

Illicit Discharge Detection and Elimination Program

For the

Town of South Berwick, Maine

For the

General Permit for Stormwater Discharges from Municipal Separate Storm Sewer Systems

Last Updated August 2023



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1.0 INTRODUCTION

The Town of South Berwick is subject to the requirements of the Maine Department of Environmental Protection (Maine DEP) General Permit for Stormwater Discharges from Municipal Separate Storm Sewer Systems (hereafter referred to as the MS4 General Permit).

The MS4 General Permit requires permittees to address six Minimum Control Measures throughout the Town's Urbanized Area:

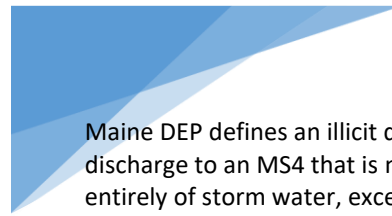
1. Education/ Outreach on Stormwater Impacts
2. Public Involvement and Participation
3. Illicit Discharge Detection and Elimination (IDDE)
4. Construction Site Stormwater Runoff Control
5. Post-Construction Stormwater Management in New Development and Redevelopment
6. Pollution Prevention/Good Housekeeping for Municipal Operations

This document describes the IDDE Program for the Town of South Berwick, Maine. The IDDE Program described in this document fulfills the Minimum Control Measure 3 IDDE requirements specified in Part IV.C.3.b of the 2022 MS4 General Permit.

1.1 IDDE Responsibilities in the Town

The Town's Assistant Public Works Director is responsible for overall permit compliance, and for implementation of this IDDE Plan. The following other Town personnel support implementation of this Plan:

Public Works staff: conduct outfall, ditch and catch basin inspections and monitoring, and conduct illicit discharge investigations, supported by third party contractors where necessary.



Maine DEP defines an illicit discharge as any discharge to an MS4 that is not composed entirely of storm water, except that the following are not considered illicit discharges:

- Discharges authorized under a Maine DEP permit (38 M.R.S §413.)
- Uncontaminated groundwater,
- Water from a natural resource (such as a wetland), or
- an allowable non-storm water discharge.

See Section 3.0 of this Plan for a list of the allowed non-storm water discharges.

Planning Assistant: is primary administrator for ArcGIS ESRI licensing (used for mapping) facilitates any required ordinance changes related to non-stormwater discharges through Planning Board.

Code Enforcement Officer and Health Inspector: assists Public Works staff in illicit discharge investigations when needed (e.g., if plumbing inspections are needed), and issuing any notice of violation.

1.2 Amendments and updates to the IDDE Program

The MS4 General Permits are designed to provide coverage for five-year periods. The first MS4 General Permit applicable to the Town of South Berwick became effective in 2003 and expired in 2008. Subsequent General Permits were issued in 2008 and 2013, providing the Town with continuous coverage for their stormwater discharges. The 2013 MS4 General Permit was administratively continued until a new permit becomes effective 7/1/2022.

This IDDE Program has been developed to meet the requirements of the 2013 and 2022 General Permits. This Plan will be updated if any of the following occur:

- requirements associated with a new permit change,
- the Town of South Berwick identifies that the Program is not effective;
- municipal operations change which need to be reflected in this Program.

The Town’s Assistant Public Works Director is responsible for overall permit compliance. The Assistant Public Works Director will either modify this IDDE program or engage a third party to update the document.

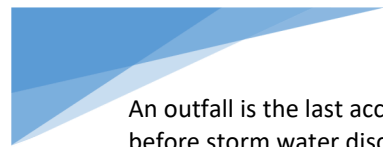
The following table briefly summarizes the origin and amendments to this document.

Date of Document	Description of changes
September 2015	Development of document from Stormwater Management Plan BMPs and Measurable Goals.
March 2021	Updated document to reflect 2022 MS4 General Permit requirements.

June 2022	Updated content to removal of optional and other items not required by MS4 General Permit and to update contact information

1.3 Typical Illicit Discharges

The Center for Watershed Protection (CWP) developed a comprehensive IDDE Manual in 2004 (updated in 2011), which classifies illicit discharges into three categories related to frequency of discharge. This categorization allows communities to develop a comprehensive IDDE program that will address all kinds of illicit discharges. The three categories of illicit discharges identified in the CWP manual are described below:



An outfall is the last accessible point before storm water discharges to a water body. Some things that are NOT outfalls include: driveway culverts that connect ditch segments, culverts that convey water bodies under roadways, and pipes that discharge to other storm water infrastructure elements.

1. Transitory illicit discharges are typically one-time events resulting from spills, breaks, dumping, or accidents. Examples of transitory illicit discharges include:
 - a. paint equipment rinse water
 - b. carpet cleaning water
 - c. sediment from construction sites
 - d. wash water from vehicles other than individual residential car washing by an owner
 - e. oil or gasoline spill from a vehicle crash or other source
 - f. yard waste
 - g. litter or pet waste

Transitory illicit discharges are often reported to an authority through a citizen complaint line or following observation by a municipal employee during regular duties. Because they are not recurring, they are the most difficult to investigate, trace, and remove. The best method to reduce transitory discharges is through general public education, education of municipal personnel to minimize spills and accidents, tracking of discharge locations (to

identify potential patterns associated with spills), and enforcement of an illicit discharge ordinance.

2. Intermittent illicit discharges occur occasionally over a period of time (several hours per day, or a few days per year). Intermittent discharges can result from legal connections to the storm drain system, such as a legal sump pump connection that is illegally discharging washing machine water, a single home sanitary connection, or from illegal connections such as floor drains from industrial or commercial operations. Intermittent discharges can also result from activities such as excessive irrigation or wash down water from exterior areas. The 2022 General Permit requires that MS4s consider illicit discharges that might result from dumping. One example of this would be trash or litter dumped in/near stormwater structures might leak leachate into the system intermittently. Because intermittent discharges are longer lasting than transient, they are more likely to be discovered during an opportunistic or regularly scheduled inspection. They are less difficult to trace and remove than transitory discharges but can still present significant challenges. These discharges can have large or small impacts on water bodies depending on pollutant content.
3. Continuous illicit discharges are typically the result of a direct connection from a sanitary sewer, overflow from a malfunctioning septic system, or inflow from a nearby subsurface sanitary sewer that is malfunctioning. Continuous illicit discharges are usually easiest to trace and can have the greatest pollutant load.(CWP and Robert Pitt 2004, and 2011)



An outfall is the last accessible point before stormwater discharges to a waterbody. Some things that are NOT outfalls include: driveway culverts that connect ditch segments, culverts that convey water bodies under roadways, and pipes that discharge to other stormwater infrastructure elements.

1.4 Overview of IDDE Program Components

The MS4 General Permit requires an IDDE program be developed and implemented which contains six components. An overview of each component is provided in this subsection, and the remaining sections of this document describe how the Town of South Berwick is implementing each component.

- Development of a watershed-based map: The Town is required to develop a map of the storm sewer system infrastructure including watersheds, catch basins, connecting surface and subsurface piping, outfalls, and ditches. The catch basins and outfalls must have unique identifiers. The following information must be included in the map system for outfalls: the type of outfall (a connected pipe, a culvert, or a ditch), the material, its size, the name and location of the nearest named water body to which it discharges. Section 2.0 of this document describes the Town’s watershed-based map.
- Authority to Prohibit Illicit Discharges: To the extent allowable under state or local law, the Town must effectively prohibit, through an ordinance or other regulatory mechanism, non-stormwater discharges into the system and implement appropriate enforcement procedures and actions. Section 3.0 of this document describes how the Town’s Non-Stormwater Discharge Ordinance is implemented.
- Identification of High Priority Areas for Inspections: Prior MS4 General Permits required that the Town identify priority areas that need to be protected from illicit discharges. The 2022 MS4 General Permit does not have this requirement, but it does require that the Town have “Procedures for prioritizing watersheds”. The Town uses the prioritization for illicit discharge inspections as described in Section 4.0 of this document, including a discussion of the basis for determining the high priority areas.
- Procedures to Locate Illicit Discharges: The Town must develop procedures for locating illicit discharges (i.e., visual screening of outfalls for dry weather discharges, dye or smoke testing). The Town addresses this by conducting dry weather outfall inspections and assessing catch basins for evidence of pollutants, and by conducting opportunistic ditch inspections. The 2022 MS4 General Permit also requires monitoring be conducted on outfalls that are flowing during dry weather. Section 5.0 of this document describes the Town’s inspection program.
- Procedures to Investigate and Remove Illicit Discharges: The Town must develop procedures for locating the source of the discharge and procedures for the removal of the source. Sections 6.0 and 7.0 of this document describe how the Town investigates and removes illicit discharges.
- Procedures to Track Illicit Discharges: The Town must develop procedures for documenting actions and evaluating impacts on the storm sewer system subsequent to the removal. Section 8.0 describes how the Town tracks illicit discharges.
- Emergency Notifications: Section 9.0 describes procedures for emergency notifications of illicit discharges outside of the hours when Public Works is open.

Section 10.0 of this document describes the record retention requirements of the MS4 General Permit and Section 11.0 of this document provides references.

2.0 STORMWATER INFRASTRUCTURE MAP

South Berwick's stormwater structures were surveyed using a University of New Hampshire Geographic Information System (GIS)/Global Positioning System (GPS) software package called GPS Tracker. The software package was loaded onto a laptop computer, and structures were field located. Paper maps were created in 2009 using a GIS program. The paper maps are printed when needed, but the GIS is used as the primary mechanism for mapping and to locate structures in the field.

The Town's Assistant Public Works Director has overall responsibility for data integrity.

2.1 Infrastructure Naming Protocols

The Town identifies infrastructure with unique numeric IDs. Outfalls within the MS4 area that need to be inspected are numbered between 1 and 999 with a prefix of SBOF (for South Berwick Outfall). Catch basins and drain manholes are numbered between 1 and 9,999. Ditch segments are also provided with numeric IDs that range from 1 to 999. When referring to structures for maintenance or illicit discharge purposes, town personnel typically refer to the outfall number, or the catch basin location (street and cross street).

Outfalls that are private or are maintained by the Maine Department of Transportation are also given numeric designation – but a separate field in the GIS identifies who is responsible for maintaining the structure.

2.2 Procedures to Update Map of Infrastructure

The following describes the scenarios under which the infrastructure might change, requiring a mapping update:

1. Generally, the Public Works Department constructs minor changes to the system based

on immediate or planned need without formal design drawings. When these types of changes are made, the Assistant Public Works Director can obtain a print of the area and make notations on the paper map for a contractor to use in adjusting the GIS, or the Assistant Public Works Director reviews the changes online directly with the third-party contractor for updating. These types of changes are typically made once per year, by June 30.

2. More significant changes are typically constructed after preparation of formal design drawings, whereupon either the Public Works Department or a private contractor constructs the changes. Where a private contractor constructs the changes, the Public Works Department conducts a formal site review of the as-built conditions. The Public Works Department would provide the as-built infrastructure to a third-party contractor so the paper maps could be updated, or the Public Works Director would mark up the paper maps. Where the Public Works Department constructs the changes, the Public Works Director marks up the paper maps.
3. Some infrastructure shown on the maps as private is accepted by the Town when it has been constructed to Town standards. In these instances, the Public Works Department can make the ownership changes directly on the iPad or can notify the third-party contractor of the ownership change.

3.0 AUTHORITY TO PROHIBIT ILLICIT DISCHARGES

The Town of South Berwick's authority to prohibit illicit discharges is a component of the Town Code, Part II, General Legislation Chapter 96 Non-Stormwater Discharge Ordinance. The ordinance was modified to be Town-specific from a model ordinance created by the Maine Municipal Association for other Towns that are regulated by the MS4 General Permit. The Town implements the Non-Stormwater Discharge Ordinance in all areas of Town.

The Ordinance allows the following non-stormwater discharges to the storm drain system as long as the discharges do not cause or contribute a violation of the state's water quality criteria:

- landscape irrigation;
- diverted stream flows;
- rising ground waters;
- uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20));
- uncontaminated pumped ground water;
- uncontaminated flows from foundation drains;
- air conditioning and compressor condensate;
- irrigation water;
- flows from uncontaminated springs;
- uncontaminated water from crawl space pumps;
- uncontaminated flows from footing drains;
- lawn watering runoff;
- flows from riparian habitats and wetlands;
- residual street wash water (where spills/leaks of toxic or hazardous materials have not occurred, unless all spilled material has been removed and detergents are not used);
- hydrant flushing and firefighting activity runoff;
- water line flushing and discharges from potable water sources;
- individual residential car washing.

The Code Enforcement Officer enforces the ordinance.

It should be noted that discharges associated with dye testing are also allowed with verbal notice to the Code Enforcement Officer.

In addition, discharges of hydrant and water line flushing are required to be dechlorinated if they are to be discharged to a portion of the MS4 system which discharges to a small stream. In accordance with the Maine DEP 11/18/2016 Issue Profile for Drinking Water System Discharges to Regulated Small MS4s, the South Berwick Water District either aerates or dechlorinates during flushing to meet Total Residual Chlorine (TRC) acute water quality criteria as follows:

- Fresh water 19 ug/L (adjusted to 50 ug/L, per the Maine DEP as the reporting limit for available reliable and consistent test methods)
- Marine water 13 ug/L (adjusted to 50 ug/L, per the Maine DEP as the reporting limit for available reliable and consistent test methods)

The South Berwick Water District flushes the system annually, typically in the spring, and provides an annual report to the Town describing water dechlorination methods in use and testing results for any flushing conducted.

4.0 IDENTIFICATION OF PRIORITY AREAS

The Town of South Berwick recognizes the Natural Resources Conservation Service (NRCS) national hydrologic unit code (HUC) numbering system. The NRCS national HUC system identifies watersheds down to the sub-watershed level, which have 12-digit HUC numbers. The relationship between these areas is shown in Table 1, and a graphic of the areas is shown in Attachment B.

Table 1 Watersheds and Sub-watersheds Town of South Berwick, Maine		
Watershed (10-digit HUC)	Sub-watershed (12-digit HUC)	Notes
Salmon Falls River (50% of Urbanized Area) (0106000305)	Lower Salmon Falls River (0106000305-07)	Approximately 50% of the Town’s Urbanized Area discharges to this area.

<p style="text-align: center;">Table 1 Watersheds and Sub-watersheds Town of South Berwick, Maine</p>		
Great Works River (50% of Urbanized Area) (0106000304)	Great Works River – Leighs Mill Pond (0106000304-02)	Approximately 50% of the Town’s Urbanized Area Discharges to this area.

The Town’s priority watershed is the Great Works River Watershed. The Great Works River – Leigh’s Mill Pond Sub-watershed contains the Great Works River which is not listed as impaired but has received significant attention from a local grassroots watershed organization focused on maintaining its water quality. Therefore, this is the Town’s priority Sub-watershed.

The priority areas are used to prioritize resources when inspections, maintenance and illicit discharge investigations must be conducted.

5.0 PROCEDURES TO LOCATE POTENTIAL ILLICIT DISCHARGES

The Town of South Berwick uses the following methods to locate illicit discharges:

1. Observations during catch basin cleaning
2. Citizen reports of illicit discharge issues
3. Dry weather outfall inspections
4. Outfall Sampling and Analysis
5. Opportunistic Ditch inspections
6. Opportunistic Inspections

Each of these methods is described in the following subsections. The inspections are conducted using an iPad and stored with the GIS spatial data. Attachment B contains a table showing the

fields that are completed during outfall, ditch and catch basin inspections using the GIS.

5.1 Catch Basin Cleaning Inspections

Each year, a public works employee inspects approximately ½ all the Town's catch basins in addition to any basins whose sumps were more than ½ full in the previous year (called excess sediment in the MS4 General Permit). The purpose of the inspection is to assess which basins need to be cleaned to remove sediment. The Town uses ArcGIS Online and an iPad to conduct the inspection. During this inspection process, the employee is also inspecting to assess if any oil, litter, sewage, or other evidence of illicit discharges is present. If the employee sees any evidence of illicit discharges, they notify the Public Works Director, who adds the observation to the list for further investigation (see Section 6.0). Attachment B shows the fields and parameters used by the public works employee to complete the inspection.

5.2 Citizen Reports of Illicit Discharges

Citizen reports of illicit discharge issues are typically routed to and investigated by the Public Works Director or a Code Enforcement Officer. The issue is then either addressed immediately (if severe enough) or is added to the list for further investigation (see Section 7.0).

5.3 Dry Weather Outfall Inspections

The MS4 General Permit requires outfalls be inspected once per five-year permit term.

The Town will generally inspect outfalls as follows:

- Inspections will be performed during periods of dry weather whenever possible.
- Inspections will be performed where field inspections may be performed in a safe and efficient manner;
- Inspections will be performed during periods of no or minimal snow cover and prior to the growth of vegetation (or after leaves have fallen) such that outfalls may be easily spotted;
- Observations will include the follow at a minimum: observations of sheen,

discoloration, foaming, evidence of sanitary sewage, excessive algal growth and similar visual indicators, and detection of odor;

- Photographs may be taken at the time of inspection for either maintenance or illicit discharge documentation.
- MS4 outfalls will be inspected where the Town has safe and legal access to the structure to be inspected.
- When maintenance or potential illicit discharge issues are identified, the Public Works Director will be informed so that he may prioritize the work with other required work for the Town.

In some instances, the inspector may inspect a private residential or commercial outfall, if visible from a public right of way.

The inspection data is extracted by a third-party contractor each year after inspections are completed and stored in an excel table. Attachment B shows the fields and parameters used by the public works employee to complete the outfall inspection.

5.4 Outfall Sampling and Analysis

Outfall sampling and analysis is required under the 2022 MS4 General permit when an outfall is observed to be flowing during dry weather conditions whether or not it has exhibited evidence of an illicit discharge.

Outfalls and/or other structures may also be sampled if other evidence of illicit discharges is observed during inspection. The Assistant Public Works Director may solicit the assistance of a third-party contractor to collect a sample for field screening depending on the conditions encountered.

A Quality Assurance Project Plan (QAPP) has been developed to provide sampling personnel the information that will assist them in collecting samples and using field equipment, test kits and obtaining analyses. The QAPP describes the sampling procedures that should be used as well as the analytical methods and field equipment that are appropriate for use in investigating

potential illicit discharges and flowing outfalls. The QAPP also provides guidance on interpretation of the results obtained so that investigators can make informed decisions about whether to continue investigating a potential source, or whether the results indicate a flowing outfall might be from a natural source. The QAPP is provided in Attachment C to this IDDE Plan.

Wet weather sampling is not required by the MS4 General Permit at this time, but the Public Works Department may choose to conduct wet weather sampling if they suspect a discharge occurs only during wet weather (such as may be the case for failed septic systems).

5.5 Ditch Inspections

The 2022 MS4 General Permit does not require ditch inspections be completed. Ditch inspections were completed by the Public Works Department on all ditches during the previous permit cycle. The ditch inspections were previously completed using paper forms.

Moving forward, the Town will generally inspect ditches for potential illicit discharges whenever maintenance work on ditches is being completed and will use the iPad for the inspections. The Town follows these guidelines in conducting inspections:

- Field inspection will be performed during periods of dry weather when possible.
- Inspections will be performed during periods low flow where field inspections may be performed in a safe and efficient manner;
- Inspections will be performed during periods of no snow cover and prior to the growth of ditch vegetation such that potential outfalls may be easily spotted;
- Evidence of potential illicit discharges will be summarized in the IDDE Tracking Sheet (See section 8.0).
- If maintenance issues are identified, the Assistant Public Works Director will be informed so that he may prioritize the work with other required work for the Town.

5.6 Septic System Inspections

During the previous permit cycle, the Town conducted an assessment and drive by inspections of septic systems in the Urbanized Area. None of the systems were observed to have evidence of leakage or failure. Because this Plan did not yield useful information on septic system failures, it is no longer being conducted.

However, as part of that effort the Town does have septic tank access ports and leachfields as of 2016 in their GIS and can use this information in illicit discharge investigations.

5.7 Interconnections with Other Entities

The Town's MS4 area borders the towns of Eliot and Berwick, Maine, both of which are also regulated by the MS4 General Permit. Some of the roadways in Town (Main Street, Route 4, Route 236, and Route 101) are maintained by the Maine DOT and are therefore not part of the Town's MS4 system. The roads in the Town's Urbanized Area that are DOT-maintained fall under the Maine DOT's MS4 General Permit. The Town's maps are color coded to show which infrastructure is Town vs. Maine DOT. There are also some outfalls shown where Town infrastructure discharges to either the Maine DOT, or to another Town or private entity (such as a railroad or school).

Because of these MS4 interconnections, it may be necessary to conduct cooperative investigations with other MS4s or to inform them of issues associated with the Town's infrastructure.

The Town has notified its interconnected MS4s of the interconnections, and has provided notification of who to contact in the event of an emergency as documented in Attachment D.

6.0 PROCEDURES TO INVESTIGATE

Investigations of illicit discharge issues are conducted by the Public Works Department or a third-party contractor when necessary. The Town relies on visual observations of the location where the illicit discharge was reported as a first step in identifying the source of the illicit discharge. If

the evidence of the illicit discharge is still present in the initial structure or location where it was reported, the Town uses their knowledge of the infrastructure routing to systematically inspect other structures upstream of the initial location until either the evidence of the illicit discharge is no longer present, or until they locate a potential source of the illicit discharge.

For example, if evidence of gray water were observed during catch basin cleaning of a separated storm drain system, the Town would inspect drain manholes and/or catch basins upstream of the initial observation until they could isolate one or more locations from which the gray water was likely emanating.

In the event visual observations of the structures cannot identify the source of an illicit discharge, the Town may employ televising, systematic dye testing, or smoke testing to identify the source.

7.0 PROCEDURES TO REMOVE ILLICIT DISCHARGES

Once the potential source of the illicit discharge is identified, the Code Enforcement Officer can issue a Notice of Violation if necessary, to ensure the illicit discharge ceases.

If the illicit discharge is caused by a private entity, the Code Enforcement Officer may invoke the authority granted him/her under the Non-Storm Water Discharge Ordinance (See section 3.0 of this IDDE Plan). The Code Enforcement Officer typically provides initial verbal or email notice to any responsible party, then follows up with a Notice of Violation. The Notice of Violation specifies the illicit discharge be removed within 60 days of its source identification but allows that if removal within 60 days is not possible, the responsible party must work with the Code Enforcement Officer to establish a schedule to remove the illicit discharge as expeditiously as possible.

If the illicit discharge is caused by the Town, the Code Enforcement Officer would contact the

department most responsible and work with them to remove or discontinue the illicit discharge within 60 calendar days of identification of the source or would develop a schedule to expedite elimination.

If no source can be located, the area may be re-inspected to assess if the illicit discharge was a onetime occurrence, or is a repeating occurrence, whereupon additional investigations may be conducted.

8.0 PROCEDURES TO TRACK ILLICIT DISCHARGES

The Town will track the progress of investigating and removing illicit discharges using an IDDE Tracking Sheet. Each year, the town is required to complete an annual report summarizing the activities completed under the MS4 Program. The Assistant Public Works Director will print or retain an electronic copy of the IDDE Tracking Sheet for the year as back-up documentation of investigative and removal work completed.

9.0 NOTIFICATIONS DURING WORKING AND NON-WORKING HOURS

The following describes the notifications completed during working and non-working hours to ensure that those who need to know about illicit discharges are notified:

- During working hours, if an illicit discharge is detected by a public works employee (either during a routine inspection or opportunistic inspection), the employee reports the information to the Assistant Public Works Director. The Assistant Public Works Director then documents the finding in the IDDE Tracking Spreadsheet to ensure proper follow-up.
- Typically, illicit discharges identified by the public during non-working hours are routed to the police or fire department. For example, if a spill of petroleum or hazardous material were to occur, or a discovery of a sewage discharging from a pipe, the police and/or fire

department would be notified and would respond to the incident using their emergency response procedures (which include proper notifications to Maine DEP if warranted). Police and Fire would contact the Assistant Public Works Director in the event of an illicit discharge to the separated sewer system during non-working hours. The Assistant Public Works Director would ensure future follow up.

10.0 RECORDS RETENTION

The Assistant Public Works Director will retain paper or electronic files of inspections and investigations including laboratory reports, for a minimum of three years after expiration of the MS4 General Permit Term. For the 2013 – 2022 General Permit, reports may be discarded June 30, 2025.

Generally, documentation of inspection, investigation and tracking summaries are retained electronically by the Public Works Director in the Annual Report Backup for whatever year the inspections or investigation was conducted. If an illicit discharge investigation takes more than one year, the Public Works Director may maintain a separate paper or electronic file for that discharge until it is resolved.

11.0 REFERENCES

CWP and Robert Pitt 2004. *Illicit Discharge Detection and Elimination Manual – A Guidance Manual for Program Development and Technical Assessments*. October 2004 Available: <http://cfpub1.epa.gov/npdes/stormwater/idde.cfm>

Aquarion Engineering Services and Casco Bay Estuary Partnership. *Guidelines and Standard Operating Procedures for Stormwater Phase II Communities in Maine*. Available: <http://www.thinkbluemaine.org/docs/index.htm>

CWP and Robert Pitt 2011 Illicit Discharge Detection and Tracking Guide Available:

<http://www.cwp.org/2013-04-05-16-15-03/idde>

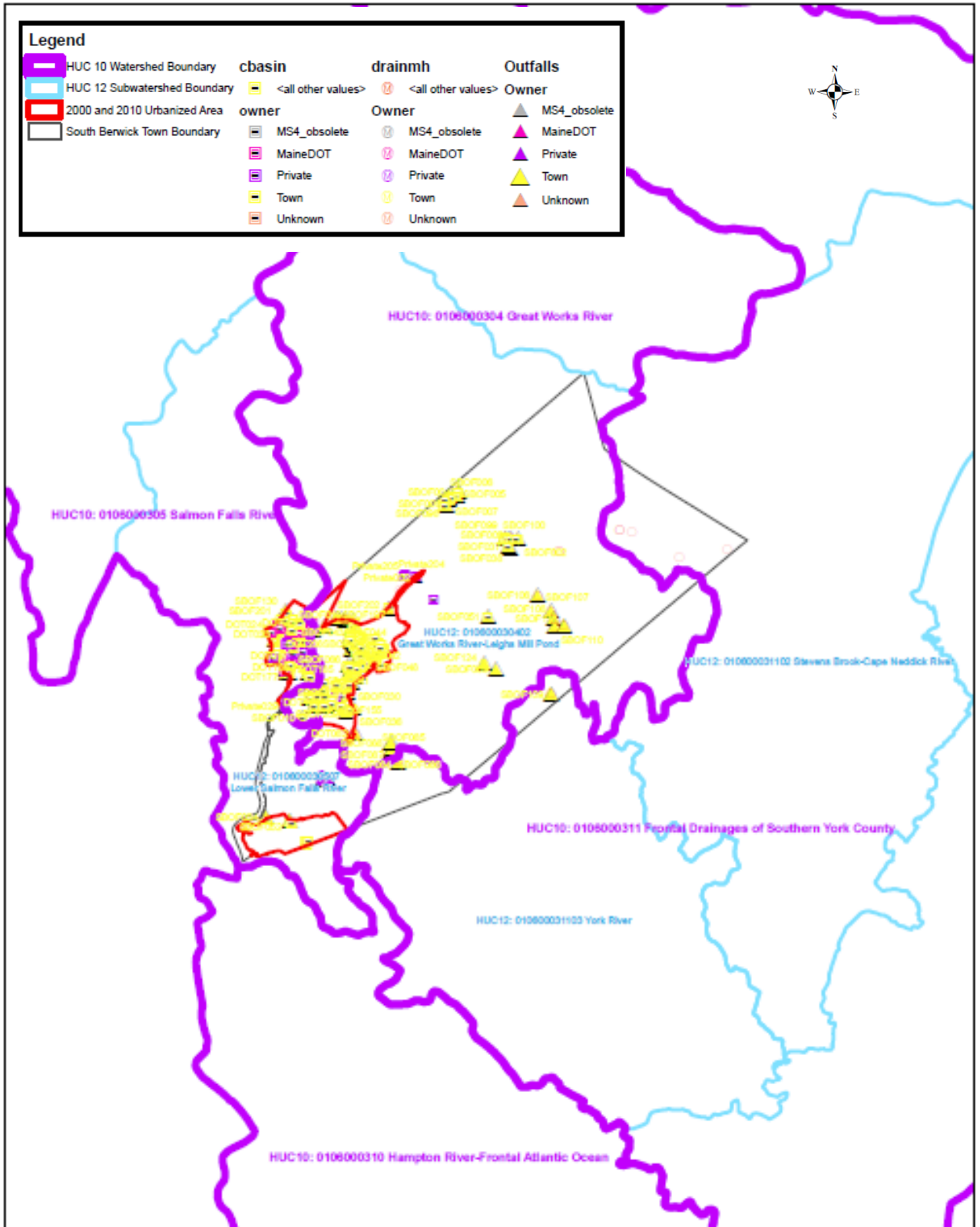
USEPA New England Bacterial Source Tracking Protocol 2012. Provided by USEPA to Integrated Environmental Engineering. Available at:

<https://www3.epa.gov/region1/npdes/stormwater/ma/2014AppendixI.pdf>

Attachment A

SOUTH BERWICK WATERSHED MAP

South Berwick Watersheds and Subwatersheds



Attachment B

INSPECTION FIELDS AND DOMAINS IN GIS

As an inspector is using the iPad in the field, they tap on the structure or element they are inspecting and record inspection data in the available fields. The Town has a basic Arc GIS license so related tables are not used. Rather each year, a third-party contractor saves a copy of the inspections in an excel table, then clears out any comments or identification of pollution or maintenance issues from the GIS, and sets up the system to accept a new year of inspection records. The following is a summary of the available fields and associated drop down domain menus associated with each type of inspection. Those items in BOLD are required as part of the MS4 General Permit, but the Town may have additional items not listed here in their GIS.

MS4 INSPECTION	GIS FIELDS AND DOMAINS COMPLETED AS PART OF INSPECTION
Catch Basins	<p>CBID – Manually populated sequentially (1, 2, 3, 4) Roadway – manually entered CBInsp – Provides inspection status – generally as NeedsInspDwnTwN (odd years), NeedsInspSuburb (even years), NeedsInspNonMS4, or DoNot_Priv, DoNot_DOT, NonMS4, or NeedsClean, Inspected_NoClean, Cleaned, TriedNoAccess sump_depth_inches – manual entry of depth of sump InspDate2X – manually selected (separate fields are kept for each permit year, the “x” identifies the year as 2023, 2024, 2025 etc), date and time are recorded InchSed2X – manually enter the number of inches of sediment in the basin (separate field for each year) ExcSed2X – Yes or No (Separate field for each year) Cb_pollution – None, Sewage, DiscoloredFlow, Excess Algae, Odor, Foam/Soap, Oil, MorethanOne Pet Waste – None, 1-5 deposits, More than 5 CigButts – None, 1-5 deposits, More than 5 Grate_type – manually entered – open text field Condition – Excellent, Good, Fair or Poor MaintenanceNeeded – FullReplace, Brickwork, NewRing, NewGrate, Asphaltpatch, Other Follow-up – Yes or No Notes – manually entered – open text field Photos cannot be attached to the inspection but are taken if needed for IDDE documentation.</p>
Outfalls (piped or ditch)	<p>Outfall ID – Auto populated (e.g., Ingmdw-01) ReceivingWater – selected from drop down list PYxInspDate – manually selected (a separate field is kept for each permit year, the “x” identifies the year as 2023, 2024, 2025, etc), date and time are recorded OwnInsp – Needs, DOT_DoNot, Private_DONot, Wet_Complete, Dry_Compl, NonMS4 Pipe_type –PPE Black_smoothbore corrugated plastic, Plastic Pipe, CMP COrrMetalPipe, CorrGalvPipe, SDR35Greenorwhite, PVC poly vinyl chloride, Concrete pipe, Cement pipe, AC Asbestos_Cement, Other, or ADS black flexible pipe, Ditch Open Drain type – RipRap, grassed, wooded, other Pipe Size_inch – manually entered if not already present and correct</p>

MS4 INSPECTION	GIS FIELDS AND DOMAINS COMPLETED AS PART OF INSPECTION
	<p>Flow – None, Trickly, Steady, or ¼ pipe or More Seepage Flow – None, Trickly, Steady, or ¼ pipe or More Pollution – None, Foam, ,Excess Algae, Oil, Sewage, Multiple Color_flow – Brown, Tan, Gray, Other, Not-Applicable, None Odor – None_Natural, Musty, Rancid_Sour, or Sewage_Septic Water Clarity – Not_Applicable, Clear, Cloudy, or Opaque FlowMonitored - Yes – Done, Yes – Not Done, Not Needed FlowSampleDate - Date field Sed_Condition – ¼ full, ½ full, ¾ full, or plugged Structure Condition – Excellent, Good, Fair, Poor, or Needs Attention Trash_litter – Yes or No Yard_waste – Yes or No Pet Waste – None, 1-5 deposits, More than 5 CigButts – None, 1-5 deposits, More than 5 Follow-up – Yes or No Notes – open text field Photos cannot be attached to the inspection but are taken if needed for IDDE documentation.</p>
Ditches	<p>Ditch ID – Auto populated PYxInspDate – manually selected (a new field is added for each permit year to replace the “x”, date and time are recorded) PYxInspStatus – Needs_Inspect, Dry_Inspect_Complete, Wet_Inspect_Complete, MDOT_DoNotInsp, Priv_DoNotInsp, NonMS4, Condition – Excellent, Good, Fair or Poor Importance – Low, Medium, High Trash/Litter Present – Yes or No Yard Waste Present – Yes or No Oil Present – Yes or No Sewage_Septic Present – Yes or No Odor – None_Natural, Musty, Rancid_Sour, or Sewage_Septic Excess_Sediment – Yes or No Excess Vegetation – Yes or No Invasive_poison_Vegetation – Yes or No Pollution – None, Foam, GreenScum, Oil, Sewage, Other_Multiple Pet Waste – None, 1-5 deposits, More than 5 CigButts – None, 1-5 deposits, More than 5</p> <p>Erosion/Scouring - Yes or No Notes – open text field Follow-up – Yes or No Follow-up Reason - open text field</p>

Attachment C

QUALITY ASSURANCE PROJECT PLAN

Attachment D

COORDINATION LETTERS WITH INTERCONNECTED MS4

Interconnected MS4	Date of update	Contact	Phone	E-mail
Maine DOT	7/31/2023	Cindy Dionne	207-592-3489	Cindi.I.dionne@maine.gov
Town of Berwick	3/3/2021	James Bellissimo	207-698-1101	jbellissimo@berwickmaine.org
Town of Eliot	7/31/2023	Public Works Director	207-439-9541	publicworks@eliotme.org