

Annual Stormwater Program Report for Permit Year 2022-23

City of South Portland, ME - Permit Number MER041018



CITY OF
**SOUTH
PORTLAND**

Water Resource
Protection

Submitted Electronically to Maine DEP on 9/15/23

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Cover Photo: salt spreader calibration training with Public Works Department staff in November 2022

INTRODUCTION

The City of South Portland (hereafter “the City”) is in compliance with the terms and conditions of the MS4 General Permit and the permittee specific DEP Order. The components of the City’s stormwater management program are effective, the BMPs in the Stormwater Management Plan are appropriate and Permit Year 2022-23 Measurable Goals have been implemented to reduce the discharge of pollutants to the Maximum Extent Practicable unless otherwise specifically described in this Annual Report.

The annual reporting format used below is a significant departure from previous reports submitted by the City. It was adapted from a template developed by the Interlocal Stormwater Working Group (ISWG) in response to the [DEP’s 2022 MS4 General Permit](#) to streamline the reporting process and promote greater consistency among Maine’s MS4 permittees. The ISWG annual report template is in a tabular format whereas the City has opted instead to summarize annual reporting activities in a more narrative format with figures and tables included as appropriate. Otherwise, the overall organization of the ISWG template and the City’s narrative report are nearly identical.

MINIMUM CONTROL MEASURE 1: EDUCATION & OUTREACH

BMP / Measureable Goal 1.1a: Raise Awareness – Public

Message: “Water that lands on our roads, roofs, and other hard surfaces picks up pollutants and carries them to our local waterbodies without being treated.”

- **Tool 1:** Think Blue Maine Website Content updated 12/21/2022 by switching website platform, updating layouts, and adding search engine optimization features. Website traffic: 1,165; updated 6/12/2023 by adding new page to host pet waste information, research project, and act as landing page for online ads. Website traffic: 3,220.
- **Tool 2:** 12 posts on Think Blue Maine Instagram account on 1/12/23, 1/26/23, 2/9/23, 2/23/23, 5/12/23, 5/13/23, 5/14/23, 5/14/23, 5/15/23, 5/17/23, 6/1/23, 6/6/23. Post engagement: 43 Post Views: 416
- **Tool 3:** Social media ad on Think Blue Maine Instagram account from 3/8/23 - 6/6/23. Ad engagement: 805 People reached: 1,347

The City also maintains webpages for our [Stormwater Program](#), [Grow Healthy South Portland](#) and [100 Resilient Yards](#) – all of which are intended to inform the public about practices to reduce or mitigate adverse impacts from polluted stormwater runoff.

BMP / Measureable Goal 1.1b: Raise Awareness – Contractors

Message: "Through erosion and sediment control best management practices training and certification, contractors can reduce the potential to negatively impact local water bodies."

- **Tool 1:** 7 hour DEP training at CCSWCD office, 26 people, 7/28/22
- **Tool 2:** 3 Partner Content Shares on Facebook, 6/2/23, 6/3/23, 6/4/23, People Reached: 654 Post Engagement: 29
- **Tool 3:** Google Ad, 3/6/23 - 6/30/23

Ad engagement: 5, People reached: <100

A Google Ad Performance Max campaign was created and successfully submitted. In testing this new marketing tool, the ad was budgeted a low daily dollar amount and a very specific, small audience for 90 days. The ad was

run by Google, however it did not receive measurable impressions (<100) because of the low dollar amount and niche audience. The ad linked directly to DEP Training (on the DEP website) which unfortunately prevented corroborating ad conversions and analytics data from being collected. The Google Ad strategy has been corrected accordingly for PY2.

The City also maintains an [Erosion & Sediment Control for Construction Projects](#) website specifically intended to provide developers, contractors and community members with information on the use of appropriate practices to prevent sediment discharge from construction projects.

BMP / Measurable Goal 1.2a: Behavior Change (25-34)

Message: "Dispose of dog waste as a solid waste, so it does not end up in our stormwater. Once in the stormwater, dog waste contributes nutrients, bacteria, and pathogens to our ponds, lakes, streams, rivers, and bays, which can lower property values, harm our drinking water, and hinder recreational and economic opportunities."

- **Tool 1:** 12 posts shared on Think Blue Maine Instagram account on 1/17/23, 1/31/23, 2/14/23, 2/28/23, 3/14/23, 3/28/23, 5/11/23, 5/11/23, 5/18/23, 5/20/23, 6/2/23, 6/30/23, Post Engagement: 33 Post Views: 352
- **Tool 2:** 3 Content Shares with Partner on Instagram stories on 6/22/23, 6/23/23, 6/28/23 Post Views: 2,625
- **Tool 3:** 4 Outreach Events 6/3/23, 6/11/23, 6/27/23, 6/30/23, 72 interactions in age group.

Regional behavior observation data (July 2022)

Willard Beach: 44 dogs, 61.4% visibly carried dog bag supplies, 100% success dog deposits cleaned up.

BMP / Measurable Goal 1.2b: Behavior Change (35-55)

Message: "Dispose of dog waste as a solid waste, so it does not end up in our stormwater. Once in the stormwater, dog waste contributes nutrients, bacteria, and pathogens to our ponds, lakes, streams, rivers, and bays, which can lower property values, harm our drinking water, and hinder recreational and economic opportunities."

- **Tool 1:** 12 posts from Jan-Jun of 2023 shared on Think Blue Maine Facebook account. Post Engagement: 140. Post Views: 2,986.
- **Tool 2:** 1 Item with Branding: Disposable pet waste bag screen print "Protecting water quality from pollution", 223 rolls distributed
- **Tool 3:** 90 Days Facebook Ads, 3 ads consecutively run from 3/3/23 - 6/1/23, People Reached: 5,350 Ad Engagement: 412

Regional behavior observation data

- **Willard Beach (July 2022):** 55 dogs, 50.9% visibly carried dog bag supplies, 100% success dog deposits cleaned up
- **April Stools Day (2023):** in partnership with the Maine Healthy Beaches (MHB) Program, Cumberland County Soil & Water Conservation District (CCSWCD) SoPo Dogs (a local residents' group) and Loyal Companion pet store (now closed), the City hosted tabling events on 4/29/23 to provide information and materials (flyers, promotional doggie bags, chew toys and other assorted items) to promote proper pet waste disposal at Willard Beach, Mill Creek Park and the Green Belt entrance at Evans and Broadway. Estimated contacts with members of the public were at least 50 individuals (Figures 1 & 2).



SoPo Dog volunteers and Maine Healthy Beaches Program staff at Willard Beach tabling event



Parks Department staff at Mill Creek Park tabling event



Cumberland County Soil & Water Conservation District and Parks Department staff at Green Belt tabling event.

Figure 1: photos from 4/29/23 April Stools Day event



Figure 2: poster for April Stools Day event (credit: CCSWCD)

BMP / Measurable Goal 1.3a: Effectiveness Evaluation – Annual Report

As stated in 1.1b, online ads using Google will be adjusted based on technical assistance feedback from Google tech support to improve ad effectiveness with their AI.

BMP / Measurable Goal 1.3b: Effectiveness Evaluation – PY5

Not applicable this permit year.

BMP / Measurable Goal 1.4: Optional / Additional Activities

Youth Education & Public Outreach

The City continued its long-standing partnerships with local schools and other organizations on enhanced learning experiences for students and informational outreach opportunities for the public (Table 1).

Table 1: educational events in which City participated during PY2022-23

Date	School / Organization	# Participants (approx)	Contact	Subjects / Topics	Comments
7/26/22	The Ecology School	25	Meg Edstrom Jones	How clean water professionals can partner with teachers to enhance student learning experience	Teacher Institute for w'shed science & conservation
7/31/22	" "	25	" "	" "	" "
11/28/22	South Portland High School	15	Tania Ferrante	Macroinvertebrates as water quality indicators	Provided macro samples for student identification
3/30/23	New England Water Environment Association	??	Jordan Gosselin	Video on the important work by clean water professionals throughout NE	Video link: www.youtube.com/watch?v=JeUYOhHtJUy
4/22/23	South Portland Land Trust	20	Dana Bettez	A brief history of restoration work in the Trout Brook watershed	2nd year in a row City worked with SPLT on this topic
4/26/23	LCWMD / USM	15	Pete Carney (LCWMD) & Karen Wilson (USM)	Site visit to main stem in-stream restoration project for macro sampling	Also visited gravel wetland
5/3/23	CCSWCD & South Portland Middle School	50	Chris Loew (CCSWCD) & Julie Pitt (SPMS)	Landscape impacts, water quality testing and macro identification	
5/4/23	" "	50	" "	" "	
5/19/23	Cape Elizabeth Middle School & High School	50	Sarah Plummer	" "	
Total Participants (approx.):		250			

Yardscaping: Healthy Lawn Care Made Easy

24 retail locations throughout the ISWG service area agreed to have products that align with YardScaping recommendations tagged in their location.

MINIMUM CONTROL MEASURE 2: PUBLIC INVOLVEMENT & PARTICIPATION

BMP / Measurable Goal 2.1: Public Notice

Public Notice was provided for all public meetings and hearings related to ordinance updates. The following Committees and Boards met on the following dates to either review the ordinance changes or have Public Hearings.

- The Planning Board met to review proposed changes to the City’s Erosion & Sediment Control (ESC) Standards on 6/28/23, 7/12/23 and 8/9/23. The new ESC standards (Planning Board Regulation #2) were approved by the Planning Board on 8/9/23 and went into effect immediately and are available on the City’s website.
- ISWG met on: 7/21/22, 9/15/22, 11/17/22, 1/19/23, 3/16/23, 4/27/23, 5/18/23
- ISWG meetings are public noticed through CCSWCD website.
- Public Attendance is not kept for public meetings, but a quorum was present for each committee or board meeting to allow an official vote to move the ordinance changes forward.

BMP / Measurable Goal 2.2: Public Events

- **Urban Runoff 5K:** 347 people registered and 301 people participated in the Urban Runoff 5k on 4/22/2023. Of the total, 2 were South Portland City staff and several were community members. Participants either ran, walked, or volunteered in support of clean water education in regional schools and increased awareness of stormwater issues within view of Casco Bay. The event was advertised through the City’s website, social media accounts, and community poster locations, the CCSWCD’s social media accounts and e-newsletters from 12/15/22 through 4/23/23, and WMTW Channel 8 and Maine’s CW throughout the month of April.
- **Household Hazardous Waste Drop-off Day (10/22/22):** 177 South Portland residents participated in this event and 66 residents completed a detailed questionnaire (37% of the total participants). Questionnaire responses provided the City with demographic information, the types of waste items dropped off, how long the waste items were stored in the residence and a variety of other questions (complete results available upon request). The City invested \$16,840 to divert HHW items from the regular municipal waste stream.
- **Household Hazardous Waste Drop-off Day (4/15/23):** 179 South Portland residents participated in this event and 59 residents completed a detailed questionnaire (33% of the total participants). Questionnaire responses provided the City with demographic information, the types of waste items dropped off, how long the waste items were stored in the residence and a variety of other questions (complete results available upon request). The City invested \$14,701 to divert HHW items from the regular municipal waste stream. **Since 2009, the City has invested over \$250,000 in this vital public service provided to over 4,000 participants in the community (Figure 3).**

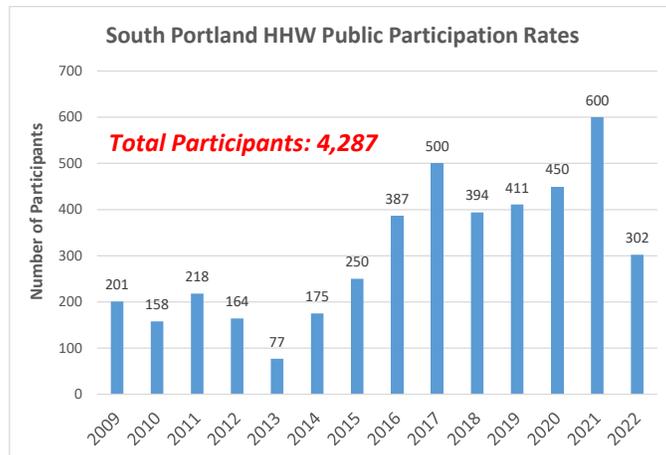


Figure 3: HHW participation rates 2009-22

MINIMUM CONTROL MEASURE 3: ILLICIT DISCHARGE DETECTION & ELIMINATION PROGRAM

BMP / Measurable Goal 3.1: Enforce Stormwater Discharge Ordinance

The City continued to implement and enforce our [Non-Stormwater Discharge Ordinance](#).

BMP / Measurable Goal 3.2: Maintain IDDE Plan

The [City’s IDDE Plan](#) (also in Appendix F of the [2022 Stormwater Management Plan](#)) is being implemented as written with no changes needed. Wet Weather Assessment will be completed at end of PY5.

BMP / Measurable Goal 3.3: Maintain Stormwater Map

The following data layers for the [City’s stormwater system and sewer maps](#) were maintained and updated to account for new construction and any associated changes or modifications:

- Wastewater Laterals
- Wastewater Pipes
- Wastewater Structures
- Drainage Pipes
- Drainage Structures
- Stormwater BMPs (treatment systems)
- Drainage Culvert Openings
- Drainage Outfalls

As of 6/30/23, the City’s piped infrastructure consisted of over 4,200 stormwater structures and over 76 miles of stormwater pipe along with nearly 2,600 sewer structures and over 105 miles of sewer lines (Table 2).

Table 2: PY2022-23 inventory for publicly-owner piped infrastructure

STORMWATER SYSTEM	
<u>Structure Type</u>	<u>Count</u>
Catch Basin	2,879
Drain Manhole	1,088
Combined Catch Basin	232
Outlet Control Structure	15
Total:	4,214

<u>Pipe Type</u>	<u>Lineal Feet</u>	<u>Lineal Miles</u>	<u>% Total</u>
Stormwater Gravity Line	381,508	72.26	94.6%
Culverts	13,313	2.52	3.3%
Combined Sewer Overflo	2,483	0.47	0.6%
Roof Drain	5,800	1.10	1.4%
Totals:	403,104	76.35	100%

WASTEWATER SYSTEM	
<u>Structure Type</u>	<u>Count</u>
Sewer Manhole	2,528
Bi-directional Manhole	41
Air Release Manhole	23
CSO Manhole	6
Total:	2,598

<u>Pipe Type</u>	<u>Lineal Feet</u>	<u>Lineal Miles</u>	<u>% Total</u>
Sewer Gravity Line	501,148	94.91	89.8%
Sewer Force Main	44,632	8.45	8.0%
Storm	8,322	1.58	1.5%
Inverted Siphon	3,804	0.72	0.7%
Totals:	557,906	105.66	100%

BMP / Measurable Goal 3.4a: Outfall, Ditch and Catch Basin Inspections

For PY2022-23, the City inspected 70 of our 264 outfalls (~26%) in 12 different watersheds. As with previous years, nearly all inspections were conducted during very cold weather (well below freezing) to minimize staff

exposure to tick borne illnesses. All outfalls except one were non-flowing. Visual observations of the non-flowing outfalls did not indicate any obvious indications of non-stormwater discharges. The one flowing outfall, WB_17 at Willard Beach, was intensively sampled for enterococcus and optical brighteners beginning in late May 2023 to identify potential public health concerns. See BMP / Measurable Goal 3.5 for more details.

All of the City’s 48 ditches were visually inspected and none showed overt indications of non-stormwater discharges. However, more than half of the ditches required some kind of follow up maintenance to address issues, such as excessive plant growth, erosion, partially plugged inlets or outlets, displaced riprap, etc. This maintenance work will be completed in the fall and winter following the busy construction season and after vegetation growth has subsided.

As with previous permit years, the City continued implementing a proactive catch basin cleaning program wherein virtually **ALL** of the 2,679 catch basins with sumps will be cleaned during calendar year 2023. **As of 9/15/23, 2,243 (~84%) of the basins had been cleaned.** We fully expect the remainder to be completed by year’s end. See BMP / Measurable Goal 6.4 for more details.

BMP / Measurable Goal 3.4b: Dry Weather Outfall Monitoring

As discussed in BMP / Measureable Goal 3.4a and 3.5, the City monitored 70 outfalls for PY2022-23.

BMP / Measurable Goal 3.5: Investigate Potential Illicit Discharges

Potential Illicit Discharge Incidents

Over the course of PY2022-23, the City documented 24 incidents with the potential to result in illicit discharges to the public stormwater system or adjacent surface water resources. The City followed up on all 5 of the incidents that resulted in actual non-stormwater discharges to prevent further occurrence (Table 2).

Table 3: PY2022-23 responses to potential IDDE incidents

Report Date	Incident Location	MBL	Description	Findings / Follow-up	Non-SW to MS4?
7/21/22	Franklin Terrace	NA	Small petroleum spill at Willard Beach turnaround near combined CB	DPW applied & swept sand - source unknown	No
8/5/22	Pine Street	NA	Hydraulic oil spill at Greenbelt crossing	Casella applied absorbent material and swept	No
8/10/22	449 Western Ave	48-26	Sediment discharge from broken water main repair into private SW system	Significant sediment into private system did not reach MS4	No
10/3/22	210 Maine Mall Rd	68-1	Wendy's grease dump into private CB discharging to LCWMD SWBMP	SWC contacted store manager with E&O info	No
10/3/22	Mall area restaurants	NA	Opportunistic inspections identified GH-PP issues at several locations	Follow up with Codes office and LCWMD	No
10/7/22	210 Maine Mall Rd	68-1	Waste oil drum stored next to private CB	Follow up with LCWMD	No
10/26/22	1156 Broadway	33-7	Significant erosion from gravel yard into combined CB	Followed up with owner on site improvements to prevent future discharges	No
11/9/22	Knightville	NA	Petroleum spill along Ocean St, Waterman & Casco Bay Bridge	DPW applied & swept sand - source unknown	No

11/10/22	929 Highland Ave	56-6	Small antifreeze spill into CB but no residue following day	City Bus applied absorbent material	Yes
12/15/22	80 John Roberts Rd	75A-5D	Fluorescent bulbs dumped in woods at Casco Bay Hotel	Followed up with LCWMD, DEP and hotel manager on removal (no resolution)	No
12/28/22	33 Simmons Rd	20-54	Resident complaint of excessive sediment discharge from residential property	Sediment not observed during site visit but excessive icing from apparent sump pump discharge was; followed up with City's Field Tech	No
12/29/22	Lincoln St	NA	Concerns with fluid spill reported by DPW	Field visit determined spill was just water (no oily residue observed)	No
2/27/23	401 Ocean St	20-62A	Water main break resulting in sediment discharge to Trout Brook	USM student (and SW intern) observed sediment in brook while collecting sample; PWD confirmed break and use of ESC BMPs (dirt bag)	Yes
2/27/23	46 Elizabeth Taylor Ln	34-45B	Resident complaint of sewage odor from neighbor's house	Code enforcement follow up	No
3/21/23	210 Maine Mall Rd	68-1	Unlabeled 55 gal drum next to UDSF	Contacted PM who stated drum would be promptly removed; LCWMD followed up	No
4/5/23	Cash Corner	NA	Report of potential oil spill from tanker truck	No evidence of spill observed during site visit	No
4/13/23	244 Western Ave	67-20	Report of medical waste that had blown out of dumpster onto ground	Site visit confirms medical waste and PM promptly removes shortly thereafter	No
4/24/23	44 Nutter Rd	35-185	Staff report of 5 gal bucket of hydraulic oil and antifreeze left outside next to detention pond	Staff removed items from property for proper disposal and notifies PM to stop leaving materials	No
4/24/23	435 Cottage	11-196A	Resident report of outside pressure washing behind building	Staff site visit confirms pressure washing done on vegetated pervious area	No
4/26/23	198 Maine Mall Rd	68-6B	LCWMD parcel inspection identifies a number of potential IDDE concerns	LCWMD provided inspection report to PM and staff contacted Codes for follow-up	Unknown
6/7/23	Cottage Farm Rd (Cape Elizabeth)	NA	Resident complaint of sediment discharge from SW outfall DC_4	PWD water main break repair dumped sediment into Cape SW system discharging to SoPo outfall; asked crew to change dirt bag and contacted PWD management & Town of Cape	Yes
6/8/23	380 Gorham Rd (Kobe Restaurant)	74B_4F	Opportunistic inspections identified dumpster leaking into CB	Contacted restaurant owner and Codes office for follow up	Yes
6/8/23	198 Maine Mall Rd (Umi Sushi)	68-6B	Opportunistic inspection identified poor GH-PP practices behind restaurant		Yes
6/26/23	58 Pillsbury	10-11	Opportunistic inspection discovered recent oil spill on street next to CB	Photo documented use of absorbent material and no sheen in CB	No

No: 18

Yes:	5
Unknown:	1
PY2022-23 Total:	24

Stormwater Outfall Monitoring

In response to residents’ water quality concerns at Willard Beach and as part of the [City’s ongoing stormwater system assessment in the Willard Beach watershed](#), staff conducted intensive analytical monitoring at stormwater outfall WB17 over the course of the 2023 swim beach season. [Monitoring results](#) identified significantly elevated enterococcus concentrations – many well above the Maine Healthy Beaches’ (MHB) safe swimming threshold of 104 MPN/100 mL of sample. Optical brightener (OB) samples were also collected for each sampling event to help determine whether the elevated bacteria results might have been due to potential sewage contamination. (Optical brighteners are common ingredients in most laundry detergents, which should only be discharged to public or private sewer systems). None of the OB results were above the MHB’s threshold of concern (100 ug/L).

To identify potential bacteria and sewage sources, the City is currently collecting enterococcus and OB stormwater samples from the [most suspect locations in the WB17 stormwater catchment](#) (i.e., those where sewers and storm drains are located closely together). For a more definitive determination on potential sewage sources, the City will also conduct *Human bacteroides* sampling during September and October. Additionally, by the end of 2023 the condition of the entire 3.49 miles of publicly-owned stormwater pipes in the Willard Beach watershed will be visually assessed with [the City’s CCTV inspection van](#) (over 50% of this work has already been completed).

All of these assessments will inform the City’s sewer pipe lining program so that strategic investments can be made to reduce or eliminate inadvertent cross contamination between sewers and storm drains while also greatly extending the life of the sewer system with minimal disruption to the public. The City will invest approximately \$50K to line two sewer pipe segments (~400 lineal feet) in the WB17 stormwater catchment in 2024 and will consider appropriations in future years depending on the outcome of watershed assessment efforts.

BMP / Measurable Goal 3.6: Significant Contributors / Hydrant Flushing

No new significant contributors were identified this permit year. The Portland Water District provided a report of hydrant flushing activities indicating that:

- PWD continues to dechlorinate hydrants during flushing to meet the Maine DEP Guidance threshold of 0.05 mg/L TRC before discharge.
- No hydrant discharges exceeded the 0.05 mg/L TRC Guidance threshold.

MINIMUM CONTROL MEASURE 4: CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

BMP / Measurable Goal 4.1: Erosion & Sediment Control Ordinance

On 6/28/23, staff from the City’s Water Resource Protection Department provided a memo and presentation to the Planning Board summarizing the major elements in the proposed updates to the City’s Erosion & Sediment Control (ESC) standards. These updates were derived primarily from the [2022 Erosion & Sediment Control Model Ordinance](#) developed by a stakeholder group representing MS4-regulated entities and replaced the

previous ESC provisions in the City’s [Planning Board Regulation #2](#) (PB#2) as required by the [DEP’s 2022 MS4 permit](#). PB#2 does not directly include the enforcement provisions recommended by the model ordinance and instead relies upon existing enforcement provisions already included elsewhere in the City’s ordinances.

The Planning Board was scheduled to decide on whether to adopt the updates on 7/12/23 but due to an administrative error was unable to do so. The Planning Board unanimously approved the updates at their subsequent meeting on 8/9/23 and PB#2 took effect immediately.

BMP / Measurable Goal 4.2: Site Plan Review Procedures

The City continued to implement site plan review procedures requiring that development proposals include provisions to address water quality impacts, erosion control, waste storage, and other related elements; these procedures also provide opportunities for public comment at publicly-noticed meetings and consideration of information submitted by the public.

BMP / Measurable Goal 4.3: Procedures to Notify Construction Site Developers and Operators

The City continued to notify construction site developers and operators about the DEP’s requirements to register qualifying projects under the Maine Construction General Permit and Chapter 500, Stormwater Management.

BMP / Measurable Goal 4.4: Construction Site Inspections & Enforcement

The City continued to document periodic inspections of construction activities disturbing one or more acres of area (Table 4). City staff and third parties appointed by the City generally conducted Erosion & Sediment Control (ESC) inspections on at least a monthly basis and on a weekly basis whenever significant deficiencies were identified. The City’s Planning Director, Community Planners, Field Inspector and Stormwater Program Coordinator reviewed all ESC reports to determine whether any enforcement responses were needed to address deficiencies. Reports were electronically filed in a shared network folder accessible to all City staff responsible for ensuring compliance with the City’s Stormwater Permit.

Consistent with the [City’s construction project inspection process](#), enforcements responses consisted of notifying developers / contractors that deficiencies identified in monthly inspection reports needed to be corrected within 7 days to avoid further enforcement actions, including potential fines. No Notices of Violation or Stop Work Orders were issued during PY2022-23.

Table 4: construction projects disturbing an acre or more during PY2022-23

Location	Project Name	Watershed	Number of Inspections	Number of Enforcement Responses	Status as of 6/30/23
42 O’Neil St	Meeting House Hill Park	Mill Creek	12	2	Active
65 Gannett Drive	Abbott Labs	Long Creek	7	1	Complete
70 Maine Mall Rd	TownePlace Suites	Long Creek	10	6	Active
120 Wescott Rd	Memorial Middle School	Calvary Pond	11	3	Active
155 Rumery St	Warehouse Addition	Barberry Creek	8	3	Complete
350 Clarks Pond Pkway	The Latitude at S. Portland	Red Brook	1	1	<i>Pending</i>
550-600 Westbrook St	West End Apartments	Lower Long Creek	3	1	<i>Pending</i>
758 Westbrook St	ReVision Exapnsion	Fore River	3	0	Complete
929 Highland Ave	Solar Array	Barberry & Gamblers Arm	2	0	Complete
Totals:			57	17	

Urban Impaired Stream Watersheds

Pending projects were awaiting final approval by the Planning Dept. for the release of Performance Guarantees

MINIMUM CONTROL MEASURE 5: POST-CONSTRUCTION STORMWATER MANAGEMENT

BMP / Measurable Goal 5.1: Implement Low Impact Development Ordinance Requirements

On 8/31/22, the City provided DEP with our Proposed Technical Standards for Low Impact Development Strategies for review by DEP and the public. DEP provided letter of no objection on 12/14/22. Though the Friends of Casco Bay is appealing this process, the City intends to proceed with adoption of LID Strategies by 7/1/24 as required by MS4 Permit Modification dated 11/23/21.

BMP / Measurable Goal 5.2: O&M Tracking Program for Post-Construction Stormwater BMPs

The City’s tracking program for the annual post-construction stormwater BMP inspections in the Urbanized Area continued to document the submittal of certified 3rd party inspection (3PI) reports for all new development / redevelopment projects that disturbed an acre or more. Additionally, the City’s Stormwater Performance Standards (27-1536) also require stormwater BMPs and inspections for projects disturbing 15,000 square feet or more and occasionally for small non-conforming lots (~5,000 s.f.). Annual inspections must be completed (in most cases by City-approved 3rd parties) by 6/30 of each year and corresponding reports must be received by 7/15.

The City sent notification letters in late March 2023 to all qualifying property owners not participating in the Long Creek General Permit informing them of the annual post-construction BMP 3PI requirements specified in the MS4 permit and City’s ordinance. All of the notification letters also included language about the 2022 MS4 permit requirement to address any deficiencies identified by the annual inspections within 60 days of discovery or to provide an expeditious schedule for correcting deficiencies.

As of 9/1/23, only 1 of 37 stormwater treatment system inspection reports required by the MS4 permit had not been received (Table 5). Most 3PI reports received indicated that the systems were functioning as designed and intended or would be with minor maintenance tasks. For the systems needing maintenance, follow up documentation verifying completion of the work was generally provided within the 60-day timeframe. The City is currently in the process of working with the owners / operators for all other stormwater systems for which inspection or follow-up reports have not yet been received.

Table 5: summary of properties requiring annual BMP inspections for PY2022-23

INSPECTIONS (new PY2022-23)	Discharge to MS4	3PI Report Received	Properly Functioning	Comments
Privately Owned				<i>Notification letters sent week of 3/20/23</i>
1 Industry Rd - Troiano Waste Services	Yes	Yes	Yes	6/18/23: sent reminder email. 7/11/23: St. Germain documented maint. needed. 8/8/23: Nate Harvey followup report documents maint completed.
1 Lincoln St - Hissong	No	Yes	Yes	6/18/23: sent reminder email. 7/14/23: STI 6/29/23 report documented maint. needed but system OK. Owner to send verification ASAP.
1 Wallace Ave - Casco Bay Steel	Yes	Yes	Yes	6/3/23: STI documented maint. needs and prompt follow up.
5 Foden Rd - Texas Instruments	Yes	Yes	Yes	6/26/23: sent reminder email. 6/28/23: STI documented routine maint needed. 8/22/23: TI provided maint plan with 2 items scheduled for next spring.
9 Cole St - Pleasantdale Apartments	Yes	Yes	Yes	6/26/23: sent reminder email. 7/11/23: followup for initial 4/26/23 inspection notes all maint. items addressed.

16 Bowdoin Avenue	Yes	Yes	Yes	4/6/23: SWC report for 16 & 23 Bowdoin and 35 Park documented no maint. needed.
20 Lydia Ln - Riverbrook Apartments	No	Yes	Yes	6/26/23: sent reminder email. 6/28/23: NESW documents no maint. needed.
23 Bowdoin Avenue	Yes	Yes	Yes	4/6/23: SWC report for 16 & 23 Bowdoin and 35 Park documented no maint. needed.
25 Preservation Ln - Terrace Heights Condos	Yes	Yes	Yes	4/7/23: SWC documented minor maint. needed.
25 Country Club Rd - Harbor Chase	Yes	Yes	Yes	6/26/23: Sterling report notes no maintenance needed.
25R Brickhill Ave - Osprey Circle	No	Yes	Yes	6/26/23: Sterling report notes maintenance needed.
28 Chris Toppi Dr - RMS Chris Toppi Drive	Yes	Yes	Yes	6/5/23: Sterling documented no maint. needed.
28 Edgewood Rd*	No	Yes	Yes	6/26/23: inspections every other year; due PY2023-24
30 Donald Dean Dr - RMS Donald Dean Drive	Yes	Yes	Yes	6/23/23: Sterling documented no maint. needed.
31 Hoyt St - Hoyt Street Apartments	Yes	Yes	Yes	6/15/23: STI report documented no maint. needed
33 Chris Toppi Dr - John Roberts Rd Office Park	No	Yes	Yes	6/26/23: sent reminder email. 6/28/23: Sterling 11/12/22 report documents no maint needed.
35 Park Avenue - Fore River Brewing	Yes	Yes	Yes	4/6/23: SWC report for 16 & 23 Bowdoin and 35 Park documented no maint. needed.
50 Maine Mall Rd - Home2 Suites by Hilton	Yes	Yes	No	6/16/23: Sterling recommends forebay sediment removal, erosion repair and bioretention cell plantings.
50 Peary Terrace* - Military Museum	No	Yes	Yes	3/26/23: self-inspection report documented no maint. needed.
50 Postal Service Way - Moody's Collision Center	No	Yes	Yes	11/8/22: Sterling report documents no maintenance needed.
52 Peary Terrace* - Lui	No	Yes	Yes	6/25/23: self inspection documented OK functioning.
54 Peary Terrace* - Morin	No	Yes	Yes	4/24/23: self inspection documented OK functioning.
55 Maine Mall Rd - Duluth Trading	Yes	Yes	Yes	6/26/23: sent reminder email. 7/14/23: Acorn 5/3/23 report documents maint needed; verification due ASAP.
56 Peary Terrace* - Sullivan	No	No	Unknown	6/26/23: follow up with certified mail.
64 Southeast Rd* - Cadorette	No	Yes	Yes	6/6/23: resident provided inspection form; no maint. needed.
66 Evans - The Residences at 66 Evans	Yes	Yes	Yes	6/15/23: STI report documented sparse veg but OK otherwise
70 Southeast Rd* - Wright	No	No	Unknown	6/26/23: follow up with certified mail.
74 Running Hill Rd - Sable Lodge	No	Yes	Yes	6/8/23: Sterling SW report documented completed maint.
76 Southeast Rd* - Manley	No	No	Unknown	6/26/23: follow up with certified mail.
77 Gary Maietta Pk - Highland Commons	No	Yes	Yes	6/8/23: Sterling SW report no maint. needed.
82 Southeast Rd* - Parker	No	No	Unknown	6/26/23: follow up with certified mail.
85 Western Ave - Western Avenue Crossing	Yes	Yes	No	6/26/23: sent reminder email. 7/24/23: sent reminder email that 3PI must be done ASAP. 8/23/23: STI 8/17/23 report received with UDSF2 maint planned for Sept. 2023
100 Foden Rd - The Park at 100 Foden	Yes	Yes	Yes	4/6/23: SWC documented minor maint. needed.
145 Jetport Blvd - Hilton Garden Inn	Yes	Yes	Yes	6/8/23: Acorn documented sediment removal needed. 7/14/23: Acorn will provide maint. docs by 8/8/23.
150 Postal Service Way - F.W. Webb	Yes	Yes	Yes	6/12/23: self-inspection documented no maint. needed.
180 Waterman Drive - Millcreek Plaza	No	Yes	Yes	4/6/23: SWC documented minor maint. needed.

185 Running Hill Rd - Sea Weed	No	Yes	Yes	6/26/23: sent reminder email. 7/7/23: NESS report documents maint needed for permeable pavers; will be done by 7/21/23. 7/31/23: Rob Woodman confirms maint. done on 7/25
193 Western Ave - Life Storage	Yes	Yes	Yes	6/26/23: sent reminder email. 6/29/23: Sterling 4/28/23 inspection recommends maint. which needs to be completed ASAP.
255 Maine Mall Rd - Berlin City	Yes	Yes	Yes	6/26/23: sent reminder email. 7/24/23: sent reminder email that 3PI must be done ASAP. 7/25/23: 8/1/23: SWC 5/10/23 report recommends no maint.
312 Gannett Dr - Windward Circle Unit 8	Yes	Yes	Yes	6/26/23: sent reminder email. 7/13/23: STI 6/29/23 report no maint. recommended.
332 Cummings Rd - Tru Choice Credit Union	No	Yes	Yes	5/25/23: DM Roma reports documented completed maint.
340 Main St - Trademark Federal Credit Union	Yes	Yes	Yes	6/26/23: sent reminder email but bounced back. Need new contact for TFCU. 7/24/23: left VM for Taja Wright. 7/25/23: Serena Carr thinks Walsh may have done 3PI; left VM for Bill Walsh; Walsh sent 3PI no maint. needed.
341 Pine St - Meetinghouse Lofts	Yes	Yes	Yes	6/26/23: sent reminder email. 7/7/23: SWC 4/4/23 report recommends no maint. needed
350 Clarks Pond Pkway - Latitude at South Portland	No	Yes	Unknown	6/26/23: STI report only id'ed CB insert removal; suggest follow up inspection to determine how much sediment in Isolator Rows.
363 Maine Mall Rd - VanEastland LLC	Yes	Yes	Yes	6/8/23: Sterling SW report documented completed maint.
385 Main St - Main Street Retail	Yes	Yes	Yes	5/15/23: Terradyn report certifies proper functioning but includes no details beyond photos.
415 Maine Mall Rd - CarMax	Yes	Yes	Yes	6/26/23: sent reminder email. 7/24/23: spoke with CarMax's Carroll Ellis who sent Aqualis 5/11/23 inspection report; minor maint needed.
682 Broadway - Armory	Yes	Yes	Yes	6/12/23: Sterling report documented no maint. needed but bioretention cell grass sparse.
740 Broadway	No	Yes	Yes	6/26/23: sent reminder email. 6/28/23: Aqualis 6/19/23 3PI system OK with documented maint.
818 Main St - Dunkin' Donuts	Yes	Yes	Yes	6/26/23: sent reminder email. 7/11/23: Plymouth 6/23/23 report recommends minor maint.
2065 Broadway - Pape Subaru	Yes	Yes	Yes	6/7/23: CCSWCD documents sparse veg. for snow storage area.
2401 Broadway - Plummer Properties, LLC	No	Yes	Yes	7/24/23: spoke with Robbie Plummer who said Gorrill Palmer has done or will be doing the 3PI. 7/25/23: GP 3PI good with no maint. recommended.
Carlisle Place	No	No	Unknown	7/24/23: unclear if wet pond improvements made per DEP consent agreement; CEO needs to be involved for enforcement action.
Hamond Hill Subdivision - Marcelle Ave	No	No	Unknown	3/1/23: left VM for Jerome Gamache; 3/20/23: left VM for Gamache; 7/25/23: left VM for Gamache; emailed Planning for HOA contact.
<i>*Ordinance allows self-inspections for projects not requiring DEP SW permit</i>				
Publicly Owned**				
25 Wythburn Rd - Wythburn Gravel Wetland**	Yes	Yes	No	11/9/22: STI 3PI; clean out forebay cells per BMP manual; remove sediment & debris.
30 Broadway - SMCC Parking Lot	Yes	Yes	Yes	6/27/23: CCSWCD report documents no maint. needed.
44 Nutter Rd - Community Center Det. Pond**	Yes	Yes	No	11/8/22: STI recommends forebay sed. Removal & riprap replacement. WRP will likely contract repairs later this year (not covered under MS4GP)

72 Simmons Rd Rain Garden**	Yes	Yes	Yes	11/7/22 STI recommends sediment & veg. removal; 6/29/23 City no maint. recommended.
101 Ridgeland Ave - Ridgeland Gardens	Yes	Yes	Yes	7/11/23: Peter D'Alfonso's 6/20/23 inspection notes minor maint (grass seed).
120 Wescott Rd - Memorial MS Gravel Wetland**	Yes	Yes	No	11/17/22: STI 3PI; dredge forebay & remove sediment throughout BMP. 7/6/23: City recommends removal of excess herbaceous & woody veg. & check with STI on forebay
151 Jetport Blvd - DHHS Office Building	Yes	Yes	Yes	7/7/23: SWC 4/26/23 report documents minor maint needed.
160 Ocean St - Transit Hub / City Hall (7)**	Yes	Yes	Yes	11/15/22: STI recommends routine maint for removal of excess veg & sediment; some paver stones need to be replaced
240 Ocean St - Mahoney Middle School**	Yes	Yes	Yes	11/9/22: STI recommends no routine maint. needed.
300 Highland Ave - Hinckley Park Rain Garden**	No	Yes	Yes	11/7/22: STI recommends routine maint. for removal of excess veg. & sediment; trail erosion needs to be addressed
463 Westbrook St - Long Creek PS (3)**	No	Yes	Yes	11/9/22: STI recommends routine maint. for removal of excess veg. & sediment; bio-cell may need reworking
611 Main Street - Thornton Heights Commons	Yes	Yes	Yes	7/25/23: Wayne Lewis had Sterling send 10/15/22 report; no maint needed.
637 Highland Ave - South Portland High School (7)**	Yes	Yes	Yes	11/8/22: STI recommends routine maint. for removal of excess veg. & sediment
929 Highland Ave - Municipal Services Facilities (2)**	No	Yes	Yes	11/9/22: STI recommends routine maint. for removal of excess veg. & sediment; riprap work needed as well
Aspen Ave Biofilter**	Yes	Yes	No	11/10/22: STI 3PI; contractor to repair curb cut through BMP.
Boothby Ave StormTree**	No	Yes	Yes	11/7/22: STI recommends routine maint. for removal of excess veg from filter media & sed. from sump.
Main St Biofilters (10)**	Yes	Yes	Yes	11/10/22: STI recommends routine maint. for removal of excess veg. & sediment.
Sunset Ave Gravel Wetlands (2)**	No	Yes	No	11/9/22: STI recommends removing debris from structures, forebay and cells, replacing riprap in forebays, dredging cell C, removing woody veg. Work scheduled Sept. 2023
Westbrook St Tree Box	Yes	Yes	Yes	11/9/22: STI recommends cleaning sediment sump and filter media.
<i>**STI completed inspections for all City stormwater treatment systems (parentheses indicate number of separate BMPs per location)</i>				
SUMMARY				
Yes:	44	67	59	
No:	29	6	7	
Unknown:	-	-	7	<i>Inspection Completion Rate</i>
Totals:	73	73	73	92%

MINIMUM CONTROL MEASURE 6: POLLUTION PREVENTION & GOOD HOUSEKEEPING

BMP / Measurable Goal 6.1.1: Inventory of Municipal Operations

The City continued to maintain an inventory of municipally-owned properties subject to O&M procedures developed to reduce polluted stormwater runoff to the maximum extent practicable. South Portland's most recent cadastral records identify 204 parcels that are owned by the City. Various municipal departments are

responsible for maintaining these properties in accordance with the [Operations & Maintenance Plans](#) developed with the assistance of the Interlocal Stormwater Working Group.

BMP / Measurable Goal 6.1.2: Update Stormwater O&M Procedures

The only updates to the Stormwater O&M Procedures were made to reflect recent staffing changes and primary points of contact.

BMP / Measurable Goal 6.2: Training

For PY2022-23, the City’s Stormwater Program Coordinator provided Pollution Prevention / Good Housekeeping training to 17 staff members from the Public Works Department on 4/20/23 and 16 staff members from the Water Resource Protection Department on 4/27/23. Training covered the following topics: stormwater permit requirements; O&M plans and SWPPPs; structural and nonstructural BMPs (including for construction activities); facilities management for waste management, janitorial procedures, pools, painting, landscaping, and plowing; vehicle and equipment fueling, washing, and storage; and reporting.

BMP / Measurable Goal 6.3: Street Sweeping

The City continued its ongoing sweeping program for all municipally owned or operated paved streets and parking areas. Beginning in the late fall of 2022 and resuming again in the spring of 2023, we also continued to provide sweeping services to the Long Creek Watershed Management District in support of the ongoing stream restoration efforts there. We continued using regenerative air sweepers (Tymco 500X and Tymco 600), which are generally one of the most effective (and expensive) types of street sweeper for preventing pollutants attached to fine particles from entering local waterways. A portion of the City’s streets were also swept using mechanical broom sweepers provided by a private contractor.

BMP / Measurable Goal 6.4: Catch Basin Cleaning

For calendar year 2023 (through mid-September), the City cleaned approximately 83% of our publicly-owned catch basins with sumps (2,243 basins as of 9/15/23). We continued using ArcGIS Online (AGOL) with iPads to track data collection and removed approximately 274 tons of grit material. The total operational cost to complete this work was just under \$54,000 and the average cost to clean each catch basin was approximately \$17, which compares very favorably with the private sector. As with previous years, we anticipate that virtually all publicly-owned catch basins with sumps will be cleaned by the end of the calendar year.

BMP / Measurable Goal 6.5: Repair & Upgrade of Public Stormwater System

The City continued to implement the VUEWorks asset management program to closely track investments in our piped infrastructure for routine maintenance and improvements. It also allowed us to summarize this data in a variety of ways, including by activity and maintenance types (e.g., preventative, corrective or general maintenance). For PY2022-23, approximately 1,675 work orders were completed by the Collection Systems Division staff for a wide variety of tasks. Collectively, this work represents over \$579,000 of investment to operate and maintain the City’s sewer and stormwater systems (Figure 4).

VUEWorks also collects data on a variety of additional tasks, including catch basin cleaning, ditching, outfall inspections, spill response, televising to inspect pipe conditions, and traffic control, among many others. The ultimate goal of the Asset Management Program is to track most (or all) of our activities in conjunction with an ongoing condition assessment of our infrastructure to provide a rational basis for optimizing operations & maintenance and capital improvement planning (i.e., short and long-term budgeting).

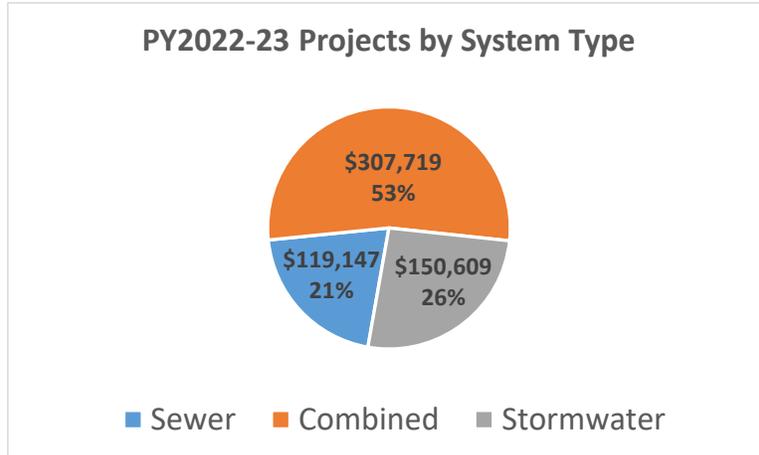


Figure 4: VUEWorks work order summary for PY2022-23

BMP / Measurable Goal 6.6: Stormwater Pollution Prevention Plans

SWPPPs have been developed for the school bus maintenance garage, transfer station and public works facilities. The public works facilities are now housed in a Municipal Services Facility (MSF) that also includes operations for the Parks, City Bus and Fire Departments. As described for BMP 6.2 above, staff from the Public Works and Water Resource Departments attended municipal GH/PP trainings provided by the City’s Stormwater Program Coordinator.

IMPAIRED WATERS BMPs

BMP / Measurable Goal 7.1: Implement Landcare Management Ordinance

In addition to continuing our participation in ISWG’s [YardScaping program](#), the City launched an ambitious [100 Resilient Yards Program](#) (100RY) to continue promoting the transition to more sustainable landcare practices. 100RY will provide 100 public-facing properties (residential and institutional) with 5 different options for converting portions of their landscapes (primarily lawns) into other uses that promote biodiversity and require fewer chemical inputs. These conversions include pollinator gardens, rain gardens, vegetable gardens, native plantings and organic lawns. The City received over 400 applications to participate in the 100RY program.

Project partners helping to implement the 100RY program include the Cumberland County Soil & Water Conservation District, Maine Audubon, Garbage to Garden, Broadway Gardens, the Wild Seed Project, the Maine Cooperative Extension Service, the Maine Organic Farmers and Gardeners Association and the Friends of Casco Bay. The majority of the planning work for the 100RY program was done throughout PY2022-23 whereas the volunteer training and installation of the different land use types was done through July and September of 2023. Metrics on program implementation (i.e., breakdown of land use types and participants, materials quantities, volunteer engagement hours, etc.) will be provided in the PY2023-24 report.

BMP / Measurable Goal 7.2: Implement Chloride Minimization Program

Staff Training

On 9/27/22, 18 staff members from the City’s Public Works Department, 12 staff members from the Parks Department and 1 staff member from the Safety Program participated in winter maintenance training provided

by the Maine Department of Transportation. Paul Brown with the Maine Local Roads Center discussed a variety of topics in his “Snow & Ice Control on Maine’s Local Roads” training program. These included typical precipitation types and Maine weather, deicing material types, air vs. pavement temperatures, application timing, proper material placement, spreader calibration and environmental concerns, among others.

On 11/30/22, 9 staff members with the City’s Public Works Department participated in salt spreader calibration training with the [Sustainable Winter Maintenance Program](#) (SWiM). The City is part of a pilot program with the Long Creek Watershed Management District (LCWMD) to implement SWiM practices to reduce winter salt use and associated adverse impacts to infrastructure, water quality and aquatic health while still maintaining an adequate level of service for transportation infrastructure during inclement weather.

On 6/14/23, SWiM provided a presentation summarizing the results from the 2022-23 winter season to staff from the cities of South Portland, Portland and a prominent property management company. He presented data on a variety of metrics demonstrating the efficacy of SWiM practices in significantly reducing winter salt application rates. Phill will be working even more closely with the City for the 2023-24 winter season and hopes our successful involvement will serve as an incentive for participation by the City of Portland as well.

Legislative Outreach

On 2/1/23, the City’s Stormwater Program Coordinator arranged and led a virtual meeting with staff from the New Hampshire Department of Environmental Services (NHDES) directly involved in establishing and administering their [New Hampshire’s Green SnowPro Certification Program](#). Also in attendance were staff from MEDEP, the CCSWCD (on behalf of ISWG), the City of Portland, the Town of Scarborough and the LCWMD. The purpose of the meeting was to learn about the current implementation status of the Green SnowPro Program and how it might inform similar efforts here in Maine.

Over the course of PY2022-23, the City’s Stormwater Program Coordinator led an effort to work with state legislators on the consideration of legislation that would reduce liabilities from slips and falls for winter maintenance contractors who participate in a chloride reduction program (similar to New Hampshire’s Green SnowPro Program). A virtual meeting was held on 2/8/23 with a state senator and numerous MS4 representatives to review the relevant issues related to the legislation with a presentation provided by the City’s Stormwater Program Coordinator. The senator also received a road salt fact sheet developed by ISWG along with the [DEP’s Issue Profile on the impact of deicing salt on Maine’s streams](#).

On 3/15/23, the City’s Stormwater Program Coordinator arranged a virtual meeting with key representatives from Minnesota and Wisconsin involved in proposing limited liability legislation in each of those states somewhat similar to [New Hampshire’s limited liability legislation](#) that enabled their Green SnowPro Certification program. Also in attendance were staff from MEDEP, the CCSWCD (on behalf of ISWG), SMSWG and the LCWMD. The purpose of the meeting was to learn about how legislative efforts in Minnesota and Wisconsin might inform similar efforts here in Maine.

BMP / Measurable Goal 7.3: Implement Water Quality Monitoring Program

Red Brook

With the assistance of South Portland Stormwater Program staff, Maine DEP conducted continuous water quality monitoring with data loggers and deployed rock bags for macroinvertebrate assessment in Red Brook at 2 locations in Scarborough (DEP S-1219 & DEP S-413) and 1 location in South Portland (DEP S-1218) during the summer of 2022 (Figure 5). DEP’s water quality monitoring results were provided to both communities while DEP rock bag results are still pending.

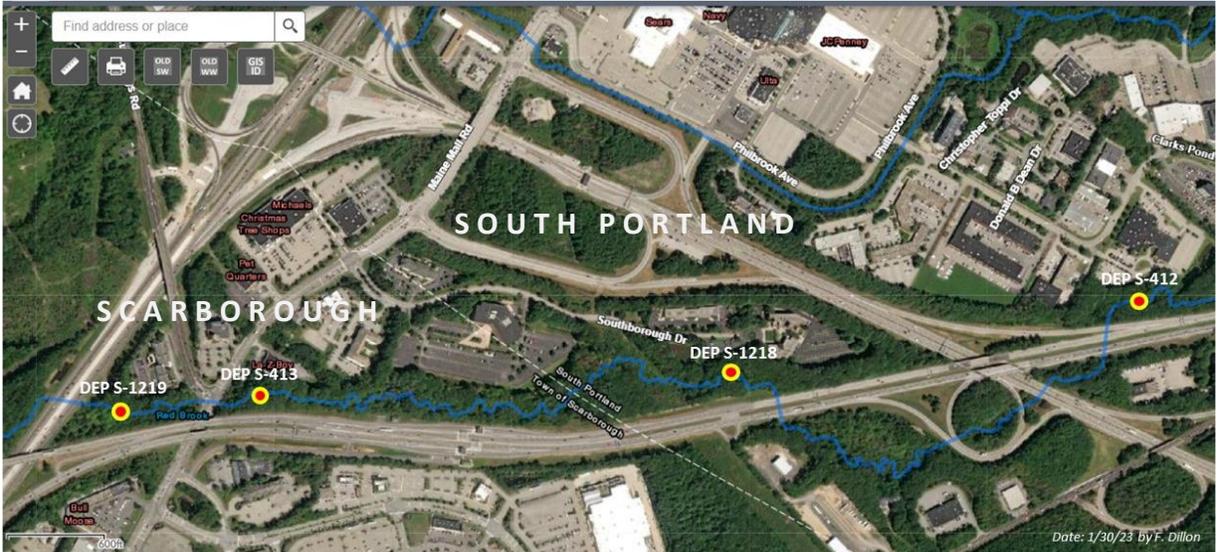


Figure 5: DEP water quality and macroinvertebrate sites in the Red Brook watershed

According to DEP’s water quality monitoring summary, “during the data logger deployment period, low dissolved oxygen did not appear to be a significant stressor overall for the stream, though at the most downstream monitoring station S-1218 the average was slightly lower than the Class B dissolved oxygen criteria of 7 mg/L. Elevated diurnal swings were recorded at (this station), indicating possible excessive algal growth.”

DEP concluded that specific conductance (SpC), which is generally considered an indicator of chlorides, may have been a significant stressor at stations S-413 and S-1218. Based on the correlation of SPC with chloride concentration in neighboring Long Creek, an SpC reading of 850 $\mu\text{S}/\text{cm}$ equates to the chronic chloride criteria of 230 mg/L. SPC readings at S-1218 were above 850 $\mu\text{S}/\text{cm}$ for extended periods throughout much of August and there were brief SPC spikes at S-413 suggesting a direct discharge of some sort.

In consultation with DEP, the City conducted continuous monitoring at S-412 with a YSI 600-series data sonde. While dissolved oxygen concentrations remained well above the Class B criteria of 7 mg/L during the entire sonde deployment period, SpC readings for July remained above 850 $\mu\text{S}/\text{cm}$ for nearly the entire month (Figure 6). Given the extent of impervious cover above this monitoring location, it seems likely that excessive winter salt use is resulting in elevated chloride concentrations.

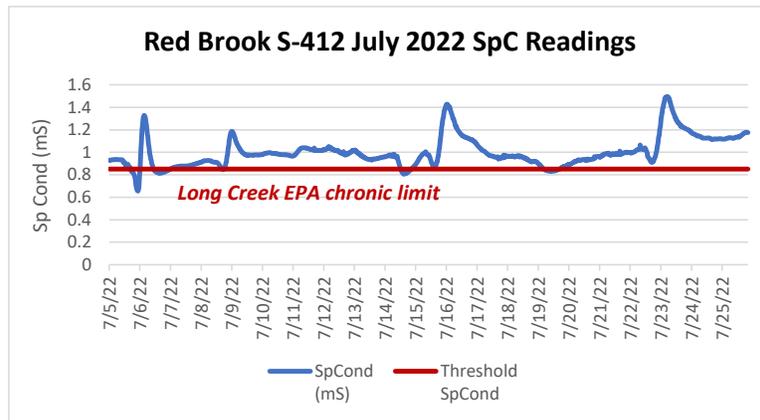


Figure 6: SpC readings at S-412 were above the chronic threshold for most of July 2022

The City also deployed the YSI 600-series data sonde at S-412 for the 2023 monitoring season beginning in late May and ending in late-August. Given the unusually wet conditions over this period, stream flow was high enough to dilute SpC readings so that the 850 $\mu\text{S}/\text{cm}$ threshold was exceeded briefly on only a few occasions. The City’s Stormwater Program staff also assisted the Town of Scarborough in selecting, setting up, deploying, servicing and retrieving a Hobo conductivity data logger at S-1219. The results from these efforts will be included with the PY2023-24 report.

Trout Brook

In the latter part of PY2022-23, the City worked closely with Maine DEP to establish a water quality monitoring and macroinvertebrate assessment plan to collect data that will help inform an update to [Trout Brook’s Watershed Management Plan](#). The plan consists of continuous monitoring loggers / sondes deployed at several locations throughout the watershed along with rock bag deployment in at least 2 locations. The summary of these efforts will be include with the PY2023-24 report.

Kimball Brook

In close consultation with DEP’s Lake Assessment Program and the City’s Park’s Department staff, City Stormwater Program staff collected water quality samples from 2 locations in Hinckley Park’s ponds and 1 location in Kimball Brook. The primary intent of this effort was to determine the primary drivers for summer algal blooms that have been occurring in the Hinckley Park ponds for the past few years. Grab samples were collected for *E. coli*, total phosphorus, nitrate/nitrite-N, ammonia-N and TKN on 7 dates beginning on 5/31/22 and ending on 10/19/22. Temperature, dissolved oxygen (in mg/L and % saturation), specific conductance and conductance readings were also collected on 3 dates beginning on 7/21/22 and ending on 10/19/22. All results are available upon request.

Due to a lack of available equipment and staff capacity, the City was unable to deploy any continuous monitoring data loggers / sondes during PY2022-23 but will likely do so during PY2023-24 after consulting with DEP staff.

CERTIFICATION STATEMENT

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.



Fred Dillon – Stormwater Program Coordinator

9/15/23
Date