the Maine Turnpike and has prepared Chloride BMPs. The Chloride BMPs are intended to promote efficient use of winter road maintenance materials, help reduce stressors on the aquatic environment, and provide a non-structural BMP for UIS watersheds. In PY1, the Chloride BMPs described in Appendix G of MTA’s SWMP were implemented in all of the UIS watersheds where MTA operates and maintains infrastructure, including the Nason’s Brook watershed.

## **CAPISIC BROOK WATERSHED, PORTLAND**

### **BMP #1 – CONSTRUCT STORMWATER MEADOW BUFFER**

In PY1, Contract 2021.08 Portland Area Widening & Safety Improvements MM 46.4 to MM 49.3 was under construction. The project includes construction of a new stormwater meadow buffer in the Capisic Brook watershed on the southbound side of the Turnpike at approximate mile marker 48. The buffer also extends into the Nason's Brook watershed. The project is expected to reach substantial completion in October 2023 during PY2.

### **BMP#2 – IMPROVE AWARENESS OF STORMWATER BMP MAINTENANCE REQUIREMENTS**

As described under BMP#1 for the Thatcher Brook watershed, in order to ensure that MTA's growing number of stormwater treatment BMPs are appropriately maintained, MTA implemented a program to improve MTA highway operations staff awareness of correct stormwater BMP maintenance practices. This included a module on stormwater BMP maintenance as part of the annual environmental, stormwater, and erosion and sediment control training for MTA highway operations staff held during the spring of 2023, and the installation of mowing restriction signs around many of MTA's stormwater BMPs. In PY1, these stormwater BMP awareness activities also included the Capisic Brook watershed and the Warren Avenue Bridge underdrained soil filter located within the northbound highway ditch line at mile marker 49 (Portland) in the watershed.

### **BMP#3 – IMPLEMENT MTA CHLORIDE BMPs**

As described in Appendix G (Urban Impaired Stream Watershed Best Management Practices) of MTA's SWMP, MTA manages an advanced winter road maintenance program across its infrastructure footprint for safe operation of the Maine Turnpike and has prepared Chloride BMPs. The Chloride BMPs are intended to promote efficient use of winter road maintenance materials, help reduce stressors on the aquatic environment, and provide a non-structural BMP for UIS watersheds. In PY1, the Chloride BMPs described in Appendix G of MTA's SWMP were implemented in all of the UIS watersheds where MTA operates and maintains infrastructure, including the Capisic Brook watershed.

## **DOLE BROOK WATERSHED, PORTLAND**

### **BMP #1 – CONSTRUCT NEW STORMWATER TREATMENT BMP AS PART OF FOREST AVENUE BRIDGE REHABILITATION PROJECT**

MTA plans to construct a new stormwater treatment BMP as part of the proposed Forest Avenue Bridge Rehabilitation Project. Design and construction of the BMP has not started, because design of the overall project has not yet commenced. MTA will report on status and progress of the project and BMP development in future annual reports.

### **BMP#2 – CONSTRUCT NEW STORMWATER TREATMENT BMP AS PART OF RIVERSIDE DRIVE BRIDGE REHABILITATION PROJECT**

MTA plans to construct a new stormwater treatment BMP as part of the proposed Riverside Drive Bridge Rehabilitation Project. Preliminary project design was completed in PY1, including identification of potential stormwater treatment BMP locations. As the project development process advances, the final location of the stormwater treatment BMP will be confirmed in consultation with Maine DEP Stormwater Program staff. MTA will report on status and progress of the project's BMP development in future annual reports.

### **BMP#3 – IMPLEMENT MTA CHLORIDE BMPs**

As described in Appendix G (Urban Impaired Stream Watershed Best Management Practices) of MTA's SWMP, MTA manages an advanced winter road maintenance program across its infrastructure footprint for safe operation



of the Maine Turnpike and has prepared Chloride BMPs. The Chloride BMPs are intended to promote efficient use of winter road maintenance materials, help reduce stressors on the aquatic environment, and provide a non-structural BMP for UIS watersheds. In PY1, the Chloride Best Management Practices described in Appendix G of MTA's SWMP were implemented in all of the UIS watersheds where MTA operates and maintains infrastructure, including the Dole Brook watershed.

### **HART BROOK WATERSHED, LEWISTON**

#### **BMP #1 & #2 – NEW STRUCTURAL BMPs OR RIPARIAN PLANTING AUGMENTATION**

In Appendix G (UIS BMPs) of MTA's SWMP, MTA proposed implementation of two BMPs in the Hart Brook watershed including new structural BMPs or riparian tree and shrub planting. MTA intends to begin evaluating options for implementation in PY2, and will report on progress in the PY2 annual report.

#### **BMP #3 – IMPLEMENT MTA CHLORIDE BMPs**

As described in Appendix G (Urban Impaired Stream Watershed Best Management Practices) of MTA's SWMP, MTA manages an advanced winter road maintenance program across its infrastructure footprint for safe operation of the Maine Turnpike and has prepared Chloride BMPs. The Chloride BMPs are intended to promote efficient use of winter road maintenance materials, help reduce stressors on the aquatic environment, and provide a non-structural BMP for UIS watersheds. In PY1, the Chloride Best Management Practices described in Appendix G of MTA's SWMP were implemented in all of the UIS watersheds where MTA operates and maintains infrastructure, including the Hart Brook watershed.

### **MTA CHLORIDE BEST MANAGEMENT PRACTICES**

In PY1, in addition to implementing MTA's winter road maintenance program and associated Chloride BMPs in UIS watersheds, MTA sent three highway operations personnel from the Gray Maintenance Facility to the Maine Department of Transportation Local Roads Center Snow and Ice Training, and implemented a new chloride tracking pilot program for plow routes operating from MTA's Crosby Maintenance Facility.

As proposed in Appendix G (UIS Watershed BMPs) of MTA's SWMP, Table 2 (below) provides a summary of the seasonal application total of dry sodium chloride, number Turnpike lane miles, and seasonal total of dry sodium chloride applied per lane mile for each plow route operated from the Crosby Maintenance Facility in South Portland. In addition, the seasonal application total of sodium chloride brine and magnesium chloride liquid used by the Crosby Maintenance facility is reported. A Google Earth .kmz file of the plow routes operating from the Crosby Maintenance Facility has been submitted to Maine DEP electronically with this annual report for additional reference.

It should be noted the number of lane miles associated with each assigned area that is reported in Table 2 is based on the highway travel lane mileage, and does not include highway shoulder mileage. The seasonal chloride application total for each plow route does, however, include sodium chloride that reaches the road shoulders incidentally during winter maintenance activities or that may be applied directly to the road shoulders at times. The combined width of the inside and outside shoulders of the highway varies along the Turnpike, but is as wide as an additional travel lane (or wider) in nearly all locations. Therefore, the seasonal per lane mile totals for each assigned area reported in Table 2 is most likely an overestimate, because it does not account for lane mileage associated with the highway shoulders. If the lane mileage of the highway shoulders were accounted for in the assigned area, the seasonal total of tons of dry sodium chloride applied per lane mile for each assigned area would be lower.

As noted in Table 2, the seasonal total of tons of dry sodium chloride applied on each plow route does not account for sodium chloride associated with brine that is applied to the road surface, because brine application is not tracked by plow route. The total brine usage by all plow routes operating from the Crosby Maintenance Facility application

is tracked, and was 30,424 gallons during the 2022-2023 winter season. This equates to 26 tons of sodium chloride associated with brine across all plow routes. For context, all plow routes operating from the Crosby Maintenance Facility applied 5,056 tons of dry sodium chloride in total during the 2022-2023 winter maintenance season. So while the tonnage of sodium chloride associated with brine application during the 2022-2023 winter maintenance season was minimal (equivalent to 0.5% of the dry sodium chloride applied), the benefits of pre-wetting dry sodium chloride with brine as a winter maintenance BMP include less bounce and scatter of dry sodium chloride, faster reaction time, and more effective melting action, which reduces the amount of dry sodium chloride needed to maintain safe road conditions.

**Table 2 – Crosby Maintenance Facility Winter 2022-2023 Salt Totals**

Truck(s) on Plow Route	Assigned Area	Lane Miles Covered <sup>1</sup>	Tons of Dry Sodium Chloride Applied <sup>2</sup>	Seasonal Total of Tons of Dry Sodium Chloride Applied Per Lane Mile
1377	Mile 37-46	18	502	28
1303		18	544	30
927		18	580	32
1508	Mile 45-52.8/Exit 52	15.6	364	23
1236		15.6	455	29
1498	Falmouth Spur Mile 0-3.8	7.6	280	37
1527		7.6	334	44
1380	Falmouth Spur Toll Plaza	1.26	75	60
1408	Exit 42- Haigis Parkway	5.4	322	60
1284	Exit 44	5	191	38
1451		5	301	60
1080/1518	Exit 44 Plaza	1.3	151	114
1452	Exit 45	6.4	260	41
1066	Exit 46	1.5	211	141
1206	Exit 47	2.6	189	73
1277	Exit 48	1.7	271	160

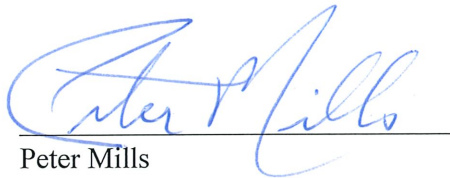
<sup>1</sup> Lane miles covered includes highway travel lane distance, but not shoulder distance.

<sup>2</sup> An additional 30,424 gallons of sodium chloride brine were used across all plow routes operated from the Crosby Maintenance facility. This equates to an additional 26 tons of dry sodium chloride dispersed across all plow routes. Brine usage per plow route is not available. No magnesium chloride brine was used by the Crosby Maintenance Facility in the 2022-2023 winter season.

## CONCLUSION

In accordance with the MPDES General Permit **Part IV(G)**, this Annual Report presents a summary of significant goals achieved during the first year (July 1, 2022 through June 30, 2023) of implementing MTA's SWMP including an evaluation of BMPs and MGs established for the six MCMs. If you have any questions concerning this Annual Report of MTA's MS4 SWMP, please do not hesitate to contact Sean Donohue at [sdonohue@maineturnpike.com](mailto:sdonohue@maineturnpike.com) or (207) 482-8275.

In accordance with the MPDES General Permit **Part III(A)(2)(c)**, we certify under penalty of law that this document and all attachments were prepared under our direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on our inquiry of the person or persons who manage the system, or those persons that directly responsible for gathering the information, the information submitted is, to the best of our knowledge and belief, true, accurate, and complete. We are aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



Peter Mills  
Executive Director  
Maine Turnpike Authority



Sean Donohue  
Permitting Coordinator and Environmental Liaison  
Maine Turnpike Authority