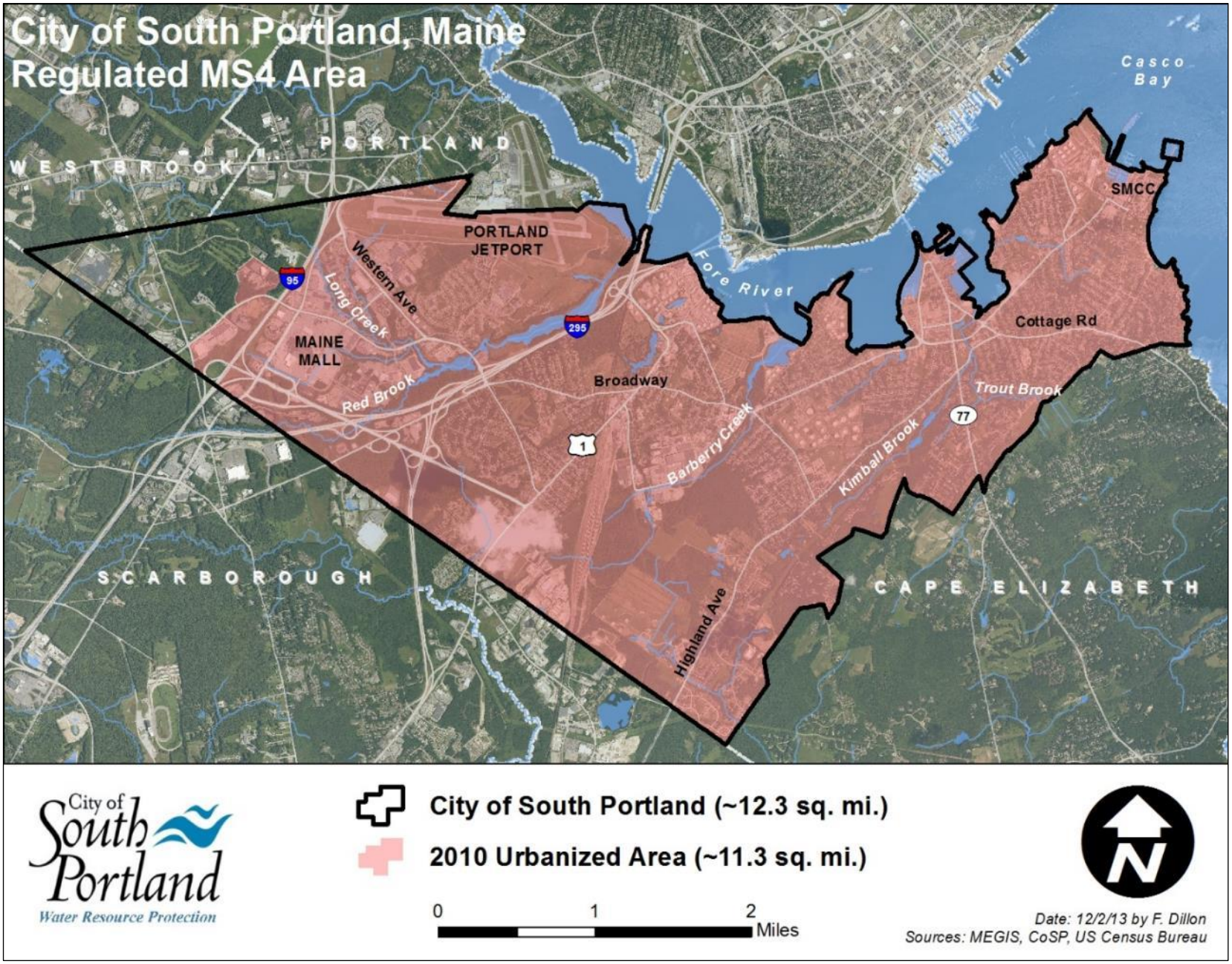
Stormwater Phase II
Annual Report for
Permit Year 8* (2020-21)

City of South Portland
Water Resource Protection

** PY2013 permit administratively extended*

Submitted Electronically to MEDEP on 9/10/21



Cover: Mildred Street Pond marsh recovery following culvert replacement & stormwater improvements (June 2021)

Table of Contents

ACKNOWLEDGEMENTS

This report summarizes a wide variety of activities completed in support of the City's Stormwater Management Program. The following individuals were involved in some capacity:

- **Patrick Cloutier*** ~ *Director of Water Resource Protection Department*
- **Dave Thomes** ~ *Collection Systems Manager*
- **Jeff Moulton** ~ *Sewer Maintenance Supervisor*
- **Collection Systems Division Crew:** *Mike Adriance, Jay Cooke, Jarrod Erskine, Lee Gagnon, Randy Keenan, John Larsen, Mike Lorello, Randy Rafuse*
- **Brad Weeks** ~ *City Engineer promoted to Director of Water Resource Protection Dept. in Jan. 2021*
- **Justin Gove** ~ *Civil & Transportation Engineer*
- **Paul Collins** ~ *Treatment Systems Manager*
- **Tom Wiley** ~ *Compliance Administrator*
- **Colleen Mitchell** ~ *WRP Office Manager*
- **Fred Dillon** ~ *Stormwater Program Coordinator*
- **Reegan Leslie** ~ *Stormwater Program Intern*
- **Aaron Weston & Nick Weber** ~ *CAI GIS Consultants*

WRP staff would also like to thank the following individuals and groups for their ongoing assistance and support of the City's Stormwater Management Program goals:

- **Katelyn Bruzgo, April Caricchio, Deqa Dhalac, Susan Henderson, Jocelyn Leighton, Katherine Lewis & Misha Pride** ~ *City Council*
- **Scott Morelli, Josh Reny & Emily Scully** ~ *City Manager, Assistant City Manager & City Clerk*
- **Milan Nevajda, Steve Puleo, Justin Barker** ~ *Planning & Development Department*
- **Barb Skelton, Dave Kasik, Matt LecConte & Derrick Stephens** ~ *Code Enforcement Office*
- **Doug Howard, Melissa Hutchins & Denise Michaud** ~ *Public Works Department*
- **Kevin Adams, Karl Coughlin, Linky Erskine, Darrell Parker, Rick Perruzzi & Kristina Ertzner** ~ *Parks & Recreation Department*
- **James Wilson & Amy Berry** ~ *Public Safety Department*
- **Mike Dery, Jim Gormley, Steven Levesque & Sal Zahawi** ~ *Information Systems*
- **Maurice Amaral, Cynthia Czubryt & Nathan Oliver** ~ *Community Television*
- **Julie Rosenbach & Lucy Brennan** ~ *Sustainability Department*
- **South Portland Landcare Management Advisory Committee**
- **South Portland Conservation Commission & South Portland Land Trust**
- **Curtis Bohlen, Marty Blair, Victoria Boundy & Matt Craig** ~ Casco Bay Estuary Partnership
- **Cathy Ramsdell, Ivy Frignoca, Mike Doan, Will Everitt & Sarah Lyman** ~ Friends of Casco Bay
- **Damon Yakovleff, Chris Baldwin, Chris Brewer, Heather Huntt, Ali Clift & Jenna Martyn-Fisher** ~ *Cumberland County Soil and Water Conservation District*
- **Wendy Garland, Addie Halligan, Kristin Feindel & Jeff Dennis** ~ *Maine Department of Environmental Protection*
- **Peter Carney** ~ *Long Creek Watershed Management District*
- **Meagan Sims** ~ *Maine Healthy Beaches Program*
- **The many teachers & students interested in the City's water resource protection efforts**

** Pat retired in December after 40 years of service with the Water Resource Protection Department*

Introduction

In accordance with Maine's Small Municipal Separate Storm Sewer Systems (MS4) program, the City of South Portland continued its commitment to protect and improve water resources through the implementation of our Stormwater Program Management Plan. City staff and program partners from the Maine Department of Environmental Protection (MEDEP), Cumberland County Soil & Water Conservation District (CCSWCD), Interlocal Stormwater Working Group (ISWG), Long Creek Watershed Management District (LCWMD), Friends of Casco Bay (FOCB), Casco Bay Estuary Partnership (CBEP), the Maine Healthy Beaches Program (MHB), the South Portland Conservation Commission (SPCC) and the South Portland Land Trust (SPLT) - among others - all participated in a wide variety of activities to mitigate the adverse effects of stormwater pollution. This annual report documents these activities for the eighth Permit Year (2020-21) in the third five-year General Permit Cycle for 2013-18 period (permit administratively extended for ongoing negotiations of next MS4 General Permit).

Minimum Control Measure 1 – Public Education and Outreach

The City of South Portland fulfilled its requirements for Public Education and Outreach Minimum Control Measure primarily through continued participation with the Interlocal Stormwater Working Group (ISWG) and the ongoing funding to the CCSWCD for Public Education and Outreach services. **Appendix 1** provides detailed summaries for the activities completed by CCSWCD on behalf of ISWG in compliance with MCM1 requirements. Due to the COVID19 pandemic, the City's ongoing collaborations with various organizations was curtailed significantly. We worked on a more limited (and often virtual) basis with the Maine Department of Environmental Protection, Maine Healthy Beaches Program, Friends of Casco Bay, South Portland Conservation Commission, South Portland Land Trust, and South Portland & Cape Elizabeth Public Schools (among others) to increase public awareness about stormwater pollution. Despite COVID19, WRP staff were able to provide several presentations about the City's water resource protection efforts to municipal officials and local schools.

The overall goals for this Minimum Control Measure are:

1. To raise awareness that stormwater pollution is the most significant source of water quality problems for Maine's waters;
2. To motivate people to use BMPs that reduce stormwater pollution; and
3. To reduce polluted stormwater runoff as a result of increased awareness and utilization of BMPs.

BMP 1.1 Continue Awareness Outreach Efforts from Previous MS4 Permit Cycle

Responsible Party: Stormwater Program Coordinator *Additional Party: ISWG Education Coordinator*

INTENT

To promote and increase awareness about the issues associated with stormwater pollution, which is the most significant source of water quality problems in the state.

METHODOLOGY

Beginning July 1, 2013, the City continued its collaboration with the Interlocal Stormwater Working Group (ISWG) to conduct outreach efforts for increasing public awareness of stormwater management issues.

MEASURABLE GOALS

- ***Measureable Goal 1.1.1*** – engage in efforts to increase awareness about stormwater pollution including through ongoing collaboration with the Interlocal Stormwater Working Group.

ACTIONS COMPLETED DURING PERMIT YEAR

The City continued collaborating with the ISWG and provided Think Blue Maine and YardScape links on our website and educational materials in municipal buildings to help promote public awareness of local and regional stormwater management concerns.

BMP 1.2 Develop and Implement Stormwater Awareness Plan

Responsible Party: Stormwater Program Coordinator *Additional Party: CCSWCD for ISWG*

INTENT

To raise awareness of polluted stormwater runoff issues for a target audience outside of municipal government.

METHODOLOGY

Continue collaboration with the Interlocal Stormwater Working Group (ISWG) to develop and implement a Stormwater Public Awareness Plan.

MEASURABLE GOALS

- ***Measureable Goal 1.2.1*** – by February 1, 2014, develop new or revise existing Stormwater Public Awareness Plan to raise awareness of stormwater issues for target audience outside of municipal government. The Plan's goal will be to raise awareness of polluted stormwater runoff issues such as the path stormwater runoff takes, sources of stormwater pollution, and the impact that polluted stormwater runoff has on local water resources.
- ***Measureable Goal 1.2.2*** – by December 1, 2013 submit draft Stormwater Public Awareness Plan to Maine DEP for review and approval; draft Plan will be considered approved by February 1, 2014 unless DEP indicates otherwise. Stormwater Public Awareness Plan must identify:
  a. The target audience
  b. The outreach tool(s) to be used
  c. The message
  d. The distribution system
  e. The time line and implementation schedule
  f. The person(s) responsible for implementation
  g. An impact evaluation protocol
  h. A plan modification protocol (including DEP approval of significant plan modifications)
  i. The goals (e.g., targeted level of change sought as a result of the education and outreach effort)

- ***Measureable Goal 1.2.3*** – provide review of Stormwater Public Awareness Plan in each annual report that specifies process indicators to assess execution of the Plan and includes impact indicators according to the following schedule (unless otherwise indicated in Plan):
    - Permit Year 5: provide in-depth assessment of both implementation and impact of Plan
- ***Measureable Goal 1.2.4*** – include comprehensive review of Stormwater Public Awareness Plan in PY5 Report that includes an analysis of process and impact indicators.

ACTIONS COMPLETED DURING PERMIT YEAR

The City continued to collaborate with the ISWG to implement the Stormwater Public Awareness Plan, as described in **Appendix 1**. Additionally, Stormwater Program staff continued providing presentations and conducting education and outreach activities on the sources and impacts of polluted stormwater runoff (Figure 1 & Table 1). The COVID19 pandemic restricted the extent of these activities and as a result fewer people were involved than in previous years.

Figure 1: SPHS students install second rain garden for interior court yard

Table 1: presentations & activities provided by City Stormwater Program staff during PY2020-21

Date	School / Organization	# Participants (approx)	Contact	Subjects	Comments
2/22/21	South Portland Conservation Commission	8	Barbara Dee (Chair)	Barberry Creek stormwater impacts & restoration potential	Virtual SPCC regular meeting
4/30/21	South Portland High School	5	Tania Ferrante	Rain gardens for stormwater treatment	Virtual presentation
5/3/21	South Portland High School	5	Tania Ferrante	Rain gardens for stormwater treatment	Virtual presentation
5/18/21	South Portland High School	8	Tania Ferrante	Hands-on rain garden installation	Worked with students to hand dig small rain garden in SPHS court yard
5/20/21	Cape Elizabeth Middle School	100	Josh Chase	Stormwater pollutants in urban landscapes	Trout release for 5 classes at Trout Brook Nature Preserve
6/4/21	Mahoney Middle School	40	Julie Pitt	Stormwater pollutants in urban landscapes	Trout release for 2 classes at Trout Brook Nature Preserve
6/7/21	South Portland Conservation Commission	8	Barbara Dee (Chair)	Follow up on Barberry Creek restoration potential	Virtual SPCC regular meeting
Total Participants (approx.):		***174***			

The City also continued our partnership with Loyal Companion (formerly PetLife) and the Maine Healthy Beaches Program to resume the (COVID-safe) April Stools Day event at Hinckley Park and Willard Beach (Figure 2 below). Loyal Companion and MHB staff worked with the City to help inform park and beach goers about the importance of picking up and properly disposing of dog waste – particularly given ongoing issues with cyanobacterial blooms in Hinckley Park's two ponds and fact that Willard is a swimming beach. Dozens

of event participants at each location received informational brochures on the relationship between dog waste and water quality along with doggie treats, poop bags and coupons for use at Loyal Companion. Each location also featured a "golden turd" scavenger hunt for which the winner received a $25 gift certificate to Loyal Companion.

Figure 2: Maine Healthy Beaches Program staff assisting with 2021 April Stools event at Willard Beach

BMP 1.3 Develop and Implement Permit Awareness Plan

Responsible Party: Stormwater Program Coordinator
Additional Party: ISWG Education Coordinator

INTENT

To raise awareness of polluted stormwater runoff and MS4 program requirements for municipal staff including municipal employees, volunteers, Council members and other elected officials.

METHODOLOGY

Continue collaboration with the Interlocal Stormwater Working Group (ISWG) to develop and implement a **Permit Awareness Plan**.

MEASURABLE GOALS

- ***Measureable Goal 1.3.1*** – by January 6, 2014, submit draft Permit Awareness Plan to Maine DEP for review and approval; draft Plan will be considered approved by March 1, 2014 unless DEP indicates otherwise and implementation shall begin within one week of approval. The Permit Awareness Plan must identify:
  a. The target audience
  b. The outreach tool(s) to be used
  c. The distribution system
  d. Method to address turnover of employees, elected officials and volunteers
  e. The time line and implementation schedule
  f. The person(s) responsible for implementation
  g. An impact evaluation protocol
  h. A plan modification protocol (including DEP approval of significant plan modifications)
  i. The goal (e.g., the target level of awareness for each audience)
- ***Measureable Goal 1.3.2*** – by March 1, 2014 or within one week of DEP approval, the Permit Awareness Plan will be implemented to raise awareness of stormwater issues including MS4 permit requirements for municipal employees, elected officials and volunteers within municipal government. The Permit Awareness Plan's goal is to raise awareness of polluted stormwater runoff such as the sources of stormwater pollution, the path polluted stormwater runoff takes from the pollution sources to waters of the State, the impact polluted stormwater runoff has on the

community, potential measures to reduce or eliminate pollution sources, and General Permit obligations and responsibilities to ensure permit compliance.

- ***Measureable Goal 1.3.3*** – Provide review of Permit Awareness Plan in Annual Reports that includes process indicators to assess execution of Plan according to the following schedule (unless otherwise indicated in the Plan):
  - Permit Year 5: provide in-depth assessment of both the implementation and impact of **Permit Awareness Plan**

ACTIONS COMPLETED DURING PERMIT YEAR

The City continued to collaborate with ISWG to implement the Permit Awareness Plan (**Appendix 1**). In particular, the Stormwater Program Coordinator informed the Council, Planning Board, Conservation Commission and City staff about Stormwater Permit Awareness training co-sponsored by the CCSWCD and Maine Municipal Association (MMA) in late January and early February of 2021 (Figure 2). Several elected and appointed officials and staff attended this virtual event. Additionally, the Stormwater Program Coordinator provided a related presentation to the City's Conservation Commission on 2/22/21 about the requirements in the 2022 stormwater permit, particularly in relation to urban impaired stream restoration requirements.

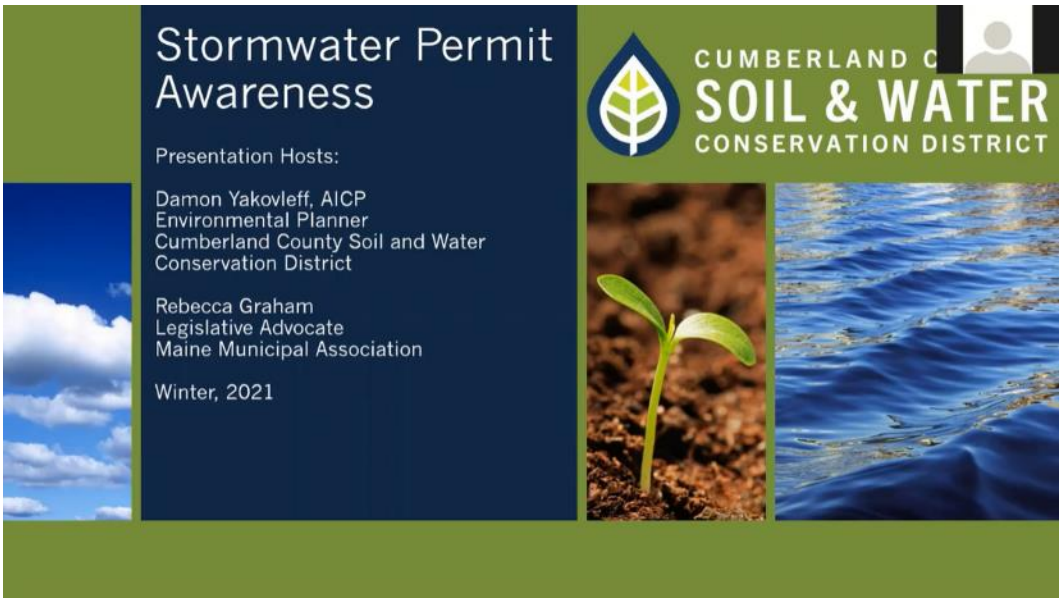


Figure 3: screen shot of permit awareness training event jointly presented by CCSWCD & MMA in late January

BMP 1.4 Continue Targeted BMP Adoption Efforts from Previous MS4 Permit Cycle

Responsible Party: Stormwater Program Coordinator *Additional Party: ISWG Education Coordinator*

INTENT

To continue outreach efforts from the previous MS4 General Permit while developing or revising a new Targeted BMP Adoption Plan.

METHODOLOGY

Continue collaboration with the Interlocal Stormwater Working Group (ISWG) to develop a new or revised Targeted BMP Adoption Plan with the goal of promoting behavior change through the implementation of at least one specific BMP targeted for focused outreach.

MEASURABLE GOALS

- ***Measureable Goal 1.4.1*** – beginning July 1, 2013, continue outreach efforts from the previous MS4 General Permit while developing or revising a new Targeted BMP Adoption Plan.
- ***Measureable Goal 1.4.2*** – by November 1, 2013, submit draft Targeted BMP Adoption Plan to DEP for review and approval; Plan will be considered approved by January 15, 2014 unless DEP indicates otherwise and implementation shall begin within one week of approval. The Targeted BMP Practices Adoption Plan must identify:
  a. The BMP
  b. The target audience
  c. The outreach tool(s) to be used
  d. The message
  e. The distribution system
  f. The time line and implementation schedule
  g. The person(s) responsible for implementation
  h. An impact evaluation protocol
  i. A plan modification protocol (including DEP approval of significant plan modifications)
  j. The goal (e.g., the target level BMP adoption for each audience)
- ***Measureable Goal 1.4.3*** – by January 15, 2014, implement new or revised Targeted BMP Adoption **Plan** that promotes behavior change through the implementation of BMPs; emphasize at least one specific BMP to target for adoption by at least 15% of the segmented audience.
- ***Measureable Goal 1.4.4*** – include review of Targeted BMP Adoption Plan in Annual Reports that includes process indicators to assess Plan execution; also include impact indicators according to the following schedule (unless otherwise indicated in the Plan):
  - Permit Year 5: provide final assessment of Plan implementation and impact; include comprehensive review of Plan with analysis of process and impact indicators

ACTIONS COMPLETED DURING PERMIT YEAR

The City continued to collaborate with the ISWG to implement the Targeted BMP Adoption Plan, which established a goal to reduce the amount of lawn chemicals (fertilizers and pesticides) used by 15% of college-educated homeowners aged 35-55 as further described in **Appendix 1**. In addition to and consistent with ISWG's efforts, in December 2020 the City established fertilizer provisions and updated some pesticide provisions for a new Landcare Management Ordinance. The intensive process to develop the ordinance took 18 months and was overseen by the Fertilizer Working Group (FWG), which included representatives from a diversity of perspectives. In addition to consulting with experts from the landcare management profession, state agencies, academia and nonprofit organizations, the FWG conducted an extensive literature search to

inform the ordinance development process.

The resulting fertilizer provisions are currently among the most stringent in the State requiring a soil quality test and only allowing the use of organic products on lawns and turf except in very limited circumstances. Additionally, all fertilizer applications are prohibited under the following conditions:

- Within 75' of a waterbody, wetland or other environmentally sensitive area
- On frozen or water-saturated ground
- When a heavy rain event is occurring or predicted
- During the summer dormancy period (June through August)
- On impervious surfaces

Beginning in the fall of 2021, new development and redevelopment projects for single family residential buildings and larger must now also meet minimum soil quality requirements that include subsoil de-compaction broken up to 10" deep and 6" of topsoil containing at least 5% organic matter with a pH between 6 and 6.5. Similar to erosion & sediment control inspections, these requirements will be verified for each project by a City-designated 3rd party inspector.

The Stormwater Program Coordinator continued staffing the City's Pest Management Advisory Committee (which became Landcare Management Advisory Committee following the passage and enactment of the Fertilizer Ordinance and updates to the Pesticides Ordinance in December 2020). The LMAC held monthly virtual meetings throughout the COVID 19 pandemic to continue helping to implement the Landcare Management Ordinance with a summary of activities described in the 2020 annual report.

BMP 1.5 Enhance Education & Outreach Effort

Responsible Party: Stormwater Program Coordinator *Additional Party: ISWG Education Coordinator*

INTENT

To target a specific activity for an impaired waterbody that if successfully addressed will improve and/or protect water quality in the priority or impaired watershed; alternately, identify common regional or statewide stormwater pollution issue with the goal of reducing or eliminating pollutant(s) of concern.

METHODOLOGY

Continue collaboration with the Interlocal Stormwater Working Group (ISWG) to either target specific activity for improving and/or protecting water quality in priority / impaired watershed or identify common regional or statewide stormwater pollution issue for pollutant load reduction or elimination.

MEASURABLE GOALS

- ***Measureable Goal 1.5.1*** – by July 1, 2014, provide draft Education & Outreach Plan to DEP for either targeted activity or regional / statewide stormwater issue that addresses the following element:
  a. Identify the specific stormwater activity or pollutant to be addressed
  b. The target audience(s)

c. The outreach tool(s) to be used
d. The message and the BMPs to be encouraged
e. The time line and implementation schedule
f. The person(s) responsible for implementation
g. The goal of the outreach effort
h. An impact evaluation protocol

- ***Measureable Goal 1.5.2*** – by November 1, 2014, provide final Education & Outreach Plan to DEP; Plan will be considered approved by January 5, 2014 unless DEP indicates otherwise with implementation to begin immediately.
- ***Measureable Goal 1.5.3*** – annual reports will include progress and results of targeted outreach efforts; permit year 5 report will include analysis of the process and impact indicators for implementation of the **Education & Outreach Plan.**

ACTIONS COMPLETED DURING PERMIT YEAR

The City continued to collaborate with the ISWG to implement the Enhanced Education & Outreach Plan as described in **Appendix 1**. The Stormwater Program Coordinator provided presentations to the South Portland Conservation Commission (SPCC) on the relationship between the City's stormwater program and urban impaired stream (UIS) restoration efforts – particularly given the specific UIS requirements in the 2022 MS4 permit. The context for these presentations originated from a geomorphological study of Barberry Creek (Figure 4) – 1 of 5 urban impaired streams in the City – completed for the SPCC in November 2020 (the study was paid for by the City's Wetlands Compensation Fund). The primary purposes of the study were to:

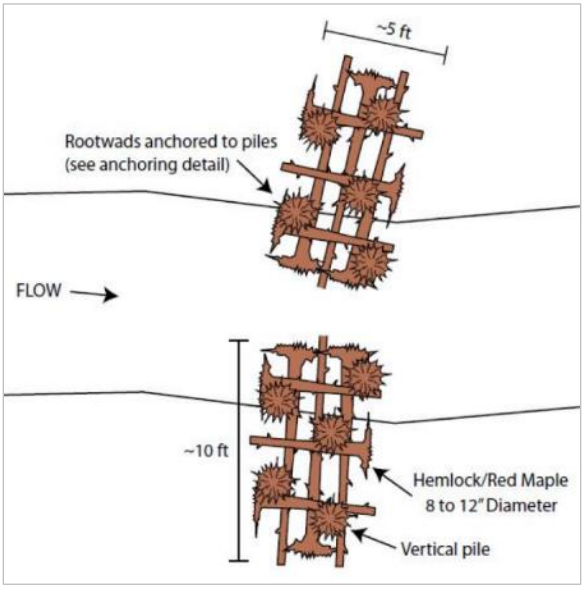


Figure 4: concept drawing for log constrictor structure that could be used at multiple locations in Barberry Creek

- Identify the key locations for stream sediment sampling to document the potential presence of toxics
- Develop a restoration plan to improve instream habitat and flow depths during low flow conditions

The findings and recommendations from the 2020 Barberry Creek geomorphological study will prove to be very useful for any future restoration efforts by the City.

Minimum Control Measure 2 – Public Involvement and Participation

The overall goal of this MCM is to involve the public in both the planning and implementation process of improving water quality and reducing stormwater quantity via the City's stormwater program. The City addresses these requirements for Public Involvement and Participation primarily through continued

collaboration with the Interlocal Stormwater Working Group (ISWG) and the continued funding to the ISWG for Public Involvement and Participation services, most notably including the Urban Runoff (**Appendix 1**).

The City has also established public involvement and participation procedures as part of its development review process (e.g., Planning Board meetings) that provide regular opportunities for members of the public to offer comments on the implementation of stormwater performance standards. City staff and public officials have also been appointed to the **Long Creek Watershed Management District** (LCWMD), which has an open process whereby members of the public can participate in implementing the Long Creek Watershed Management Plan (LCWMP). The LCWMP was developed largely in response to the stormwater pollution impacts from surrounding land uses and was commissioned by the City of South Portland through an EPA/DEP 319 grant. The City's Stormwater Program Coordinator continued to serve as the LCWMD's Board Chair in PY2020-21.

BMP 2.1 Comply with Public Notice Requirements

Responsible Party: Water Resource Protection & Planning Departments

Additional Parties: ISWG Stormwater Program Coordinator & LCWMD Executive Director

INTENT

To comply with applicable state and local public notice requirements by using effective mechanisms for reaching the public; to comply with Maine Freedom of Access Act public notice requirements (1 M.R.S.A. §§ 401 et. seq. – "FOAA") when involving stakeholders in General Permit implementation.

METHODOLOGY

Continue participation in the ISWG and conform to applicable MEDEP, City of South Portland and Long Creek Watershed Management District public notice requirements.

MEASURABLE GOALS

- ***Measureable Goal 2.1.1*** – ISWG, the City and the Long Creek Watershed Management District will follow all applicable state and local Public Notice requirements. Copies of the plans specifying these requirements are available on the City of South Portland and Long Creek Watershed Management District websites.
- ***Measureable Goal 2.1.2*** – ISWG, the City and the Long Creek Watershed Management District will follow state and local Public Notice requirements when involving stakeholders in the implementation of the MS4 General Permit, the City's Stormwater Program Management Plan, the City's Stormwater Management Performance Standards (Ch. 27-1536) and the Long Creek Watershed Management Plan.

ACTIONS COMPLETED DURING PERMIT YEAR

Following the adoption of Stormwater Management Performance Standards by the City in April of 2009, virtually every Planning Board meeting affords the public with an opportunity to participate in efforts to improve local water quality through the reduction of impacts from stormwater pollution. This occurs because nearly every Planning Board meeting consists of new development and redevelopment proposals with

provisions for stormwater management. Records of public notices, attendance and minutes for these meetings are maintained by the City's Planning Department and posted on the City's website. The Long Creek Watershed Management District also allows public participation for efforts to reduce impacts from stormwater pollution at each of its regular meetings and posts meeting agendas and minutes on its website. Finally, the City's Landcare Management Advisory Committee (formerly the Pest Management Advisory Committee) holds monthly meetings that allow public input for the implementation of the pesticide and fertilizer ordinances, which are both important elements of the City's stormwater pollution reduction efforts.

BMP 2.2 Host, Conduct or Participate in a Public Event

Responsible Party: Water Resource Protection Dept. *Additional Party: ISWG Education Coordinator*

INTENT

To increase public awareness by hosting, conducting or participating in a public event for a target audience that includes a pollution prevention and/or water quality theme.

METHODOLOGY

Provide highly visible opportunities for members of the public to meaningfully participate in activities that increase awareness about reducing impacts from polluted stormwater runoff.

MEASURABLE GOALS

- ***Measurable Goal 2.2.1*** – ISWG and/or the City will annually host/conduct or participate in at least one public event such as storm drain stenciling, stream cleanup, household hazardous waste collection day, volunteer monitoring, neighborhood educational events, conservation commission outreach program, Urban Impaired Stream outreach program, or adopt a storm drain or local stream program. The target audience will be a segment of the urbanized area population that the City wishes to reach. The ISWG and/or the City will consult with DEP to ensure the event will satisfy the requirements for this BMP.

ACTIONS COMPLETED DURING PERMIT YEAR

Household Hazardous Waste Collection Days

Despite the COVID 19 pandemic, the Water Resource Protection Department continued to provide the popular annual Household Hazardous Waste Collection Day for South Portland residents in partnership with the Public Works Department. While our 10/10/20 event was very well attended (Figure 5 below), we did not distribute the informational cards with links to the online questionnaire due to public health considerations related to the pandemic. Consequently, we weren't able to get an accurate count for the number of participants (which we usually get by simply counting the number of cards we distribute).

Figure 5: panoramic view of attendees at the City's 10/10/20 Household Hazardous Waste event

With improving pandemic conditions in the spring of 2021, we decided to resume distribution of the information cards and estimated that approximately 375 attendees participated in our 4/10/21 Household Hazardous Waste event. We also had a fairly good questionnaire response rate with 106 questionnaires submitted electronically. A summary of the questionnaire responses is as follows:

- Majority of respondents (~62%) were over 55 and majority (~53%) were female
- A strong majority of respondents (~89%) lived in single family residences and were from the eastern side of the City
- Paints & solvents were the most common products dropped off followed by automotive fluids and cleaning supplies
- About half the respondents had the waste items for 1-5 years with an additional 37% retaining the waste items for more than 5 years
- Most respondents learned about the event from the electronic message boards placed in a couple locations in the City and just over half the respondents had participated in previous HHW events
- Respondents indicated that the most common reason for participating the HHW event was to protect human health & the environment and nearly all respondents stated they would participate in future HHW events
- Two thirds of respondents were familiar with the City's pesticide use ordinance and just under half were familiar with the City's Stormwater Management Program

Please see **Appendix 2** for the complete summary of the HHW questionnaire responses.

As mentioned above, the City also resumed our "April Stools Day" event on 4/24/21 while observing Maine CDC recommended COVID protocols. This outdoor event allowed staff from the City, the Maine Healthy Beaches Program and Loyal Companion to provide numerous dog owners visiting Willard Beach and Hinckley Park with information on the how proper dog waste disposal relates to water quality and City's stormwater program. Coincident with this effort was an initiative by the Parks Department to increase dog owner requirements specifically in Hinckley Park to help address ongoing water quality problems in the two ponds, which have experienced algal blooms for the past three years. A temporary leash requirement was established in June (i.e., all dogs in the park had to be leashed) while Parks Department staff developed updated ordinance provisions for consideration by the Council in August 2021 (which will be described in the PY2021-22 stormwater report).

The ISWG was again able to hold a virtual version of the Urban Runoff 5K during the month of April 2021 (although the Green Neighbor Family Fest had to be cancelled). A more detailed summary of the event is described in **Appendix 1**. The City donated $500 to help fund the effort.

Finally, the City once again partnered with the Long Creek Watershed Management District (LCWMD), Hydro International and Woodard and Curran to conduct a clean-up event for the South Branch of Long Creek. Over 600 pounds of trash was removed, setting a record for all of the previous events. This was most likely due to the continued rubbish accumulation following the cancellation of the 2020 event due to the pandemic (Figure 6).

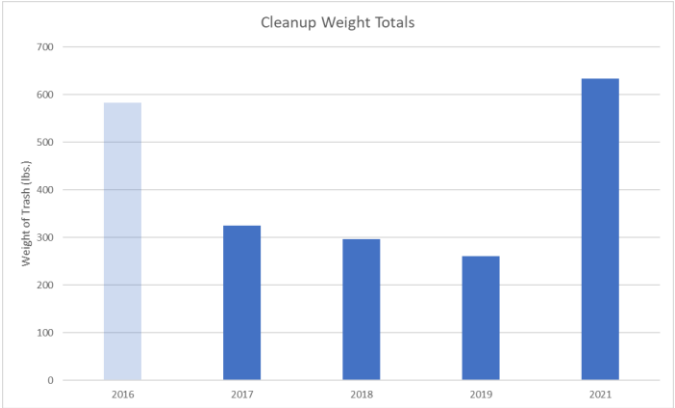


Figure 6: weight of trash removed from South Branch of Long Creek clean-up events since 2016 (Source: Hydro International)

Minimum Control Measure 3 – Illicit Discharge Detection & Elimination

The overall goal of this MCM is to implement and enforce a program to detect and eliminate illicit and non-stormwater discharges.

BMP 3.1 Continue to Keep Watershed-Based Storm Sewer System Infrastructure Map Current and Update Annually

Responsible Party: Water Resource Protection Dept. *Additional Party: N/A*

INTENT

To maintain a current, detailed and accurate digitally-based map of the City's storm drain infrastructure to assist in stormwater management and planning.

METHODOLOGY

Continue updating GIS map layer of storm sewer system and add features as new stormwater infrastructure is constructed and/or as previously unidentified stormwater infrastructure is discovered.

MEASURABLE GOALS

- ***Measurable Goal 3.1.1*** – annually review GIS map layer of storm sewer system and update based on construction of new publicly owned storm sewer infrastructure and/or discovery of previously unidentified storm sewer infrastructure.
- ***Measurable Goal 3.1.2*** – annually incorporate construction of private storm sewer infrastructure into GIS map layer for new development or redevelopment projects as funding allows.

ACTIONS COMPLETED DURING PERMIT YEAR

The City continued to invest considerable time and money in maintaining, updating and improving GIS data layers of the publicly owned stormwater system and likely has among the most complete and comprehensive

spatial datasets for municipal stormwater (and sewer) infrastructure in the State. The City's ongoing CSO mitigation efforts continue to result in the creation of new stormwater infrastructure – often including stormwater treatment systems in addition to more traditional drainage systems (i.e., pipes and catch basins). The following updates were made to our GIS data layers to reflect projects completed during PY2020-21.

Ottawa Road Service Area Residential Stormwater Separation Project

- Updated wastewater pipes and structures located on Ship Channel Rd, Danforth Rd, Drew Rd, Leighton St, Preble St
- Updated drainage pipes and structures located on Ship Channel Rd, Danforth Rd, Drew Rd, Leighton St, Preble St

Westbrook Street Improvements

- Updated wastewater pipes and structures located on Westbrook Street
- Updated drainage pipes and structures located on Westbrook Street

Additional layer updates included:

- Wastewater lateral lines
- Wastewater lateral points
- Wastewater pipes
- Wastewater structures
- Drainage pipes
- Drainage structures
- Stormwater BMPs
- Drainage culvert openings
- Drainage outfalls

BMP 3.2 Continue Implementation of Non-Stormwater Discharge Ordinance to Prohibit Unauthorized Discharges into Storm Sewer System

Responsible Party: Stormwater Program Coordinator *Additional Party: Compliance Administrator*

INTENT

To prohibit unauthorized non-storm water discharges to the storm drainage system through municipal ordinance and to establish the legal authority and procedures to carry out all inspection, monitoring and enforcement activities necessary to ensure compliance with this ordinance.

METHODOLOGY

Use the authority granted by the ordinance to enforce the provisions therein; coordinate and cooperate with the Maine DEP, Portland Water District and Interlocal Stormwater Working Group to develop hydrant flushing policies that are protective of local water resources.

MEASURABLE GOALS

- ***Measurable Goal 3.2.1*** – the City of South Portland will continue to enforce the Non-Stormwater

Discharge Ordinance. This ordinance is referenced in the South Portland Code of Ordinances as Chapter 22 Sewer and Drains, Article XIV Non- Stormwater Discharge (§§22-200 -- 22-209) which was passed on September 8, 2004.

- ***Measureable Goal 3.2.2*** – in Permit Year 1, coordinate with the Portland Water District (PWD) via mail or in person to evaluate whether water line and hydrant flushing are significant contributors of pollutants to the City's MS4 system. Evaluation will include the following actions:
    - Provide the PWD with a location map showing the extent of the municipal urbanized area, and the highest priority watershed(s).
    - Gather information from the PWD, specific to the urbanized area and priority watershed(s), including the number and location of hydrants and details on water line or hydrant flushing that outlines procedures, including how often flushing occurs, typical flow rates and duration, where the water is conveyed, what the target or actual chlorine concentrations are, and what best practices are employed to prevent erosion and address potential pollutants.
- ***Measureable Goal 3.2.3*** – by no later than December 30, 2014, unless otherwise approved by the Department, using available GIS or other municipal mapping information, the location of hydrants will be added to the storm sewer system infrastructure map to aid in the evaluation; the City of South Portland will work with the PWD to prioritize the hydrants or water lines that have the potential to cause exceedances of the ambient water quality criterion for chlorine when discharged through the MS4. The City will request a water quality progress report that documents what best management practices are being implemented for flushing activity at the prioritized hydrants as well as the PWD's testing results of the total residual chlorine for any such discharges.
- ***Measureable Goal 3.2.4*** – in Permit Years 3-5, the City will request an annual water quality progress report that documents what best management practices are being implemented for flushing activity at the prioritized hydrants as well as the PWD's testing results of the total residual chlorine for any such discharges.
- ***Measureable Goal 3.2.5*** – if it is determined by the end of Permit Year 3, that water line or hydrant flushing is a significant contributor of pollutants to the MS4, and the PWD has demonstrated that it will not voluntarily implement BMPs in order to reach ambient water quality criteria for chlorine, the City will, as soon as practicable or by no later than the end of Permit Year 4, update their IDDE ordinance to allow enforcement of discharges that cause exceedances of water quality criteria.

Reporting: the annual report will include a summary of Non-Stormwater Discharge incidents; it will also include a status update on the evaluation of water line and hydrant flushing as a significant contributor of pollutants to the MS4 and an update on subsequent actions.

ACTIONS COMPLETED DURING PERMIT YEAR

The City continued to enforce the Non-Stormwater Discharge Ordinance as specified in the South Portland Code of Ordinances Chapter 22 Sewer and Drains, Article XIV Non-Stormwater Discharge (§§22-200 - 22-209), which was enacted on September 8, 2004. City staff responded to 29 incident reports of potential illicit discharges or spills and followed up on all of these incidents (Figure 7 & Table 2). The City contacted the operators or owners of problem properties and issued warnings to cease and desist and/or offered technical assistance as needed. Reports, follow-up correspondence and any other related documentation (e.g., maps and photos) for these incidents are maintained on a shared folder accessible by relevant City staff.

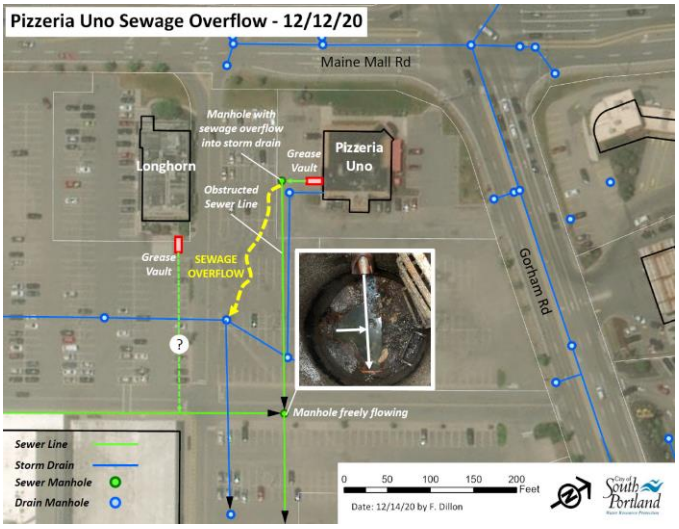


Figure 7: an example of a map documenting the details for an IDDE incident in December 2020.

Table 2: spills or IDDE incidents reported for PY2020-21

Report Date	Incident Location	Description	Findings / Follow-up	Non-SW to MS4?
7/2/20	12 Paddock Lane	Pool water dumping	Staff investigation identified discharge to combined sewer	No
7/15/20	Preble St - CB_1599	Paint or drywall washwater dumping	Staff spoke with nearby contractors who claimed ignorance	Yes
8/19/20	MDOT Ramp A	Oil spill from cement truck rollover	Staff investigation confirmed spill; MDOT cleanup crew removed soil & used absorbent to soak up oil on pavement	No
8/20/20	Acme Auto	Anonymous complaint about chemical dumping to storm drain & sewer	Staff investigation did not indicate any evidence of illicit discharge to storm drain or sewer	No
9/2/20	Goudy Street	Hydraulic oil spill from leaking trash truck	Staff contacted Pine Tree Waste and they dispatched cleanup crew	No
9/15/20	Clarks Pond Trail	Hiker contacted DEP about orange discharge into Clarks Pond; DEP contacted City	Staff investigation indicated dissolved iron in groundwater as most likely source of discharge	No
9/16/20	Kobe Restaurant	Opportunistic inspection of waste storage area by staff	Poor GHPP for dumpsters and waste oil storage	Yes
9/17/20	Plymouth Rd	Hydraulic oil spill from leaking trash truck	Staff contacted Pine Tree Waste and they dispatched cleanup crew	No
9/25/20	491 Cottage Rd	Motor oil discharge directly into CB_1754	Staff spoke with Hill's Service Station staff who claimed ignorance; sent letter to service station owner; placed "No Dumping" stencil next to CB.	Yes
9/30/20	Fessenden Ave & Lawrence Lano St	Hydraulic oil spill from leaking trash truck	Staff contacted Pine Tree Waste and they dispatched cleanup crew; City dispatched sand truck and sweeper to assist; contacted DEP given chronic nature of problem; met with Casella senior staff to identify prevention plan.	Yes
10/22/20	CB_1982	Consultant visiting area detected sewage odor near CB	Staff investigation indicated that odor was likely coming from nearby sewer manhole.	No
10/23/20	200 John Roberts Rd	Anonymous complaint about chemical dumping in rear of building	Staff investigation confirmed washwater discharge to paved service that drained to nearby vegetated area; contacted business owner to cease & desist.	No

12/12/20	280 Main Mall Rd	Pizzeria Uno sewage discharge	Staff investigation confirmed sewage discharging to private SW system; contacted manager to cease & desist and notified Code Enforcement staff & DEP; Richard P. Waltz Plumbing removed obstruction.	Yes
1/20/21	Lincoln St	Fuel product discharged to Main St pump station	Staff visited 3 vehicle service facilities on Lincoln St to determine if any of them had dumped petroleum products into sewer or SW system. In all cases, facility personnel claimed ignorance.	No
1/28/21	333 Broadway	Fuel island foam discharge	Power outage resulted in malfunction of fire suppression system and all material washed into SW system before City staff arrived; staff spoke with store manager and contacted DEP for followup advice	Yes
3/18/21	425 Westbrook St	Snow dumping into wetland	Staff confirmed dumping and notified DEP	No
3/22/21	Main Street	Petroleum product dumped from fuel truck	Staff notified DEP and DPW dispatched sand truck & sweeper to remove excess product	No
4/9/21	200 John Roberts Rd	Anonymous complaint about concrete waste / washout dumping	Staff notified contractor who responded promptly and removed debris / waste material.	Yes
4/22/21	99 Westbrook St	Anonymous complaint about car leaking gasoline onto residential driveway	Staff confirmed leak and notified building owner and tenant & directed tenant to fix leak	Unknown
5/4/21	Pierce St	Resident complaint of trash truck leaking hydraulic oil	Staff investigation couldn't confirm recent oil spill so followed up with resident for clarification but didn't get any response	No
5/10/21	High St - CB_6457	Discovered antifreeze dumping into CB while conducting routine cleaning/maintenance	Staff investigation couldn't identify source; used vac truck to remove all contents and discharged at WWTP	Yes
5/14/21	380 Gorham Rd	Kobe restaurant grease overflow to SW system	Contacted owner & arranged meeting on 5/22/21 with CEO & LCWMD to discuss proper GH/PP practices	Yes
5/17/21	Kittredge Rd	RV waste dumped into CB_3773	Discovered during annual CB cleaning; entire contents vacuumed & discharged at WWTP. Unable to identify source.	Yes
5/22/21	Sunset Park	Resident filed complaint about various odors from CBs in area using online form	Spoke with resident and determined that complaint was non-specific (not from specific CB)	No
5/22/21	Wainwright Field	Complaint of potential petroleum product in drainage ditch	Visited Wainwright on 5/24 and couldn't locate any discharge in ditch; met with complainant on 5/25 and determined that no petroleum product was discharged	No
5/26/21	15 Bellaire Rd	Anonymous complaint about soil dumping in back yard close to Trout Brook	Confirmed soil dumping and notified CEO for possible follow up	No
6/8/21	200 Gorham Rd	Opportunistic inspection of waste storage area by staff	Trash/rubbish strewn around dumpsters	No
6/10/21	1 Clark Rd	Oil spill during tank filling at Global Corp	Fire Dept provided AR-1 report but didn't specify cleanup procedures	No
6/28/21	120 Thadeus	Opportunistic inspection finds runoff from lobster totes into private CB / SW system	Conferred with staff and determined no impact to MS4 or protected water resources	No

The Portland Water District (PWD) provided an annual water quality report for PY2020-21 documenting that their water line and hydrant flushing SOP successfully prevented pollutant discharge (i.e., total residual chlorine) in concentrations above DEP's stated threshold of 0.05 ppm (**Appendix 3**).

BMP 3.3 Continue Implementation of Prioritized Dry Weather Outfall Inspection Program

Responsible Party: Stormwater Program Coordinator *Additional Party: N/A*

INTENT

To identify potential sources of illicit non-stormwater discharges for elimination in watersheds or sub-watersheds that pose the greatest potential threat to local receiving waters.

METHODOLOGY

Physically inspect stormwater outfalls in priority subwatersheds during dry weather periods.

MEASURABLE GOALS

- ***Measureable Goal 3.3.1*** – continue conducting dry weather outfall inspections in all the subwatersheds of Long Creek (formerly the highest priority watershed for the 2008-13 MS4 permit) and Trout Brook (the highest priority watershed for the 2013-18 MS4 permit). The boundaries of all subwatersheds may be further refined as additional mapping and field assessment is conducted or as development / redevelopment occurs.
- ***Measureable Goal 3.3.2*** – by the end of Permit Year 1, the City will identify the subwatersheds for dry weather outfall inspections within the second highest priority watershed, Barberry Creek. By the end of Permit Year 3, the City will conduct dry weather outfall inspections in all subwatersheds of Barberry Creek. The boundaries of all subwatersheds may be further refined as additional mapping and field assessment is conducted or as development / redevelopment occurs.
- ***Measureable Goal 3.3.3*** – the City will continue using the standard operating procedure (SOP) and data collection system for the dry weather outfall inspection program from the previous permit cycle and modify either as needed. The SOP includes inspection forms and a policy/procedure or protocol that identifies the steps that must be taken when an illicit discharge is encountered during routine and opportunistic inspections.

Reporting: inspection results will be documented in a database management system or other recordkeeping system. The annual report will provide a summary of the inspection results.

ACTIONS COMPLETED DURING PERMIT YEAR

Dry weather outfall inspections for Barberry Creek, Long Creek and Trout Brook were completed using a cloud-based data collection application in November and December 2020 when temperatures were below freezing. Due to increasing concerns with the spread of Lyme disease and other tick-borne illnesses, the City continued conducting outfall inspections during times of the year when the temperatures were below freezing and ticks were much less likely to be active. The inspection summaries for all three watersheds are included in **Appendix 4**. While there were a number of potential maintenance issues identified, such as erosion and vegetative overgrowth, no obvious occurrences of illicit discharges were detected. The City relies on our Illicit Discharge Detection & Elimination Plan, developed in compliance with the upcoming 2022 MS4 General Permit and submitted with our Stormwater Management Plan on 3/31/21.

BMP 3.4 Continue Development & Implementation of Dry Weather Open Ditch Inspection Program

Responsible Party: Stormwater Program Coordinator *Additional Party: N/A*

INTENT

Identify potential sources of illicit discharge from open drainage ditches that serve as part of the City's stormwater collection and conveyance system.

METHODOLOGY

Identify the extent, location and hydrologic connectivity of drainage ditches in priority watershed in relation to the City's stormwater collection system and develop an IDDE strategy for all relevant ditches.

MEASURABLE GOALS

- ***Measureable Goal 3.4.1*** – continue implementing the inspection program from the previous permit cycle to detect any illicit discharges in the open ditch system of the Long Creek watershed.
- ***Measureable Goal 3.4.2*** – by the end of Permit Year 1, the City will identify the length of open ditches within the highest priority watershed, Trout Brook.
- ***Measureable Goal 3.4.3*** – by the end of Permit Year 2, the City will implement a strategy to detect any illicit discharges in the open ditch system of the Trout Brook watershed.
- ***Measureable Goal 3.4.4*** – by the end of Permit Year 4, the City will identify the length of open ditches within the second highest priority watershed, Barberry Creek.
- ***Measureable Goal 3.4.5*** – by the end of Permit Year 5, the City will implement a strategy to detect any illicit discharges in the open ditch system of the Barberry Creek watershed.

Reporting: inspection results will be documented in a database management system or other recordkeeping system. The annual report will provide a summary of the inspection results.

ACTIONS COMPLETED DURING PERMIT YEAR

WRP staff inspected and photographed all of the open ditches in the Long Creek and Barberry Creek watersheds (**Appendix 5**). We continued to use the ArcGIS Online (AGOL) application for data collection. There were no overt signs of illicit discharges observed at the time of inspections though there were numerous ditches in need of maintenance follow-up for vegetation removal, erosion repair and/or riprap replacement. Given the extensive use of piped stormwater systems to provide drainage for the densely developed residential and commercial areas in the Trout Brook watershed, no open ditches are present in the public right-of-way and therefore no inspections are necessary in this watershed.

BMP 3.5 Develop List & Evaluation Protocols for Septic Systems 20 Years Old or Greater with Potential to Discharge into MS4 System in Event of Failure

Responsible Party: Stormwater Program Coordinator *Additional Party: N/A*

INTENT

To identify and assess the potential for discharges from failing septic systems to enter City's MS4 system and adversely affect local water resources.

METHODOLOGY

Develop list of septic systems 20 years or older and an evaluation protocol to determine whether any of these may be discharging to the MS4 system and/or nearby water resources.

MEASURABLE GOALS

- ***Measureable Goal 3.5.1*** – by the end of Permit Year 3, develop a list and evaluation protocols for septic systems that are 20 years old or greater and have the potential to discharge into the MS4 for

the Long Creek watershed (formerly the highest priority watershed for the 2008-13 MS4 permit) and Trout Brook (the highest priority watershed for the 2013-18 MS4 permit).

- ***Measureable Goal 3.5.2*** – by the end of Permit Year 4, implement a drive-by evaluation and documentation program for septic systems that are 20 years old or greater and have the potential to discharge into the MS4 for the Long Creek watershed and Trout Brook. This septic system inspection and documentation program will include a mechanism for addressing any discharges to the MS4 from malfunctioning septic systems.

Reporting: the annual report for Permit Year 3 will provide a summary of the progress made on developing the septic system list and evaluation protocols; the reports for Permit Years 4 and 5 will include a summary of septic system inspection results and associated corrective actions if needed.

ACTIONS COMPLETED DURING PERMIT YEAR

In PY2015-16, drive-by septic system evaluations were conducted for 183 parcels throughout the City (Figure 8). In most cases, the evaluations were of limited value because septic systems located on the rear of properties could not be accessed directly for inspection. However, 19 systems were identified for potential follow up primarily due to the presence of greener grass above the leach fields (the inspections were conducted during an extended period of extreme drought). No corroborating indicators, such as ponding or sewage breakout, were observed. There has been considerable discussion within the State's MS4 community about the efficacy and value of drive-by septic system evaluations and the next MS4 General Permit (dated 10/15/20) does not include any such requirements. Therefore, no further actions for septic system evaluations will be completed by the City unless resident complaints or opportunistic inspections indicate potential illicit discharges from malfunctioning systems.

BMP 3.6 Continue Hosting Annual Household Hazardous Waste Collection Day

Responsible Parties: Water Resource Protection & Public Works Departments *Additional Party: N/A*

INTENT

To provide a means for residents to dispose of household hazardous waste.

METHODOLOGY

Host an annual Household Hazardous Waste collection day.

MEASURABLE GOALS

- ***Measureable Goal 3.6.1*** – as funding allows, provide a reasonable means for residents to dispose of hazardous materials by continuing to host an Annual Household Hazardous Waste (HHW) collection day.

ACTIONS COMPLETED DURING PERMIT YEAR

As described in BMP 2.2, the City's Water Resource Protection and Public Works Departments partnered to hold HHW collection events on 10/10/20 and 4/10/21. The City invested just over $36,000 for both events, which diverted significant amounts of HHW from the municipal waste stream and reduced potential sources of stormwater pollution (and potentially toxic discharges to the City's wastewater treatment facility). Of

particular note for the 4/10/21 event was the discovery of a small volume of diethyl ether among the HHW items dropped off by the public. This substance can be extremely unstable and explosive. Consequently, the Fire Department had to be notified and specially trained and certified staff from the City's HHW collection vendor EPI had to destroy the material on site in a secured area at the Municipal Services Facility complex. Please refer to the summary of activities for BMP 2.2 and **Appendix 2** for more details.

BMP 3.7 Continue Supporting the Friends of Casco Bay Mobile Vessel Pumpout Service

Responsible Party: Water Resource Protection *Additional Party: N/A*

INTENT

To support the Friends of Casco Bay's mobile vessel pumpout service.

METHODOLOGY

Annual financial contribution ($5,000) to pumpout program.

MEASURABLE GOALS

- ***Measureable Goal 3.7.1*** – as funding is available, continue to financially support the mobile vessel pumpout service.

ACTIONS COMPLETED DURING PERMIT YEAR

The City contributed another $5,000 to the Friends of Casco Bay's Boat Pumpout Program for PY2020-21. However, FOCB temporarily curtailed this program due to the COVID 19 pandemic and the funds were instead used to support their ongoing water quality monitoring efforts.

BMP 3.8 Continue Providing Confidential Public Complaint Hotline for Suspected Illicit Discharges

Responsible Party: Water Resource Protection *Additional Party: N/A*

INTENT

To provide a confidential method for residents to report suspected illicit discharges to the City's stormwater system.

METHODOLOGY

Use voicemail and online system for residents to anonymously report suspected illicit discharges and conduct follow up inspections to document findings from resident reports.

MEASURABLE GOALS

- ***Measureable Goal 3.8.1*** – continue to provide an easy and confidential method for individuals to report suspected illicit connections or illegal dumping via the voice mail system and / or the online complaint form for the Water Resource Protection Department.

ACTIONS COMPLETED DURING PERMIT YEAR

The City continued to maintain a Stormwater Violations Hotline and Online Complaint Report form that allowed concerned citizens to easily and anonymously report any suspected incidents of non-stormwater

discharge violations to the publicly owned stormwater system. No complaints were filed through the online reporting system during the permit year. As summarized in Table 2, when illicit discharge incidents are reported by any means, follow up inspections are almost always conducted.

BMP 3.9 Continue Storm Drain Stenciling Program

Responsible Party: Water Resource Protection *Additional Party: N/A*

INTENT

To provide a visible reminder to residents about the close connections between their activities, the stormwater collection / conveyance system and potential impacts to local surface waters.

METHODOLOGY

Continue ongoing annual catch basin stenciling program.

MEASURABLE GOALS

- ***Measureable Goal 3.9.1*** – continue to annually stencil catch basins in conjunction with catch basin cleaning.

ACTIONS COMPLETED DURING PERMIT YEAR

Due to staffing constraints related to the COVID19 pandemic (we did not hire a Stormwater Intern), the City's catch basin stenciling program had to be curtailed for PY2020-21. However, several catch basins were stenciled in response to potential IDDE discharges (Figure 8).

Figure 8: catch basin stencil applied adjacent to property suspected of illicit discharge (Sept. 2020).

Minimum Control Measure 4 – Construction Site Stormwater Runoff Control

The City of South Portland completed a variety of activities for the Construction Site Stormwater Runoff Minimum Control Measure. The overall goals of this MCM are to develop, implement, and enforce a program that reduces pollutants in stormwater runoff to the City's regulated small MS4 from construction activities that result in a land disturbance of an acre or more.

BMP 4.1 Continue Notification to Construction Site Developers and Operators of Maine Construction General Permit or Chapter 500 Registration Requirements

Responsible Party: Planning Dept. *Additional Party: Water Resource Protection Dept.*

INTENT

To reduce the amount of stormwater runoff pollution by ensuring that construction site developers and operators use appropriate stormwater BMP practices and are aware of their obligations under applicable

state regulations.

METHODOLOGY

Use existing municipal notification procedures through development application and review process.

MEASURABLE GOALS

- ***Measurable Goal 4.1.1*** – continue notification procedures from previous permit cycle that occur through the site plan review permitting process. Additionally, notification is provided to building permit applicants that meet the one-acre threshold.
- ***Measureable Goal 4.1.2*** – continue annual evaluations of current notification system and modify if necessary.

Reporting: the annual report will include a description of any updates made to the notification procedures.

ACTIONS COMPLETED DURING PERMIT YEAR

The City requires property owners, developers and contractors for all permitted construction activities from single family residential house lots to large commercial projects constructing principle structures and disturbing a minimum of 15,000 ft^2 (often less) of land area to comply with Planning Board Regulation #2. This local regulation was developed specifically for erosion and sediment control and refers directly to the Maine Erosion and Sediment Control Practices Field Guide for Contractors (which refers to the Maine's Erosion and Sedimentation Control Law, the Natural Resources Protection Act, the Maine Construction General Permit, the Shoreland Zoning Act, and the Stormwater Management Law). Applicants for construction projects are required to sign a certification statement that the owner/developer and excavation contractor/subcontractor have read and will follow the applicable provisions in the Maine Erosion & Sediment Control BMP Manual. As part of this process, owners/developers and their excavation contractors are also required to attend a pre-construction meeting prior to the start of the project to review site-specific erosion and sediment control plans. The City also provides an informative brochure for developers and contractors on our construction project oversight procedures that includes an EPA diagram on the types of typical erosion & sediment control (ESC) BMPs needed for most projects. The brochure is available on the City's Erosion & Sediment Control for Construction Projects webpage and on display in the City's Planning Department office.

The City's Planning Department experienced significant staffing changes during PY2020-21 and is currently updating our process to ensure that developers for projects requiring site plan review under the Maine Construction General Permit (MCGP) send in their Notice of Intent (NOI) before receiving approval from the South Portland Planning Board. The City will also confirm that the Maine DEP has all applicable projects on file and that all building permit applicants disturbing greater than one acre received a copy of the NOI to comply with the MCGP. The City's Stormwater Performance Standards (Ch. 27-1536) require projects subject to a modified site plan approval process to comply with the provisions of Planning Board Regulation #2. In addition to conducting internal staff reviews for proposed development/redevelopment projects (which now include the WRP's Civil Engineer), the City also continued to use third party inspectors to evaluate

development/redevelopment projects. Each application packet was reviewed to ensure that proposed construction projects included appropriate soil erosion and sedimentation control practices. Applications lacking adequate erosion and sediment control plans or practices were returned to the developer's design consultant(s) with specific comments on how to address these deficiencies.

BMP 4.2 Continue to Document Every Construction Activity that Disturbs One or More Acres within the Urbanized Area

Responsible Party: Planning Dept. *Additional Party: Water Resource Protection Dept.*

INTENT

To annually document all construction activities disturbing one or more acres within the urbanized area for use in the construction site inspection program (BMP 4.3).

METHODOLOGY

Use shared computer network to implement electronic filing & tracking system for documentation of applicable construction activities.

MEASURABLE GOALS

- ***Measurable Goal 4.2.1*** – continue implementation of tracking system to record every activity that disturbs greater than or equal to one acre of land area. This system will track and differentiate construction activities within an urban impaired stream watershed; priority watershed(s), and all other watersheds. The system will be used to summarize data to be included in the annual report submitted to the DEP.

Reporting: the number of construction activities disturbing greater than or equal to one acre is included under MCM 4, BMP 4.3, described below.

ACTIONS COMPLETED DURING PERMIT YEAR

The City continued to document periodic inspections of construction activities disturbing one or more acres of area (see discussion in BMP 4.3). Third parties appointed by the City (or the Long Creek Watershed Management District for projects covered under the Long Creek General Permit) 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 Planner, Field Inspector and Stormwater Program Coordinator reviewed all third party ESC reports to determine whether any follow up actions were needed to address

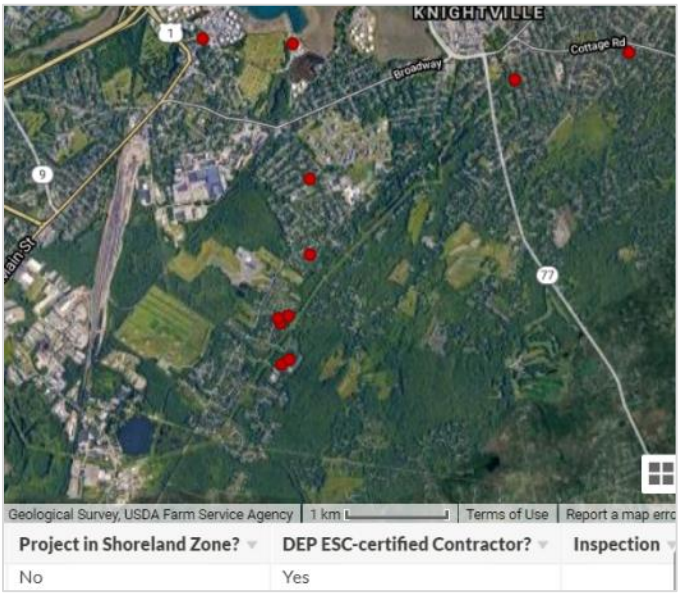


Figure 9: screen shot of mobile / cloud-based data collection app for documenting inspections for "small" construction projects

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. The City's Field Inspector and Stormwater Program Coordinator also continued to use the Fulcrum application to document inspections for single family residential house lots (Figure 9 above).

BMP 4.3 Continue Implementation of Construction Site Inspection Program

Responsible Party: Planning Dept. *Additional Party: Water Resource Protection Dept.*

INTENT

To ensure construction projects an acre or larger are in compliance with the MCGP and Chapter 500 and to reduce the amount of stormwater pollution entering local water resources through the City's MS4 system.

METHODOLOGY

Develop and implement construction site inspection program in accordance with local and state stormwater laws (South Portland Ordinance § 27-1536, Maine Construction General Permit, Chapter 500, and General Permit for Small MS4s, respectively).

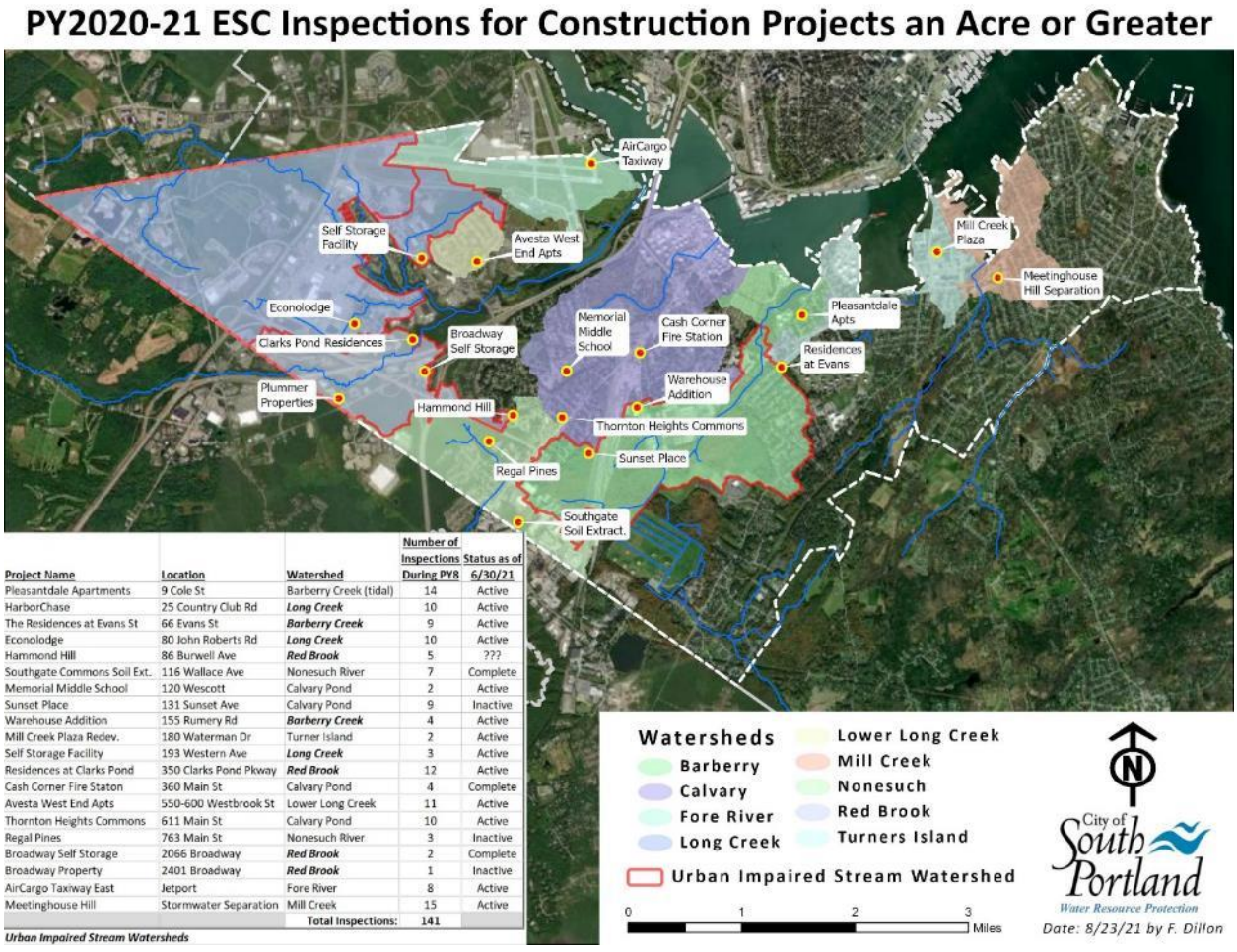
MEASURABLE GOALS

- ***Measurable Goal 4.3.1*** – continue procedures for construction site inspections that meet the terms and conditions of the General Permit and modify if necessary.
- ***Measurable Goal 4.3.2*** – continue use of standardized inspection form to ensure documentation of all required inspections.
- ***Measurable Goal 4.3.3*** – continue implementation of process for tracking and notifying the site developer or contractor of non-compliance issues. The inspector will complete an inspection report that will be transmitted to the City, and necessary enforcement will be the responsibility of the City. Sites that are not in compliance will be issued a written letter from the City requiring the site to come into compliance within a specified time period. If the violation continues, the City's Code Enforcement Officer will contact the Corporation Counsel to authorize legal proceedings needed to enforce all applicable ESC requirements. Continued non-compliance will be reported to the DEP with supporting documentation.
- ***Measurable Goal 4.3.4*** – continue inspecting construction sites located in the watershed of an urban impaired stream a minimum of three times, and inspect construction sites located in all other watersheds a minimum of two times. For all construction sites, at least one of the required inspections will be at project completion to ensure that all post-construction BMPs were properly installed and that final stabilization of the site has been completed. All construction inspections will be properly documented.

Reporting: inspection results will be documented in a database management system or other recordkeeping system. The annual report will provide a summary of the inspection results.

ACTIONS COMPLETED DURING PERMIT YEAR

The WRP and Planning & Development Departments continued to share construction project oversight duties for PY2020-21 and continued to use the process flow chart that clearly defines roles & responsibilities for the third party inspector (3PI), relevant City staff, the owner and the contractor. It also establishes processes for submitting and filing inspection reports and escalating enforcement responses by the City to correct BMP deficiencies. The first significant deficiency identified by the 3PI results in an increased inspection frequency from monthly to weekly; the second deficiency results in a warning letter from the Field Inspector to the contractor and owner; and the third deficiency results in a Notice of Violation and Stop Work Order from the Code Enforcement Officer with an option to involve DEP. While there were several instances that required follow up inspections to ensure correction of BMP deficiencies, no formal enforcement actions were necessary to bring construction projects into compliance with applicable erosion & sediment control requirements.



Project Name	Location	Watershed	Number of Inspections During PY8	Status as of 6/30/21
Pleasantdale Apartments	9 Cole St	Barberry Creek (tidal)	14	Active
HarborChase	25 Country Club Rd	***Long Creek***	10	Active
The Residences at Evans St	66 Evans St	***Barberry Creek***	9	Active
Econolodge	80 John Roberts Rd	***Long Creek***	10	Active
Hammond Hill	86 Burwell Ave	***Red Brook***	5	???
Southgate Commons Soil Ext.	116 Wallace Ave	Nonesuch River	7	Complete
Memorial Middle School	120 Wescott	Calvary Pond	2	Active
Sunset Place	131 Sunset Ave	Calvary Pond	9	Inactive
Warehouse Addition	155 Rumery Rd	***Barberry Creek***	4	Active
Mill Creek Plaza Redev.	180 Waterman Dr	Turner Island	2	Active
Self Storage Facility	193 Western Ave	***Long Creek***	3	Active
Residences at Clarks Pond	350 Clarks Pond Pkway	***Red Brook***	12	Active
Cash Corner Fire Staton	360 Main St	Calvary Pond	4	Complete
Avesta West End Apts	550-600 Westbrook St	Lower Long Creek	11	Active
Thornton Heights Commons	611 Main St	Calvary Pond	10	Active
Regal Pines	763 Main St	Nonesuch River	3	Inactive
Broadway Self Storage	2066 Broadway	***Red Brook***	2	Complete
Broadway Property	2401 Broadway	***Red Brook***	1	Inactive
AirCargo Taxiway East	Jetport	Fore River	8	Active
Meetinghouse Hill	Stormwater Separation	Mill Creek	15	Active
		Total Inspections:	**141**	

Urban Impaired Stream Watersheds

Figure 10: PY2020-21 ESC inspections for construction projects 1 acre or larger

The City and our 3PIs continued to use a comprehensive erosion & sedimentation control (ESC) inspection report form developed by ISWG and intended to comply with the MS4 General Permit, the MCGP and Chapter 500. To facilitate nearly real-time ESC report transmittal from 3PIs to City staff, we adapted this form

for use with Fulcrum, a cloud-based data collection application. 3PIs can also simply submit completed ESC report forms via email provided this is done shortly after the inspections are completed (i.e., within 1 or 2 days). During PY2020-21 there were 20 active construction projects an acre or larger that were inspected 141 times by City-appointed inspectors and City staff. All sites were inspected on at least a monthly basis (Figure 10 above), which greatly exceeds minimum MS4 permit requirements.

In exceedance of MS4 permit requirements for construction site inspections and documentation, a City-appointed 3rd party inspector, City's Engineering Inspector and/or the Stormwater Program Coordinator also conducted 84 inspections for 30 construction projects that disturbed less than one acre (Table 3). Most inspections were recorded using the Fulcrum application for numerous single family residential projects, stormwater treatment system maintenance, utility work and several small commercial projects.

Table 3: PY2020-21 construction inspections for projects disturbing less than 1 acre

Location	Project Name	Number of Inspections During PY8	Status as of 6/30/21
1 Clark Rd	Global pad expansion	1	Complete
7 Cardiff Way	Single family residential	2	Active
9 Fillmore	SFR	1	Active
11 Hillcrest	Accessory Dwelling Unit	1	Complete
21 Nelson	Building repairs	1	Complete
29 Clinton	SFR	4	Complete
31 Alfred	SFR	1	Inactive
31 Cardiff Way	SFR	1	Active
43 Harborview	SFR	1	Active
49 Boothby	SFR	1	Active
62 Macarthur Circle	Field drainage improvements	1	Complete
67 Mussey	SFR	2	Active
103 Colchester	SFR	1	Active
149 Evans	SFR expansion	1	Active
155 Maine Mall Rd	Commercial conversion	1	Active
167 Rumery	Drainage improvements	1	Complete
225 High St	SFR	2	Active
280 Gannett	New commercial building	2	Complete
330 Westbrook	New subdivision	4	Inactive
333 Western Ave	Commercial expansion	6	Complete
531 Westbrook	New condos	2	Complete
575 Westbrook	Commercial conversion	1	Active
799 Broadway	Commercial conversion	1	Active
1700 Broadway	Stormwater system upgrade	2	Complete
Carlisle Place	SFRs	2	Active
	Total Inspections:	**43**	

BMP 4.4 – Continue Promotion of Certified Contractors in Erosion Control Practices

Responsible Party: Planning Dept.

Additional Party: Water Resource Protection Dept.

INTENT

To encourage contractors to receive MEDEP certification (or equivalent training) in erosion control practices as a means of reducing the amount of stormwater pollution into the City's water resources.

METHODOLOGY

Provide informational materials from the MEDEP's Nonpoint Source Training and Resource Center to contractors and developers as part of the project proposal and site plan review process.

MEASURABLE GOALS

- ***Measurable Goal 4.4.1*** – continue to encourage contractors to be certified in erosion and sediment control through the DEP Non-Point Source Training and Resource Center or its designee.

ACTIONS COMPLETED DURING PERMIT YEAR

The City continued to provide information to contractors about the DEP's erosion and sediment control certification as part of the project proposal and site plan review process. We also provided the following information on our website encouraging the use of contractors certified by DEP in erosion and sediment control practices:

> *The City strongly encourages property owners and/or developers to use excavation contractors that have been certified by the Maine Department of Environmental Protection (MEDEP) in the proper*

use of erosion and sediment control (ESC) practices. State law requires excavation contractors working in the shoreland zone to have MEDEP's ESC certification.

Minimum Control Measure 5 – Post-Construction Stormwater Management of Development and Redevelopment

The overall goals of this MCM are to develop and implement a program that addresses stormwater runoff from new development and redevelopment projects greater than or equal to one acre in size, including projects less than one acre that discharge to the MS4 and are part of a larger common plan of development or sale; implement local ordinance regulations to ensure the adequate long-term operation and maintenance and proper functioning of post-construction BMPs; and to annually document all related post-construction activities for inclusion the City's annual stormwater report.

BMP 5.1 Continue Implementation of Program to Address Stormwater Runoff from New Development and Redevelopment Projects

Responsible Party: Planning Dept. *Additional Party: Water Resource Protection Dept.*

INTENT

To ensure that controls are in place to prevent or minimize water quality impacts from newly developed or redeveloped projects.

METHODOLOGY

Continue using City's Stormwater Management Performance Standards (Section 27-1536) to address post-construction stormwater runoff from new development and redevelopment projects greater than or equal to one acre in size, including projects less than one acre that discharge to the MS4 and are part of a larger common plan of development or sale.

MEASURABLE GOALS

- ***Measureable Goal 5.1.1*** – implement Stormwater Management Performance Standards to ensure the installation of post-construction BMPs from applicable new development and redevelopment projects.

ACTIONS COMPLETED DURING PERMIT YEAR

The City continued to implement the Stormwater Management Performance Standards (local ordinance Sec. 27-1536) to ensure that post-construction BMPs were being installed for applicable new development and redevelopment projects. Implementation of these standards occurs through the Planning Board application review process for all new development or redevelopment projects disturbing 15,000 square feet of land or for nonconforming lots of record. As such, the City's ordinance requirements exceed state standards which generally do not require stormwater management practices for projects disturbing less than 1 acre of land. In anticipation of LID requirements for the 2022 MS4 permit, the City has been closely involved in discussions with ISWG about collaborating to develop strategies for incorporating these requirements into local ordinance language. We also continue to engage in discussions with the Long Creek Watershed Management

District about an interlocal collaboration to develop stormwater treatment standards that will provide increased protections beyond those currently afforded by municipal ordinances in the watershed.

BMP 5.2 Continue Implementing Tracking Program for Post-Construction BMPs in Urbanized Area

Responsible Party: Planning Dept. *Additional Party: Water Resource Protection Dept.*

INTENT

To ensure the adequate long-term operation and maintenance of post-construction stormwater BMPs for new development or redevelopment projects that disturb an acre or more (including projects less than 1 acre that are part of a larger common plan of development) and discharge to the City's MS4 system.

METHODOLOGY

Establish and implement a process to notify owners/operators of qualifying properties about annual inspection requirements for post-construction stormwater BMPs; establish and implement a tracking system to ensure that these systems are being inspected annually and properly maintained to ensure effective long-term operation.

MEASURABLE GOALS

- ***Measurable Goal 5.2.1*** – continue implementing tracking program for post-construction stormwater BMPs in the Urbanized Area to ensure completion and receipt of annual inspection certification reports from owner/operator of BMPs.
- ***Measurable Goal 5.2.2*** – conduct yearly evaluations of tracking program and modify if necessary.

Reporting*:* documentation of all BMPs and annual certifications will be entered into a database management system or other recordkeeping system for tracking and annual reporting to DEP. The following information will be included in the annual report:

  - Cumulative number of sites that have post construction BMPs discharging to City's MS4.
  - Summary of the number of sites that have post-construction BMPs discharging into the City's MS4 that were reported to municipality.
  - Number of sites with documented functioning post-construction BMPs.
  - Number of sites that required routine maintenance or remedial action to ensure the post-construction BMP was functioning as intended.

ACTIONS COMPLETED DURING PERMIT YEAR

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 reports for all qualifying properties (Figure 11). In addition to inspection requirements for new or redevelopment projects disturbing an acre or more as specified in the MS4 permit, 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.

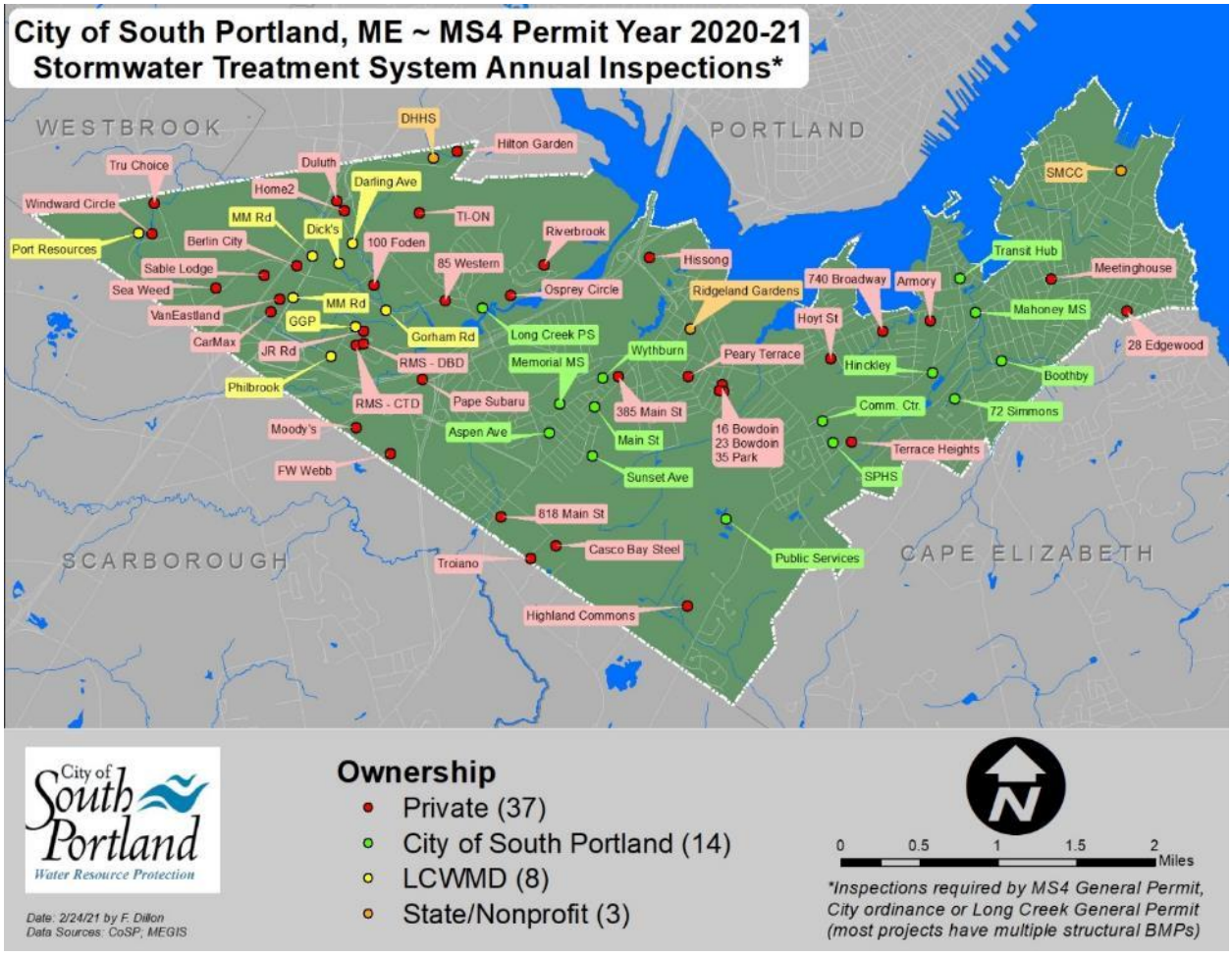


Figure 11: locations of qualifying post-construction structural stormwater BMPs in South Portland for PY2020-21

The City sent notification letters in early March 2021 to all qualifying property owners not participating in the Long Creek General Permit informing them of the annual post-construction BMP 3rd party inspection (3PI) requirements specified in the MS4 permit and City's ordinance. All stormwater treatment system inspection reports required by the MS4 permit were received by 8/15/21 (Table 4 below). All 3PI reports received indicated that all systems were functioning as designed and intended or would be with minor maintenance tasks. We will be sending certified letters informing the owners of several small residential systems requiring inspections by the City's ordinance (NOT by MS4 permit) to submit their reports. The City also requests inspection reports from the Long Creek Watershed Management District for stormwater systems covered under the Long Creek General Permit.

Table 4: PY2020-21 properties requiring post-construction 3rd party inspections for stormwater treatment BMPs

INSPECTIONS (new PY2020-21)	Discharge to MS4	3PI Report Received	Properly Functioning	Comments
Privately Owned				*Notification letters sent in early March 2021*
1 Industry Rd - Troiano Waste Services	Yes	Yes	Yes	6/2/21: sent email reminder; 6/4/21 received 5/28/21 3PI report from St Germain.
1 Lincoln St - Hissong Salt Packaging	No	Yes	Yes	6/2/21: sent email reminder. 7/2: STI 6/24/21 report received.
1 Wallace Ave - Casco Bay Steel	Yes	Yes	Yes	6/2/21: sent email reminder. 7/2: STI 6/28/21 report received.
5 Foden Rd - Texas Instruments	Yes	Yes	Yes	6/2/21: sent email reminder. 6/21: STI 5/17/21 report received.
16 Bowdoin Avenue	Yes	Yes	Yes	6/2/21: sent email reminder. 6/16/21: received 5/24/21 report.
20 Lydia Ln - Riverbrook Apartments	No	Yes	Yes	6/2/21: sent email reminder; 6/9 received NE SW Services 5/5/21 report
23 Bowdoin Avenue	Yes	Yes	Yes	6/2/21: sent email reminder. 6/16/21: received 5/24/21 report.
25 Preservation Ln - Terrace Heights Condos	Yes	Yes	Yes	6/2/21: sent email reminder. 7/15: sent email reminder. 7/22: Sterling sent report with minor maint recommended.
25R Brickhill Ave - Osprey Circle	No	Yes	Yes	6/2/21: sent email reminder. 7/15/21: sent email reminder. 7/16: email to Daphne Pappas on report submittal. 7/19: left VM with DC management
28 Chris Toppi Dr - RMS Chris Toppi Drive	Yes	Yes	Yes	6/2/21: sent email reminder. 7/15/21: sent email reminder. 7/20: Blais 7/14 report.
28 Edgewood Rd*	No	Yes	Yes	6/3/21: Jeff Fetterer sent self-inspection checklist (no report needed for 2021 as only required every 2 years)
30 Donald Dean Dr - RMS Donald Dean Drive	Yes	Yes	Yes	6/2/21: sent email reminder. 7/15/21: sent email reminder. 7/20: Blais 7/14 report.
31 Hoyt St - Hoyt Street Apartments	Yes	Yes	Yes	6/2/21: sent email reminder. 7/15/21: sent email reminder. 7/22: Sterling report with minor maint recommended.
33 Chris Toppi Dr - John Roberts Rd Office Park	No	Yes	Yes	3/5/21: Sterling inspection & maintenance reports (Nov.2019-Oct.2020) thoroughly document maint & proper functioning.
35 Park Avenue	Yes	Yes	Yes	6/2/21: sent email reminder. 6/16/21: received 5/24/21 report.
50 Maine Mall Rd - Home2 Suites by Hilton	Yes	Yes	Yes	6/2/21: sent email reminder. 7/15: Sterling sent report.
50 Peary Terrace* - Military Museum	No	No		6/2/21: don't have email for owner; will resend letter after 6/30. 8/2: sent warning letter via certifed mail.
50 Postal Service Way - Moody's Collision Center	No	Yes	Yes	4/15/21: Sterling 7/6/20 inspection report documents proper functioning and maintenance.
52 Peary Terrace* - Lui	No	No		6/2/21: don't have email for owner; will resend letter after 6/30. 8/2: sent warning letter via certifed mail.
54 Peary Terrace* - Morin	No	Yes	Yes	4/30/21: resident conducted self-inspection as allowed by ordinance; system appears to be functioning as designed.
55 Maine Mall Rd - Duluth Trading	Yes	Yes	Yes	6/2/21: sent email reminder. 6/15/21: received 5/24/21 report.
56 Peary Terrace* - Sullivan	No	Yes	Yes	4/21/21: resident conducted self-inspection as allowed by ordinance; system appears to be functioning as designed.
64 Southeast Rd* - Cadorette	No	Yes	Yes	6/1/21: resident conducted self-inspection as allowed by ordinance; system appears to be functioning as designed.
70 Southeast Rd* - Wright	No	Yes	Yes	6/2/21: don't have email for owner; will resend letter after 6/30; 6/7 received self-inspection via mail
74 Running Hill Rd - Sable Lodge	No	Yes	No	6/2/21: sent email reminder. 7/15: received VM from Tom G that report would be sent soon. 8/4: Sterling report calls for significant maintenance.
76 Southeast Rd* - Manley	No	No		6/2/21: don't have email for owner; will resend letter after 6/30. 8/2: sent warning letter via certifed mail.
77 Gary Maietta Pk - Highland Commons	No	Yes	No	6/2/21: sent email reminder. 7/15/21: sent email reminder. 7/19: David Caron with DJC Management will arrange to have SWC do 3PI ASAP. (Sterling did the inspection in Jul2020). 7/19/21: Sterling sent Jul 2020 report.
82 Southeast Rd* - Parker	No	No		6/2/21: don't have email for owner; will resend letter after 6/30. 8/2: sent warning letter via certifed mail.
85 Western Ave - Western Avenue Crossing	Yes	Yes	No	6/2/21: sent email reminder. 7/15/21: sent email reminder. 7/22: Sterling report with significant maint recommended.
100 Foden Rd - The Park at 100 Foden	Yes	Yes	Yes	5/4/21: SW Compliance 4/13/21 report documents proper funtioning and maintenance.
145 Jetport Blvd - Hilton Garden Inn	Yes	Yes	Yes	6/2/21: sent email reminder. 6/15: Acorn 5/26/21 report
150 Postal Service Way - F.W. Webb	Yes	Yes	Yes	6/2/21: sent email reminder. 7/16/21: report from 6/8/21 received.
185 Running Hill Rd - Sea Weed	No	Yes	Yes	6/2/21: sent email reminder. 7/14: Northeast SW sent 5/5/21 report including 7/1 maint tasks.

INSPECTIONS (new PY2020-21)	Discharge to MS4	3PI Report Received	Properly Functioning	Comments
Privately Owned				*Notification letters sent in early March 2021*
255 Maine Mall Rd - Berlin City	Yes	Yes	Yes	6/2/21: sent email reminder; 6/4/21 received 5/12/21 3PI report from SW Compliance.
312 Gannett Dr - Windward Circle Unit 8	Yes	Yes	Yes	6/2/21: sent email reminder. 6/28/21: STI sent 8/10/21 report.
332 Cummings Rd - Tru Choice Credit Union	No	Yes	Yes	6/2/21: sent email reminder. 6/21/21: DM Roma 5/7 and 6/16 reports received.
341 Pine St - Meetinghouse Lofts	Yes	Yes	Yes	6/2/21: sent email reminder. 7/15/21: sent email reminder. 7/19: John will do 3PI next week. 7/30: Ransom 7/18 report received.
363 Maine Mall Rd - VanEastland LLC	Yes	Yes	Yes	6/2/21: sent email reminder. 7/2: Sterling 4/13/21 report received.
385 Main St - Main Street Retail	Yes	Yes	Yes	6/2/21: sent email reminder. 6/23: met on site with Chris Bright & Aimee Young to discuss UDSF reveg. 7/15: sent email reminder. 7/20: Blais 6/25 report
415 Maine Mall Rd - CarMax	Yes	Yes	No	6/2/21: sent email reminder. 7/15: received VM from Tom G that report would be sent soon. 8/5: Sterling report completed early June; maint needed.
682 Broadway - Armory	Yes	Yes	No	6/2/21: sent email reminder. 7/15: received VM from Tom G that report would be sent soon. 7/20/21: Sterling Apr2021 report.
740 Broadway	No	Yes	Yes	6/2/21: sent email reminder. 7/15: Hydro sent 6/30/21 report.
818 Main St - Dunkin' Donuts	Yes	Yes	Yes	6/2/21: sent email reminder. 7/15: sent email reminder. 7/19: Plymouth sent 6/3/19 report.
2065 Broadway - Pape Subaru	Yes	Yes	Yes	6/2/21: sent email reminder. 6/15: CCSWCD 5/18/21 report received
Carlisle Place	No	No		6/2/21: sent email to Shawn Frank on wet pond status
**Ordinance allows self-inspections for projects not requiring DEP SW permit*				
Publicly Owned**				
25 Cottage Rd - City Hall / Transit Hub (7)**	Yes	Yes	Yes	6/3/21: STI inspection recommends maint for TI-BMP-7 (paver stone walkway)
25 Wythburn Rd - Wythburn Gravel Wetland**	Yes	Yes	No	6/15/21: STI report notes gravel wetland needs maintenance
30 Broadway - SMCC Parking Lot	Yes	Yes	Yes	6/3/21: sent email reminder and got same day response from Jen Otenti that 3PI will be done soon. 7/15: Blais sent report.
44 Nutter Rd - Community Center Det. Pond**	Yes	Yes	No	6/15/21: STI report notes detention pond needs maintenance
72 Simmons Rd Rain Garden**	Yes	Yes	Yes	6/8/21: STI report doesn't specify maintenance needed
101 Ridgeland Ave - Ridgeland Gardens	Yes	Yes	Yes	6/3/21: sent email reminder; 6/7 received 3PI report via mail from Peter Dalfonso
120 Wescott Rd - Memorial MS Gravel Wetland**	Yes	Yes	No	6/23/21: STI report notes that gravel wetland needs maintenance.
151 Jetport Blvd - DHHS Office Building	Yes	Yes	Yes	6/3/21: sent email reminder & received 3PI report same day from SW Compliance.
240 Ocean St - Mahoney Middle School**	Yes	Yes	Yes	6/8/21: STI report doesn't specify maintenance needed
300 Highland Ave - Hinckley Park Rain Garden**	No	Yes	Yes	6/16/21: STI report notes maintenance needed for rain garden
463 Westbrook St - Long Creek PS (3)**	No	Yes	No	6/16/21: STI report notes that bioretention cell needs maintenance.
637 Highland Ave - South Portland High School (7)**	Yes	Yes	No	6/3 & 6/8/21: STI reports notes maintenance needed for bioretention cell & UDSF
929 Highland Ave - Municipal Services Facilities (2)**	No	Yes	Yes	6/16/21: STI report notes maintenance needed for wet pond
Aspen Ave Biofilter**	Yes	Yes	Yes	5/21/21: STI report identifies maint needed for proper functioning.
Boothy Ave StormTree**	No	Yes	Yes	6/8/21: STI report notes maintenance needed for tree box
Main St Biofilters (10)**	Yes	Yes	Yes	5/21-27/21: STI report doesn't specify maintenance needed
Sunset Ave Gravel Wetlands (2)**	No	Yes	No	6/15/21: STI report notes gravel wetland needs maintenance
***STI completed inspections for all City-owned stormwater treatment systems (parentheses indicate number of separate BMPs per location)*				
SUMMARY				
Yes:	37	57	46	
No:	25	5	11	*Inspection Completion Rate*
Totals:	**62**	**62**	**57**	*91.9%*

QUESTIONS/FMI: *Fred Dillon - fdillon@southportland.org / 207-347-4138 (o) / 207-321-9437 (m)*

City staff also continued to use the Stormwater Treatment System Maintenance Manual to guide annual maintenance activities for all 39 City-owned stormwater treatment systems. Each system has a unique identifier and 2-page maintenance form that briefly describes the type of system (e.g., bioretention, gravel wetland, etc.), includes a maintenance checklist, location map, photo and schematic diagram.

BMP 5.3 Continue Implementing Procedures for Notifying Site Developers to Consider Incorporating Low Impact Development Techniques

Responsible Party: Planning Dept. *Additional Party: Water Resource Protection Dept.*

INTENT

To promote the use of LID practices for new development and redevelopment projects.

METHODOLOGY

Use Stormwater Management Performance Standards (Sec. 27-1536) to encourage the use of LID practices.

MEASURABLE GOALS

- ***Measurable Goal 5.3.1*** – as specified in the City's Stormwater Management Performance Standards (Sec. 27-1536), projects requiring a Chapter 500 stormwater permit will comply with the practices described in Maine DEP's Stormwater Management Manual, which include low impact development techniques.
- ***Measureable Goal 5.3.2*** – as specified in the City's Stormwater Management Performance Standards (Sec. 27-1536), projects not requiring a Chapter 500 stormwater permit but requiring a Post-Construction or Basic Stormwater Management Plan from the City will use LID practices as determined by the Planning Board to be appropriate for the site.
- ***Measureable Goal 5.3.3*** – as specified in the City's Stormwater Management Performance Standards (Sec. 27-1536), projects not requiring a Chapter 500 stormwater permit but requiring a Drainage Plan from the City are encouraged but not required to use LID practices appropriate for the type of development identified in the Maine DEP's Volume III – BMP Technical Design Manual or City's Stormwater Manual.

ACTIONS COMPLETED DURING PERMIT YEAR

We continued to rely on Stormwater Management Performance Standards (Sec. 27-1536) to encourage the use of LID practices. All new or redevelopment projects requiring Planning Board review are subject to these standards. As mentioned above, we also engaged in discussions with ISWG to consider collaborating on developing strategies to meet the 2022 MS4 permit requirements for ordinance language that requires the use of LID.

Minimum Control Measure 6 – Pollution Prevention / Good Housekeeping for Municipal Operations

The City completed a variety of activities for the Pollution Prevention / Good Housekeeping for Municipal Operations Minimum Control Measure as described below. The overall goals of this MCM are to develop an

inventory of all municipal operations that have the potential to generate stormwater pollution; conduct a municipal employee training program; develop a sweeping program for all publicly owned streets and parking lots; develop a cleaning and maintenance program for all City-owned catch basins and other stormwater structures; evaluate and implement a prioritized schedule for maintaining and upgrading the City's stormwater system; and develop Stormwater Pollution Prevention Plans (SWPPPs) for all applicable municipal facilities and operations.

BMP 6.1 Continue to Maintain Inventory of Municipal Properties, Facilities & Activities for Implementation of Operation & Maintenance Plans

Responsible Party: Stormwater Program Coordinator *Additional Party: N/A*

INTENT

To ensure the use of structural and non-structural controls at all applicable municipally owned or operated properties and facilities that will reduce stormwater pollution to the maximum extent practicable.

METHODOLOGY

Continue to maintain GIS-based inventory of all City properties with a list of associated municipal activities that have the potential to generate stormwater pollution and continue implementation of O&M procedures.

MEASURABLE GOALS

- ***Measurable Goal 6.1.1*** – continue maintaining and updating inventory of all municipal operations conducted in, on, or associated with facilities, buildings, golf courses, cemeteries, parks and open space owned or operated by the City that have the potential to cause or contribute to stormwater or surface water pollution.
- ***Measurable Goal 6.1.2*** – continue implementing written operation and maintenance (O&M) procedures that include maintenance schedules and inspection procedures to ensure long-term operation of structural and non-structural controls that reduce stormwater pollution to the maximum extent practicable for all areas of the City within the Urbanized Area. These procedures must address the following, as applicable:
    - Proper use, storage, and disposal of petroleum and non-petroleum products, hazardous materials, waste materials, pesticides and fertilizers, including minimizing the use of these products and an alternative product analysis;
    - Spill response and prevention;
    - Vehicle and equipment storage, maintenance, and fueling;
    - Amount and type(s) of deicing materials used each deicing season;
    - Landscaping and lawn care, including, where applicable, an evaluation of reduced mowing frequencies, establishing and maintaining buffers, and cutting vegetation within 100 feet of a stormwater conveyance or surface water;
    - Erosion and sedimentation control;
    - Feeding gulls, waterfowl or other wildlife.

ACTIONS COMPLETED DURING PERMIT YEAR

The City continued to maintain an inventory of City-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 (from April 2020) identify 204 parcels that are owned by the City (Figure 13). Various municipal departments are responsible for maintaining these properties in accordance with the Operations & Maintenance Plans developed by the Interlocal Stormwater Working Group.

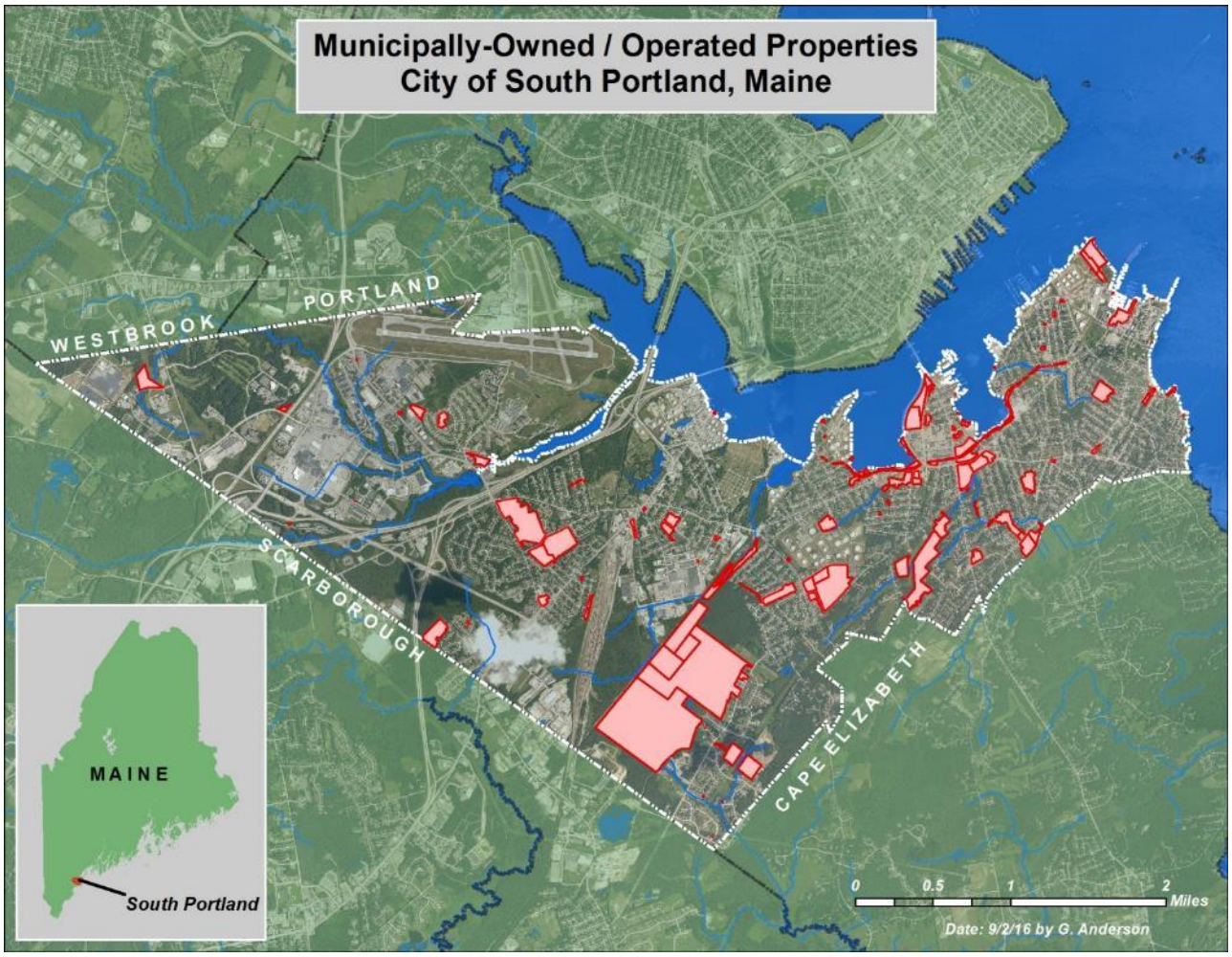


Figure 6: properties owned and operated by the City and subject to O&M plans to minimize / prevent polluted stormwater runoff

BMP 6.2 Continue Implementation of Municipal Employee Training Program

Responsible Party: Stormwater Program Coordinator *Additional Party: N/A*

INTENT

To provide employee training that will prevent or reduce stormwater pollution from municipal operations and facilities.

METHODOLOGY

Continue working independently and in partnership with the Interlocal Stormwater Working Group and

Maine DEP to provide municipal employees with relevant training for the prevention or reduction of stormwater pollution from municipal operations.

MEASURABLE GOALS

- ***Measurable Goal 6.2.1*** – continue to identify training needs and materials and revise / update as necessary.
- ***Measurable Goal 6.2.2*** - continue implementing municipal employee training program to reduce stormwater pollution potential from municipal operations. Topics to be covered by the training program may include, but not be limited to:
    - Maintenance activities, maintenance schedules, and long-term inspection procedures for structural and non-structural stormwater controls to reduce pollutants discharged from the separate storm sewers.
    - Controls for reducing or eliminating the discharge of pollutants into the separate storm sewers from streets, roads, highways, municipal parking lots, maintenance and storage yards, fleet or maintenance shops with outdoor storage areas, salt/sand storage locations, snow disposal areas, and waste transfer stations.
    - Procedures for disposing of waste removed from the separate storm sewers and areas listed above in accordance with all regulatory requirements (such as dredge spoil, accumulated sediments, floatables, and other debris).

ACTIONS COMPLETED DURING PERMIT YEAR

The COVID19 pandemic continued to present some challenges for Pollution Prevention / Good Housekeeping (PP/GH) training in PY2020-21. Consequently, the level of participation in PP/GH training events was much lower than has been the case historically. The initial 4/29/21 training event was virtually hosted (and recorded) by ISWG via Zoom and provided by the City of Portland's Stormwater Program Coordinator Doug Roncarati. To accommodate participants from numerous ISWG member communities, training content was somewhat general in nature and applied to all municipal operation & maintenance activities with the potential to generate stormwater pollution. City staff from the Water Resource Protection (WRP) Department, School Department and Police Department attended the 4/29/21 virtual event while additional staff from WRP's Treatment Systems Division viewed the video recording of the training event on 5/21/21. Participation by South Portland municipal staff in the PP/GH training compared favorably with other ISWG communities (Figure 14). As with previous years, staff completed questionnaires before and after the training event to measure how well they understood the relevant topics presented. We anticipate resumption of higher PP/GH training participation by our staff once the COVID19 pandemic has subsided.

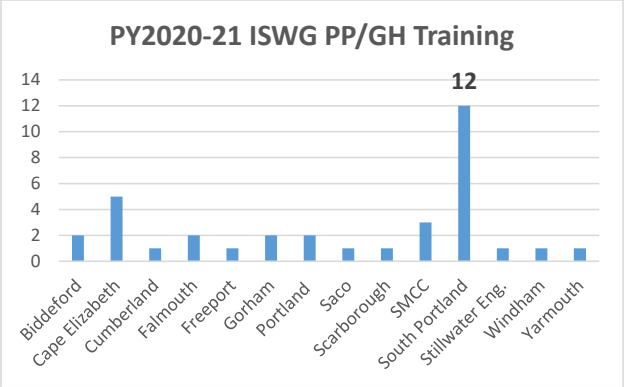


Figure 7: staff attendance for ISWG PP/GH training events

BMP 6.3 Continue Implementation of Street Sweeping Program

Responsible Party: Public Works Dept.

Additional Party: Water Resource Protection Dept.

INTENT

To continue (and refine as needed) the City's ongoing pavement sweeping program for all municipally owned or operated streets and parking areas.

METHODOLOGY

Annually assess the effectiveness of the City's ongoing pavement sweeping program and refine as needed based on the latest research and available funding.

MEASURABLE GOALS

- ***Measurable Goal 6.3.1*** – continue or modify as needed the City's ongoing pavement sweeping program for all municipally owned or operated streets and parking areas and ensure that sweeping is conducted at least once a year as soon as possible after snowmelt.

ACTIONS COMPLETED DURING PERMIT YEAR

The City continued its ongoing sweeping program for all municipally owned or operated streets and parking areas. In the fall of 2020 and late winter/early spring of 2021, we also continued to provide sweeping services to the Long Creek Watershed Management District in support of the ongoing restoration efforts there. We used a recently purchased Tymco 500X regenerative air sweeper to complement our Tymco 600 regenerative air sweeper. Regenerative air sweepers are generally one of the most effective (and expensive) types of street sweeper for preventing pollutants attached to fine particulate matter from entering local waterways. A portion of the City's streets were also swept using mechanical broom sweepers provided by a private contractor. While the Google Forms we have been using to track sweeping activities have been helpful, we are currently exploring other options for developing a cloud-based application to more closely account for location, labor allocation, fuel use and volume of grit swept across the entire City – potentially on a watershed basis.

BMP 6.4 Continue Cleaning of Stormwater Structures Including Catch Basins

Responsible Party: Water Resource Protection Dept. *Additional Party: N/A*

INTENT

To ensure that all municipally owned or operated stormwater structures and catch basins are properly functioning and maintained and that the materials removed from them are disposed of appropriately per applicable state law.

METHODOLOGY

Conduct annual cleaning activities for stormwater structures and catch basins to ensure their proper functioning and dispose of associated materials appropriately.

MEASURABLE GOALS

Measurable Goal 6.4.1 – continue or modify as needed the City's ongoing stormwater structure and catch basin cleaning program with cleaning frequencies determined by sediment accumulation rates. At a minimum, all stormwater structures and catch basins should be cleaned every other year. Stormwater structures and catch basins will be cleaned more frequently if inspections indicate excessive sediment accumulation (i.e., when the sump is greater than or equal to 50 percent filled).

ACTIONS COMPLETED DURING PERMIT YEAR

For PY2020-21, the City once again cleaned virtually all publicly-owned catch basins with sumps (2,677 basins for the permit year). We continued using ArcGIS Online (AGOL) with iPads to track data collection and removed approximately 327 tons of grit material. The total operational cost to complete this work was just under $53,000 and the average catch basin cleaning cost was approximately $20.24 (Table 5) – which compares very favorably with the private sector.

Table 5: summary of 2020 catch basin cleaning activities and costs

Watershed	Total CBs	CBs Cleaned	% Complete	Labor Hours	Labor Cost[1]	Fuel Use (Gallons)	Fuel Cost[2]	Grit Tons	Disposal Cost[3]	Grit Tons / CB	Ops. Cost	Ops. Cost/CB[4]
Anthoine Creek	170	165	97%	31.2	$1,069	34.8	$73	26.5	$1,005	0.16	$2,147	$13.01
Barberry Creek	198	167	84%	14.3	$489	23.6	$50	13.2	$500	0.08	$1,038	$6.22
Breakwater	295	288	98%	67.2	$2,303	72.5	$152	34.8	$1,321	0.12	$3,776	$13.11
Calvary Pond	443	415	94%	114.5	$3,923	114.1	$240	57.7	$2,193	0.14	$6,356	$15.32
Clarks Pond	110	109	99%	26.2	$897	32.6	$69	12.3	$467	0.11	$1,433	$13.15
Danforth Cove	18	18	100%	2.3	$78	5.3	$11	1.2	$47	0.07	$137	$7.59
Fore River	1	1	100%	1.4	$49	0.3	$1	0.7	$26	0.69	$76	$76.19
Gamblers Arm Bk	228	224	98%	49.5	$1,694	61.9	$130	26.5	$1,008	0.12	$2,832	$12.64
Kimball Brook	48	40	83%	12.4	$426	18.3	$39	1.7	$65	0.04	$529	$13.22
Long Creek	250	250	100%	72.5	$5,391	168.0	$353	33.2	$1,260	0.13	$7,004	$28.01
Long Creek Lower	102	91	89%	46.1	$1,580	47.9	$101	12.3	$468	0.14	$2,148	$23.61
Mill Creek	177	177	100%	33.3	$1,142	45.3	$95	24.0	$911	0.14	$2,148	$12.14
Nonesuch River	115	115	100%	44.8	$1,534	46.3	$97	17.9	$680	0.16	$2,311	$20.09
Red Brook	28	22	79%	10.5	$359	8.3	$17	2.6	$97	0.12	$474	$21.53
Trout Brook	136	136	100%	35.6	$1,220	45.6	$96	17.1	$648	0.13	$1,964	$14.44
Turners Island	268	268	100%	47.7	$1,633	76.6	$161	24.7	$937	0.09	$2,731	$10.19
Willard Beach	115	115	100%	33.2	$1,136	41.3	$87	20.8	$790	0.18	$2,013	$17.50
Totals/Averages:	**2702**	**2601**	**96%**	**643**	**$24,923**	**843**	**$1,770**	**327**	**$12,424**	**0.13**	**$39,116**	**$15.04**
Stetco Replacement Cost[5]:	**$9,250**									**Total CB Cleaning Cost:**		**$52,638**
Vac Truck Replacement Cost[6]:	**$4,271**			**Total Annual Replacement Cost:**			**$13,521**			**Cost/CB Cleaned:**		**$20.24**

NOTES *1. Stetco @ 34.25; Vac @ 74.36* *3. $50/yd (assuming 1.3 tons/yd)* *5. Not used in Long Creek*
2. $2.10/gal *4. Compares very favorably to private sector* *6. Primarily used in Long Creek*

BMP 6.5 Continue Maintenance and Upgrade of Stormwater Conveyances, Structures and Outfalls

Responsible Party: Water Resource Protection *Additional Party: N/A*

INTENT

To ensure that all municipally owned or operated stormwater conveyances and outfalls are properly functioning and maintained.

METHODOLOGY

Conduct ongoing annual inspection and maintenance program to identify condition of stormwater conveyances and outfalls and repair, replace or install new infrastructure as needed.

MEASURABLE GOALS

- ***Measurable Goal 6.5.1*** – continue repairing or upgrading MS4 system conveyances, structures, and outfalls through general maintenance, repairs and new construction, and as part of the combined sewer system separation program.
- ***Measurable Goal 6.5.2*** – continue to evaluate and implement a prioritized schedule, as necessary, for repairing or upgrading the conveyances, structures and outfalls of the its MS4.

ACTIONS COMPLETED DURING PERMIT YEAR

With the implementation of the Asset Management Program VUEWorks in January 2019, the Water Resource Protection Department has broadened data collection and tracking to incorporate more activities completed by our staff in maintaining the City's piped infrastructure (including City-owned stormwater treatment systems). For PY2020-21, approximately 1,700 work orders were completed by the Collection Systems Division staff for a wide variety of tasks. Collectively, this work represents over $541,000 of investment to operate and maintain the City's sewer and stormwater systems (Figure 15). Approximately 27% ($144,145) of this investment was dedicated to the stormwater system. Previous data collection and tracking efforts have focused on only construction project activities and have only included materials and labor costs (not equipment). VUEWorks now 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. Consequently, this more comprehensive approach is not fully comparable with our previous tracking methods. 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).

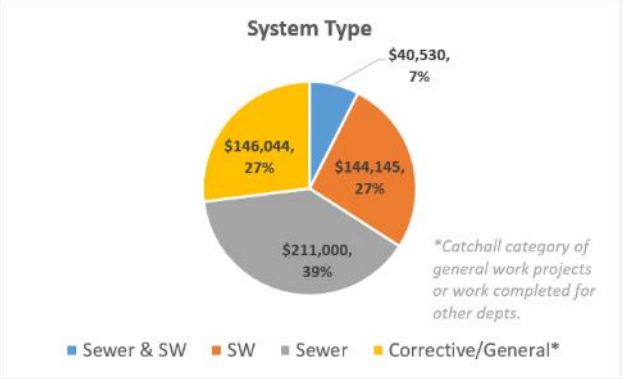


Figure 8: piped infrastructure investments for PY2020-21

BMP 6.6 Continue Implementation of Stormwater Pollution Prevention Plans (SWPPPs)

Responsible Party: Stormwater Program Coordinator *Additional Party: Public Works & School Depts.*

INTENT

To ensure that all applicable municipal facilities (public works, transfer station, school bus maintenance garage) in the urbanized area have current Stormwater Pollution Prevention Plans (SWPPP) that are being implemented accordingly.

METHODOLOGY

Work with department heads and other relevant staff to ensure that SWPPPs are current being implemented as specified.

MEASURABLE GOALS

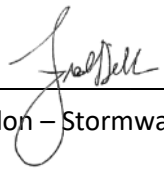
- ***Measurable Goal 6.6.1*** – continue implementing SWPPPs for public works facilities, transfer station and school bus maintenance facilities. Collaborate with DEP and ISWG on developing and implementing a training program for municipal facility staff informing them about the requirements of the SWPPP and how to implement it effectively. The managers for each facility will retain an up-to-date printed copy of the SWPPP on each site so affected employees can refer to it as needed.

ACTIONS COMPLETED DURING PERMIT YEAR

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 numerous City departments attended municipal GH/PP trainings provided by the City's Stormwater Program Coordinator. All SWPPPs will be updated by 7/1/22 to comply with additional requirements in the 2022 MS4 General Permit.

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

9/10/21

Date

APPENDICES

Appendix 1: ISWG Permit Year 8 Summary of MCMs 1 & 2

ISWG Permit Year 8 (2020-2021) Summary of Minimum Control Measures 1 & 2

Permit Year 8 (PY8) Summary of Minimum Control Measures 1 & 2

The following is a summary of work facilitated by the Cumberland County Soil & Water Conservation District (CCSWCD) on behalf of the Interlocal Stormwater Working Group (ISWG). The 2013 MEPDES MS4 Permit expired on June 30, 2018 but was administratively continued. Guidance from the Maine Department of Environmental Protection (Maine DEP) indicated that compliance may be maintained by implementing modified Permit Year 7 activities for "Permit Year 8" (PY8). CCSWCD submitted permit continuance plans for PY8 MCM 1 and MCM 2 tasks on 6/9/2020 via an email to Maine DEP.

This report includes a summary of all four education & outreach plans required under MCM 1 of the 2013 MEPDES MS4 Permit including the Stormwater Public Awareness Plan, the Targeted BMP Adoption Plan, the Municipal Permit Awareness Plan, and the Enhanced Outreach Plan. This report also includes a summary of the regional public event (Urban Runoff) in fulfillment of MCM 2 of the 2013 MEPDES MS4 Permit. Additional voluntary (not required by the permit) outreach activities are also included.

MCM1: Public Education and Outreach on Stormwater Impacts

Stormwater Public Awareness Plan

Task	Status	Details[1]
Summarize plan implementation to date	Complete	Plan goal: As a result of our efforts, at the end of this permit cycle, 50% of homeowners, aged 35-55, in the 30 regulated small MS4 municipalities will understand that water does run off their property, not all is absorbed, and it will carry with it pollutants, such as lawn chemicals, pet waste, and oil drops. This polluted water will enter the storm drain system and discharge, untreated, directly to water bodies used for drinking, fishing, and swimming.
Conduct online ad campaign for a minimum of 6 months	Complete	CCSWCD coordinated an online media campaign for the ISWG region through the placement of ads on Facebook. The Think Blue video PSA "Don't Fowl Our Waters" ran on Facebook from August 13, 2020 through October 31, 2020. Ads were targeted to the identified awareness audience (homeowners, aged 35-55). The PSA was scheduled to run Spring 2021 but changes to Facebook's policy on ads pertaining to social issues, which started in November 2020, required alternative ads approved by Maine DEP in December 2020 to be run in Spring 2021. The following data were obtained from Facebook's advertising metrics for the PSA video: Reach[2]: 5,826 Frequency[3]: 3.03 Impressions[4]: 17,658 Post Engagement[5]: 1,975 Video Plays at 50%[6]: 361 Link Clicks[7]: 160 Link Click-Through Rate[8]: 0.91% Additional Facebook ads were used in the ISWG region to highlight individual stormwater pollutants (chlorides and pet waste) and as a substitute for the PSA ad. The chlorides ad ran December 1, 2020 through March 31, 2021 and encouraged people to manually remove snow and ice with shovels, snow blowers, or plows instead of using sand and salt to remove snow and ice. The pet waste ad ran August 17, 2020 through November 30, 2020 and April 1, 2021 through June 30, 2021 and encouraged people to

[1] CCSWCD maintains documentation for all MCM 1 & 2 activities detailed in this summary report.
[2] Reach is the number of people who saw the ad at least once.
[3] Frequency is the average number of times each person saw the ad.
[4] Impressions are the number of times the ad was on screen.
[5] Post engagement is the total number of actions that people take involving the ad (reacting to, commenting, sharing, viewing a photo or video, or clicking on a link).
[6] Video play at 50% is the number of times the video was played at 50% of its length, including plays that skipped to this point.
[7] Link clicks are the number of clicks on a link within the ad that led to destinations on or off Facebook.
[8] Link click-through rate is the percentage of times people saw the ad and performed a link click.

<table>
<tr><td></td><td></td><td>scoop the poop and dispose of it in the trash. The following data were obtained from the Facebook advertising metrics for these ads:
<table>
<tr><th></th><th>Fall Pet Waste</th><th>Chlorides</th><th>Spring Pet Waste</th></tr>
<tr><td>Reach</td><td>23,944</td><td>22,054</td><td>18,937</td></tr>
<tr><td>Frequency</td><td>2.65</td><td>3.34</td><td>2.22</td></tr>
<tr><td>Impressions</td><td>63,405</td><td>73,569</td><td>42,031</td></tr>
<tr><td>Post engagement</td><td>33</td><td>72</td><td>31</td></tr>
<tr><td>Link Clicks</td><td>30</td><td>61</td><td>30</td></tr>
<tr><td>Link Click-Through Rate</td><td>0.05%</td><td>0.08%</td><td>0.07%</td></tr>
</table>
Based on WordPress analytics, 1,323 people visited the Think Blue Maine website during PY8. These visit numbers reflect traffic being directed from AVSWG, ISWG, and SMSWG online ads. Traffic was highest when AVSWG, ISWG, and SMSWG ads were directing visitors to the website during August and September 2020 and from March through June 2021.
The Think Blue Maine website was updated with new content, layout, and page reorganization by the 2020 Bates College Purposeful Work intern, Tucker Pierce, from July to September 2020.</td></tr>
<tr><td>Promote and participate in local public event</td><td>Complete</td><td>Urban Runoff 5k
Promotion
ISWG community members assisted CCSWCD with the promotion of their public event, the Urban Runoff 5k, via social media, paid online ads, and direct email communication to participants. WMTW/CW Channel 8 developed a 15 second ad that ran on their station throughout the month of April 2021.
Participation
Staff from the ISWG municipalities participated in the virtual event during the month of April 2021. Please see the MCM2 summary for more details about the events.</td></tr>
</table>

Targeted Best Management Practices Adoption Plan

Task	Status	Details
Summarize plan implementation to date	Complete	Plan goal: As a result of our efforts, at the end of this permit cycle, 15% of college-educated homeowners, aged 35-55, residing in the urbanized area and/or the priority watershed within the ISWG communities and who currently apply fertilizers and pesticides to their lawns will reduce their use of lawn chemicals.
Point of Sale		
Provide YardScaping information in a minimum of 21 Point of Sale locations in the ISWG communities	Complete	The ISWG YardScaping Point of Sale Program continued to be maintained at more than the 21 locations required. Twenty-six stores participated in PY8. The distribution of the stores in PY8 is as follows:
		Biddeford: 1
		Cape Elizabeth: 0
		Cumberland: 1
		Falmouth: 3
		Freeport: 1
		Gorham: 2
		Old Orchard Beach: 0
		Portland: 3
		Saco: 1
		Scarborough: 3
		South Portland: 3

		Westbrook: 2
		Windham: 4
		Yarmouth: 2
Maintain Point of Sale program in Home Depot stores within ISWG communities	Complete	The ISWG YardScaping Point of Sale program continued to be maintained in the four Home Depot stores located in ISWG municipalities (Biddeford, Portland, South Portland, and Windham). Due to COVID-19, the fall and spring educational events were unable to be held.

Adult Education

Offer a minimum of seven YardScaping classes	Complete	The number of YardScaping educational events offered in the ISWG municipalities exceeded the minimum required in the Plan. In PY8, YardScaping events were provided as follows (workshops were held as online webinars due to COVID-19; Home Depot education events were not held due to COVID-19):
		Cape Elizabeth: 8/5/20, Ordinance Committee webinar, 4 participants
		Webinar: 8/12/20, regional webinar, 4 participants
		Webinar: 8/20/20, regional webinar, 2 participants
		Webinar: 8/25/20, regional webinar, 7 participants
		Webinar: 3/23/21, regional webinar, 1 participant
		Webinar: 3/30/21, regional webinar, 3 participants
		Webinar: 4/14/21, regional webinar, 4 participants
		Webinar: 4/29/21, regional webinar, 9 participants
Promote adult education classes	Complete	Information on YardScaping classes was promoted using social media, email newsletters, and through regional partners.
Track behavior change	Complete	CCSWCD staff documented class evaluations and contacted past class participants to determine which YardScaping practices were implemented. Please see the summary of behavior change reported by participants of PY7 classes, as well as which practices the participants of PY8 classes intend to implement below.

Adult Education Behavior Change Tracking

During the fall of 2020, emails and phone calls were made to participants of YardScaping workshop classes held in the fall of 2019 and spring of 2020 to determine class participants' level of implementation of the YardScaping practices. Follow up emails and phone calls are made six months to one year after the class to allow participants a growing season to implement the recommended practices. Our follow up provided an anticipated rate of behavior change for the YardScaping practices that class participants intended to implement. Of the 113 class participants, 55 participants completed a survey upon completion of the class. Two-thirds of the surveyed class participants responded to the fall 2020 follow up emails and phone calls.

Follow up from Permit Year 7 Adult Education Classes			
Lawn Care Practice	**Plan to implement**	**Implemented Practice**	**% behavior change**
Set Mower to a height of 3"	14	5	35.7%
Leave grass clippings	10	6	60.0%
Sharpen mower blades	22	5	22.7%
Aerate	34	10	29.4%
Topdress	36	6	16.7%
Overseed	32	15	46.9%
Use low maintenance seed	31	11	35.5%
Outcompete weeds	36	0	0.0%
Get a soil test	40	12	30.0%
Use nitrogen-only fertilizer	30	6	16.7%

Use compost tea	41	2	14.6%

As part of follow up behavior change tracking, CCSWCD asked past participants about barriers to implementing YardScaping practices, if they did not adopt the practices as indicated on their post-class evaluation. The following were common responses:

- *Drought*
- *Lack of time to implement practices*
- *Lack of access to equipment and supplies due to pandemic*
- *Implementing practices in phases to better understand the lawn*
- *Finding a lawncare provider willing to follow program practices*

A total of 34 people participated in the YardScaping adult education classes in PY8. Below are the results of the Permit Year 8 post-class evaluations completed by the YardScaping class participants.

Permit Year 8 Post-Class Evaluations			
Lawn Care Practice	**Plan to implement**	**Currently do not implement**	**% planning to implement**
Set Mower to a height of 3"	6	6	100.0%
Leave grass clippings	4	4	100.0%
Sharpen mower blades	11	11	100.0%
Aerate	13	15	86.7%
Topdress	16	19	84.2%
Overseed	14	15	93.3%
Use low maintenance seed	17	18	94.4%
Outcompete weeds	18	20	90.0%
Get a soil test	14	17	82.4%
Use nitrogen-only fertilizer	16	20	80.0%
Use compost tea	14	20	70.0%

CCSWCD staff will contact the class participants from the Permit Year 8 classes in Permit Year 9 to determine which behaviors have been adopted.

Targeted Information Distribution

Provide outreach to residents of one targeted neighborhood per ISWG community — Complete

ISWG used online Facebook ads directed at the target audience for behavior change (college educated homeowners, aged 35-55) in each of the ISWG impaired watersheds. The ads discussed lawncare product impacts in watersheds, provided a YardScaping tip, and directed people to CCSWCD's YardScaping program webpage.
The following data were selected from Facebook's advertising metrics:

Watershed	Reach	Frequency	Impressions	Post Engagement	Link Clicks	Link Click-Through Rate
What's a Watershed?[9]	3,414	2.21	7,544	257	6	0.08%
Brickyard Hollow (Yarmouth)	733	1.82	1,336	47	23	1.72%
Capisic Brook (Portland)	1,124	1.37	1,545	42	12	0.78%

[9] This ad was targeted to all of the ISWG communities through the Think Blue Maine Facebook page during its run time (February 28, 2021 through April 3, 2021).

		Concord Gully Brook (Freeport)	604	2.06	1,247	52	19	1.52%
		East Brach Piscataqua River (Cumberland)	700	1.98	1,385	39	8	0.58%
		Goosefare Brook (Old Orchard Beach & Saco)	1,265	1.62	2,047	96	25	1.22%
		Mill Brook (Westbrook)	928	1.82	1,687	30	7	0.41%
		Mill Creek (Falmouth)	1,326	1.37	1,823	25	16	0.88%
		Pleasant River (Windham)	1,117	1.70	1,896	34	8	0.42%
		Red Brook (Scarborough)	882	1.67	1,474	15	3	0.20%
		Tannery Brook (Gorham & USM)	961	1.82	1,751	44	15	0.86%
		Thatcher Brook (Biddeford)	1,050	1.75	1,834	58	11	0.60%
		Trout Brook (Cape Elizabeth & South Portland)	1,179	1.52	1,790	53	23	1.28%

Websites & Free Media

Maintain and monitor CCSWCD YardScaping website	Complete	The YardScaping page on CCSWCD's website is up to date with partner stores and updated fact sheets. YardScaping event information is posted on both CCSWCD's website and Facebook page.
Newspaper coverage related to YardScaping activities and healthy lawn care	Complete	*Portland Press Herald:* Cheverus drops controversial plan to use pesticide despite Portland's approval (July 9, 2020)
		Portland Press Herald: Commentary: Integrated pest management uses science to protect crops, lands (July 25, 2020)
		Portland Press Herald: From bearberry to vinca, make groundcovers your friend (October 5, 2020)
		Portland Press Herald: Riverside Golf Course recognized for environmental excellence (October 26, 2020)
		Portland Press Herald: South Portland bans synthetic fertilizers (November 25, 2020)
		Portland Press Herald: Invite wildlife in with a 'lawn conversion' (November 29, 2020)
		Portland Press Herald: Landscape your lakefront house like the lake's life depends on it. In fact, it does. (January 31, 2021)
		Portland Press Herald: Portland committee recommends city ban use of synthetic fertilizers (March 16, 2021)
		South Portland Sentry: South Portland's Landcare Management Ordinance (April 1, 2021)
		South Portland Sentry: Let's not treat our soil like dirt (April 7, 2021)
		Portland Press Herald: Your actions can make it a better world for birds (April 11, 2021)
		South Portland Sentry: So, what's the scoop on your soil? (April 14, 2021)
		South Portland Sentry: How to grow a healthy, organic lawn (April 28, 2021)

		Portland Press Herald: Bugs: The good, the bad and the ugly (June 27, 2021)

Municipal Permit Awareness Plan

Municipalities may have conducted additional outreach outside of the efforts tracked through the ISWG Municipal Permit Awareness Plan.

Task	Status	Details
Summarize plan implementation to date	Complete	Plan goal: As a result of our efforts, at the end of this permit cycle, municipal councilors, managers, and directors of Planning, Public Works, and Parks & Recreation (or equivalent) departments in the ISWG communities will understand that they are subject to a Maine Pollutant Discharge Elimination System (MPDES) permit and will understand the requirements under that permit. They will also gain an understanding of stormwater pollution, how their municipal operations may contribute to stormwater pollution, and steps that can be taken to reduce stormwater pollution.

Materials Development

Develop permit awareness materials	Complete	Fact sheets developed in PY2 were updated for ISWG municipalities as needed in PY8. These fact sheets were provided to incoming municipal staff and elected officials in ISWG municipalities.

Targeted Outreach

Provide updated information on MS4 permit compliance to all ISWG municipal officials	Complete	CCSWCD provided updated information on MS4 compliance to ISWG municipal officials in PY8. These presentations discussed the permit timeline, changes in the new permit, and impacts these changes may have regarding ordinances, staffing, and budgets. The CCSWCD and Maine Municipal Association Permit Update Presentation was recorded and shared with additional officials not tracked below. YouTube analytics tracked 38 views.		
		Municipality	**GPCOG Monthly Municipal Managers Meeting December 1, 2020 (0.5 hour)**	**CCSWCD and MMA Permit Update Presentation January 26, 28, February 3, 2021 (1 hour each)**
		Biddeford	1	9
		Cape Elizabeth	1	4
		Cumberland	1	0
		Falmouth	1	3
		Freeport	0	0
		Gorham	1	4
		Old Orchard Beach	0	2
		Portland	0	0
		Saco	0	2
		Scarborough	1	10
		South Portland	1	4
		Westbrook	0	0
		Windham	0	6
		Yarmouth	0	5

General Outreach

ISWG representatives	Complete	ISWG representatives provided newly elected municipal officials with information regarding the municipal stormwater program. Due to COVID-19, some ISWG representatives provided

<table>
<tr><td rowspan="3">meet with newly elected officials to introduce the municipal stormwater program</td><td rowspan="3"></td><td colspan="4">their presentation materials to their new municipal officials through a virtual meeting, call, or email.</td></tr>
<tr><td>Number of Newly Elected Officials</td><td>Swear-in Date</td><td>Date Stormwater Program Information was Shared</td><td>Notes</td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="6">Municipalities may have conducted additional outreach outside of the efforts tracked through the ISWG Municipal Permit Awareness Plan.</td></tr>
<tr><td rowspan="20">Provide outreach through a minimum of one partner organization</td><td rowspan="20">Complete</td><td rowspan="16">Casco Bay Coastal Academy
ISWG/CCSWCD partnered with the Casco Bay Estuary Partnership, Greater Portland Council of Governments, and New England Environmental Finance Center to provide stormwater related trainings to municipal boards, commissions, and councils.</td><td colspan="4">Number of Members Participating</td></tr>
<tr><td>Municipality</td><td>ME Climate Council 9/29/20 (1.5 hours)</td><td>Coastal Stabilization 12/17/21 (1.5 hours)</td><td>Habitat Viewer 5/6/21[10] (1.5 hours)</td></tr>
<tr><td>Biddeford</td><td>1</td><td>1</td><td>1</td></tr>
<tr><td>Cape Elizabeth</td><td>2</td><td>2</td><td>3</td></tr>
<tr><td>Cumberland</td><td>0</td><td>0</td><td>2</td></tr>
<tr><td>Falmouth</td><td>0</td><td>7</td><td>1</td></tr>
<tr><td>Freeport</td><td>0</td><td>0</td><td>0</td></tr>
<tr><td>Gorham</td><td>0</td><td>0</td><td>1</td></tr>
<tr><td>Old Orchard Beach</td><td>0</td><td>3</td><td>0</td></tr>
<tr><td>Portland</td><td>1</td><td>4</td><td>4</td></tr>
<tr><td>Saco</td><td>0</td><td>0</td><td>5</td></tr>
<tr><td>Scarborough</td><td>2</td><td>0</td><td>0</td></tr>
<tr><td>South Portland</td><td>3</td><td>2</td><td>4</td></tr>
<tr><td>SMCC</td><td>0</td><td>0</td><td>0</td></tr>
<tr><td>USM</td><td>2</td><td>0</td><td>0</td></tr>
<tr><td>Westbrook</td><td>0</td><td>0</td><td>0</td></tr>
<tr><td>Windham</td><td>1</td><td>1</td><td>4</td></tr>
<tr><td>Yarmouth</td><td>0</td><td>2</td><td>0</td></tr>
<tr><td rowspan="11">Erosion & Sediment Control Ordinance Standards Workshop
Integrated Environmental Engineering, Southern Maine Planning and Development Commission, and CCSWCD presented a climate change and erosion & sediment control ordinance checklist developed through a Maine Coastal Communities Grant project.</td><td>Municipality</td><td colspan="3">June 10 and June 15, 2021 (1 hour each)</td></tr>
<tr><td>Biddeford</td><td colspan="3">1</td></tr>
<tr><td>Cape Elizabeth</td><td colspan="3">3</td></tr>
<tr><td>Cumberland</td><td colspan="3">0</td></tr>
<tr><td>Falmouth</td><td colspan="3">2</td></tr>
<tr><td>Freeport</td><td colspan="3">0</td></tr>
<tr><td>Gorham</td><td colspan="3">0</td></tr>
<tr><td>Old Orchard Beach</td><td colspan="3">0</td></tr>
<tr><td>Portland</td><td colspan="3">1</td></tr>
<tr><td>Saco</td><td colspan="3">3</td></tr>
</table>

[10] Due to technical difficulties, webinar attendance was not tracked. The data entered is from the event registration as the webinar recording was made available to all registrants.

			Scarborough	4
			South Portland	3
			SMCC	1
			USM	0
			Westbrook	1
			Windham	5
			Yarmouth	3
		POOllution Prevention Pilot Surveys	CCSWCD and the New England Environmental Finance Center hosted two summer Bates College student interns to survey local trails and parks for improper dog waste disposal in preparation of the 2022 permit requirements. CCSWCD coordinated with multiple municipal departments, nonprofits, and community volunteer groups to provide them with information on the project and how it relates to the MS4 permit, identify priority sites, and current efforts in place to manage dog waste. This data will be used to create regional and site-specific recommendations and outreach materials to reduce improper dog waste disposal. This project carried over into Permit Year 9 and additional information will be provided in the next annual report.	
Provide regional Good Housekeeping Pollution Prevention Training	Complete	CCSWCD facilitated an online cross training opportunity with Doug Roncarati, City of Portland on April 29, 2021 for 1 hour. This cross training featured an updated GHPP presentation and was recorded for staff unable to attend the live online training. YouTube analytics tracked 45 views of the recorded training. *Note: Some municipalities did not attend this training because they chose to provide their own in-house training.*	**Municipality**	**Staff Participation**
			Biddeford	2
			Cape Elizabeth	5
			Cumberland	0
			Falmouth	3
			Freeport	1
			Gorham	2
			Old Orchard Beach	1
			Portland	2
			Saco	1
			Scarborough	1
			South Portland	9
			SMCC	3
			USM	0
			Westbrook	0
			Windham	1
			Yarmouth	1
		Evaluation of Good Housekeeping Pollution Prevention Training: An online quiz assessing attendees' understanding of stormwater issues was given before and after the training. The quiz contains the same 10 questions for before and after the training. Fewer wrong answers given after the training indicates the level of effectiveness of the messages. All questions with incorrect responses had an increase in correct answers between the pre-training quiz and the post-training quiz. Based on the question responses and comments after the training, additional training on illicit discharges, spill prevention, and reporting would be beneficial.		
Provide specialized continuing education training	Complete	CCSWCD facilitated an online training with John Maclaine of the Maine DEP Nonpoint Source Training Center on	**Municipality**	**Recertification (4 hours)**	**Full Class (8 hours)**
			Biddeford	1	1
			Cape Elizabeth	0	0

ISWG Permit Year 8 (2020-2021) Summary of Minimum Control Measures 1 & 2

to relevant member staff on a stormwater related topic.		April 8 and 9, 2021. This training was offered for municipal staff that needed continuing education credits for their erosion & sediment control certification and for new staff that needed the initial training to become certified.	Cumberland	0	0
			Falmouth	1	2
			Freeport	0	0
			Gorham	0	0
			Old Orchard Beach	0	1
			Portland	1	0
			Saco	1	1
			Scarborough	0	0
			South Portland	0	0
			SMCC	0	0
			USM	0	0
			Westbrook	0	0
			Windham	0	1
			Yarmouth	0	0

Evaluation

Conduct annual survey of ISWG municipalities to gauge awareness	Complete	The survey was administered to ISWG representatives in PY8. A summary of survey responses is provided at the end of this report.

Enhanced Outreach Plan

Task	Status	Details
Summarize plan implementation to date	Complete	Plan goal: Raise awareness of new coal tar legislation to consumers.
Conduct online ad campaign	Complete	ISWG used three 30-day Facebook ads directed at three audiences: residents in the ISWG region, commercial property managers and contractors in the ISWG region, and the public in the ISWG region. The ads discussed pavement sealing tips and directed people to Think Blue Maine for more information. The following data were selected from Facebook's advertising metrics:

Topic	Reach	Frequency	Impressions	Post Engagement	Link Clicks	Link Click-Through Rate
Resident	11,757	1.71	20,148	47	45	0.22%
Commercial	6,356	2.17	13,779	14	14	0.10%
Spot the Difference	10,026	1.70	17,016	19	19	0.11%

Provide information to raise awareness regarding the new law, the impacts of coal tar, and alternative methods and products on the Think Blue Maine website	Complete	Factsheets on coal-tar sealant impacts and pavement maintenance methods are posted on the Think Blue Maine website, additional information and edits will be made as needed when the law goes into effect.

Additional Outreach Activities not identified in the Permit or Outreach Plans

Maine Water Environment Association (MEWEA)

ISWG/CCSWCD continues to serve on MEWEA's Stormwater Committee, attend meetings, and assist with the Committee's technical and outreach efforts. ISWG outreach materials are being used as a basis to educate MEWEA's membership about stormwater.

ISWG Youth Education

Although not a permit requirement, ISWG provides funding to deliver clean water education to K-12 students in each municipality. CCSWCD staff provide the education on behalf of ISWG member communities. In addition, the City of Portland also supports additional stormwater education efforts in Portland schools and recreation camps through their *Greener Neighborhoods Cleaner Streams* program. Portland Water District (PWD) provides clean water lessons in many ISWG communities which enhance ISWG's efforts. A summary of students reached, contact hours, and topics covered is provided below.

Educator contact information
CCSWCD: Ali Clift, Education & Outreach Coordinator, aclift@cumberlandswcd.org, 207-892-4700
CCSWCD: Jenna Martyn-Fisher, Educator & Technical Specialist, jfisher@cumberlandswcd.org, 207-892-4700
PWD: Sarah Plummer, Environmental Education Coordinator, splummer@pwd.org, 207-774-5961 x 3324

Virtual Lessons:

Lesson	Lesson Content	Platform Views	YouTube Lesson Video Views
Connecting the Drops	Amount of water in the world, conservation, and the water cycle	354	1,339 over 20 videos
Following the Flow	Stormwater, storm drains and cumulative impact, impervious/pervious surfaces, runoff and best management practices, watersheds, watershed models, transport of nonpoint source pollutants, nonpoint source pollution	418	567 over 15 videos
Brook Trout	Life cycle, habitat, food webs, water quality parameters, macroinvertebrates	134	88 over 3 videos

Overall:

	Total Students	Total Contact Hours
CCSWCD	730	4,426
PWD	868	5,076
Total	**1,598**	**9,502**

Municipality	Instructor	Total Students	Total Contact Hours	School(s)	Lesson Topics	COVID-19 Notes
Biddeford	CCSWCD					Shared virtual CCSWCD lessons.
Cape Elizabeth	CCSWCD	94	376	Cape Elizabeth Middle School, Cape Elizabeth High School	WaterWays Program: water movement, water quality, human impact, stewardship; TroutKids Program: water	Accessed via virtual lessons, video series and lesson and water quality resources.

	PWD	179	449		quality, brook trout life cycle and habitat Sebago Lake to Casco Bay video series: water & wastewater services, water pollution & protection Virtual tour of the Sebago Lake Water Treatment Facility	Shared virtual CCSWCD lessons.
Cumberland	CCSWCD					Shared virtual CCSWCD lessons.
Falmouth	CCSWCD					Shared virtual CCSWCD lessons.
Freeport	CCSWCD					Shared virtual CCSWCD lessons.
Gorham	PWD	148	602	Gorham Middle School, Great Falls Elementary School	Virtual WaterWays Program: water movement, water quality, human impact, stewardship; TroutKids Program: water quality, brook trout life cycle and habitat Sebago Lake to Casco Bay video series: water & wastewater services, water pollution & protection Virtual Maine Children's Water Festival	Accessed via virtual lessons, video series and lesson and water quality resources. Shared virtual CCSWCD lessons.
Old Orchard Beach	CCSWCD	29	102	Loranger Memorial School	Virtual Connecting the Drops and Following the Flow lessons: amount of water in the world, conservation, and the water cycle; watersheds, watershed models; transport of nonpoint source pollutants; nonpoint source pollution, stormwater, storm drains and cumulative impact; impervious/pervious surfaces, runoff and best management practices	Shared virtual CCSWCD lessons.
Portland	CCSWCD	206	3,146	Deering High School, King Middle School, Lincoln Middle School, Lyman Moore Middle School, Portland High School, Portland Parks & Rec Program	Greener Neighbors Cleaner Streams program: water quality, water movement, healthy environments, stormwater pollution, human impact, brook trout, pollution prevention, service learning, nutrients; Virtual WaterWays Program: water movement, water quality, human impact, stewardship; TroutKids Program: water quality, brook trout life cycle and habitat Sebago Lake to Casco Bay	Accessed via in-person and virtual lessons, video series and lesson and water quality resources Shared virtual CCSWCD lessons.
	PWD	316	385			

					video series: water & wastewater services, water pollution & protection Virtual tour of the Sebago Lake Water Treatment Facility	
Saco	CCSWCD					Shared virtual CCSWCD lessons.
Scarborough	CCSWCD	246	492	Scarborough Middle School	Virtual Connecting the Drops and Following the Flow lessons: amount of water in the world, conservation, and the water cycle; watersheds, watershed models; transport of nonpoint source pollutants; nonpoint source pollution, stormwater, storm drains and cumulative impact; impervious/pervious surfaces, runoff and best management practices	Shared virtual CCSWCD lessons.
South Portland	PWD	150	385	Mahoney Middle School, Memorial Middle School	Virtual WaterWays Program: water movement, water quality, human impact, stewardship; TroutKids Program: water quality, brook trout life cycle and habitat Expert panel: local water quality issues and watersheds	Accessed via virtual lessons, video series and lesson and water quality resources Shared virtual CCSWCD lessons.
Westbrook	CCSWCD					Shared virtual CCSWCD lessons.
Windham	PWD	210	2699	Windham Middle School, Windham High School	Virtual WaterWays Program: water movement, water quality, human impact, stewardship; TroutKids Program: water quality, brook trout life cycle and habitat Sebago Lake to Casco Bay video series: water & wastewater services, water pollution & protection Sebago Lake to Casco Bay video series: water & wastewater services, water pollution & protection Virtual Maine Children's Water Festival	Accessed via virtual lessons, video series and lesson and water quality resources. Shared virtual CCSWCD lessons.
Yarmouth	CCSWCD	155	310	Frank H. Harrison Middle School	Virtual Connecting the Drops lesson: amount of water in the world, conservation, and the water cycle	Shared virtual CCSWCD lessons.

MCM2: Public Involvement and Participation

Urban Runoff & Green Neighbor Family Fest

2021 marked the tenth year ISWG supported, promoted, and participated in the Urban Runoff 5k, a community event that promotes clean water and raises awareness of water pollution. In addition to raising awareness, funds raised from the Urban Runoff help support in-school youth education programs in Cumberland and parts of York Counties. Due to COVID-19, the Urban Runoff 5k was held virtually from April 1 through April 30, 2021. The race served as the Public Involvement and Participation event for all ISWG communities. Participation by each ISWG municipality is summarized in the table below.

Despite the pandemic, over 150 runners and walkers registered for the race. Many local businesses supported the race through sponsorships, in-kind donations, and employee participation as race participants. Local media outlets advertised the events, including the donation of tv advertisement by Channel 8 WMTW/CW who developed and ran a 15-second ad promoting the event. Social media, paid online advertising, and email were also used to promote the race and included a clean water message. Additional clean water messages were included on the event website, social media, eblasts, and other marketing tools that were sent to all registered participants, sponsors, and partners. Participants submitted photos of their completed Stormwater Hero Bingo cards, sights (including stormwater BMPs) they saw along their route, and their route course designs through Facebook, Instagram, and email.

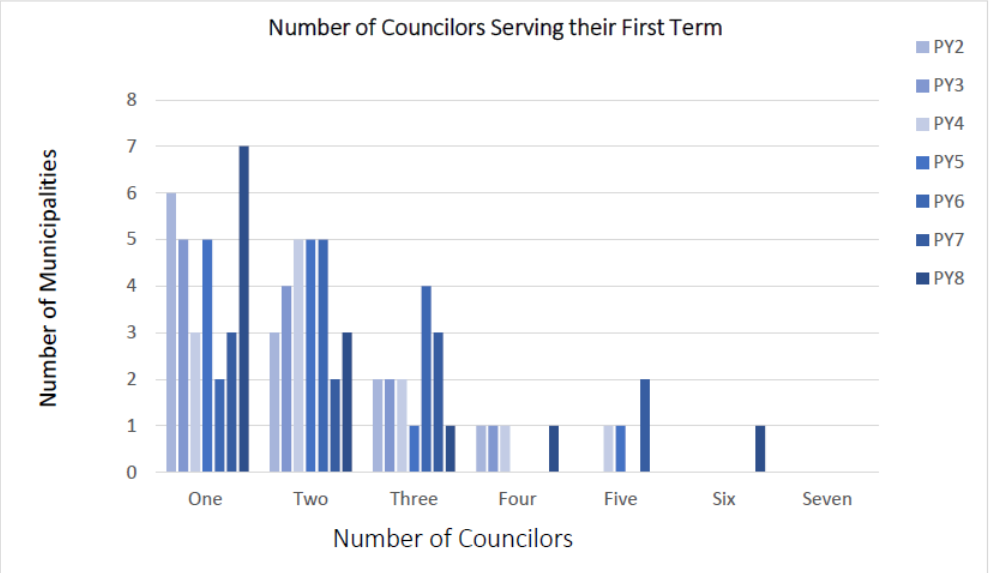
Plans are underway to host the eleventh annual *Urban Runoff 5K* in 2022.

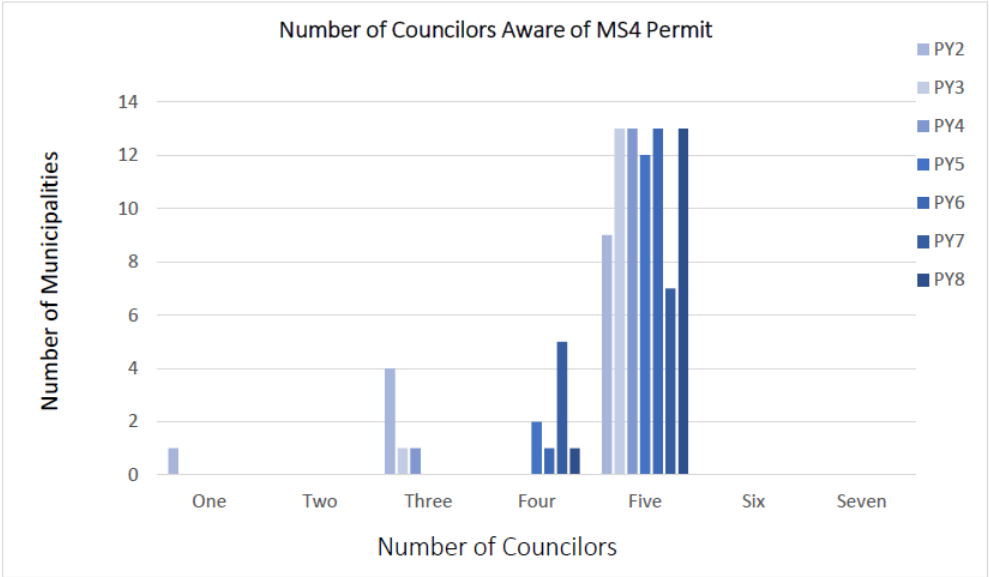
Summary of ISWG Involvement in the 2021 Urban Runoff

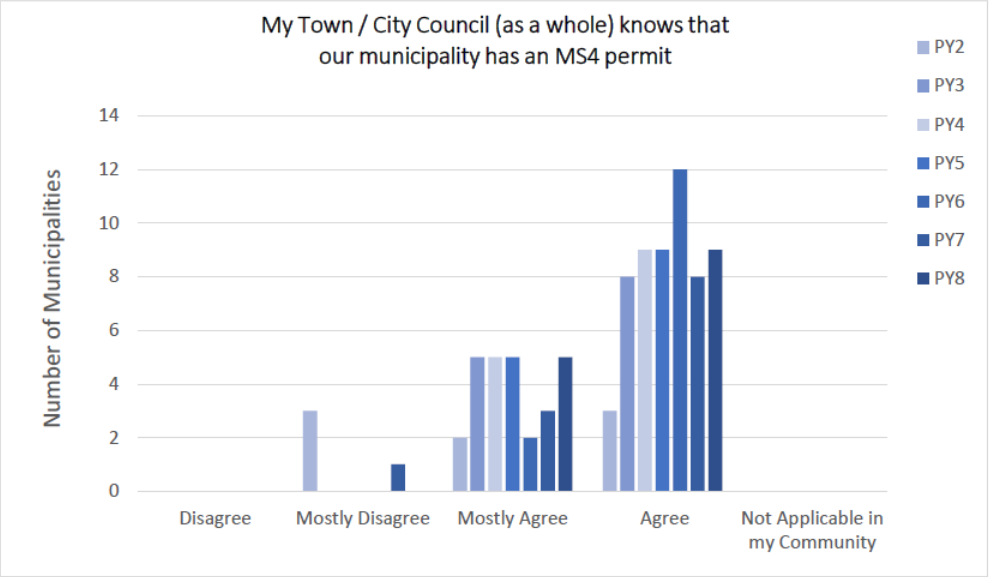
	Race Participants	Municipal Team Members	Additional Contribution
Biddeford	3		
Cape Elizabeth	8	2	
Cumberland	13		Provided virtual racecourse
Falmouth	4	4	
Freeport	0		
Gorham	5	2	Provided virtual racecourse
Old Orchard Beach	4		
Portland	24	3	Provided virtual racecourse
Saco	5		Provided virtual racecourse
Scarborough	8	4	Provided virtual racecourse
South Portland	8	1	$500 Splash Sponsorship, Provided virtual racecourse
SMCC	n/a	6	Provided virtual racecourse
USM	n/a	1	
Westbrook	7	3	Provided virtual racecourse
Windham	16	3	Provided virtual racecourse
Yarmouth	5	1	Provided virtual racecourse

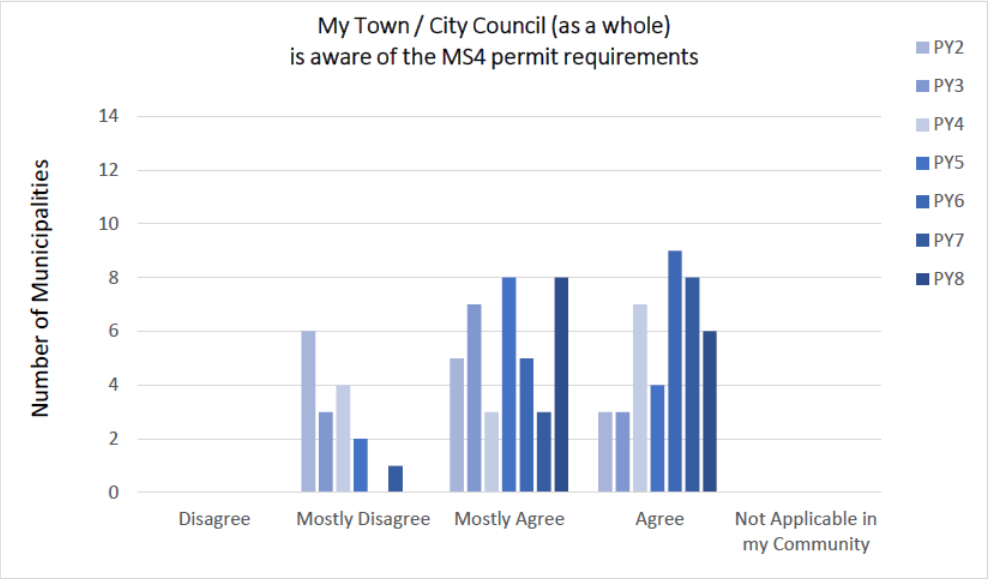
PY8 Summary Municipal Survey Responses

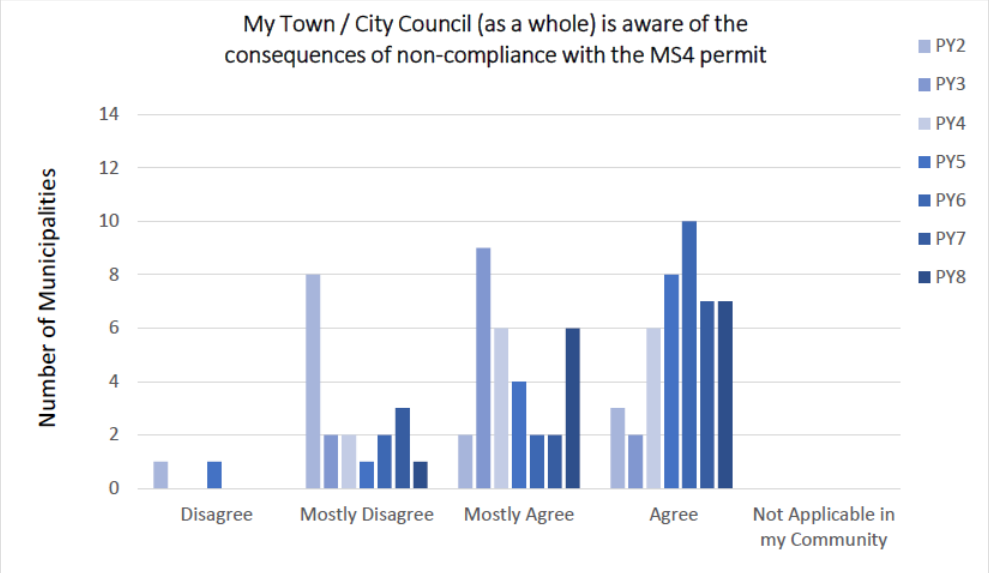
The following graphs summarize the responses to the annual municipal survey conducted in the fourth quarter of PY8. This survey is used to gauge municipal councilors' awareness of their municipal stormwater program. One survey is submitted per ISWG municipality.

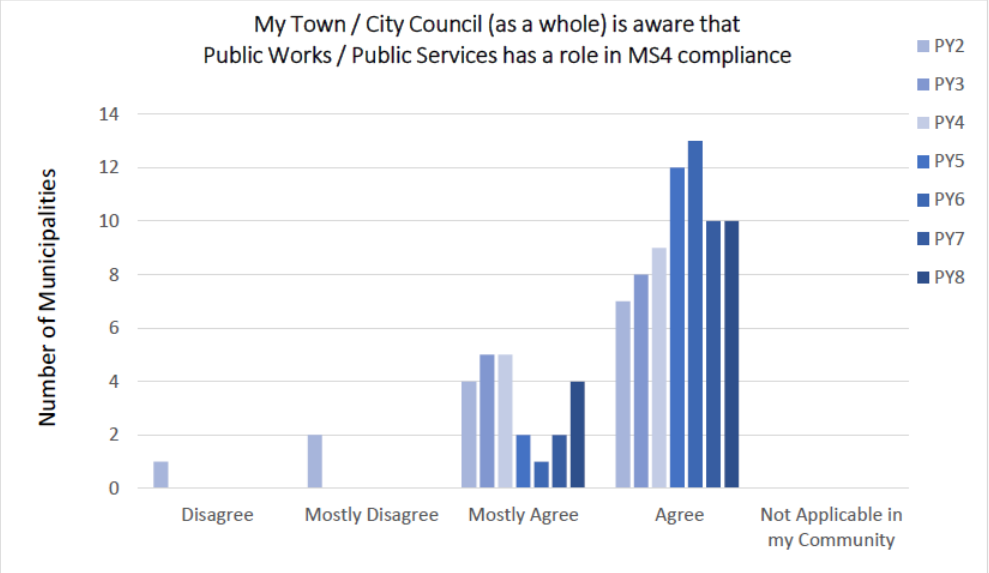


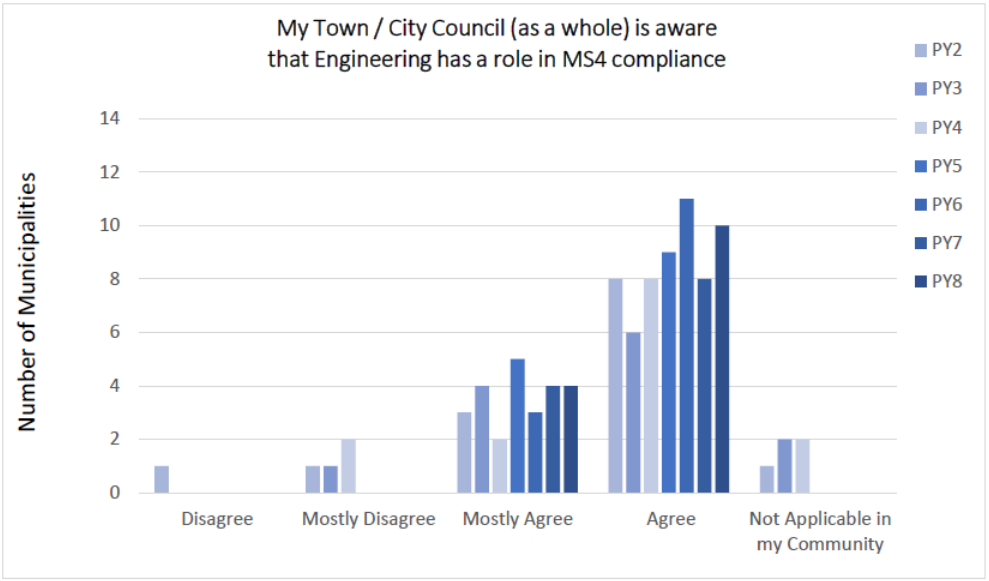


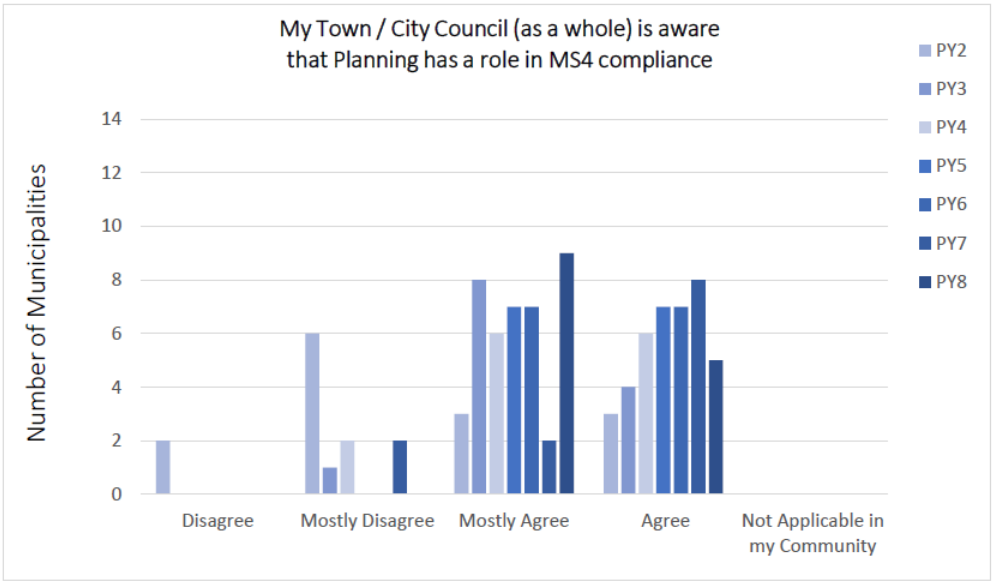

My Town / City Council (as a whole) knows that our municipality has an MS4 permit
Number of Municipalities
0
2
4
6
8
10
12
14
Disagree
Mostly Disagree
Mostly Agree
Agree
Not Applicable in my Community
PY2
PY3
PY4
PY5
PY6
PY7
PY8

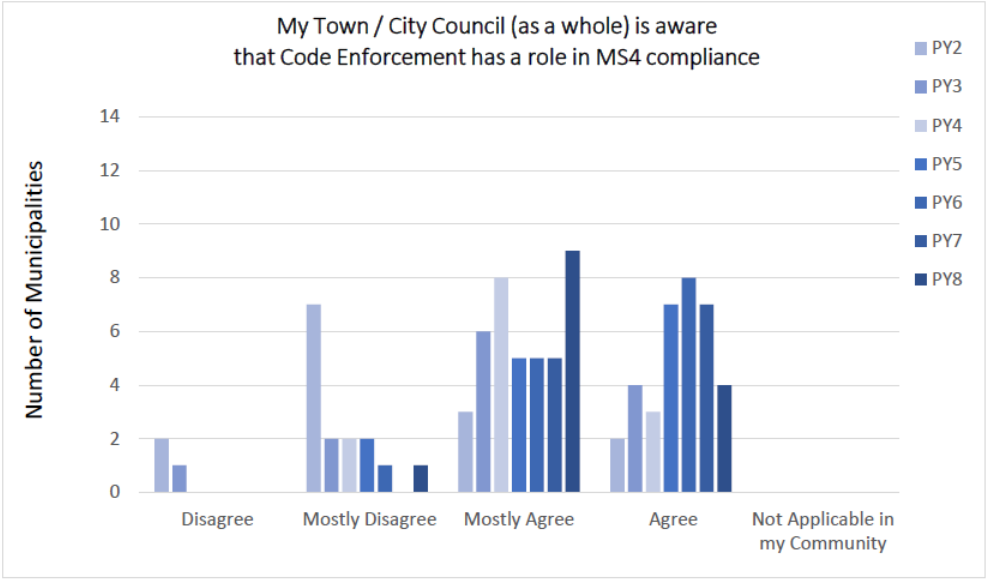

My Town / City Council (as a whole) is aware of the MS4 permit requirements
Number of Municipalities
0
2
4
6
8
10
12
14
Disagree
Mostly Disagree
Mostly Agree
Agree
Not Applicable in my Community
PY2
PY3
PY4
PY5
PY6
PY7
PY8

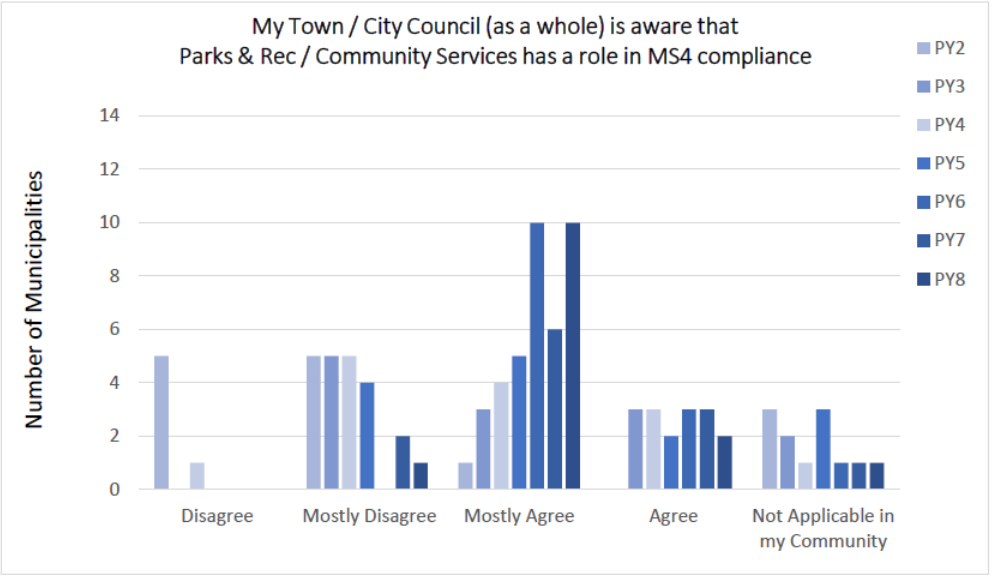

My Town / City Council (as a whole) is aware of the consequences of non-compliance with the MS4 permit
Number of Municipalities
0
2
4
6
8
10
12
14
Disagree
Mostly Disagree
Mostly Agree
Agree
Not Applicable in my Community
PY2
PY3
PY4
PY5
PY6
PY7
PY8

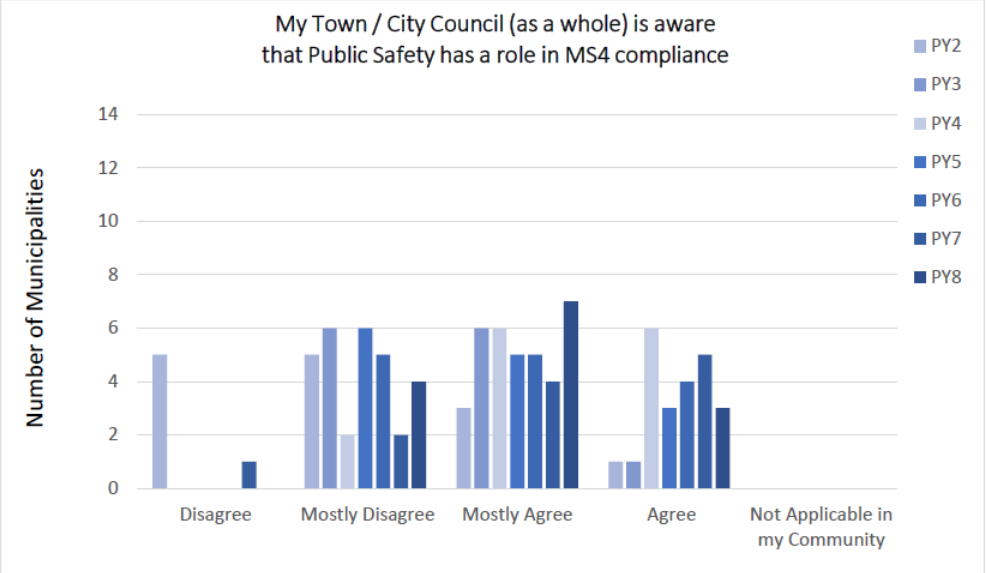

My Town / City Council (as a whole) is aware that Public Works / Public Services has a role in MS4 compliance
Number of Municipalities
0
2
4
6
8
10
12
14
Disagree
Mostly Disagree
Mostly Agree
Agree
Not Applicable in my Community
PY2
PY3
PY4
PY5
PY6
PY7
PY8


My Town / City Council (as a whole) is aware that Engineering has a role in MS4 compliance
Number of Municipalities
0
2
4
6
8
10
12
14
Disagree
Mostly Disagree
Mostly Agree
Agree
Not Applicable in my Community
PY2
PY3
PY4
PY5
PY6
PY7
PY8


My Town / City Council (as a whole) is aware that Planning has a role in MS4 compliance
Number of Municipalities
0
2
4
6
8
10
12
14
Disagree
Mostly Disagree
Mostly Agree
Agree
Not Applicable in my Community
PY2
PY3
PY4
PY5
PY6
PY7
PY8


My Town / City Council (as a whole) is aware
that Code Enforcement has a role in MS4 compliance
Number of Municipalities
14
12
10
8
6
4
2
0
Disagree
Mostly Disagree
Mostly Agree
Agree
Not Applicable in my Community
PY2
PY3
PY4
PY5
PY6
PY7
PY8

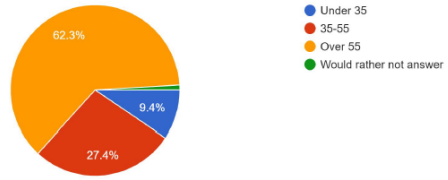

My Town / City Council (as a whole) is aware that
Parks & Rec / Community Services has a role in MS4 compliance
Number of Municipalities
14
12
10
8
6
4
2
0
Disagree
Mostly Disagree
Mostly Agree
Agree
Not Applicable in my Community
PY2
PY3
PY4
PY5
PY6
PY7
PY8


My Town / City Council (as a whole) is aware that Public Safety has a role in MS4 compliance
Number of Municipalities
14
12
10
8
6
4
2
0
Disagree
Mostly Disagree
Mostly Agree
Agree
Not Applicable in my Community
PY2
PY3
PY4
PY5
PY6
PY7
PY8

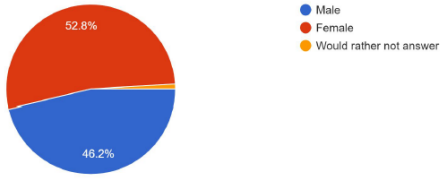
Appendix 2: 4/10/21 Household Hazardous Waste Event Questionnaire Results

Participant Questionnaire Responses (106 responses for ~375 attendees)

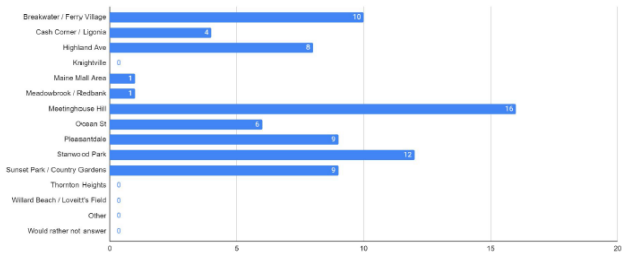
What is your age?
106 responses



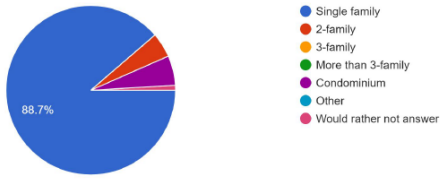
What is your gender?
106 responses



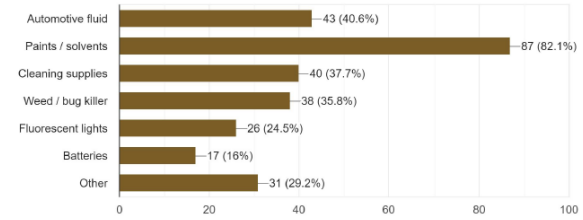
In which neighborhood do you live?



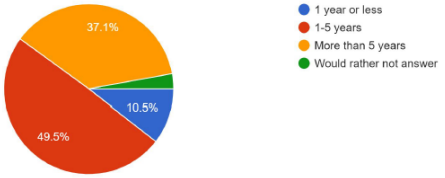
In which type of residence do you live?
106 responses



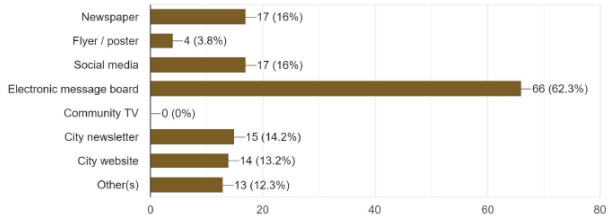
What types of Household Hazardous Wastes did you drop off for today's event?
106 responses



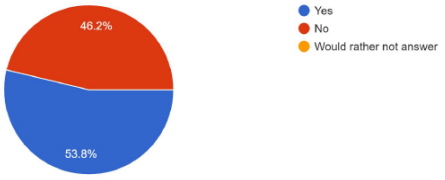
How long have you had these waste items?
105 responses

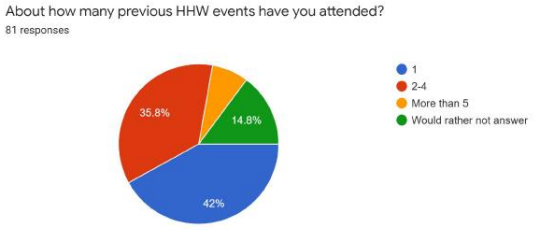


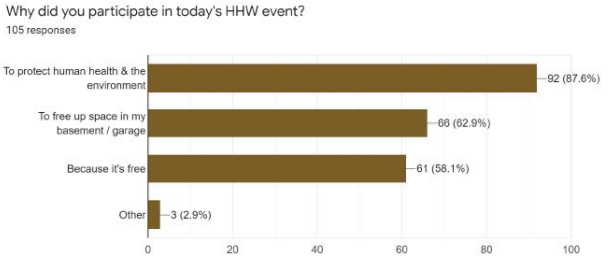
How did you learn about today's HHW event?
106 responses

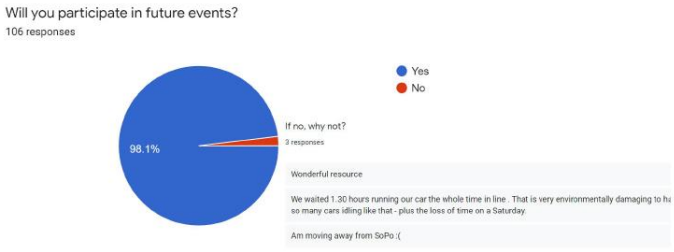


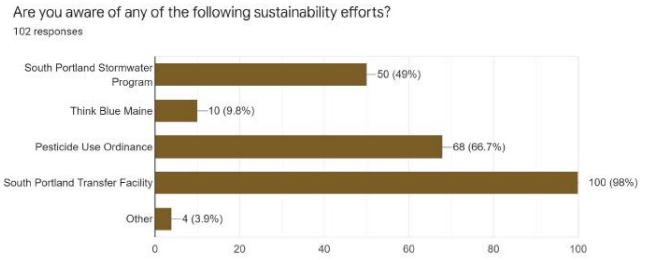
Have you participated in previous HHW events?
106 responses

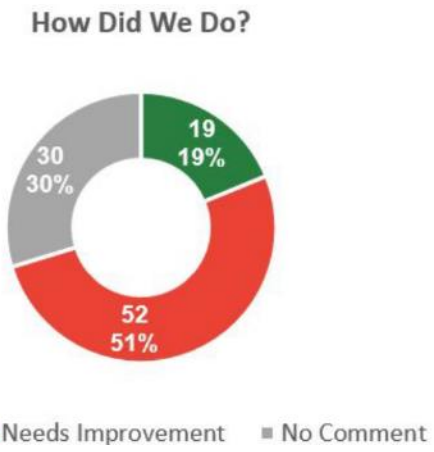












How can we improve our HHW Collection Program?	
Seemed to run efficiently to me!	Additional items like batteries and other common items that shouldn't be thrown in the garbage
This was my first time using this program and I thought it went well. We arrived early to make sure we got in line and we only waited a little over an hour to get through. All the staff were friendly and moved folks through in a timely manner.	have more annually
Everyone was great. Can't think of anything to improve.	I felt guilty sitting in my idling car for 90 minutes. Maybe it would alleviate crowds if this happened more frequently. But thank you! I am grateful to be able to dispose of my hazardous items responsibly.
No improvement needed. Very well organized. Workers very polite and helpful	More dates for drop off dates
This was a very well run operation. Great job! Thank you!	More lines so the wait time is not quite so long. Staff was all terrific though!
I think it was smoothly run in an orderly fashion..Well done!	Need more drop off stations set up. Today, I was in line for an hour and half from the entrance to the drop off spot.
It's great..donations to the food bank would be helpful	Only if it was a little quicker, but as long as it is free, I don't mind the wait.
None, you all do great	The wait to drop items off was an hour long, something more efficient would be appreciated.
I don't think you could do it much better. I arrived at 7:50 and was out at 8:30. The system worked very well and the employees were welcoming and upbeat.	It was a bit of a wait, but was well worth the time.
I think the crew did a great job moving things along and emptying materials from vehicles.	More than 2 bays for unloading
I think you do well considering the number of people that take advantage of it. I did have to wait in line for a full hour for the few things that I did have to turn in.	Pleas have the opportunity at least three times a year!
N/A— you guys did a great job 🖐	Shorter wait time
Nothing. I thought it was extremely well run. Thank you!	Incredibly slow this year!!! Let people sign up for a time slot. Local tax should be placed to help with the cost of cleanup. Spray bottles over spray cans would be much better.
Doing a great job. Maybe 1 or 2 extra dates for drop off	Drop off times by residential area
It was efficient. No need to improve anything.	Have it more often
Nothing it was GREAT!	If there was a way to process more than 2 cars at a time . Thank you!
No room for improvement! Service and people were wonderful and helpful. Thanks so much!	It was very well-run. The only improvement I can think of would be to have them more often.
No room for improvement! Service and people were wonderful and helpful. Thanks so much!	
I thought it was very efficient, considering the pandemic	

It was well organized - my only suggestion is to have more than one car be able to drop off waste at a time so that the line moves faster. I think the line deters a lot of potential attendees. Or offer twice a year. Anything to make it go faster.	This is a great program and apparently many people think so as well - the time waiting is an issue - can you do this more often or do a full day?
more frequent and pay to drop option I waited 1.25 hours	While maybe not possible, the long lines indicate there is a real need and perhaps more frequent collections?
Someone to ensure that no one cuts the line....it ruined my morning seeing someone get away with it....and yes an employee was told by more than one person	Have 2 or 3 separate bins/lanes to drop items off, and then consolidate afterwards, not just having one bin with 2 lanes. Or and 'express lane' for less than 5 items. I was in line 1 hour to drop off 3 half empty bottles. It's important, so I did it, but it didn't feel worth my time in line.
Try to devise a way so that the wait is not as long. It was still woth it to dispose of the items safely.	have more free events
2 lines of vehicles to speed up the process	Segregate the lines by number of units people are dropping off. Waiting an hour to drop off two items was unbearable.
Have it quarterly! And have 2 electronic collections per year.	Shorter wait in line. I waited 1 hour 45 min.
I think this year there was a much longer wait because COVID kept us from doing it last year. The line kept moving but I was there about 1hr 15 mins — good reading time.	Have more people working so the wait is not so long
Offer twice a year to reduce wait	Have more staff; provide place to park rather than keep cars running in one long line
Have more often. There were lots of cars in line!	It worked very well but was very busy so maybe do it semi I annually instead of annually.
I waited an hour and a half to drop off two containers. Not sure if that could be improved?	more often and more items
Time slots for neighborhoods? Express lane for 5 or less items?	Shorter wait times (if possible).
In order for it to truly be environmentally correct many more stations will need to added for collections. Everyone running their cars for that length of time is not ok.	Was very busy 1 hour 20 minute wait maybe two date would help. Two lines maybe? Workers where really hustling and did a great job just maybe more people then expected?
It would probably be good to either do it more than once a year or make it a full day event. Waiting an hour, cars running, polluting the air, wasting gas and just eating up time could be minimized or avoided all together. I am very happy for this program and happier still that so many people participated. Thank you!!	#1 Offer it on another day other than Saturday. I am not available on Saturdays. This year a friend offered to take the items for me. #2 Offer drop off for longer time frame - the waiting line was quite long.
More lines/drop off spaces or multiple mornings to speed up the process	Another time opportunity would be great. It took me 5 years to make a Saturday morning work because I have a weekend job.
Only if you could possibly add electronic waste.	

Appendix 3: Portland Water District Memo on BMPs for MS4 Requirements

Portland Water District
FROM SEBAGO LAKE TO CASCO BAY

To: Frederick Dillion – Stormwater Program Coordinator,
South Portland Water Resource Protection Department
From: James Wallace – Director of Water Services *J. Wallace*
Date: July 2, 2021
Re: Summary of Portland Water District BMP for Addressing MS4 Requirements

---

Introduction

It is our understanding that a requirement of your MS4 permit is to provide a summary of Best Management Practices (BMPs) to address chlorinated water discharges from hydrant flushing. This memo will summarize the BMPs currently used by the District as part of our Unidirectional Flushing Program.

The District has a water main flushing program to remove sediment from the main. Due to the size of the distribution system, our goal is to flush one-third of the system every year.

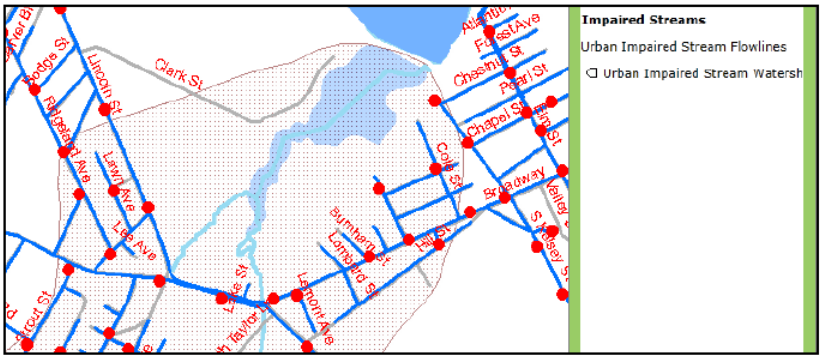
During the months of July through November of 2020, the District performed hydrant flushing in Falmouth and Portland. In addition, during the months of March through June of 2021, the District performed hydrant flushing in South Portland and Westbrook.

Dechlorination

The District's primary BMP for hydrant discharges is dechlorination. Currently the District has four types of dechlorination devices. The District is using ascorbic acid, in both granular and tablet forms, as the de-chlorinating agent for the devices. These devices and this product are achieving total residual chlorine concentrations that are consistently below the detection limit of our field chlorine analyzers, currently the Hach Colorimeter II.

Identifying Points of Concern

In early 2017, PWD staff implemented GIS mapping that incorporates hydrant locations with watershed boundaries and stream locations. This mapping provides our staff an understanding of how these watersheds surround our water system.



Land Application

In instances where the discharge is a significant distance from any stream or water body, District crews may choose to discharge water directly to the ground, if they are certain the residual will degrade before mixing with a water body.

Dilution

In one instance during 2015, our engineering staff determined that a river flow was sufficient to dilute the total chlorine residual below the acute toxicity level of 0.019 mg/L. The discharge flow rate into the river included a significant safety factor. To date, the District has not used this option a second time. The final DEP MS4 drinking water system discharge issue profile of 11/18/16 does include a formula for calculating dilution into a stream. If the District considers this option again, qualified staff will determine the streamflow and discharge rates to ensure final dilution includes a significant safety factor.

Statewide BMP's

In 2017, Maine Rural Water Association and Maine Water Utilities Association received a grant to create statewide BMP's for de-chlorination, and then provided training to water operators across the state. The District was involved in the review of DEP's hydrant flushing profile and had input in the creation of BMP's. The BMP Manual of Public Water System Discharges to Water Resources was published in January 2018, and District is working to incorporate these into our processes.

Staff Training

In December of 2014, Cumberland County Soil and Water Conservation District staff trained our field crews on the requirements of the MS4 program. Staff training includes Basic Contractor Erosion and Sediment Control certification by the Maine DEP Nonpoint Source Pollution program.

In addition, a number of District staff attended training by Maine Rural Water on the statewide BMP's during the summer of 2017.

Appendix 4: Dry Weather Outfall Inspection Summaries

PY2020-21 City of South Portland Stormwater Outfall Inspections

Watershed	Feature ID	Inspection Date	Inspector	Precip. Past 3 Days	Approx. Temp (F)	Pipe Sub-merged	Pipe Size (in)	Foam	Green Scum	Oil / Film	Veg. Mat	Sewage Solids	Odor	Water Clarity	Pipe Flow	Seepage Flow	Flow Color	Sediment Con-dition	Structure Con-dition	Trash / Litter	Yard Waste	Comments	Follow-Up
Barberry Creek	BC_1	12/15/2020, 10:47 AM	Mike Lorello	No	25	Partially	12"	No	No	No	No	No		Clear	Steady	None	No Flow	Open	Follow up	No	No	Remove obstruction from partially submerged pipe	Yes
Barberry Creek	BC_10	12/15/2020, 8:17 AM	Mike Lorello	No	28	No	15"	No	No	No	No	No			None	None	No Flow	Open	Fair	No	No		No
Barberry Creek	BC_11	12/15/2020, 7:55 AM	Mike Lorello	No	28	No	24"	No	No	No	No	No	None	Clear	Trickle	None	No Flow	Open	Poor	No	No		No
Barberry Creek	BC_12	12/15/2020, 12:35 PM	Mike Lorello	No	30	No	15"	No	No	No	No	No	None	Clear	Steady	None	Clear	Open	Good	No	No		No
Barberry Creek	BC_13	12/15/2020, 7:58 AM	Mike Lorello	No	28	No	48"	No	No	No	No	No	None	Clear	1/4 Pipe or >	None	No Flow	Open	Fair	No	No		No
Barberry Creek	BC_14	12/15/2020, 10:19 AM	Mike Lorello	No	28	No	15"	No	No	No	No	No			None	None	No Flow	Open	Good	No	No		No
Barberry Creek	BC_15	12/15/2020, 9:07 AM	Mike Lorello	No	28	No	24"	No	No	No	No	No	None	Clear	Steady	None	No Flow	Open	Fair	No	No		No
Barberry Creek	BC_16	12/15/2020, 12:48 PM	Mike Lorello	No	30	No	15"	No	No	No	No	No	None	Clear	Trickle	None	Clear	Open	Good	No	No		No
Barberry Creek	BC_2	12/15/2020, 10:50 AM	Mike Lorello	No	25	Partially	15"	No	No	No	No	No	None	Clear	1/4 Pipe or >	None	No Flow	Open		No	No		No
Barberry Creek	BC_3	12/15/2020, 10:26 AM	Mike Lorello	No	25	Partially		No	No	No	Yes	No		Clear	Steady	None	No Flow	Open	Fair	No	No		No
Barberry Creek	BC_4	12/16/2020, 10:33 AM	Jarrod Erskine	No	13	No		No	No	No	No	No			None	None	No Flow	Plugged		No	No		No
Barberry Creek	BC_6	12/15/2020, 9:29 AM	Mike Lorello	No	28	No	24"	No	No	No	No	No	None	Clear	Steady	None	No Flow	Open	Fair	No	No		No
Barberry Creek	BC_8	12/15/2020, 9:14 AM	Mike Lorello	No	28	No	24"	No	No	No	No	No	None	Clear	Steady	None	No Flow	Open	Fair	No	No		No
Barberry Creek	BC_9	12/15/2020, 8:14 AM	Mike Lorello	No	28	No	18"	No	No	No	No	No		Clear	Steady	None	No Flow	Open	Good	No	No		No
																						Follow up needed = yes:	1
																						Follow up needed = no:	13
Long Creek	LC_1	12/11/2020, 9:34 AM	Mike Lorello	No	35	Fully	24"	No	No	No	No	No		Clear	None	None	No Flow	Open	Poor	No	No		No
Long Creek	LC_10	11/20/2020, 1:38 PM	Jarrod Erskine	No	48	No	48"	Yes	No	No	No	No	None	Cloudy	Steady	None	No Flow	Open	Good	Yes	No		No
Long Creek	LC_100	11/20/2020, 9:55 AM	Jarrod Erskine	No	45	No		No	No	No	No	No	None	Clear	None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_101	11/20/2020, 11:06 AM	Jarrod Erskine	No	45	No	12"	No	No	No	No	No	None		None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_102	11/20/2020, 9:57 AM	Jarrod Erskine	No	45	No	8"	No	No	No	No	No	None		None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_103	11/20/2020, 10:11 AM	Jarrod Erskine	No	45	No	8"	No	No	No	No	No	None		None	None	No Flow	Open	Good	No	No	Gross	No
Long Creek	LC_104	11/20/2020, 1:13 PM	Mike Lorello	No	50	Partially	18"	No	No	No	Yes	No	None		None	None	No Flow	Open	Poor	No	No		No
Long Creek	LC_105	11/20/2020, 9:51 AM	Jarrod Erskine	No	45	No	8"	No	No	No	No	No	None		None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_106	12/11/2020, 9:18 AM	Mike Lorello	No	40	No	6"	No	No	No	No	No			None	None	No Flow	Open		No	No		No
Long Creek	LC_107	12/11/2020, 9:21 AM	Mike Lorello	No	40	No	12"	No	No	No	No	No			None	None	No Flow	Open		No	No		No
Long Creek	LC_109	11/20/2020, 2:32 PM	Mike Lorello	No	55	No	12"	No	No	No	No	No	None		None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_11	11/20/2020, 11:22 AM	Jarrod Erskine	Yes	45	No	60"	No	No	No	No	No	None	Clear	None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_110	11/20/2020, 2:33 PM	Jarrod Erskine	No	48	No		No	No	No	No	No	None		None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_111	11/20/2020, 2:30 PM	Jarrod Erskine	No	48	No		No	No	No	No	No	None		None	None	No Flow	Open	Good	No	No		No

Watershed	Feature ID	Inspection Date	Inspector	Precip. Past 3 Days	Approx. Temp (F)	Pipe Sub-merged	Pipe Size (in)	Foam	Green Scum	Oil / Film	Veg. Mat	Sewage Solids	Odor	Water Clarity	Pipe Flow	Seepage Flow	Flow Color	Sediment Con-dition	Structure Con-dition	Trash / Litter	Yard Waste	Comments	Follow-Up
Long Creek	LC_114	11/20/2020, 12:46 PM	Mike Lorello	No	50	No	12"	No	No	No	No	No	None	Clear	Trickle	None	No Flow	Open	Fair	No	No		No
Long Creek	LC_116	11/20/2020, 10:09 AM	Jarrod Erskine	No	45	No	12"	No	No	No	No	No	None		None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_117	11/20/2020, 12:38 PM	Mike Lorello	No	50	No	12"	No	No	No	No	No	None	Clear	Trickle	None	No Flow	Open	Good	No	No		No
Long Creek	LC_118	11/20/2020, 12:42 PM	Mike Lorello	No	50	No	4"	No	No	No	No	No	None	Clear	Trickle	None	No Flow	Open	Good	No	No		No
Long Creek	LC_119	11/20/2020, 12:49 PM	Mike Lorello	No	50	No	15"	No	No	No	No	No	None	Clear	Trickle	None	No Flow	Open	Fair	No	No		No
Long Creek	LC_12	11/20/2020, 10:54 AM	Jarrod Erskine	No	45	No	18"	No	No	No	No	No	None		None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_120	11/20/2020, 1:44 PM	Jarrod Erskine	No	48		12"	No	No	No	No	No	None		None	None	No Flow	1/2 Full	Fair	Yes	No		No
Long Creek	LC_121	11/20/2020, 1:49 PM	Jarrod Erskine	No	48	No	12"	No	No	No	No	No	None		None	None	No Flow	1/2 Full	Fair	No	No		No
Long Creek	LC_13	11/20/2020, 11:09 AM	Jarrod Erskine	No	45	No	12"	No	No	No	No	No	None		None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_14	11/20/2020, 11:01 AM	Jarrod Erskine	No	45	No	12"	No	No	No	No	No	None		None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_15	11/20/2020, 10:40 AM	Jarrod Erskine	Yes	45	No	12"	No	No	No	No	No	None		None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_16	11/20/2020, 10:21 AM	Jarrod Erskine	No	45	No	12"	No	No	No	No	No	None	Clear	Trickle	None	Clear	Open	Good	No	No		No
Long Creek	LC_17	11/20/2020, 12:44 PM	Mike Lorello	No	50	No	12"	No	No	No	No	No	None		None	None	No Flow	Open	Poor	No	No		No
Long Creek	LC_18	11/20/2020, 12:51 PM	Mike Lorello	No	50	No	12"	No	No	No	No	No	None	Clear	Trickle	None	Clear	Open	Fair	No	No		No
Long Creek	LC_19	11/20/2020, 10:45 AM	Jarrod Erskine	No	45	No	12"	No	No	No	No	No	None		None	None	No Flow	1/4 Full	Good	No	No		No
Long Creek	LC_2	11/20/2020, 8:05 AM	Jarrod Erskine	No	43	No	12"	No	No	No	No	No	None		None	None	No Flow	1/2 Full		No	No	Leaves at outlet	No
Long Creek	LC_20	11/20/2020, 1:02 PM	Mike Lorello	No	50	No	12"	No	No	No	No	No	None	Clear	Trickle	None	Clear	Open	Good	No	No		No
Long Creek	LC_21	11/20/2020, 1:04 PM	Mike Lorello	No	50	No	12"	No	No	No	No	No	None	Clear	Trickle	None	No Flow	Open	Good	No	No		No
Long Creek	LC_22	11/20/2020, 1:58 PM	Mike Lorello	No	50	No	24"	No	No	No	No	No	None		None	None	No Flow	Open	Poor	Yes	No		No
Long Creek	LC_23	11/20/2020, 10:17 AM	Jarrod Erskine	No	45	No	18"	No	No	Yes	No	No	None	Clear	None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_24	11/20/2020, 8:03 AM	Jarrod Erskine	No	34	No		No	No	No	No	No	None		None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_25	11/20/2020, 9:00 AM	Jarrod Erskine	No	45	No	24"	No	No	No	Yes	No	None	Clear	None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_26	11/20/2020, 9:12 AM	Jarrod Erskine	No	45	No	24"	No	No	No	No	No	None	Clear	None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_27	11/20/2020, 9:16 AM	Jarrod Erskine	No	45	No		No	No	No	No	No			None	None	No Flow	Open		No	No	Capped?	No
Long Creek	LC_28	11/20/2020, 8:19 AM	Jarrod Erskine	No	43	No	18"	No	No	No	No	No	None		None	None	No Flow	Open		No	No	Cleared leaves	No
Long Creek	LC_29	11/20/2020, 8:26 AM	Jarrod Erskine	No	43	No	18"	No	No	No	No	No	None		None	None	No Flow	Open	Good	No	No	Add riprap	Yes
Long Creek	LC_3	11/20/2020, 8:13 AM	Jarrod Erskine	No	43	No		No	No	No	No	No	None		None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_30	11/20/2020, 8:32 AM	Jarrod Erskine	No	43	No		No	No	No	No	No			None	None	No Flow	3/4 Full	Follow up	No	No	Remove sediment from pipe end	Yes
Long Creek	LC_31	11/20/2020, 8:39 AM	Jarrod Erskine	No	43	No		No	No	No	No	No	None	Clear	None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_32	11/20/2020, 2:12 PM	Mike Lorello	No	55	Partially	60"	No	No	No	No	No	None	Cloudy	1/4 Pipe or >	None	No Flow	Open	Fair	No	No		No
Long Creek	LC_33	11/20/2020, 2:15 PM	Mike Lorello	No	55	Partially	42"	No	No	No	No	No	None	Clear	1/4 Pipe or >	None	No Flow	Open	Fair	No	No		No

Watershed	Feature ID	Inspection Date	Inspector	Precip. Past 3 Days	Approx. Temp (F)	Pipe Sub-merged	Pipe Size (in)	Foam	Green Scum	Oil / Film	Veg. Mat	Sewage Solids	Odor	Water Clarity	Pipe Flow	Seepage Flow	Flow Color	Sediment Con-dition	Structure Con-dition	Trash / Litter	Yard Waste	Comments	Follow-Up
Long Creek	LC_34	11/20/2020, 12:24 PM	Mike Lorello	No	50	Fully		No	No	No	Yes	No			None	None	No Flow	Open	Follow up	No	No	Remove sediment from pipe end	Yes
Long Creek	LC_35	12/11/2020, 10:02 AM	Mike Lorello	No	35	Fully		No	No	Yes	No	No		Opaque	None	None	Brown	Open		No	No		No
Long Creek	LC_37	11/20/2020, 10:24 AM	Mike Lorello	No	45	Partially	12"	No	No	No	No	No	None	Clear	None	None	No Flow	Open	Poor	No	No		No
Long Creek	LC_38	11/20/2020, 10:34 AM	Mike Lorello	No	45	No	60"	No	No	No	Yes	No	None	Clear	Steady	None	No Flow	Open	Good	No	No		No
Long Creek	LC_39	11/20/2020, 1:22 PM	Jarrod Erskine	No	48	No	24"	No	No	No	No	No	None		None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_4	11/20/2020, 10:27 AM	Jarrod Erskine	No	45	No	12"	No	No	No	No	No	None	Clear	None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_41	11/20/2020, 10:50 AM	Mike Lorello	No	45	No	12"	No	No	No	No	No	None	Clear	Trickle	None	No Flow	Open	Good	No	No		No
Long Creek	LC_42	11/20/2020, 10:45 AM	Mike Lorello	No	45	Partially	20"	No	No	No	Yes	No	None		None	None	No Flow	Open	Follow up	No	No	Remove sediment from pipe end	Yes
Long Creek	LC_43	11/20/2020, 9:30 AM	Mike Lorello	No	45	No	24"	No	No	No	No	No	None	Clear	Trickle	None	Clear	Open	Good	Yes	No		No
Long Creek	LC_44	11/20/2020, 8:59 AM	Mike Lorello	No	45	No	15"	No	No	No	No	No	None	Clear	None	Steady	Clear	Open	Excellent	No	No		No
Long Creek	LC_45	11/20/2020, 9:02 AM	Mike Lorello	No	45	No	24"	No	No	No	Yes	No	None	Clear	Trickle	None	Clear	Open	Excellent	No	No		No
Long Creek	LC_46	11/20/2020, 10:57 AM	Mike Lorello	No	45	Partially	36"	No	No	No	Yes	No	None	Clear	None	1/4 Pipe or >	No Flow	Open	Poor	No	No		No
Long Creek	LC_48	11/20/2020, 10:59 AM	Mike Lorello	No	45	Partially	15"	No	No	No	Yes	No	None	Clear	None	1/4 Pipe or >	No Flow	Open	Poor	No	No		No
Long Creek	LC_49	11/20/2020, 10:54 AM	Mike Lorello	No	45	No	60"	No	No	No	No	No	None	Clear	Steady	None	Clear	Open	Good	No	No		No
Long Creek	LC_5	11/20/2020, 12:46 PM	Jarrod Erskine	No	48	No	15"	No	No	No	No	No	None		None	None	No Flow	Open	Poor	No	No	Add riprap	Yes
Long Creek	LC_51	11/20/2020, 1:11 PM	Jarrod Erskine	No	48	No	18"	No	No	No	No	No	None		None	None	No Flow	Open	Follow up	No	No	Repair failed pipe causing sinkhole	Yes
Long Creek	LC_54	11/20/2020, 7:59 AM	Jarrod Erskine	No	43	No	18"	No	No	No	No	No	None		None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_55	11/20/2020, 8:09 AM	Jarrod Erskine	No	43	No	12"	No	No	No	No	No	None		None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_56	12/11/2020, 10:08 AM	Mike Lorello	No	35	No	36"	No	No	No	No	No		Clear	Steady	None	Clear	Open	Poor	No	No		No
Long Creek	LC_57	12/11/2020, 9:06 AM	Jarrod Erskine	No	29	No	18"	No	No	Yes	No	No	None	Clear	Steady	None	No Flow	1/2 Full	Good	No	No		No
Long Creek	LC_58	12/11/2020, 9:14 AM	Jarrod Erskine	No	29	No	15"	Yes	No	No	No	No	None	Clear	Steady	None	No Flow	Open	Poor	No	No	Replace deteriorated pipe end	Yes
Long Creek	LC_59	12/11/2020, 10:19 AM	Jarrod Erskine	No	30	No	12"	No	No	No	No	No	None		None	None	No Flow	3/4 Full	Follow up	No	No	Remove sediment from pipe end	Yes
Long Creek	LC_6	11/20/2020, 12:50 PM	Jarrod Erskine	No	48	No	24"	No	No	No	No	No	None		None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_60	12/11/2020, 9:38 AM	Jarrod Erskine	No	29	No	18"	No	Yes	No	No	No	None	Clear	None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_61	12/11/2020, 9:50 AM	Jarrod Erskine	No	29	No	12"	No	No	No	No	No	None	Cloudy	Trickle	None	Clear	Open	Good	No	No		No
Long Creek	LC_62	12/11/2020, 9:48 AM	Jarrod Erskine	No	29	No	12"	No	No	No	No	No	None	Clear	None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_63	11/20/2020, 1:39 PM	Mike Lorello	No	50	No	21"	No	No	No	Yes	No	None	Clear	Trickle	None	Clear	Open	Good	No	No		No
Long Creek	LC_65	11/20/2020, 12:56 PM	Jarrod Erskine	No	48	No	12"	No	No	No	No	No	None		None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_66	11/20/2020, 2:28 PM	Jarrod Erskine	No	48	No		No	No	No	No	No	None		None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_67	12/11/2020, 9:29 AM	Mike Lorello	No	35	Partially	36"	No	No	No	No	No		Clear	None	None	No Flow	Open	Fair	No	No		No
Long Creek	LC_68	11/20/2020, 2:08 PM	Jarrod Erskine	No	48	No	12"	No	No	No	No	No	None		None	None	No Flow	Open	Good	No	No		No

Watershed	Feature ID	Inspection Date	Inspector	Precip. Past 3 Days	Approx. Temp (F)	Pipe Sub-merged	Pipe Size (in)	Foam	Green Scum	Oil / Film	Veg. Mat	Sewage Solids	Odor	Water Clarity	Pipe Flow	Seepage Flow	Flow Color	Sediment Con-dition	Structure Con-dition	Trash / Litter	Yard Waste	Comments	Follow-Up
Long Creek	LC_69	11/20/2020, 2:13 PM	Jarrod Erskine	No	48	No	12"	No	No	No	No	No	None		None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_7	11/20/2020, 12:59 PM	Jarrod Erskine	No	48	No	18"	No	No	Yes	No	No	Musty	Clear	Trickle	None	Clear	Open	Good	No	No		No
Long Creek	LC_70	11/20/2020, 2:20 PM	Jarrod Erskine	No	48	No	24"	No	No	No	No	No	None	Clear	None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_71	12/11/2020, 11:10 AM	Mike Lorello	No	40	No	18"	No	No	No	No	No		Clear	Trickle	None	No Flow	Open		No	No		No
Long Creek	LC_75	12/11/2020, 10:39 AM	Jarrod Erskine	No	30	No		No	No	No	No	No	None		None	None	No Flow	Plugged		No	No	Needs to be ditched	Yes
Long Creek	LC_8	11/20/2020, 1:02 PM	Jarrod Erskine	No	48	No	12"	No	No	No	No	No	None		None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_83	11/20/2020, 9:06 AM	Jarrod Erskine	No	45	No	18"	No	No	Yes	Yes	No	None	Clear	None	None	No Flow	1/4 Full	Poor	No	No		No
Long Creek	LC_84	11/20/2020, 8:57 AM	Jarrod Erskine	No	45	No	24"	No	No	No	Yes	No	None	Clear	Trickle	Trickle	Clear	Open	Good	No	No		No
Long Creek	LC_85	11/20/2020, 8:53 AM	Jarrod Erskine	No	45	No	24"	No	No	No	No	No	None		None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_86	11/20/2020, 8:36 AM	Jarrod Erskine	No	43	No		No	No	Yes	No	No	None	Clear	None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_87	11/20/2020, 12:22 PM	Jarrod Erskine	No	48	No	15"	No	No	No	No	No	None	Clear	Trickle	None	No Flow	Open	Good	No	No		No
Long Creek	LC_88	11/20/2020, 10:15 AM	Mike Lorello	No	45	No	12"	No	No	No	No	No	None		None	None	No Flow	Open		No	No		No
Long Creek	LC_89	11/20/2020, 9:35 AM	Mike Lorello	No	45	No	12"	No	No	No	No	No	None		None	None	No Flow	Open		No	No		No
Long Creek	LC_9	11/20/2020, 1:41 PM	Jarrod Erskine	No	48	No	48"	No	No	No	No	No	None		None	None	No Flow	Open	Good	Yes	No		No
Long Creek	LC_90	12/11/2020, 9:30 AM	Jarrod Erskine	No	29	Partially	24"	No	No	No	No	No	None	Clear	None	None	No Flow	Open		No	No	Remove sediment and bamboo from pipe end	Yes
Long Creek	LC_91A	11/20/2020, 1:38 PM	Mike Adriance	No	53	No	30"	No	No	No	No	No	None	Clear	Trickle	None	Clear	Open	Good	Yes	No		No
Long Creek	LC_92	11/20/2020, 10:47 AM	Jarrod Erskine	No	45	No	18"	No	No	No	No	No	None		None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_98	11/20/2020, 12:38 PM	Jarrod Erskine	No	48	Partially	15"	No	No	No	No	No	None		None	None	No Flow	Open	Follow up	No	No	Repair severe erosion nearby	Yes
Long Creek	LC_99	11/20/2020, 2:06 PM	Jarrod Erskine	No	48	No		No	No	No	No	No	None	Clear	Steady	None	Clear	Open	Good	No	No		No
																						Follow up needed = yes:	11
																						Follow up needed = no:	86
Trout Brook	TB_1	12/16/2020, 9:56 AM	Jarrod Erskine	No	13	No		No	No	No	No	No	None		Steady	None	Clear	Open	Good	No	No	Vines are overgrown	No
Trout Brook	TB_2	12/15/2020, 12:53 PM	Jay Cooke	No	20	No	8"	No	No	No	No	No	None	Clear	None	None	No Flow	Open		No	No		No
Trout Brook	TB_3	12/15/2020, 1:03 PM	Jay Cooke	No	20	No		No	No	No	No	No	None	Clear	None	None	No Flow	Open		No	No		No
Trout Brook	TB_4	12/16/2020, 9:38 AM	Jarrod Erskine	No	13	Partially		No	No	No	No	No	None	Clear	None	None	No Flow	Open	Good	No	No		No
Trout Brook	TB_5	12/15/2020, 1:23 PM	Jay Cooke	No	30	No	6"	No	No	No	No	No	None	Cloudy	None	None	No Flow	Open		No	No		Yes
Trout Brook	TB_5	12/15/2020, 10:38 AM	Jay Cooke	No	30	No	6"	No	No	No	No	No	None	Clear	None	None	No Flow	Open		No	No		Yes
Trout Brook	TB_5	12/15/2020, 10:36 AM	Jay Cooke	No	30	No	6"	No	No	No	No	No	None	Clear	None	None	No Flow	Open		No	No		Yes
Trout Brook	TB_5	12/15/2020, 10:30 AM	Jay Cooke	No	30	No	6"	No	No	No	No	No	None	Clear	None	None	No Flow	Open		No	No		No
Trout Brook	TB_5	12/15/2020, 10:27 AM	Jay Cooke	No	30	No	6"	No	No	No	No	No			None	None	No Flow	Open		No	No		No
Trout Brook	TB_6	12/15/2020, 8:35 AM	Jay Cooke	No	30	Fully	8"	No	No	No	No	No	None	Clear	None	None	No Flow	Open	Follow up	No	No	Remove sediment from pipe end	Yes
Trout Brook	TB_7	12/15/2020, 1:39 AM	Jay Cooke	No	30	No	48"	No	No	No	No	No	None	Clear	None	None	No Flow	Open	Good	No	No		No

Watershed	Feature ID	Inspection Date	Inspector	Precip. Past 3 Days	Approx. Temp (F)	Pipe Sub-merged	Pipe Size (in)	Foam	Green Scum	Oil / Film	Veg. Mat	Sewage Solids	Odor	Water Clarity	Pipe Flow	Seepage Flow	Flow Color	Sediment Con-dition	Structure Con-dition	Trash / Litter	Yard Waste	Comments	Follow-Up
Trout Brook	TB_8	12/15/2020, 11:30 AM	Jay Cooke	No	30	No	8"	No	No	No	No	No	None	Clear	None	None	No Flow	Open	Good	No	No		No
Trout Brook	TB_8	12/15/2020, 11:06 AM	Jay Cooke	No	30	No	8"	No	No	No	No	No	None	Clear	None	None	No Flow	Open		No	No		No
Trout Brook	TB_8	12/15/2020, 10:59 AM	Jay Cooke	No	30	No	8"	No	No	No	No	No			None	None	No Flow	Open		No	No		No
Trout Brook	TB_8	12/15/2020, 10:57 AM	Jay Cooke	No	30	No	8"	No	No	No	No	No	None	Clear	None	None	No Flow	Open		No	No		No
																						Follow up needed = yes:	4
																						Follow up needed = no:	11

Appendix 5: Dry Weather Ditch Inspection Summary

PY2020-21 City of South Portland Stormwater Ditch Inspections

Ditch ID	Date	Inspector	Wind Present	Temp (F)	Precip past 2 days	Yard Waste	Trash / Litter	Debris / Pollution Types	Odor	Standing Water	Water Clarity	Water Color	Inlet	Outlet	Sediment Accumu-lation	Structural Condition	Veg. Cover	Veg. Height	Veg. Type	Erosion / Scouring	Comments	Follow Up Needed
BCD_18	6/28/21	Fred Dillon	Yes	86	No	No	Yes	None	None / Natural	No			Unstable	Unstable	>2"	Unstable				Yes	Clean culvert & contact New England Gypsum to repair gate	Yes
BCD-1	6/28/21	Fred Dillon	Yes	86	No	No	No	None	None / Natural	No			Stable	Stable	<2"	Stable	grass >90%	<3"	Normal Grass	No		No
BCD-10	6/28/21	Fred Dillon	Yes	86	No	No	Yes	None	None / Natural	No			Stable	Stable	<2"	Stable				No		No
BCD-11	6/28/21	Fred Dillon	Yes	86	No	No	Yes	None	None / Natural	No			Stable	Stable	<2"	Stable				No		No
BCD-12	6/28/21	Fred Dillon	Yes	86	No	No	Yes	None	None / Natural	No			Stable	Stable	>2"	Stable	Grass	3-6"	Normal Grass	No		Yes
BCD-13	6/28/21	Fred Dillon	Yes	86	No	No	Yes	None	None / Natural	No			Stable	Stable	<2"	Stable				No	Ditch repairs earlier this year; riprapped entire ditch line.	No
BCD-15	6/28/21	Fred Dillon	Yes	86	No	No	No	None	None / Natural	No			Unstable	Stable	>2"	Unstable				Yes	Sediment also needs to be removed from ditch.	Yes
BCD-16	6/28/21	Fred Dillon	Yes	86	No	No	Yes	None	None / Natural	No			Stable	Stable	<2"	Stable			Invasive	No	Small amount of Invasive vegetation present.	No
BCD-17	6/28/21	Fred Dillon	Yes	86	No	No	Yes	None	None / Natural	No			Stable	Stable	<2"	Stable				No	Ditch repairs earlier this year; riprapped entire ditch line.	No
BCD-2	6/28/21	Fred Dillon	Yes	86	No	No	Yes	None	None / Natural	No			Stable	Stable	<2"	Stable	bare soil >10%			Yes	Ditch cleaned out earlier this year; reveg exposed soil.	Yes
BCD-3	6/28/21	Fred Dillon	Yes	86	No	No	Yes	None	None / Natural	No			Stable	Stable	>2"	Unstable	bare soil >10%			Yes	Culverts may also need to be cleaned	Yes
BCD-4	6/28/21	Fred Dillon	Yes	86	No	No	Yes	None	None / Natural	No			Stable	Stable	<2"	Stable			Weeds	No	Construction activity directly next to ditch.	No
BCD-5	6/28/21	Fred Dillon	Yes	86	No	No	Yes	None	None / Natural	No			Stable	Stable	<2"	Stable		Too tall	Weeds	No	Construction activity directly next to ditch.	Yes
BCD-6	6/28/21	Fred Dillon	Yes	86	No	No	Yes	None	None / Natural	No			Stable	Stable	<2"	Stable		Too tall	Weeds	No	Remove weeds in the next couple years.	No
BCD-7	6/28/21	Fred Dillon	Yes	86	No	No	Yes	None	None / Natural	No			Stable	Stable	<2"	Stable			Weeds	No		No
BCD-8	6/28/21	Fred Dillon	Yes	86	No	No	Yes	None	None / Natural	No			Stable	Stable	<2"	Stable		Too tall	Weeds	No		Yes
BCD-9	6/28/21	Fred Dillon	Yes	86	Yes	No	Yes	None	None / Natural	No			Stable	Stable	<2"	Stable		Too tall	Weeds	No		Yes
																					Follow up = yes:	8
																					Follow up = no:	9

LCD_999	6/28/21	Fred Dillon	Yes	91	No	No	No	None	None / Natural	No			Stable	Stable	Natural	Stable	grass >90%	<3"	Normal Grass	No	Repair erosion / reveg. near CB outlet	No
LCD-02	6/8/21	Fred Dillon	Yes	90	No	No	Yes		None / Natural	No			Stable	Stable	<2"	Stable	grass >90%	3-6"	Normal Grass	Yes		No
LCD-03	6/8/21	Fred Dillon	Yes	90	No	No	Yes		None / Natural	No			Stable	Stable	Natural	Stable	Natural	Too tall	Invasive	No	Remove invasive and excessive vegetation	Yes
LCD-04	6/8/21	Fred Dillon	Yes	90	No	No	Yes		None / Natural	No			Stable	Stable	Natural	Stable	Natural	Too tall	Invasive	No	Remove invasive and excessive vegetation	Yes
LCD-05	6/8/21	Fred Dillon	Yes	90	No	No	Yes	None	None / Natural	No			Stable	Stable	Natural	Stable	Natural	Too tall	Woody	No	Remove woody veg (check with MDOT on maintenance)	Yes
LCD-06	6/8/21	Fred Dillon	Yes	90	No	No	Yes		None / Natural	No			Stable	Stable	Natural	Stable	Natural	<3"	Natural	No	Ditch was redone recently with erosion matting present.	No
LCD-07	6/8/21	Fred Dillon	Yes	90	No	No	No		None / Natural	No			Stable	Stable	Natural	Stable	Grass	<3"	Normal Grass	No		No
LCD-08	6/8/21	Fred Dillon	Yes	90	No	No	Yes		None / Natural	No			Stable	Stable	<2"	Stable	grass >90%	6-12"	Normal Grass	No		No
LCD-09	6/28/21	Fred Dillon	Yes	86	No	No	No	None	None / Natural	No			Stable	Stable	<2"	Stable	grass >90%	6-12"	Normal Grass	No		No

Ditch ID	Date	Inspector	Wind Present	Temp (F)	Precip past 2 days	Yard Waste	Trash / Litter	Debris / Pollution Types	Odor	Standing Water	Water Clarity	Water Color	Inlet	Outlet	Sediment Accumu-lation	Structural Condition	Veg. Cover	Veg. Height	Veg. Type	Erosion / Scouring	Comments	Follow Up Needed
LCD-10	6/28/21	Fred Dillon	Yes	86	No	No	No	None	None / Natural	No			Stable	Stable	<2"	Stable	grass >90%	6-12"	Normal Grass	No		No
LCD-11	6/28/21	Fred Dillon	Yes	86	No	No	No	None		No			Stable	Stable	<2"	Stable	grass >90%	3-6"	Normal Grass	No		No
LCD-13	6/28/21	Fred Dillon	Yes	86	No	No	No	None	None / Natural	No			Stable	Stable	<2"	Stable		Too tall	Natural	No	Remove cat tails from outlet in the next couple years	No
LCD-14	6/28/21	Fred Dillon	Yes	86	No	No	No	None	None / Natural	No			Stable	Stable	<2"	Stable	grass >90%	3-6"	Normal Grass	No	Remove cat tails from outlet in the next couple years	No
LCD-15	6/28/21	Fred Dillon	Yes	86	No	No	Yes	None		Yes	Clear			Stable	>2"	Unstable				Yes	Stabilize exposed soil (not sure ditch is publicly owned)	Yes
LCD-16	6/28/21	Fred Dillon	Yes	86	No	No	Yes	None		No			Stable	Obstructed	<2"	Stable				No	Remove obstruction from outlet	Yes
LCD-17	6/28/21	Fred Dillon	Yes	91	No	No	Yes	None	None / Natural	No			Stable	Stable	<2"	Stable	Natural	Too tall	Weeds	No		No
LCD-18	6/30/21	Fred Dillon	Yes	91	No	No	No	None	None / Natural	No			Stable	Stable	<2"	Stable	grass >90%	3-6"	Normal Grass	No		No
LCD-19	6/30/21	Fred Dillon	Yes	91	No	No	Yes	None	None / Natural	No			Stable	Stable	<2"	Stable		Too tall	Natural	No	Cattails coming up through rip rap; 1 culvert inlet partially obstructed	No
LCD-20	6/30/21	Fred Dillon	Yes	91	No	No	No	None	None / Natural	No			Stable	Stable	<2"	Stable	grass >90%	<3"	Normal Grass	Yes	Remove inlet obstruction; repair minor scouring/erosion	Yes
LCD-21	6/28/21	Fred Dillon	Yes	91	No	No	Yes	Green scum	None / Natural	Yes	Clear	Clear	Stable	Stable	<2"	Stable	Natural	Too tall	Natural	No	Remove cattails & woody veg at end of season.	Yes
LCD-22	6/28/21	Fred Dillon	Yes	91	No	No	Yes	Green scum	None / Natural	Yes	Clear	Clear	Stable	Stable	<2"	Stable	Natural	Too tall	Natural	No	Remove cat tails at end of season.	No
LCD-23	6/28/21	Fred Dillon	Yes	91	No	No	Yes	None	None / Natural	No			Stable	Stable	<2"	Stable	grass >90%	<3"	Normal Grass	No		No
LCD-24	6/28/21	Fred Dillon	Yes	91	No	No	Yes	None	None / Natural	No			Stable	Stable	<2"	Stable	grass >90%	<3"	Normal Grass	No		No
LCD-25	6/28/21	Fred Dillon	Yes	91	No	No	Yes	None	None / Natural	No			Stable	Stable	<2"	Unstable	Natural	Too tall	Natural	Yes	Riprap / reveg ~50 feet of ditch to stabilize exposed soil	Yes
LCD-26	6/28/21	Fred Dillon	Yes	91	No	No	Yes	None	None / Natural	No			Stable	Stable	<2"	Stable	grass >90%	<3"	Normal Grass	Yes	Repair erosion within next couple years	No
LCD-27	6/30/21	Fred Dillon	Yes	91	No	No	No	None	None / Natural	Yes	Clear	Clear	Stable	Stable	<2"	Stable	Natural	Too tall	Natural	No	Remove cattails; new construction w/ 2 new culverts	Yes
LCD-28	6/30/21	Fred Dillon	Yes	91	No	No	Yes	None	None / Natural	No			Stable	Stable	>2"	Woody veg	Natural	Too tall	Woody	No	Remove woody veg (may not be publicly owned)	Yes
LCD-30	6/30/21	Fred Dillon	Yes	91	No	No	Yes	None	None / Natural	No			Stable	Stable	<2"	Stable	Natural	Too tall	Invasive	No	Ditch recently maintained but cat tails & knotweed present	No
LCD-31	6/28/21	Fred Dillon	Yes	91	No	No	Yes	None	None / Natural	No			Stable	Stable	<2"	Stable	grass >90%	<3"	Normal Grass	Yes	Repair damage from animal burrow.	Yes

Follow up = yes: 11
Follow up = no: 18