

# Illicit Discharge Detection and Elimination (IDDE) Program

**TOWN OF THOMPSON**

**June 29, 2018**

**Revised: November 21, 2022**

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# 1 Introduction

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## 1.1 MS4 Program

The MS4 Permit requires that each permittee, or regulated community, address six Minimum Control Measures. These measures include the following:

1. Public Education and Outreach
2. Public Involvement/Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Stormwater Runoff Control
5. Post-Construction Stormwater Management in New Development or Redevelopment
6. Pollution Prevention/Good Housekeeping.

Under Minimum Control Measure 3, the permittee is required to implement an IDDE program to provide the legal authority to prohibit and eliminate illicit discharges to the MS4, find the source of any illicit discharges, eliminate those illicit discharges, and ensure ongoing screening and tracking to prevent and/or eliminate future illicit discharges. The IDDE program must also be recorded in a written (hardcopy or electronic) document and meet the IDDE program requirements specified in the MS4 Permit. This document has been prepared to address this requirement.

Much of the information is repetitious and similar to what is in other documents. However the First Selectman will find this a valuable resource for reference and for determining various deadlines. The DPW Director will find detailed step by step procedures for screening, sampling and conducting catchment investigations.

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## 1.2 Geographic Scope of IDDE Program

The MS4 Permit requires municipalities to implement the IDDE program within the Urbanized Area (based on 2010 U.S. Census) and those catchment areas of the MS4 with either Directly Connected Impervious Area (DCIA) of greater than 11% or which discharge directly to impaired waters (i.e., “priority” areas).

Figure 0-1 depicts the urbanized area and other areas outside of the urbanized area that, collectively, may be considered priority areas within the TOWN OF THOMPSON.

**FIGURE 1-1 THOMPSON PRIORITY AREAS**  
INCLUDES URBANIZED AREA, IMPAIRED WATERSHEDS, AND DCIA > 11%

JUNE 2018 NOT TO SCALE

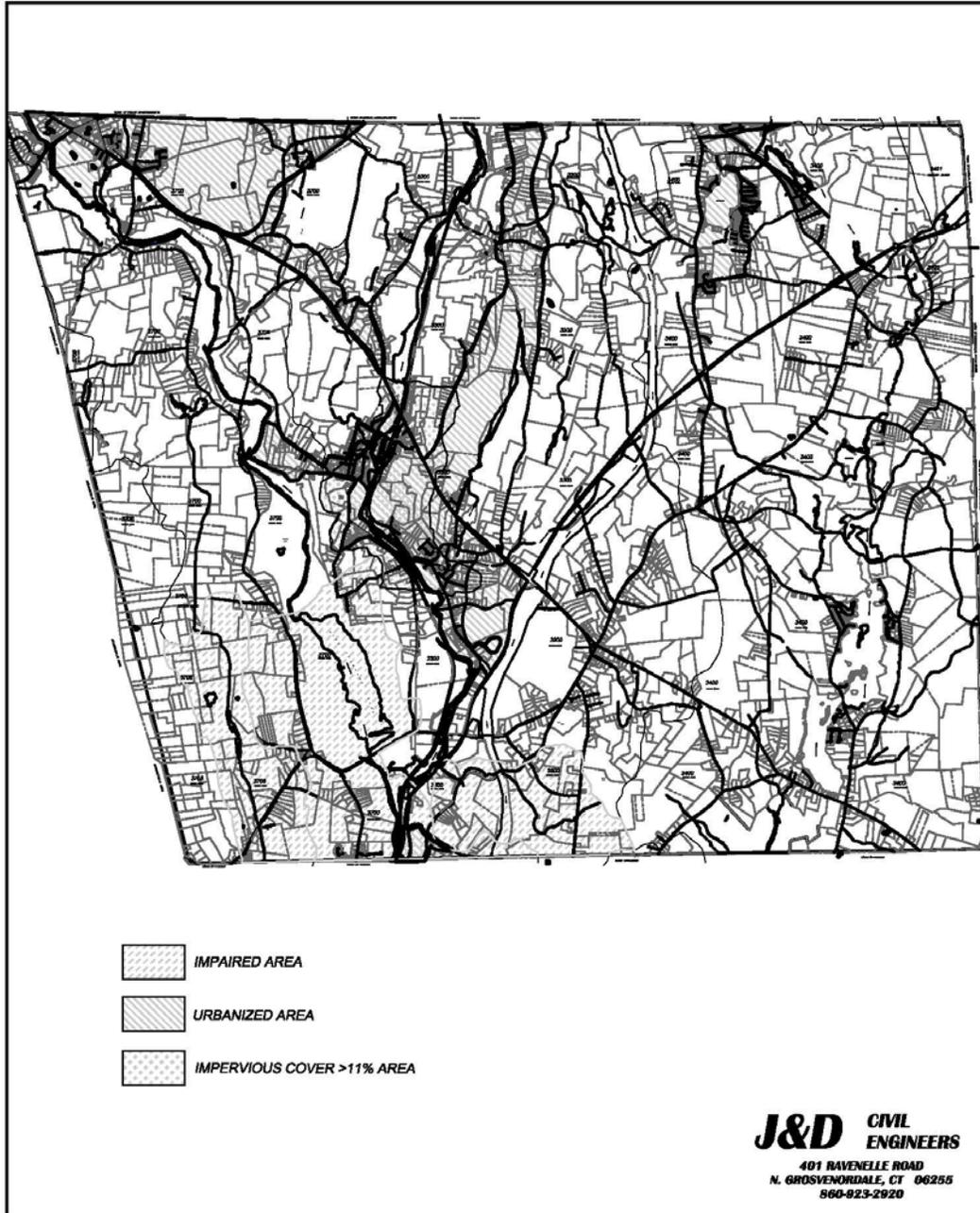


Figure 0-1. Urbanized Areas and Other Areas Potentially Subject to the MS4 Permit IDDE Program Requirements ("Priority Areas")

## 1.3 Receiving Waters and Impairments

**Table 1-1** lists the impaired waters within the boundaries of the TOWN OF THOMPSON based on the latest version of the State of Connecticut Integrated Water Quality Report produced by CTDEEP every two years. Impaired waters are water bodies that do not meet water quality standards for one or more designated use(s) such as recreation or aquatic habitat.

**Table 0-1. Impaired Waters - Thompson**

Waterbody Name	Segment ID	Category	Impairment and Stormwater Pollutant of Concern	Approved TMDL
QUINNATISSET BROOK	3300-10_01	5	Not Supporting Recreation – cause E.coli ( <b>bacteria</b> )	no
QUINEBAUG RIVER	3700-00_05	5	Not Supporting Recreation – cause E.coli ( <b>bacteria</b> ) Habitat for fish, other aquatic life and wildlife – cause unknown	no
WEST THOMPSON LAKE	3700-00-2+L1_01	5	Not Supporting Recreation OR Habitat for fish, other aquatic life and wildlife – causes chlorophyl-a, excess algal growth, eutrophication	NO
WHEATON'S BROOK	3708-18_01	5	Not Supporting Recreation – cause E. Coli	no

Source: State of Connecticut 2016 Integrated Water Quality Report (CTDEEP) draft dated January 2017, reflects recommended listings and de-listings.

**The Town has no direct discharges to any of the impaired water bodies listed above.**

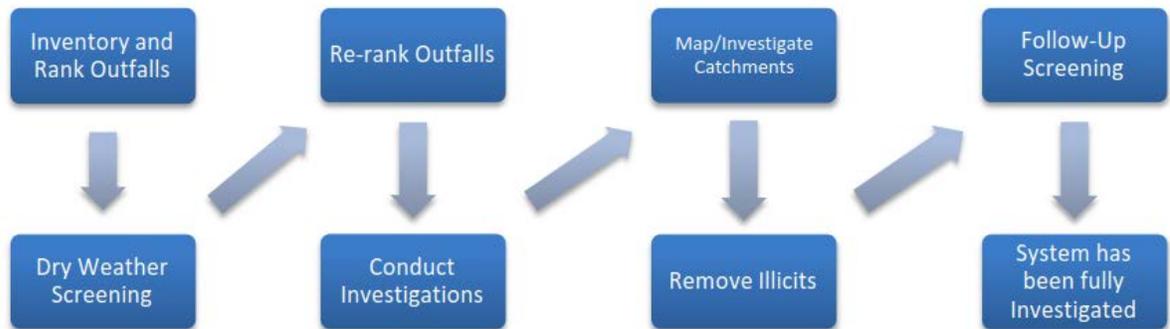
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## 1.4 IDDE Program Goals, Framework, and Timeline

The objective of the IDDE program is to systematically find and eliminate sources of non-stormwater discharges to the MS4 and implement procedures to prevent such discharges. The program consists of the following major components as outlined in the MS4 Permit, pages 22-24 and further clarified in Appendix, B pages 1-13.

- Legal authority to prohibit illicit discharges and enforce this prohibition – [BMP 3-2b](#)
- Program for citizen reporting of illicit discharges – [BMP 3-2a](#)
- Storm system mapping – [BMP 3](#)
- Sanitary Sewer Overflow (SSO) elimination – [BMP 3-4](#)
- Assessment and priority ranking of catchments
- Outfall and interconnection screening and sampling – [BMP 5d](#)
- Catchment investigations – [BMP 3-2c](#)
- Identification/confirmation of illicit sources
- Illicit discharge removal
- Follow-up screening
- Employee training – [BMP 3-5](#)

The IDDE investigation protocol framework is shown in **Figure 1-2**. The required timeline for implementing the IDDE program is shown in **Table 0-2**.



**Figure 0-2. IDDE Investigation Procedure Framework**

**Table 0-2. IDDE Program Implementation Timeline**

IDDE Program Requirement	Deadline					
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 10
SSO Inventory (5-year look back)	<b>Oct 30, 2017</b>					
Program for Citizen Reporting	<b>Effective Date</b>					
Establish IDDE Legal Authority	<b>July 1, 2018</b>					
Written IDDE Program	<b>July 1, 2018</b>					
Outfall/Interconnection Inventory		<b>July 1, 2019</b>				
Map All Stormwater Outfalls		<b>July 1, 2019</b>				
Initial Assessment and Priority Ranking of Catchments (update annually)		<b>July 1, 2019</b>				
Complete Detailed Storm System Mapping			<b>July 1, 2020</b>			
Begin Dry Weather Outfall Screening (high and low priority outfalls)	<b>July 1, 2018</b>					
Complete Dry Weather Outfall Screening (high and low priority outfalls)					<b>July 1, 2022</b>	
Catchment Investigations – Problem Outfalls (80% and 100% of problem catchments)			<b>July 1, 2020</b>		<b>July 1, 2022</b>	
Catchment Investigations* – all Problem, High and Low Priority Outfalls						<b>July 1, 2027</b>

\*For existing 2004 MS4 permittees, catchment investigations must begin with three months of finalization of investigation procedure and no later than 15 months from effective date of permit. New MS4 permittees must begin these investigations no later than 2 years and 3 months from effective date of permit.

## **1.5 IDDE Program Accomplishments – 2004 MS4 Permit**

The 2004 MS4 Permit required MS4 communities to develop a plan to detect illicit discharges using a combination of storm system mapping, adopting a regulatory mechanism to prohibit illicit discharges and enforce this prohibition, and identifying tools and methods to investigate suspected illicit discharges. MS4s were also required to define how confirmed discharges would be eliminated and how the removal would be documented.

The TOWN OF THOMPSON has completed or implemented the following IDDE program elements consistent with the 2004 MS4 Permit requirements:

- Outfall mapping – complete
- Inventory - complete
- Sanitary Sewer Overflow (SSO) inventory – there have been no SSOs in the past five years
- Adoption of an illicit discharge ordinance or similar legal authority – adopted on July 26, 2022
- Procedures for locating illicit discharges (i.e., visual screening of outfalls for dry weather discharges, dye or smoke testing) - yes
- Procedures for locating the source of the discharge- yes
- Procedures for removal of the source of an illicit discharge - no
- Procedures for documenting actions and evaluating impacts on the storm sewer system subsequent to removal. yes

## 2 Authority and Responsibilities

### 2.1 Legal Authority – BMP 3-2b

The TOWN OF THOMPSON has adopted an Illicit Discharge and Connection Stormwater Ordinance dated July 26, 2022, ordinance # 22-001. A copy of the ordinance is provided in **Appendix A**.

### 2.2 Statement of Responsibilities – see section (b) on page 5 of appendix B

The Public Works Department is the lead municipal agency or department responsible for implementing the IDDE program pursuant to the provisions of the Illicit Discharge and Connection Stormwater Ordinance. Other agencies, departments, or personnel with responsibility for aspects of the program include:

- Department of Public Works – all items under MCM 6 – Pollution Prevention and Good Housekeeping
- Sewer Department – town has limited sewer coverage and no history of SSOs
- Engineering Department – town does not have one
- Building Inspector and/or Code Enforcement Officer -
- Licensed Plumbing Inspector – does not have one
- Health Department – responsible for septic systems
- Inland Wetlands Agent – plan review, inspections
- Planning Department – plan review
- First Selectman – everything

The process for coordination and data sharing between these agencies and departments is under development.

### 3 Citizen Reporting of Illicit Discharges – BMP 3-2a

The MS4 Permit requires municipalities to develop a program for citizen reporting of illicit discharges. The TOWN OF THOMPSON has established a system to allow for citizen reporting which includes an email address and phone number. The reporting system is described in the Selectman's Update and consists of a telephone number (First Selectman's phone number) and directions to file a Citizen's Comment form on the town's website.

The TOWN OF THOMPSON will investigate and eliminate any illicit discharges reported by citizens or organizations, provided such a report incorporates at least a time and location of an observed discharge. TOWN OF THOMPSON will conduct an inspection of the reported outfalls, manholes or other sites promptly after receiving such a report. The TOWN OF THOMPSON will incorporate the reported outfalls into the IDDE program. Citizen reports and the responses to those reports will be included in the Annual Report.

### 4 Mapping - BMP 3

The TOWN OF THOMPSON originally developed mapping of its stormwater system to meet the mapping requirements of the 2004 MS4 Permit. The completed elements include a series of maps (20 sheets) of the entire town at 1" = 600' showing the outfall location, size of outfall, type of pipe, drainage basin numbers and the pipe network in a general way in Autocad format (DWG files). The maps were provided to the town in electronic format as well as paper copies at 24 x 36 and 11 x 17.

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## 4.1 Outfall and Interconnection Inventory and Mapping BMP 3-1 and section (C) on p 23 of GP and section (5) on page 2 of Appendix B. This section is applicable to the entire Town.

The TOWN OF THOMPSON has developed an inventory (spreadsheet or database in a format compatible with Microsoft Excel) and mapping at a minimum scale of 1"=2000' and maximum scale of 1"=100' showing all stormwater outfalls<sup>1</sup> located within and owned or operated by the municipality and all interconnections<sup>2</sup> with other MS4s.

The inventory was updated to include the following information for each outfall and interconnection:

- Unique identifier
- Type, material, size (e.g., 24-inch concrete pipe)
- Spatial location (latitude and longitude with a minimum accuracy of +/-30 feet)
- Name, water body ID and Surface Water Quality Classification of the immediate surface water body or wetland to which the stormwater runoff discharges
- If the outfall does not discharge directly to a named water body, the name and water body ID of the nearest named water body to which the outfall eventually discharges
- Name of the watershed, including subregional drainage basin number, in which the discharge is located
- Date of most recent inspection
- Physical condition
- Indicators of potential non-stormwater discharges (including presence or evidence of suspect flow and sensory observations such as odor, color, turbidity, floatables, or oil sheen) as of the most recent inspection.

The inventory will be updated annually to include data collected in connection with dry weather screening and other relevant inspections. The status of the updated inventory and mapping will be provided in each annual report.

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<sup>1</sup> **Outfall** means a point source as defined by 40 CFR § 122.2 and in Section 2 of the 2017 MS4 Permit as the point where the MS4 discharges to waters of the state. An outfall does not include open conveyances connecting two separate storm sewers or pipes, tunnels or other conveyances that connect segments of the same stream or other waters of the state and that are used to convey waters of the state. It is strongly recommended that a permittee inspect all accessible portions of the system as part of this process. Culverts longer than a simple road crossing shall be included unless the permittee can confirm that they are free of any connections and simply convey waters of the state.

<sup>2</sup> **Interconnection** means the point where the permittee's MS4 discharges to another MS4 or other storm sewer system, through which the discharge is conveyed to waters of the state or to another storm sewer system and eventually to a water of the state.

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## 4.2 Detailed System Mapping- BMP 3-1c and section (6) on page 3 of appendix B

A detailed storm system map was developed for, at a minimum, the portions of the municipality within “priority” areas. The detailed mapping is intended to facilitate the identification of key infrastructure, factors influencing proper system operation, and the potential for illicit discharges.

The following mapping elements are required:

- Outfalls and receiving waters (previously required by the 2004 MS4 Permit)
- Pipes, catch basins, and/or manholes
- Open channel conveyances (swales, ditches, etc.)
- Interconnections with other MS4s and other storm sewer systems
- Municipally owned stormwater treatment structures (e.g., detention and retention basins, infiltration systems, bioretention areas, water quality swales, gross particle separators, oil/water separators, or other proprietary systems)
- Catchment delineations for use in priority rankings, or prioritizing BMP retrofits
- Water bodies identified by name and indication of all use impairments as identified on the most recent State of Connecticut Integrated Water Quality Report.
- Municipal Sanitary Sewer system (if available)

Detailed system mapping within the priority areas is 100% complete.

Detailed mapping of the entire system is 75% complete with a projected completion date of all mapping by the end of 2022.

All data is being transmitted to Applied Geographics, the town’s GIS consultant for development of a storm water layer.

The mapping will be updated to reflect newly discovered information and required corrections or modifications.

## 5 Sanitary Sewer Overflow Inventory – BMP 3-4

The 2016 MS4 Permit requires municipalities to prohibit illicit discharges, including sanitary sewer overflows (SSOs), to the separate storm sewer system. SSOs are discharges of untreated sanitary wastewater from a municipal sanitary sewer that can contaminate surface waters, cause water quality problems and property damage, and threaten public health. SSOs can be caused by blockages, line breaks, sewer defects that allow stormwater and groundwater to overload the system, power failures, improper sewer design, and vandalism.

The TOWN OF THOMPSON has completed an inventory of SSOs that have discharged to the MS4 in the five years prior to the effective date of the 2017 MS4 Permit (July 1, 2012 – June 30, 2017) (Table 5-1). There have been no SSOs in that time period.

Upon detection of an SSO, the TOWN OF THOMPSON will eliminate it as expeditiously as possible and take interim measures to minimize the discharge of pollutants to and from its MS4 until the SSO is

eliminated. Upon becoming aware of an SSO to the MS4, the TOWN OF THOMPSON will provide written notice to CTDEEP within five (5) days of becoming aware of the SSO occurrence.

The inventory in **Table 5-1** will be updated by the TOWN OF THOMPSON when new SSOs are detected. The SSO inventory will be included in the annual report, including the status of mitigation and corrective measures to address each identified SSO.

Table 5-1. SSO Inventory

SSO Location <sup>1</sup>	Discharge Point <sup>2</sup>	Date <sup>3</sup>	Time Start <sup>3</sup>	Time End <sup>3</sup>	Estimated Volume <sup>4</sup>	Description <sup>5</sup>	Mitigation Completed <sup>6</sup>	Mitigation Planned <sup>7</sup>
None in last 5 years								

<sup>1</sup> Location (approximate street crossing/address and receiving water, if any)

<sup>2</sup> A clear statement of whether the discharge entered a surface water directly or entered the MS4

<sup>3</sup> Date(s) and time(s) of each known SSO occurrence (i.e., beginning and end of any known discharge)

<sup>4</sup> Estimated volume(s) of the SSO occurrence

<sup>5</sup> Description of the occurrence indicating known or suspected cause(s)

<sup>6</sup> Mitigation and corrective measures completed with dates implemented

<sup>7</sup> Mitigation and corrective measures planned with implementation schedules

*This table should be updated with information on new SSOs that are detected.*

## 6 Catchment Assessment and Priority Ranking

### 6.1 Catchment Delineations –

A catchment is the area that drains to an individual outfall or interconnection. Catchments will be delineated to define contributing areas for investigation of potential sources of illicit discharges. Catchments are typically delineated based on topographic contours and mapped drainage infrastructure, where available. J & D Civil Engineers has delineated all catchments within the priority area and provided the data to Applied Geographics.

### 6.2 Assessment and Priority Ranking of Catchments –

J & D Civil Engineers has completed an initial illicit discharge potential assessment and priority ranking of catchments based on existing information, including the outfall and interconnection inventory and mapping.

An updated assessment and priority ranking will be provided in each annual report thereafter, including a listing of all catchments and the results of the ranking for each catchment. The assessment and priority ranking will be updated annually based on catchment delineations, the results of dry weather screening, and other relevant information. The first updates of table 6-1 and 8-1 were completed in November 2022. Copies are included in the appendix.

Catchments associated with outfalls and interconnections will be classified into one of the following categories:

1. **Excluded Catchments:** Catchments with no potential for illicit discharges. This category is limited to:

- Roadway drainage in undeveloped areas with no dwellings and no sanitary sewers
- Drainage for athletic fields, parks or undeveloped green space and associated parking without services
- Cross-country drainage alignments (that neither cross nor are in proximity to sanitary sewer alignments) through undeveloped land.

2. **Problem Catchments:** Catchments with known or suspected contributions of illicit discharges based on existing information. This category includes any catchments where previous outfall/interconnection screening indicates likely sewer input. Likely sewer input indicators are any of the following:

- Olfactory or visual evidence of sewage,
- Ammonia  $\geq 0.5$  mg/L, surfactants  $\geq 0.25$  mg/L, and bacteria levels greater than the water quality criteria applicable to the receiving water, or
- Ammonia  $\geq 0.5$  mg/L, surfactants  $\geq 0.25$  mg/L, and detectable levels of chlorine.

Screening and sampling is not required for Problem Catchments. Problem Catchments must be scheduled for catchment investigation. Following the initial ranking of catchments, subsequent rankings shall not add any catchments to the Problem Catchment category.

3. **High Priority Catchments:** Catchments that have not been classified as Problem Catchments and that are:

- Discharging to an area of concern to public health due to proximity of public beaches, recreational areas, drinking water supplies or shellfish beds
- Determined by the permittee as high priority based on outfall/interconnection screening and catchment characteristics assessment.

Any catchment where outfall/interconnection screening indicates likely sewer input as described under Item 1, Problem Catchments, shall be ranked at the top of the High Priority Catchments category and scheduled for catchment investigation.

4. **Low Priority Catchments:** Catchments determined by the permittee as low priority based on outfall/interconnection screening (see Section 7) and catchment characteristics assessment (see below).

Catchments will be ranked into the above priority categories (except for excluded catchments, which may be excluded from the IDDE program) based on the following characteristics of the defined initial catchment areas, where information is available. Additional relevant characteristics, including location-specific characteristics, may be considered but must be documented in the IDDE program.

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- **Previous screening results** – previous screening/sampling results indicate likely sewer input (see criteria above for Problem Catchments).
- **Past discharge complaints and reports.**
- **Poor dry weather receiving water quality** – the following guidelines are recommended to identify waters as having a high illicit discharge potential:
  - Exceeding water quality standards for bacteria
  - Ammonia levels above 0.5 mg/l
  - Surfactants levels greater than or equal to 0.25 mg/l.
- **Density of generating sites** – Generating sites are those places, including institutional, municipal, commercial, or industrial sites, with a potential to generate pollutants that could contribute to illicit discharges. Examples of these sites include, but are not limited to, car dealers; car washes; gas stations; garden centers; and industrial manufacturing areas.

- **Age of development and infrastructure** – Industrial areas greater than 40 years old and areas where the sanitary sewer system is more than 40 years old will probably have a high illicit discharge potential. Developments 20 years or younger will probably have a low illicit discharge potential.
- **Sewer conversion** – Contributing catchment areas that were once serviced by septic systems, but have been converted to sewer connections may have a high illicit discharge potential.
- **Surrounding density of aging septic systems** – Septic systems thirty years or older in residential land use areas are prone to have failures and may have a high illicit discharge potential.
- **Culverted streams** – Any river or stream that is culverted for distances greater than a simple roadway crossing may have a high illicit discharge potential.
- **Water bodies** that receive a discharge from the MS4 and are drinking water supplies, shell fishing areas, beaches or waters used for contact recreation.
- **Impaired water bodies** that receive a discharge from the MS4 or waters with approved TMDLs applicable to the permittee, where illicit discharges have the potential to contain the pollutant identified as the cause of the water quality impairment.

## 7 Outfall and Interconnection Screening and Sampling – BMP 3-2c

The 2017 MS4 Permit requires screening and sampling of outfalls and interconnections from the MS4 in dry and wet weather for evidence of illicit discharges and SSOs, including:

- Baseline outfall and interconnection screening (dry weather) - complete
- Follow-up screening
- Dry weather sampling
- Wet weather sampling

The First Selectman, along with the DPW administrator is responsible for coordinating this item. J & D has a contract to rescreen those outfalls that were dry at the first screening and perform some dry weather sampling (to the limit of available funding). The town has also entered a contract for wet weather sampling with Analytical Consulting Technology, Inc. for wet weather sampling.

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### 7.1 Dry and Wet Weather Rainfall Criteria

For the purposes of outfall screening and sampling, dry and wet weather conditions are defined as follows:

- **Dry Weather** – dry weather screening and sampling shall proceed when no more than 0.1 inches of rainfall has occurred in the previous 24-hour period.
- **Wet Weather** – wet weather screening and sampling shall occur during or after a storm event of sufficient depth or intensity to produce a stormwater discharge at the outfall. There is no specific rainfall amount that will trigger sampling, although minimum storm event intensities that are likely to trigger sanitary sewer interconnections are preferred. Sampling during the initial period of discharge (“first flush”) will be avoided. To the extent feasible, sampling should occur during the spring (March through June) when groundwater levels are relatively high.

Note that wet weather criteria for impaired waters outfall monitoring pursuant to Section 6(i) of the MS4 Permit are different than the above wet weather criteria for outfall screening and sampling.

For purposes of determining dry and wet weather conditions, precipitation data from Weather Underground (<https://www.wunderground.com/history/airport/KIJD/2013/05/31/DailyHistory.html>) for Windham Airport will be used. If Windham Airport is not available or not reporting current weather data, then data from T.F. Green Airport will be used as a back-up.

The remainder of this section is focused on dry weather screening and sampling. Wet weather screening and sampling is discussed further in the context of catchment investigations, including confirmatory and followup screening in Section 8.

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## 7.2 Dry Weather Screening/Sampling

*Instructions: The dry weather screening and sampling procedures described in this section are based on the requirements outlined in the 2017 MS4 Permit. The CMRSWC “SOP1: Dry Weather Outfall Inspection” provides additional suggestions for carrying out a screening/sampling program. [http://centralmastormwater.org/Pages/crsc\\_toolbox/Dry%20Outfall%20Inspection%20SOP%20and%20Form\\_Final.pdf](http://centralmastormwater.org/Pages/crsc_toolbox/Dry%20Outfall%20Inspection%20SOP%20and%20Form_Final.pdf). Municipalities should include example Sample Labels, Field Sheets and Chain of Custody forms in the appendices of this written IDDE program.*

Dry weather flow is a common indicator of potential illicit connections. The 2017 MS4 Permit requires all outfalls/interconnections (excluding Problem and Excluded Catchments) to be screened (i.e., visually inspected) for the presence of dry weather flow. Dry weather outfall screening and sampling may take place when no more than 0.1 inches of rainfall has occurred in the previous 24-hour period.

### 1 General Procedure

The dry weather outfall screening and sampling procedure consists of the following general steps:

1. Identify outfall(s) to be screened/sampled based on outfall inventory and initial catchment priority ranking.
2. Acquire the necessary staff, mapping, and field equipment (see **Table 7-1** for list of potential field equipment). The town has no funding to hire additional staff for this task. Existing employees will be re-assigned.
3. Conduct the outfall inspection during dry weather:
  - a. Mark and photograph the outfall.
  - b. Record the inspection information and outfall characteristics (using paper forms or digital form using a tablet or similar device) (see form in **Appendix C**).
  - c. Look for and record visual/olfactory evidence of pollutants in flowing outfalls including odor, color, turbidity, and floatable matter (suds, bubbles, excrement, toilet paper or sanitary products). Also observe outfalls for deposits and stains, vegetation, and damage to outfall structures.
4. If an outfall is inaccessible or submerged, proceed to the first accessible upstream manhole or structure for the observation and sampling and report the location with the screening results. If an interconnection is inaccessible or submerged, perform screening at the first accessible location within the permittee’s system upgradient of the interconnection.
5. If flow is observed, sample and test the flow following the procedures described in the following sections.
6. If no flow is observed, but evidence illicit discharges exists (illicit discharges are often intermittent or transitory), revisit the outfall during dry weather within one week of the initial observation, if practicable, to perform a second dry weather screening and sample any observed flow.

Other techniques can be used to detect intermittent or transitory flows including conducting inspections during evenings or weekends and using optical brighteners.

7. Input results from screening and sampling into spreadsheet/database. Include pertinent information in the outfall/interconnection inventory and priority ranking.
8. Include all screening data in the annual report.

## 2 Field Equipment

**Table 7-1** lists field equipment commonly used for dry weather outfall screening and sampling. This list is recommended by DEEP and has not been independently verified by J & D Civil Engineers.

**Table 7-1. Field Equipment – Dry Weather Outfall Screening and Sampling**

Equipment	Use/Notes
Clipboard	For organization of field sheets and writing surface
Field Sheets	Field sheets for both dry weather inspection and Dry weather sampling should be available with extras
Chain of Custody Forms	To ensure proper handling of all samples
Pens/Pencils/Permanent Markers	For proper labeling
Nitrile Gloves	To protect the sampler as well as the sample from contamination
Flashlight/headlamp w/batteries	For looking in outfalls or manholes, helpful in early mornings as well
Cooler with Ice	For transporting samples to the laboratory
Digital Camera	For documenting field conditions at time of inspection
Personal Protective Equipment (PPE)	Reflective vest, Safety glasses and boots at a minimum
GPS Receiver	For taking spatial location data
Water Quality Sonde	If needed, for sampling conductivity, temperature, pH
Water Quality Meter	Hand held meter, if available, for testing for various water quality parameters such as ammonia, surfactants and chlorine

Equipment	Use/Notes
Test Kits	Have extra kits on hand to sample more outfalls than are anticipated to be screened in a single day
Label Tape	For labeling sample containers
Sample Containers	Make sure all sample containers are clean. Keep extra sample containers on hand at all times. Make sure there are proper sample containers for what is being sampled for (i.e., bacteria requires sterile containers).
Pry Bar or Pick	For opening catch basins and manholes when necessary
Sandbags	For damming low flows in order to take samples
Small Mallet or Hammer	Helping to free stuck manhole and catch basin covers
Utility Knife	Multiple uses
Measuring Tape	Measuring distances and depth of flow
Safety Cones	Safety
Hand Sanitizer	Disinfectant/decontaminant
Zip Ties/Duct Tape	For making field repairs
Rubber Boots/Waders	For accessing shallow streams/areas
Sampling Pole/Dipper/Sampling Cage	For accessing hard to reach outfalls and manholes

### 3 Sample Collection and Analysis

If flow is present during a dry weather outfall inspection, a sample will be collected and analyzed for the required permit parameters<sup>3</sup> listed in **Table 7-2**. The general procedure for collection of outfall samples is as follows:

1. Fill out all sample information on sample bottles and field sheets (see **Appendix C** for Sample Labels and Field Sheets)
2. Put on protective gloves (nitrile/latex/other) before sampling

<sup>3</sup> Other potentially useful parameters, although not required by the MS4 Permit, include **fluoride** (indicator of potable water sources in areas where water supplies are fluoridated), **potassium** (high levels may indicate the presence of sanitary wastewater), and **optical brighteners** (indicative of laundry detergents).

3. Collect sample with dipper or directly in sample containers. If possible, collect water from the flow directly in the sample bottle. Be careful not to disturb sediments.
4. If using a dipper or other device, triple rinse the device with distilled water and then in water to be sampled (not for bacteria sampling)
5. Use test strips, test kits, and field meters (rinse similar to dipper) for most parameters (see **Table 7-2**)
6. Place laboratory samples on ice for analysis of bacteria and pollutants of concern
7. Fill out chain-of-custody form (**Appendix C**) for laboratory samples
8. Deliver samples to the laboratory
9. Dispose of used test strips and test kit ampules properly
10. Decontaminate all testing personnel and equipment

Field test kits or field instrumentation are permitted for all parameters except indicator bacteria and any pollutants of concern. Field kits need to have appropriate detection limits and ranges. **Table 7-2** lists various field test kits and field instruments that can be used for outfall sampling associated with the 2017 MS4 Permit parameters, other than indicator bacteria and any pollutants of concern. Analytical procedures and user's manuals for field test kits and field instrumentation are provided in **Appendix D**.

*Instructions: The following table lists possible field meters and test kits that may be used to meet the dry weather screening and sampling requirements outlined in the 2017 MS4 Permit. Additional information is available on the UConn CLEAR MS4 Permit website:*  
<http://nemo.uconn.edu/ms4/implement/monitoring.htm>

Table 7-2. Outfall Screening Sampling Parameters and Analysis Methods

Analyte or Parameter	Instrumentation (Portable Meter)	Field Test Kit
Ammonia	CHEMetrics™ V-2000 Colorimeter Hach™ DR/890 Colorimeter Hach™ Pocket Colorimeter™ II	CHEMetrics™ K-1410 CHEMetrics™ K-1510 (series) Hach™ NI-SA Hach N1-8 Hach™ Ammonia Test Strips
Surfactants (Detergents)	CHEMetrics™ I-2017	CHEMetrics™ K-9400 and K-9404 Hach™ DE-2
Chlorine	CHEMetrics™ V-2000, K-2513 Hach™ Pocket Colorimeter™ II	Hach CN-66F
Conductivity	CHEMetrics™ I-1200 YSI Pro30 YSI EC300A Oakton 450	NA
Temperature	YSI Pro30 YSI EC300A Oakton 450	NA
Salinity	YSI Pro30 YSI EC300A Oakton 450	NA
Temperature	YSI Pro30 YSI EC300A Oakton 450	NA
Indicator Bacteria: <i>E. coli</i> (freshwater) or Enterococcus (saline water)	EPA certified laboratory procedure (40 CFR § 136)	NA
Pollutants of Concern <sup>1</sup>	EPA certified laboratory procedure (40 CFR § 136)	NA

<sup>1</sup> Where the discharge is directly into a water quality limited water or a water subject to an approved TMDL, the sample must be analyzed for the pollutant(s) of concern identified as the cause of the water quality impairment.

Testing for indicator bacteria and any pollutants of concern must be conducted using analytical methods and procedures found in 40 CFR § 136.<sup>4</sup> Samples for laboratory analysis must also be stored and preserved in accordance with procedures found in 40 CFR § 136. **Table 7-3** lists analytical methods, detection limits, hold times, and preservatives for laboratory analysis of dry weather sampling parameters.

**Table 7-3. Required Analytical Methods, Detection Limits, Hold Times, and Preservatives**

Analyte or Parameter	Analytical Method	Detection Limit	Max. Hold Time	Preservative
Ammonia	EPA: 350.2, SM: 4500-NH3C	0.05 mg/L	28 days	Cool ≤6°C, H <sub>2</sub> SO <sub>4</sub> to pH <2, No preservative required if analyzed immediately
Surfactants	SM: 5540-C	0.01 mg/L	48 hours	Cool ≤6°C
Chlorine	SM: 4500-Cl G	0.02 mg/L	Analyze within 15 minutes	None Required
Temperature	SM: 2550B	NA	Immediate	None Required
Specific Conductance	EPA: 120.1, SM: 2510B	0.2 µs/cm	28 days	Cool ≤6°C
Salinity	SM: 2520	-	28 days	Cool ≤6°C
Indicator Bacteria: <i>E. coli</i> (freshwater) <i>Enterococcus</i> (saltwater)	<i>E. coli</i> EPA: 1603 SM: 9221B, 9221F, 9223 B Other: Colilert®, Colilert-18®	<i>E. coli</i> EPA: 1 cfu/100mL SM: 2 MPN/100mL Other: 1 MPN/100mL	6 hours	Cool ≤6°C, 0.0008% Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> (sodium thiosulfate)

<sup>4</sup> 40 CFR § 136: <http://www.ecfr.gov/cgi-bin/text-idx?SID=b3b41fdea0b7b0b8cd6c4304d86271b7&mc=true&node=pt40.25.136&rgn=div5>

Analyte or Parameter	Analytical Method	Detection Limit	Max. Hold Time	Preservative
Total Phosphorus (Pollutant of Concern)	<b>EPA:</b> Manual-365.3, Automated Ascorbic acid digestion-365.1 Rev. 2, ICP/AES4-200.7 Rev. 4.4  <b>SM:</b> 4500-P E-F	<b>EPA:</b> 0.01 mg/L <b>SM :</b> 0.01 mg/L	28 days	Cool ≤6°C, H <sub>2</sub> SO <sub>4</sub> to pH <2
Total Nitrogen (Pollutant of Concern) (Ammonia + Nitrate/Nitrite, methods are for Nitrate-Nitrite and need to be combined with Ammonia listed above.)	<b>EPA:</b> Cadmium reduction (automated)-353.2 Rev. 2.0, <b>SM:</b> 4500-NO <sub>3</sub> E-F	<b>EPA:</b> 0.05 mg/L <b>SM :</b> 0.05 mg/L	28 days	Cool ≤6°C, H <sub>2</sub> SO <sub>4</sub> to pH <2

EPA = EPA Methods    SM = Standard Methods

---

## 7.3 Interpreting Outfall Sampling Results

Outfall analytical data can be used to help identify the major type or source of discharge. **Table 7-4** shows values identified by the U.S. EPA and the Center for Watershed Protection as typical screening values for select parameters. These represent the typical concentration (or value) of each parameter expected to be found in stormwater. Screening values that exceed these benchmarks may be indicative of pollution and/or illicit discharges.

**Table 7-4. Benchmark Field Measurements for Select Parameters**

Analyte or Parameter	Benchmark
Ammonia	>0.5 mg/L
Conductivity	>2,000 $\mu$ S/cm
Surfactants	>0.25 mg/L
Chlorine	>0.02 mg/L (detectable levels per the 2017 MS4 Permit)
Indicator Bacteria <i>E.coli</i> (freshwater)	<i>E.coli</i> : the geometric mean of the five most recent samples taken during the same bathing season shall not exceed 126 colonies per 100 ml and no single sample taken during the bathing season shall exceed 235 colonies per 100 ml for designated swimming areas, 410 colonies per 100 ml for non-designated swimming areas, and 576 colonies per 100 ml for all other uses.

Catchments are considered highly likely to contain illicit discharges from sanitary sources when either of the following combinations of sampling results is detected:

- Ammonia  $\geq$  0.5 mg/L, surfactants  $\geq$  0.25 mg/L, and bacteria levels greater than the water quality criteria applicable to the receiving water, or
- Ammonia  $\geq$  0.5 mg/L, surfactants  $\geq$  0.25 mg/L, and detectable levels of chlorine.

Catchments with outfall screening results that meet the above criteria shall be ranked at the top of the High Priority Catchments category for investigation.

## 8 Catchment Investigations BMP 3-2c (4)

Once stormwater outfalls with evidence of illicit discharges have been identified, various methods can be used to investigate the source of the potential discharge within the outfall catchment area. Common catchment investigation techniques include, but are not limited to:

- Review of maps, historic plans, and records
- Manhole inspection
- Dry and wet weather sampling
- Video inspection
- Smoke testing
- Dye testing.

This section outlines a systematic procedure to investigate outfall catchments and identify the source(s) of potential illicit discharges. Information and data collected as part of the catchment investigations will be reported in each annual report.

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### 8.1 System Vulnerability Factors

A SVF inventory has been compiled for each catchment (see **Table 8-1**), retained as part of this written IDDE program, and included in the annual report. It was updated November 21, 2022 and is included in the appendix.

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## 8.2 Dry Weather Investigation (Catch basin Inspections) - BMP 5e

The TOWN OF THOMPSON will implement a dry weather storm drain network investigation that involves systematically and progressively observing, sampling and evaluating key junctions in the MS4 to determine the approximate location of suspected illicit discharges.

The DPW, assisted by J & D will be responsible for implementing the dry weather manhole inspection program and making updates as necessary. Infrastructure information will be incorporated into the storm system map, and catchment delineations will be refined based on the field investigation, where necessary. The SVF inventory will also be updated based on information obtained during the field investigations, where necessary.

Several important terms related to the dry weather manhole inspection program are defined by the MS4 Permit as follows:

- **Junction Manhole** is a manhole or structure with two or more inlets accepting flow from two or more MS4 alignments. Manholes with inlets solely from private storm drains, individual catch basins, or both are not considered junction manholes for these purposes.
- **Key Junction Manholes** are those junction manholes that can represent one or more junction manholes without compromising adequate implementation of the illicit discharge program. Adequate implementation of the illicit discharge program would not be compromised if the exclusion of a particular junction manhole as a key junction manhole would not affect the permittee's ability to determine the possible presence of an upstream illicit discharge. A permittee may exclude a junction manhole located upstream from another located in the immediate vicinity or that is serving a drainage alignment with no potential for illicit connections.

For all catchments identified for investigation, during dry weather, field crews will systematically inspect **key junction manholes** for evidence of illicit discharges and confirm or identify potential system vulnerability factors. This program involves progressive inspection and sampling at manholes in the storm drain network to isolate and eliminate illicit discharges.

The manhole inspection methodology will be conducted in one of two ways (or a combination of both):

- By working progressively up from the outfall and inspecting key junction manholes along the way, or
- By working progressively down from the upper parts of the catchment toward the outfall and inspecting key junction manholes along the way.

For most catchments, manhole inspections will proceed from the outfall moving up into the system. However, the decision to move up or down the system depends on the nature of the drainage system and the surrounding land use and the availability of information on the catchment and drainage system. Moving up the system can begin immediately when an illicit discharge is detected at an outfall, and only a map of the storm drain system is required. Moving down the system requires more advance

preparation and reliable drainage system information on the upstream segments of the storm drain system, but may be more efficient if the sources of illicit discharges are believed to be located in the upstream portions of the catchment area. Once a manhole inspection methodology has been selected, investigations will continue systematically through the catchment.

Inspection of key junction manholes will proceed as follows:

1. Manholes will be opened and inspected for visual and olfactory evidence of illicit connections. A sample field inspection form is provided in **Appendix C**.
2. If flow is observed, a sample will be collected and analyzed at a minimum for ammonia, chlorine, and surfactants. Field kits can be used for these analyses. Sampling and analysis will be in accordance with procedures outlined in **Section 7**. Additional indicator sampling may assist in determining potential sources.
3. Where sampling results or visual or olfactory evidence indicate potential illicit discharges, the area draining to the junction manhole will be flagged for further upstream manhole investigation and/or isolation and confirmation of sources.
4. Subsequent key junction manhole inspections will proceed until the location of suspected illicit discharges can be isolated to a pipe segment between two manholes.
5. If no evidence of an illicit discharge is found, catchment investigations will be considered complete upon completion of key junction manhole sampling.

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### 8.3 Wet Weather Investigation (Outfall Sampling)

Where a minimum of one (1) System Vulnerability Factor (SVF) is identified based on previous information or the catchment investigation, a wet weather investigation must also be conducted at the associated outfall. The First Selectman/DPW will be responsible for implementing the wet weather outfall sampling program and making updates as necessary.

Outfalls will be inspected and sampled under wet weather conditions, to the extent necessary, to determine whether wet weather-induced high flows in sanitary sewers or high groundwater in areas served by septic systems result in discharges of sanitary flow to the MS4.

Wet weather outfall sampling will proceed as follows:

1. At least one wet weather sample will be collected at the outfall for the same parameters required during dry weather screening (refer to **Table 7-3** and **Table 7-4**).
2. Wet weather sampling will occur during or after a storm event of sufficient depth or intensity to produce a stormwater discharge at the outfall.

- a. There is no specific rainfall amount that will trigger sampling, although minimum storm event intensities that are likely to trigger sanitary sewer interconnections are preferred.
  - b. Sampling during the initial period of discharge (“first flush”) will be avoided.
  - c. To the extent feasible, sampling should occur during the spring (March through June) when groundwater levels are relatively high. Refer to **Section 7.1** for information on weather tracking.
3. If wet weather outfall sampling indicates a potential illicit discharge, then additional wet weather source sampling will be performed, as warranted, or source isolation and confirmation procedures will be followed as described in **Section 8.4**.
  4. If wet weather outfall sampling does not identify evidence of illicit discharges, and no evidence of an illicit discharge is found during dry weather manhole inspections, catchment investigations will be considered complete.

## 8.4 Source Isolation and Confirmation

*Instructions: Include all relevant SOPs for specific tools such as dye testing and smoke testing, in Appendix F.*

*The CMRSWC “Locating Illicit Discharges SOP” provides suggested language for a source isolation and confirmation program.*

[http://centralmastormwater.org/Pages/crsc\\_toolbox/Locating%20Illicit%20Discharges%20SOP%20and%20Form\\_FINAL.pdf](http://centralmastormwater.org/Pages/crsc_toolbox/Locating%20Illicit%20Discharges%20SOP%20and%20Form_FINAL.pdf)

*Sample Smoke Testing SOP:*

<ftp://ftp.ocfl.net/divisions/Utilities/pub/C%20I%20P/Specifications/Smoke%20Testing%20SOP.pdf>

*Sample Dye Testing SOP:*

[http://www.oseh.umich.edu/pdf/guideline/dye\\_testing\\_guideline.pdf](http://www.oseh.umich.edu/pdf/guideline/dye_testing_guideline.pdf)

Once the source of an illicit discharge is approximated between two manholes, more detailed investigation techniques will be used to isolate and confirm the source of the illicit discharge. The following methods may be used in isolating and confirming the source of illicit discharges:

- Sandbagging
- Smoke Testing
- Dye Testing
- CCTV/Video Inspections
- Optical Brightener Monitoring
- IDDE Canines.

These methods are described in the sections below. Instructions and Standard Operating Procedures (SOPs) for these and other IDDE methods are provided in **Appendix F**.

Public notification is an important aspect of a detailed source investigation program. Prior to smoke testing, dye testing, or TV inspections, the DPW will notify property owners in the affected area. Smoke

testing notification will include HANGING NOTIFICATIONS, notice on the website and possibly an ad in the Villager..

### 8.4.1 Sandbagging

This technique can be particularly useful when attempting to isolate intermittent illicit discharges or those with very little perceptible flow. The technique involves placing sandbags or similar barriers (e.g., caulking, weirs/plates, or other temporary barriers) within outlets to manholes to form a temporary dam that collects any intermittent flows that may occur. Sandbags are typically left in place for 48 hours, and should only be installed when dry weather is forecast. If flow has collected behind the sandbags/barriers after 48 hours it can be assessed using visual observations or by sampling. If no flow collects behind the sandbag, the upstream pipe network can be ruled out as a source of the intermittent discharge. Finding appropriate durations of dry weather and the need for multiple trips to each manhole makes this method both time-consuming and somewhat limiting.

### 8.4.2 Smoke Testing

Smoke testing involves injecting non-toxic smoke into drain lines and noting the emergence of smoke from sanitary sewer vents in illegally connected buildings or from cracks and leaks in the system itself. Typically a smoke bomb or smoke generator is used to inject the smoke into the system at a catch basin or manhole and air is then forced through the system. Test personnel are placed in areas where there are suspected illegal connections or cracks/leaks, noting any escape of smoke (indicating an illicit connection or damaged storm drain infrastructure). It is important when using this technique to make proper notifications to area residents and business owners as well as local police and fire departments.

If the initial test of the storm drain system is unsuccessful then a more thorough smoke-test of the sanitary sewer lines can also be performed. Unlike storm drain smoke tests, buildings that do not emit smoke during sanitary sewer smoke tests may have problem connections and may also have sewer gas venting inside, which is hazardous.

It should be noted that smoke may cause minor irritation of respiratory passages. Residents with respiratory conditions may need to be monitored or evacuated from the area of testing altogether to ensure safety during testing.

### 8.4.3 Dye Testing

Dye testing involves flushing non-toxic dye into plumbing fixtures such as toilets, showers, and sinks and observing nearby storm drains and sewer manholes as well as stormwater outfalls for the presence of the dye. Similar to smoke testing, it is important to inform local residents and business owners. Police, fire, and local public health staff should also be notified prior to testing in preparation of responding to citizen phone calls concerning the dye and their presence in local surface waters.

A team of two or more people is needed to perform dye testing (ideally, all with two-way radios). One person is inside the building, while the others are stationed at the appropriate storm sewer and sanitary sewer manholes (which should be opened) and/or outfalls. The person inside the building adds dye into

a plumbing fixture (i.e., toilet or sink) and runs a sufficient amount of water to move the dye through the plumbing system. The person inside the building then radios to the outside crew that the dye has been dropped, and the outside crew watches for the dye in the storm sewer and sanitary sewer, recording the presence or absence of the dye.

The test can be relatively quick (about 30 minutes per test), effective (results are usually definitive), and inexpensive. Dye testing is best used when the likely source of an illicit discharge has been narrowed down to a few specific houses or businesses.

#### 8.4.4 CCTV/Video Inspection

Another method of source isolation involves the use of mobile video cameras that are guided remotely through stormwater drain lines to observe possible illicit discharges. IDDE program staff can review the videos and note any visible illicit discharges. While this tool is both effective and usually definitive, it can be costly and time consuming when compared to other source isolation techniques.

#### 8.4.5 Optical Brightener Monitoring

Optical brighteners are fluorescent dyes that are used in detergents and paper products to enhance their appearance. The presence of optical brighteners in surface waters or dry weather discharges suggests there is a possible illicit discharge or insufficient removal through adsorption in nearby septic systems or wastewater treatment. Optical brightener monitoring can be done in two ways. The most common, and least expensive, methodology involves placing a cotton pad in a wire cage and securing it in a pipe, manhole, catch basin, or inlet to capture intermittent dry weather flows. The pad is retrieved at a later date and placed under UV light to determine the presence/absence of brighteners during the monitoring period. A second methodology uses handheld fluorometers to detect optical brighteners in water sample collected from outfalls or ambient surface waters. Use of a fluorometer, while more quantitative, is typically more costly and is not as effective at isolating intermittent discharges as other source isolation techniques.

#### 8.4.6 IDDE Canines

Dogs specifically trained to smell human related sewage are becoming a cost-effective way to isolate and identify sources of illicit discharges. While not widespread at the moment, the use of IDDE canines is growing as is their accuracy. The use of IDDE canines is not recommended as a standalone practice for source identification; rather it is recommended as a tool to supplement other conventional methods, such as dye testing, in order to fully verify sources of illicit discharges.

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## 8.5 Illicit Discharge Removal - BMP 3-2b

When the specific source of an illicit discharge is identified, the TOWN OF THOMPSON will exercise its authority as necessary to require its removal. The annual report will include the status of IDDE investigation and removal activities including the following information for each confirmed source:

- The location of the discharge and its source(s)
- A description of the discharge
- The method of discovery
- Date of discovery
- Date of elimination, mitigation or enforcement action
- Estimate of the volume of flow removed.

### 8.5.1 Confirmatory Outfall Screening

Within one (1) year of removal of all identified illicit discharges and SSO sources within a catchment area, confirmatory outfall or interconnection screening will be conducted. The confirmatory screening will be conducted in dry weather unless System Vulnerability Factors have been identified, in which case both dry weather and wet weather confirmatory screening will be conducted. If confirmatory screening indicates evidence of additional illicit discharges, the catchment will be scheduled for additional investigation. Confirmatory screening is not required in catchments where no illicit discharges or System Vulnerability Factors have been identified and no previous screening indicated suspicious flows.

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## 8.6 Follow-up Screening –

Upon completion of all catchment investigations and illicit discharge removal and confirmation (if necessary), each outfall or interconnection will be scheduled for follow-up screening within five (5) years, or sooner based on the catchment's illicit discharge priority. Ongoing screening will consist of dry weather screening and sampling consistent with the procedures described in **Section 7** of this document. Ongoing wet weather screening and sampling will also be conducted at outfalls where wet weather screening was required due to System Vulnerability Factors and will be conducted in accordance with the procedures described in **Section 8.1**. All sampling results will be reported in the annual report.

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## 8.7 Illicit Discharge Prevention Procedures

The TOWN OF THOMPSON will implement the following mechanisms and procedures to assist in the prevention of illicit discharges and SSOs:

- Spill response and prevention procedures including identification of spills, reporting procedures, containment procedures, and documentation.
- Public awareness (may be part of the education program required by Subsection 2 of the MS4 Permit).

- Reporting hotlines and training of public employees involved in the IDDE program on way to identify potential illicit discharges and SSOs.

## 9 Training – BMP 3-5

Annual IDDE training will be made available to all employees involved in the IDDE program. This training will, at a minimum, include information on how to identify illicit discharges and may also include additional training specific to the functions of particular personnel and their function within the framework of the IDDE program. Training records will be maintained in **Appendix E**. The frequency and type of training will be included in the annual report.

## 10 Progress Reporting – BMP 3-6

The progress and success of the IDDE program will be evaluated on an annual basis. The evaluation will be documented in the annual report and will include the following indicators of program progress:

- Measures that demonstrate efforts to locate illicit discharges
- Number of illicit discharges identified and removed
- Percent and area in acres of the catchment area served by the MS4 evaluated using the catchment investigation procedure
- Number of dry weather outfall inspections/screenings
- Number of wet weather outfall inspections/sampling events
- Number of enforcement notices issued
- All dry weather and wet weather screening and sampling results
- Estimate of the volume of sewage removed, as applicable
- Number of employees trained annually.

The success of the IDDE program will be measured by the IDDE activities completed within the required permit timelines.

# Appendices

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## Field Forms, Sample Bottle Labels, and Chain of Custody Forms

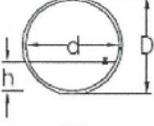
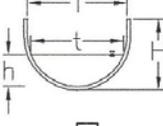
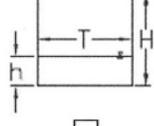
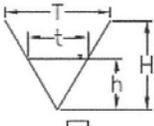
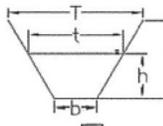
*Instructions: Include copies of the following field sampling documents:*

- *Dry weather outfall inspection/sampling form*
- *Wet weather outfall inspection/sampling form*
- *Manhole inspection form*
- *Example sample labels (provided by laboratory)*
- *Example chain-of-custody form(s) (provided by laboratory)*

First 3 items are provided. The last two will have to come from lab chosen by the Town.

**Outfall ID:** \_\_\_\_\_ **Town:** \_\_\_\_\_  
**Inspector:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
**Street Name** \_\_\_\_\_  
**Last rainfall event** \_\_\_\_\_

**DRY WEATHER OUTFALL INSPECTION SURVEY**

<b>Type of Outfall (check one):</b>		<b>Pipe Outfall</b> <input type="checkbox"/>	<b>Open Swale Outfall</b> <input type="checkbox"/>
<b>Outfall Label:</b>		<b>Stencil</b> <input type="checkbox"/>	<b>Ground Inset</b> <input type="checkbox"/> <b>Sign</b> <input type="checkbox"/> <b>None</b> <input type="checkbox"/> <b>Other</b> _____
<b>Pipe Material:</b>	Concrete	<input type="checkbox"/>	<b>Pipe Condition:</b> Good <input type="checkbox"/> Poor <input type="checkbox"/> Fair <input type="checkbox"/> Crumbling <input type="checkbox"/>
	Corrugated metal	<input type="checkbox"/>	
	Clay Tile	<input type="checkbox"/>	
	Plastic	<input type="checkbox"/>	
Other:		<input type="checkbox"/>	
<b>Swale Material:</b>	Paved (asphalt)	<input type="checkbox"/>	<b>Swale Condition:</b> Good <input type="checkbox"/> Poor <input type="checkbox"/> Fair <input type="checkbox"/> Crumbling <input type="checkbox"/>
	Concrete	<input type="checkbox"/>	
	Earthen	<input type="checkbox"/>	
	Stone	<input type="checkbox"/>	
	Other:	<input type="checkbox"/>	
<b>Shape of Pipe/Swale (check one)</b>			
 <input type="checkbox"/>		 <input type="checkbox"/>	
 <input type="checkbox"/>		 <input type="checkbox"/>	
 <input type="checkbox"/>			
<b>Rounded Pipe/Swale</b>		<b>Rectangular Pipe/Swale</b>	
<b>Triangular Swale</b>		<b>Trapezoidal Swale</b>	
<b>Pipe Measurements:</b>		<b>Swale Measurements:</b>	
Inner Dia. (in): d= _____	Swale Width (in): T= _____	<b>Is there a headwall?</b> Yes <input type="checkbox"/> No <input type="checkbox"/>  <b>Condition:</b> Good <input type="checkbox"/> Poor <input type="checkbox"/> Fair <input type="checkbox"/> Crumbling <input type="checkbox"/>	
Outer Dia. (in): D= _____	Flow Width (in): t= _____		
Pipe Width (in): T= _____	Swale Height (in): H= _____		
Pipe Height (in): H= _____	Flow Height (in): h= _____*		
Flow Width (in): h= _____*	Bottom Width (in): b= _____		
<b>Description of Flow:</b> Heavy <input type="checkbox"/> Moderate <input type="checkbox"/> Trickling <input type="checkbox"/> Dry <input type="checkbox"/>			
<b>If the outlet is submerged check yes and indicate approximate height of water above the outlet invert. h above invert (in):</b>		<b>Circle All Materials Present:</b>	
<b>Odor:</b> Yes <input type="checkbox"/> No <input type="checkbox"/>	<b>Optical enhancers suspected?</b> Yes <input type="checkbox"/> No <input type="checkbox"/>	Rip rap Excessive sediment Foam Sanitary Waste Orange Staining Sheen: Bacterial Petroleum Floatables Algae Excessive Vegetation	
<b>Has channelization occurred?</b> Yes <input type="checkbox"/> No <input type="checkbox"/>	<b>Has scouring occurred below the outlet?</b> Yes <input type="checkbox"/> No <input type="checkbox"/>		
<b>Required Maintenance:</b> Tree Work	Remove Trash/Debris		
Ditch Work	Blocked Pipe		
Structural Corrosion	Erosion at Structure		
N/A	Other		
<b>Comments:</b>			

Outfall I.D.: \_\_\_\_\_ Date: \_\_\_\_\_

Inspector: \_\_\_\_\_

Time of Inspection: \_\_\_\_\_

Street Name \_\_\_\_\_

Last rainfall event \_\_\_\_\_

**WET WEATHER OUTFALL INSPECTION SURVEY**

Visual Inspection:	Yes	No	Comments (Include probable source of observed contamination):
Color	<input type="checkbox"/>	<input type="checkbox"/>	
Odor	<input type="checkbox"/>	<input type="checkbox"/>	
Turbidity	<input type="checkbox"/>	<input type="checkbox"/>	
Excessive Sediment	<input type="checkbox"/>	<input type="checkbox"/>	
Sanitary Waste	<input type="checkbox"/>	<input type="checkbox"/>	
Pet Waste	<input type="checkbox"/>	<input type="checkbox"/>	
Floatable Solids	<input type="checkbox"/>	<input type="checkbox"/>	
Oil Sheen	<input type="checkbox"/>	<input type="checkbox"/>	
Bacterial Sheen	<input type="checkbox"/>	<input type="checkbox"/>	
Foam	<input type="checkbox"/>	<input type="checkbox"/>	
Algae	<input type="checkbox"/>	<input type="checkbox"/>	
Orange Staining	<input type="checkbox"/>	<input type="checkbox"/>	
Excessive Vegetation	<input type="checkbox"/>	<input type="checkbox"/>	
Optical Enhancers	<input type="checkbox"/>	<input type="checkbox"/>	
Other _____			

## Sampling Form

<b>Sample Parameter</b>	<b>Test Method</b>	<b>Benchmark</b>	<b>Field Test Result</b>
Ammonia	Meter/test kit	>0.5 mg/L	
Surfactants (Detergents)	Meter/test kit	>0.25 mg/L	
Chlorine	Meter/test kit	>0.02mg/L	
Conductivity	meter	>2000uS/cm	
Temperature	meter		
Salinity	meter		
Indicator Bacteria E. Coli	Lab	See section 5.3	n/a
Total Phosphorus	Lab		n/a
Total Nitrogen	Lab		n/a

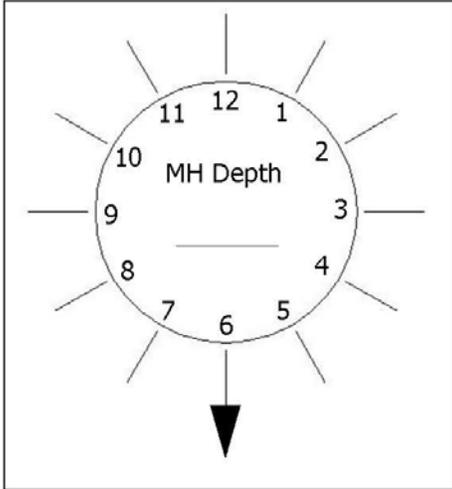
## Manhole Inspection Form

Catchment ID	Date
Manhole ID	Rain Last 48 Hours
Street Location	
Inspector	

J & D

CIVIL ENGINEERS

401 Ravenelle Road  
 North Grosvenordale, CT 06255  
 office@jdcivilengineers.com  
 860-923-2920



Sketch direction(s) of incoming flow

Clock Position (1-12)	Pipe Diameter (in.)	Invert Elevation (Ft)	Upgradient Structure/Source (MH, ID, CB, Priv, Unk)	Flow (Damp, Trickle, Moderate, High)

**Cover Conditions:** Diameter of clear opening (in.)    Buried:     Cannot Inspect:     Cannot Locate:

**Evidence of Flow:**  Yes  No    **If Yes, Description of Flow:**  Damp  Trickle  Moderate  High

**Visual Evidence of Illicit Discharge**

Visual Inspection:  None  Floatables  Pet Waste  Oily Sheen  Sanitary Waste  Algae  Foam

**Olfactory Evidence of Illicit Discharge**

Olfactory Inspection:  None  Sewage Smell  Musty  Rotten Eggs  Ammonia  Petroleum

Samples Taken and Sampling Results			
Temp.	Conductivity	Salinity	Chlorine
Ammonia	Surfactants	Bacteria	Pollutant of Concern

**COMMENTS:**

Further investigation needed?     Yes     No

---

## Water Quality Analysis Instructions, User's Manuals and Standard Operating Procedures

*Instructions: Include paper or digital copies of water quality analysis instructions, procedures, and SOPs for all sample parameters and all meters or field test kits that are used for analysis. This includes the manufacturer's instructions for how to use field test kits as well as the manufacturer's instructions or user's manual for any field instrumentation.*

These will have to be added by the Town once they purchase the test kits.

---

## IDDE Employee Training Record



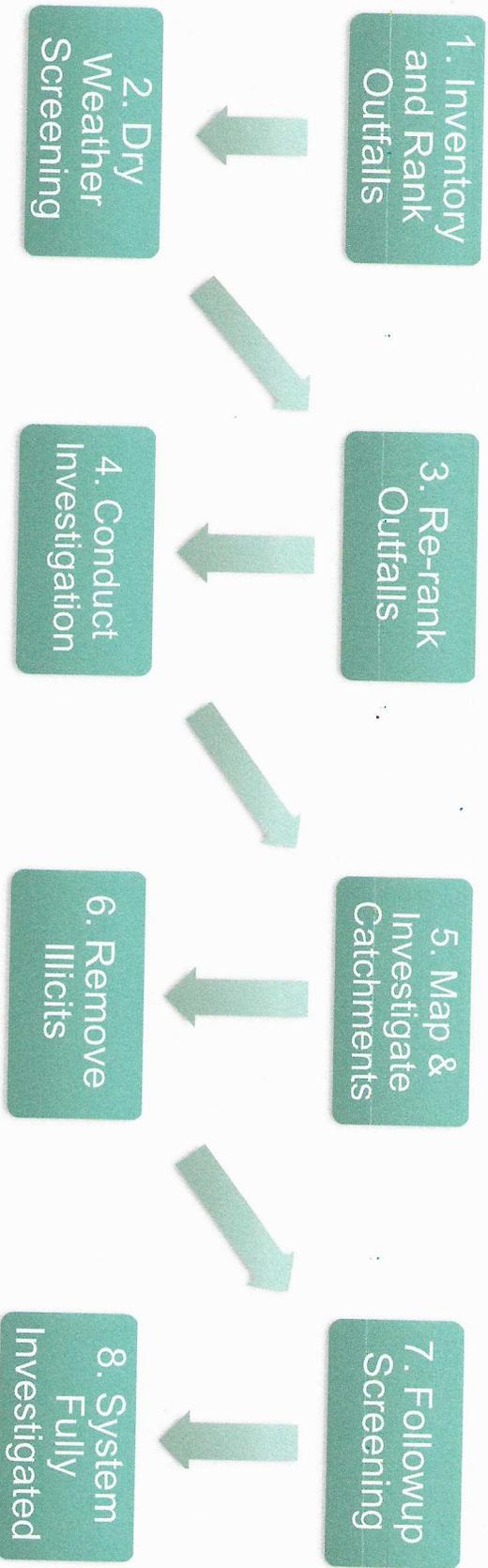
---

## Source Isolation and Confirmation Methods: Instructions, Manuals, and SOPs

*Instructions: Provide manufacturer instructions, manuals and procedures and any in-house SOPs used to perform source isolation and confirmation for illicit discharges.*

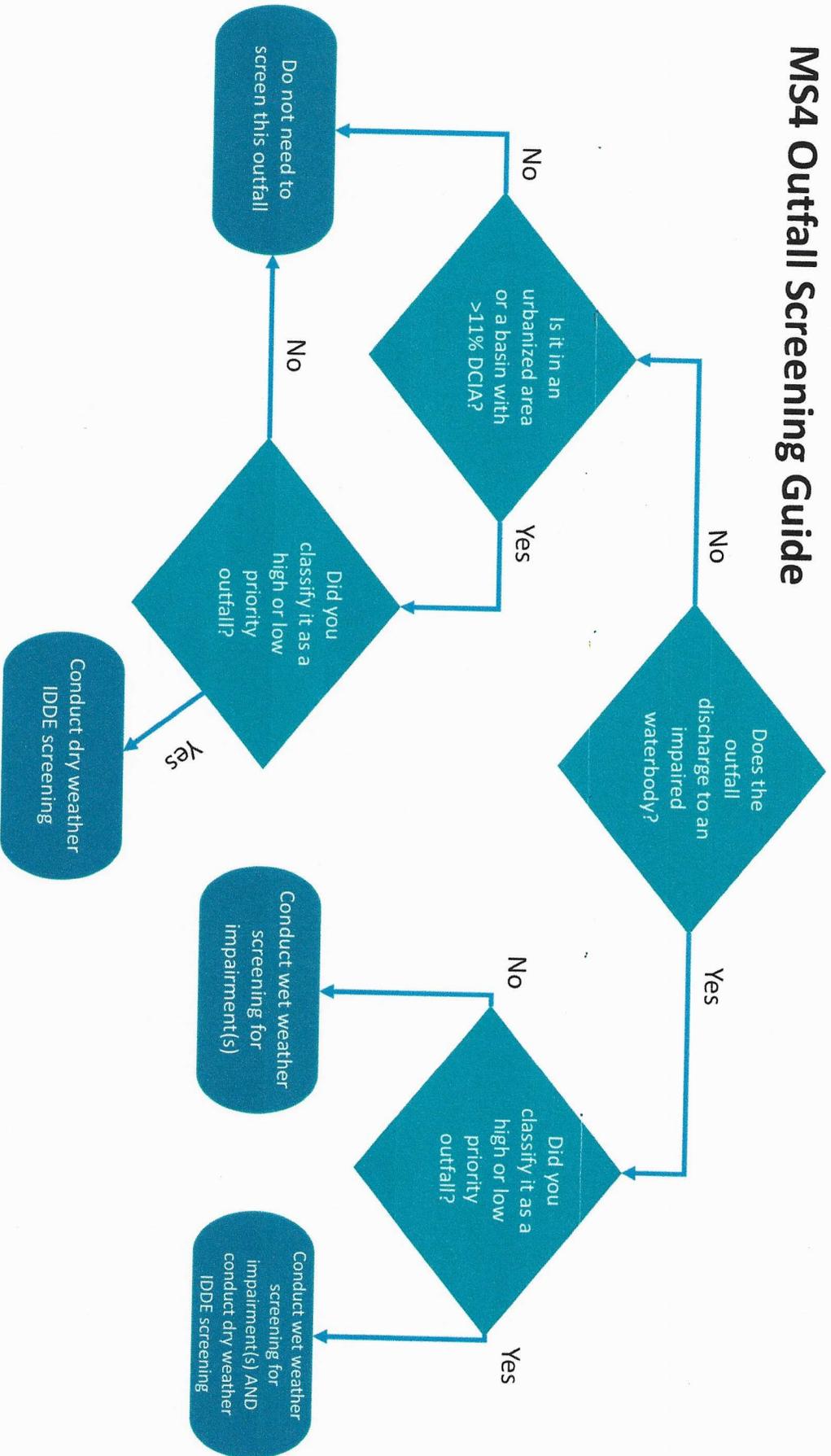
To be added by Town once such techniques and manufacturers have been identified

# IDDE Program Protocol



# Where do I go?

## MS4 Outfall Screening Guide



<http://nemo.uconn.edu/ms4/Implement/monitoring.htm>

## 2. Outfall (& interconnection) screening and sampling procedure

- Assess & prioritize 'catchments'
- Outfall & interconnection screening / sampling procedure
- Catchment investigation procedure
- Remove (and confirm)
- Follow-up screening
- Illicit discharge prevention procedures

### • Baseline screening (dry weather)

1. Screen High priority outfalls
2. Then screen Low priority outfalls
3. Re-rank outfalls based on results (and on annual basis)

High priority outfalls

1. Mill River 1
2. Mill River 2
3. Rocky Brook 4
4. Rocky Brook 5

Low priority outfalls

1. Rocky Brook 1
2. Roaring Brook 6
3. Roaring Brook 4
4. Mill River 7





# Catchment Categories

## Excluded

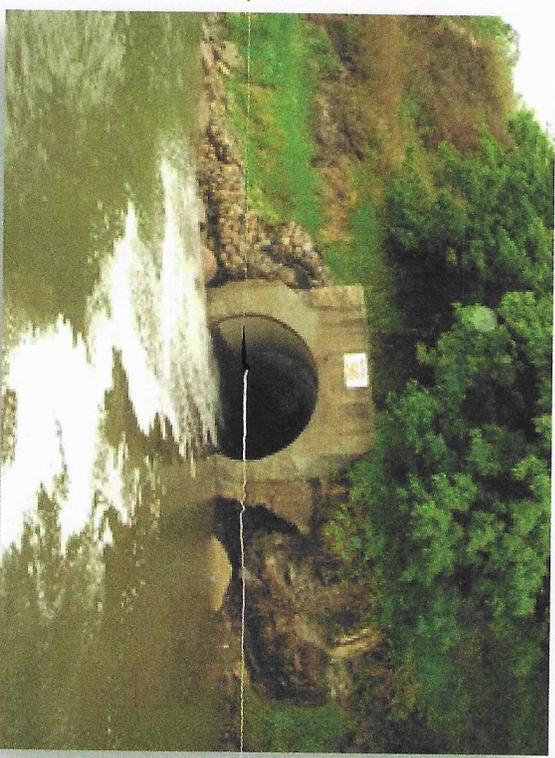
- Undeveloped areas with no dwellings or sanitary sewers
- Parks, sports fields, green space drainage (no services)
- Cross-country drainage through undeveloped land

## Problem

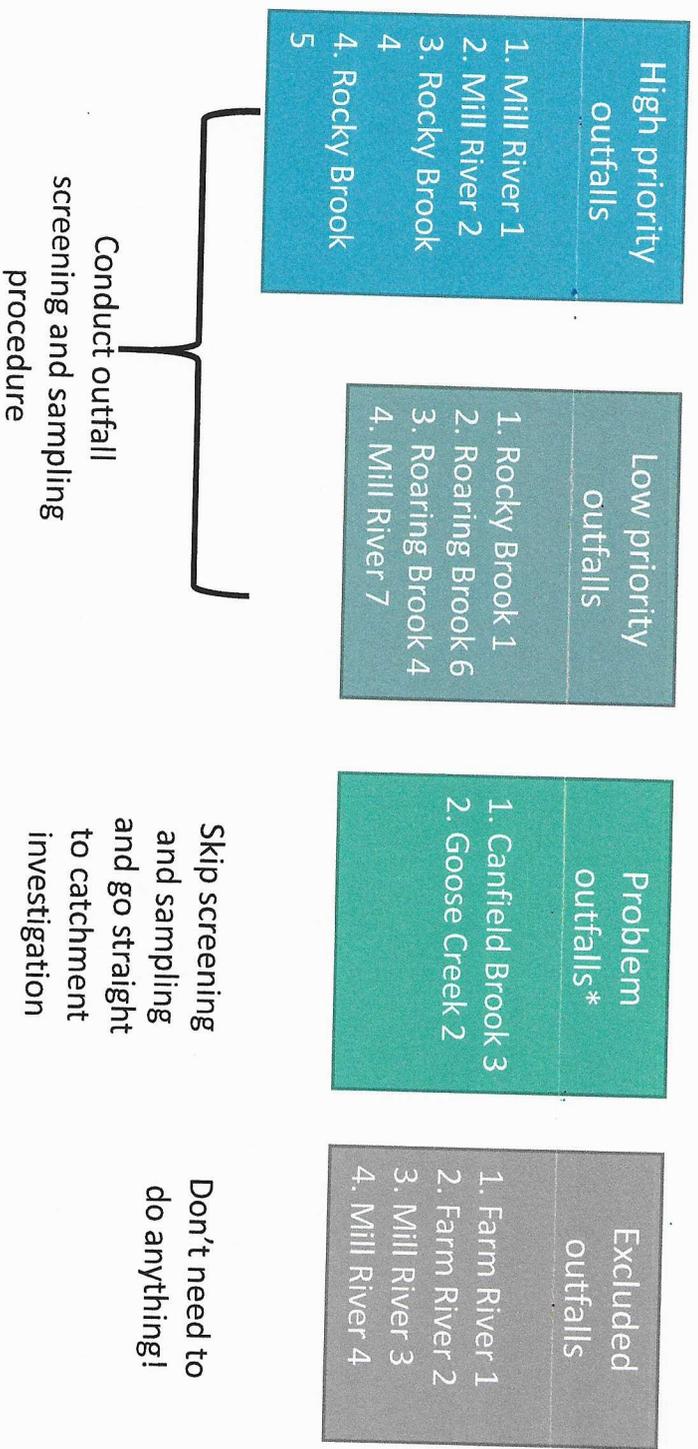
- Known or suspected illicit discharges
  - sampling results
  - visual/olfactory inspection

# Outfall/Catchment Ranking

- **Problem**
  - Known or suspected contributions of illicit discharges based on existing information
  - Visual/Olfactory Evidence
  - Do not need to be screened
  - Identified during initial ranking, cannot add to Problem category after initial ranking



# Assess & prioritize catchments



# 3. Catchment Investigation Procedure

- Review maps & records for catchment
  - Identify any System Vulnerability Factors
- Storm drain network investigation
  - Dry weather investigation at all key junction manholes AND
  - Wet weather investigation at outfalls for all catchments with 1 or more SVFs
- Isolate & verify source

- Assess & prioritize 'catchments' / sampling procedure
- Outfall & interconnection screening
- Catchment investigation procedure
- Remove (and confirm)
- Follow-up screening
- Illicit discharge prevention procedures

- High priority outfalls
- ~~1. Mill River-1~~
  2. Mill River 2
  3. Rocky Brook 4
  4. Rocky Brook 5

- Low priority outfalls
1. Rocky Brook 1
  2. Roaring Brook 6
  - ~~3. Roaring Brook 4~~
  4. Mill River 7

- Problem outfalls\*
1. Canfield Brook 3
  2. Goose Creek 2



# Catchment Categories

## High Priority

- Discharging to area of public health concern
  - Beaches
  - Recreation areas
  - Drinking water supply
  - Shellfish beds
- Screening indicates sewer input

## Low vs. High Priority screening factors

- Past complaints/reports
- Poor dry weather WQ
- Density of generating sites w/ potential to generate illicit pollutants
  - Car dealers, car washes, manufacturing areas, garden centers)
- Septic to sewer conversion areas
- Historic combined sewer
- Density of aging septics
- Long culverted streams

# 4. Remove (and confirm) source

- When source of illicit discharge is found, exercise authority as necessary to require its removal
- Within 1 year of removal of all illicit discharges in a catchment area, complete confirmatory outfall or interconnection screening

- Assess & prioritize 'catchments' / outfall & interconnection screening / sampling procedure
- Catchment investigation procedure
- Remove (and confirm)
- Follow-up screening
- Illicit discharge prevention procedures

High priority outfalls

1. ~~Mill River~~ 1
2. Mill River 2
3. Rocky Brook 4
4. Rocky Brook 5

Low priority outfalls

1. Rocky Brook 1
2. Roaring Brook 6
3. ~~Roaring Brook~~ 4
4. Mill River 7

Problem outfalls\*

1. Canfield Brook 3
2. Goose Creek 2



# 5. Follow-up screening

- After all catchment investigations and illicit discharges removed and confirmed –
- re-prioritize each outfall & interconnection and conduct ongoing screening once every 5 years

- Assess & prioritize 'catchments' / Outfall & interconnection screening / sampling procedure
- Catchment investigation procedure
- Remove (and confirm)
- Follow-up screening
- Illicit discharge prevention procedures

- High priority outfalls
1. Mill River 1
  2. Mill River 2
  3. Rocky Brook 4
  4. Rocky Brook 5

- Low priority outfalls
1. Rocky Brook 1
  2. Roaring Brook 6
  3. Roaring Brook 4
  4. Mill River 7

- Problem outfalls\*
1. Canfield Brook 3
  2. Goose Creek 2



# Thompson Illicit Discharge and Connection Stormwater Ordinance

ORDINANCE NO. ~~22~~001

## SECTION 1. PURPOSE/INTENT

The purpose of this ordinance is to (1) comply with requirements of the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4) issued by the Connecticut Department of Energy and Environmental Protection (DEEP) pursuant to the authority delegated to it by the US Environmental Protection Agency pursuant to 33 USC § 1342(b) for permitting the discharge of pollutants to waters of the United States under the National Pollutant Discharge Elimination System (NPDES), and (2) provide for the health, safety, and general welfare of the citizens of Thompson through the regulation of non-stormwater discharges to Thompson's publicly owned stormwater drainage system to the maximum extent practicable as required by federal and state law. The objectives of this ordinance are:

- (1) To control the contribution of pollutants to the Thompson's MS4 by stormwater discharges by any person,
- (2) To prohibit and eliminate illicit connections and discharges to the municipal separate storm sewer system, and
- (2) To establish pursuant to § 7-157 of the Connecticut General Statutes the legal authority to carry out all inspection, surveillance and monitoring procedures necessary to ensure compliance with this ordinance.

## SECTION 2. DEFINITIONS.

As used in this ordinance, the following definitions shall apply:

Best Management Practices or BMPs means the schedule(s) of activities, practices (and prohibitions of practices), structures, vegetation, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants to waters of the state consistent with state, federal or other equivalent and technically supported guidance. BMPs also include treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from material storage.

Board of Selectmen means the Thompson Board of Selectmen.

Clean Water Act means the federal Water Pollution Control Act (33 U.S.C. § 1251 et seq.), and any subsequent amendments thereto,

Connecticut Water Quality Standards means those standards adopted and amended by the DEEP pursuant to § 22a-426 of the Connecticut General Statutes,

Construction activity means any activity associated with construction at a site including, but not limited to, clearing and grubbing, grading, excavation, and dewatering.

Director means the Thompson Director of Public Works.

DEEP means the Connecticut Department of Energy and Environmental Protection.

Facility means anything that is built or installed to perform some particular function or anything that aids or makes easier the performance of activities involved in the business of a person or corporation.

Hazardous materials means any material, including any substance, waste, or combination thereof, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, a substantial present or potential hazard to human health, safety, property, or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

Illicit discharge means any discharge to waters of the state that does not consist entirely of stormwater or uncontaminated ground water except those discharges identified in Section 8 of this ordinance.

Illicit connection(s) means (1) any drain or conveyance, whether on the surface or subsurface, which allows an illicit discharge to enter Thompson's MS4 including but not limited to any conveyances which allow any non-stormwater discharge including sewage, process wastewater, and wash water to enter Thompson's MS4 and any connections to Thompson's MS4 from indoor drains and sinks, regardless of whether said drain or connection had been previously allowed, permitted, or approved by either the DEEP, the Thompson Planning and Zoning Commission, or Thompson Inland Wetlands Commission or, (2) any drain or conveyance connected from a commercial or industrial land use to Thompson's MS4 which has not been documented in plans, maps, or equivalent records and approved by either the DEEP, the Thompson Planning and Zoning Commission, or Thompson Inland Wetlands Commission.

Industrial activity mean any activity subject to NPDES Industrial Permits as defined in 40 CFR, Section 122.26 (b)(14).

Municipal separate storm sewer system or MS4 means the conveyances for stormwater (including roads with drainage systems, streets, catch basins, curbs, gutters, ditches, man-made or altered drainage channels, piped storm drains, retention and detention basins, reservoirs, and other drainage structures) owned or operated by the Town of Thompson or by any state or federal institution and discharging to surface waters of the state.

National Pollutant Discharge Elimination System permit or NPDES permit means any permit issued by the DEEP pursuant to authority delegated to it by the US Environmental Protection Agency pursuant to 33 USC § 1342(b)) that authorizes the discharge of pollutants to waters of the United States, whether the permit is applicable on an individual, group, or general area-wide basis.

Non-stormwater discharge means any discharge to Thompson's MS4 that is not composed entirely of stormwater.

Person means any individual, partnership, association, firm, limited liability company, corporation or other entity recognized by law and acting as either the owner or as the owner's agent, except a municipality, and includes the federal government, the state or any instrumentality of the state, and any officer or governing or managing body of any partnership, association, firm or corporation or any member or manager of a limited liability company.

Pollutant means anything which causes or contributes to pollution.

Pollution means any harmful thermal effect or the contamination or rendering unclean or impure of any waters of the state by reason of any waste or other materials discharged or deposited therein by any public or private sewer or otherwise so as directly or indirectly to come in contact with any waters; pollutants may include, but

are not limited to: paints, varnishes, and solvents; oil and other automotive fluids; non-hazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects, ordinances, and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; hazardous substances and wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from constructing a building or structure; and noxious or offensive matter of any kind.

Property means any building, lot, parcel of land, or portion of land whether improved or unimproved including adjacent sidewalks and parking strips, equipment or facility.

Stormwater means waters consisting of rainfall runoff, including snow or ice melt, during a rain event.

Stormwater Pollution Prevention Plan or SPPP means a document which describes the Best Management Practices and activities to be implemented by a person or business to identify sources of pollution or contamination at a site and the actions to eliminate or reduce pollutant discharges to stormwater, stormwater conveyance systems, and/or receiving waters to the maximum extent practicable.

Waters of the state means all rivers, brooks, watercourses, waterways, wells, springs, lakes, ponds, marshes, drainage systems and all other surface or underground streams, bodies or accumulations of water, natural or artificial, public or private, which are contained within, flow through or border upon the state of Connecticut any portion thereof.

Wastewater means any water or other liquid, other than uncontaminated stormwater, discharged from a facility.

### **SECTION 3. APPLICABILITY**

This ordinance shall apply to all water entering Thompson's MS4 generated on any developed and undeveloped lands unless explicitly exempted by the Director.

### **SECTION 4. RESPONSIBILITY FOR ADMINISTRATION**

The Director shall administer, implement, and enforce the provisions of this ordinance. Any powers granted or duties imposed upon the Director may be delegated in writing by the Director to persons or entities acting in the beneficial interest of or in the employ of the Town of Thompson.

### **SECTION 5. COMPATIBILITY WITH OTHER REGULATIONS**

This ordinance is not intended to modify or repeal any other ordinance, rule, regulation, or other provision of law. The requirements of this ordinance are in addition to the requirements of any other ordinance, rule, regulation, or other provision of law, and where any provision of this ordinance imposes restrictions different from those imposed by any other ordinance, rule, regulation, or other provision of law, whichever provision is more restrictive or imposes higher protective standards for human health or the environment shall control.

### **SECTION 6. SEVERABILITY**

The provisions of this ordinance are hereby declared to be severable. If any provision, clause, sentence, or paragraph of this ordinance or the application thereof to any person, establishment, or circumstances shall be held invalid, such invalidity shall not affect the other provisions or application of this ordinance.

### **SECTION 7. ULTIMATE RESPONSIBILITY**

The standards set forth herein and promulgated pursuant to this ordinance are minimum standards; therefore this ordinance does not intend nor imply that compliance by any person will ensure that there will be no contamination, pollution, nor unauthorized discharge of pollutants.

## **SECTION 8. DISCHARGE AND CONNECTION PROHIBITIONS**

### **8.1 Prohibition of Illicit Discharges and Exemptions.**

No person shall throw, drain or otherwise discharge, cause or allow others under its control to throw, drain, or otherwise discharge into the Thompson's MS4 any pollutants or waters containing any pollutants that cause or contribute to a violation of Connecticut Water Quality Standards as amended.

The commencement, conduct or continuance of any illicit discharge to Thompson's MS4 is prohibited except as described as follows:

- (1) The following discharges are exempt from discharge prohibitions established by this ordinance: uncontaminated ground water discharges including, but not limited to, pumped ground water, foundation drains, water from crawl space pumps and footing drains; irrigation water including, but not limited to, landscape irrigation and lawn watering runoff; residual street wash water associated with sweeping; discharges or flows from firefighting activities (except training); and naturally occurring discharges such as rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)), springs, diverted stream flows and flows from riparian habitats and wetlands.
- (2) Any non-stormwater discharge to Thompson's MS4 authorized by a permit issued pursuant to § 22a-430 or § 22a-430b of the Connecticut General Statutes is also authorized under this ordinance.

### **8.2 Prohibition of Illicit Connections.**

- (1) The construction, use, maintenance or continued existence of illicit connections to Thompson's MS4 is prohibited.
- (2) This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.
- (3) A person is considered to be in violation of this ordinance if the person makes a connection conveying sewage to Thompson's MS4, or allows such a connection to continue.

## **SECTION 9. INVESTIGATION OF SUSPECTED ILLICIT DISCHARGES**

Upon the receipt of a complaint or evidence that an illicit discharge and/or connection exists, the Director shall conduct or cause an investigation to determine the existence and/or origin of the illicit discharge and/or illicit connection. The Director will make or cause preliminary contact with the property owner or facility operator and seek abatement of the illicit discharge and/or illicit connection. If the source appears to originate from property containing an industrial or construction site, the Director may or may cause additionally contact the DEEP to determine if the property is subject to permitting by the DEEP and assess if the illicit discharge and/or connection is in violation of the DEEP permit. If within 15 days of the preliminary contact the property owner or facility operator such permitted property does not willingly abate the illicit discharge/ connection the Director shall either issue an Order to Abate pursuant to the provision of this ordinance and/or notify the DEEP of the suspected permit violation for enforcement action by the DEEP.

## **SECTION 10. INDUSTRIAL OR CONSTRUCTION ACTIVITY DISCHARGES**

Any person subject to an industrial or construction activity NPDES stormwater discharge permit shall comply with all provisions of such permit. Proof of compliance with said permit may be required in a form acceptable to the Director prior to the allowing of discharges to Thompson's MS4.

#### **SECTION 11. NOTIFICATION OF SPILLS**

Notwithstanding other requirements of law, as soon as any person responsible for a facility or operation, or responsible for emergency response for a facility or operation has information of any known or suspected release of materials which are resulting or may result in illicit discharges or pollutants discharging into stormwater, Thompson's MS4, or water of the state said person shall take all necessary steps to ensure the discovery, containment, and cleanup of such release. In the event of such a release of hazardous materials said person shall immediately notify DEEP Emergency Response Unit and Thompson's 911 emergency dispatch services. In the event of a release of non-hazardous materials, said person shall notify the Director in person or by phone or facsimile no later than the next business day. Notifications in person or by phone shall be confirmed by written notice addressed and mailed to the Director of Public Works, Thompson Town Hall, North Grosvenordale CT 06255 within three business days of the phone notice. If the discharge of prohibited materials emanates from a commercial or industrial establishment, the owner or operator of such establishment shall also retain an on-site written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least three years.

#### **SECTION 12. SUSPENSION OF MS4 ACCESS**

##### **12.1. Suspension due to Illicit Discharges in Emergency Situations**

In the event the Director finds an actual or threatened discharge presents or may present imminent and substantial danger to the environment, or to the health or welfare of persons, or to Thompson's MS4 or waters of the state the Director will immediately notify the DEEP of such danger and may, without additional notice, take actions to cause the immediate suspension of the MS4 discharge access to Thompson's MS4. Such actions may include, but are not limited to the physical blockage to Thompson's MS4 and issuing an order to immediately abate the illicit discharge pursuant to Section 13 of this ordinance.

##### **12.2 Suspension due to the Detection of Illicit Discharge**

Any person discharging to Thompson's MS4 in violation of this ordinance may have their MS4 access terminated in accordance with Sections 13, 14 and 17 of this ordinance if such termination would abate or reduce an illicit discharge.

#### **SECTION 13. ENFORCEMENT- ORDER TO ABATE**

13.1 Whenever the Director finds that a person has created or is maintaining an illicit discharge and/or illicit connection to the Thompson MS4 in violation of Section 8 of this ordinance, the Director may issue by certified mail a written order to abate such discharge and/or connection and cause the termination of such discharge and/or connection. The order may require without limitation:

- (1) The elimination of illicit connections and/or discharges;
- (2) That violating discharges, practices, or operations shall cease and desist;
- (3) The abatement or remediation of stormwater pollution or contamination hazards and the restoration of any affected property; and
- (4) Payment to recoup costs incurred by the Director;

- (6) Suspension of any discharge to Thompson's MS4 system consistent with Section 12 of this ordinance; and
- (7) The implementation of source control or treatment BMPs.

If abatement of the violation and/or remediation of affected property is required, the order shall set forth a deadline within which such abatement and/or remediation must be completed. Where elimination is not possible within sixty (60) days of source confirmation, a schedule for its elimination will be set for no more than one hundred and twenty ~~180~~ <sup>120</sup> days.

Said order shall further instruct that, should the actions required by the order fail to be completed within the established deadline, such actions may be performed at the Director's direction and the person to whom the order is issued is liable for any expenses incurred by the Director in abetting the violation.

#### **SECTION 14. APPEAL OF ORDER TO ABATE**

Any person receiving an Order to Abate may in writing appeal the order to the Board of Selectmen for reconsideration. The notice of appeal must be received within fourteen (14) days from the date of the Order to Abate. A hearing on the appeal before the Board of Selectmen designee shall take place within twenty-one (21) days from the date of receipt of the notice of appeal. The decision of the Board of Selectmen shall be final.

#### **SECTION 15. ENFORCEMENT MEASURES AFTER APPEAL**

If the illicit discharge or illicit connection has not been abated pursuant to the requirements set forth in the Order to Abate, or, in the event of an appeal, within fourteen (14) days of the decision of the Board of Selectmen upholding the decision of the Director, then the Director shall (1) in the case of industrial discharges refer the matter to the DEEP for its enforcement under § 22a-432 of the Connecticut General Statutes, or (2) in the case of construction activities causing pollution to waters of the state by the failure to control erosion and sedimentation refer the matter to either the DEEP, the Thompson Inland Wetlands Commission or the Thompson Planning & Zoning Commission, as the Director deems appropriate.

#### **SECTION 16. COST OF ABATEMENT OF THE VIOLATION**

Within forty-five (45) days after abatement of the violation, the owner of the property will be notified in writing by certified mail of the cost of abatement, including administrative costs, and the payment requirements. The property owner may file a written protest objecting to the amount of the assessed costs within fourteen (14) days of written notification. If the amount due is not paid within a timely manner as determined by the decision of the Board of Selectmen or by the expiration of the time in which to file an appeal, the cost of the abatement charges shall become a special tax assessment against the property and subject to collection pursuant to the provisions of § 12-172 and § 12-173 of the Connecticut General Statutes. Payment and interest on abatement charges shall be in accordance with § 12-144 of the Connecticut General Statutes unless otherwise determined by the Board of Selectmen.

#### **SECTION 17. INJUNCTIVE RELIEF**

It shall be unlawful for any person to violate any provision or fail to comply with any of the requirements of this ordinance. If a person has violated or continues to violate the provisions of this ordinance or order to abate, the Director or Board of Selectmen may petition for a permanent injunction restraining the person from activities which would create further violations or compelling the person to perform abatement or remediation of the violation.

**SECTION 18. VIOLATIONS DEEMED A PUBLIC NUISANCE**

In addition to the enforcement processes and penalties allowed by law, any condition caused or permitted to exist in violation of any of the provisions of this ordinance is a threat to public health, safety, and welfare, and is declared and deemed a nuisance.

**SECTION 19. REMEDIES NOT EXCLUSIVE**

The remedies listed in this ordinance are not exclusive of any other remedies available under any applicable federal, state or local law and it is within the discretion of the Director to seek cumulative remedies.

**SECTION 20. ADOPTION OF ORDINANCE**

This ordinance shall be in full force and effect fifteen [15] days after its publication in a newspaper of general circulation in Thompson. All prior ordinances and parts of ordinances in conflict with this ordinance are hereby repealed.

PASSED AND ADOPTED this ~~20~~ day of July, 2021

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	<b>Table 6-1 CATCHMENT ASSESSMENT AND PRIORITY RANKING MATRIX</b>													
2								Discharging						Priority Ranking (7)
3							Within Priority	To Area of			Previous			1 - problem
4						Receiving	area with DCIA	Concern to		Density of	Screening	System		2 - high priority
5					Receiving	Water	> 11%, urbanized, or	Public	Connectivity	Generating	Indicated	Vulnerability		3 - low priority
6	New Id #	Old Id #	Type	Street	Water Body	Quality (1)	impaired water body	Health (2)	level (3)	Sites (4)	Sewage (5)	Factor (6)	Score	4 - excluded
7									Fully = 5		Yes = 3			
8						Poor = 3	yes (1P) = 2	Yes= 3	Wicked = 4	High = 3	(Problem	Score =		
9				Scoring	Criteria	Fair = 2	No (2N) = 0	No = 0	Moderately = 3	Medium = 2	Catchment)	Number of		
10						Good = 0			Sorta = 2	Low = 1	No = 0	Yes answers		red = problem
11									Slightly = 1			in Table 8-1		yellow = high priorit
12	1-09	SD 31	1P	Poulin Drive	Quinebaug River	0	2	0	3	1		2	8	2
13	1-10	SD 32	1P	Leo Circle	Quinebaug River	0	2	0	3	1		2	8	2
14	1-11	SD 33	1P	Walker Drive	Quinebaug River	0	2	0	3	1		2	8	2
15	1-12	SD 48	1P	Green Acres Ln.	Quinebaug River	0	2	0	3	1		2	8	2
16	1-13	SD 49	1P	Green Acres Ln.	Quinebaug River	0	2	0	3	1		2	8	2
17	1-14	SD 50	1P	Linda Ln.	Quinebaug River	0	2	0	3	1		2	8	2
18	1-15	new		Linda Ln.	Quinebaug River	0	2	0	3	1		2	8	2
19	2-04	SD 121	1P	Tuft Rd	Shunway Brook	0	2	0	2	1		0	5	3
20	3-01	SD 42	1P	Laurel Wood Drive	Five Mile River	0	2	0	3	1		2	8	2
21	3-03	SD 97	1P	Wagher Rd	Long Branch	0	2	0	3	1		0	6	3
22	3-04	SD 98	1P	Labby Rd	Long Branch	0	2	0	2	1		0	5	3
23	3-05	SD 99	1P	Dennis Dr	French River	0	2	0	2	1		2	7	3
24	4-01	SD 34	1P	Sand Dam Road	Five Mile River	0	2	0	3	1		1	7	3
25	4-02	SD 35	1P	Oakwood Drive	Five Mile River	0	2	0	3	1		1	7	3
26	4-03	SD 36	1P	Shady Lane	Five Mile River	0	2	0	3	1		1	7	3
27	4-05	SD 38	1P	Sand Dam Road	Five Mile River	0	2	0	3	1		1	7	3
28	4-08	SD 41	1P	Jeziarski Lane	Five Mile River	0	2	3	3	1		2	11	2
29	6-01	SD 15	1P	Buckley Hill Road	French River	0	2	0	3	1		1	7	3
30	6-03	SD 154	1P	Pompeo Road	French River	0	2	0	2	1		0	5	3
31	7-01	SD 93	1P	Emil Dr	Five Mile River	0	2	0	3	1		1	7	3
32	7-02	SD 94	1P	Emil Dr	Five Mile River	0	2	0	3	1		1	7	3
33	7-04	SD 100	1P	Paysay Rd	Stoud Brook	0	2	0	2	1		0	5	3
34	7-05	SD 101	1P	Stawicki Rd	Stoud Brook	0	2	0	2	1		0	5	3
35	7-07	SD 103	1P	Stawicki Rd	Stoud Brook	0	2	0	2	1		0	5	3
36	7-08	SD 104	1P	Stawicki Rd	Stoud Brook	0	2	0	2	1		0	5	3
37	7-09	SD 106	1P	Stawicki Rd	French River	0	2	0	2	1		0	5	3
38	7-10	SD 107	1P	Stawicki Rd	French River	0	2	0	2	1		0	5	3
39	7-11	SD 118	1P	Pompeo Rd	Stoud Brook	0	2	0	2	1		0	5	3
40	7-12	SD 119	1P	Pompeo Rd	Stoud Brook	0	2	0	2	1		0	5	3
41	10-01	SD 2	1P	Main Street	French River	0	2	0	4	1	3	1	11	1
42	10-02	SD 14	1P	Rachel Drive	Stoud Brook	0	2	3	3	1		1	10	2
43	10-03	SD 16	1P	Marshall Lane	French River	0	2	0	4	1	3	1	11	1
44	10-04	SD 17	1P	Marshall Lane	French River	0	2	0	4	1		1	8	2
45	10-05	SD 18	1P	Walker Street	French River	0	2	0	4	1		1	8	2
46	10-06	SD 19	1P	Walker Street	French River	0	2	3	4	1		1	11	2
47	10-07	SD 21	1P	Main Street	French River	0	2	0	3	2	3	1	11	1
48	10-08	SD 22	1P	Rachel Drive	Sunset Hill Brook	0	2	0	3	1		1	7	3

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	<b>Table 6-1 CATCHMENT ASSESSMENT AND PRIORITY RANKING MATRIX</b>													
2								Discharging						Priority Ranking (7)
3							Within Priority	To Area of			Previous			1 - problem
4						Receiving	area with DCIA	Concern to		Density of	Screening	System		2 - high priority
5					Receiving	Water	> 11%, urbanized, or	Public	Connectivity	Generating	Indicated	Vulnerability		3 - low priority
6	New Id #	Old Id #	Type	Street	Water Body	Quality (1)	impaired water body	Health (2)	level (3)	Sites (4)	Sewage (5)	Factor (6)	Score	4 - excluded
49	10-09	SD 24	1P	Murolo Road	Stoud Brook	0	2	0	2	1		1	6	3
50	10-10	SD 109	1P	Buckley Hill Road	Stoud Brook	0	2	0	2	1		1	6	3
51	10-11	SD 110	1P	Buckley Hill Road	Stoud Brook	0	2	0	4	1		0	7	3
52	10-12	SD 111	1P	Buckley Hill Road	Stoud Brook	0	2	0	2	1	3	0	8	1
53	10-13	SD 120	1P	Pompeo Rd	Stoud Brook	0	2	0	1	1		0	4	3
54	10-15	SD 127	1P	Mason Terr.	French River	0	2	0	2	1		1	6	3
55	10-16	SD 129	1P	Murolo Road	Stoud Brook	0	2	0	2	1		1	6	3
56	10-17	SD 130	1P	Buckley Hill Road	French River	0	2	0		1		0	3	no outfall
57	10-18	SD 131	1P	Buckley Hill Road	French River	0	2	0	3	1		0	6	3
58	10-19	SD 132	1P	Buckley Hill Road	French River	0	2	0	2	1		0	5	3
59	10-20	SD 133	1P	Rawson Road	French River	0	2	0	3	1		1	7	3
60	10-21	SD 134	1P	Blain Road	French River	0	2	0	2	1		1	6	3
61	10-22	SD 135	1P	Reardon Road	French River	0	2	0	2	1		0	5	3
62	10-23	SD 136	1P	Reardon Road	French River	0	2	0	2	1		0	5	3
63	10-24	SD 137	1P	Reardon Road	French River	0	2	0	2	1		0	5	3
64	10-25	SD 138	1P	Ravenelle Street	French River	0	2	0	3	1		1	7	3
65	10-26	SD 139	1P	Gaumond Road	French River	0	2	0	2	1		0	5	3
66	10-27	SD 147	1P	School Street	Backwater Brook	0	2	0		1		1	4	not found
67	10-28	SD 148	1P	Whittemore Street	French River	0	2	0	3	1		1	7	3
68	10-29	SD 150	1P	Reardon Road	French River	0	2	0	2	1		0	5	3
69	10-30	SD 151	1P	Red Bridge Road	French River	0	2	0	3	1	3	1	10	1
70	10-31	SD 152	1P	Rawson Road	French River	0	2	0	3	1		1	7	3
71	10-32	SD 105	1P	Valley Rd	Stoud Brook	0	2	0	2	1		1	6	3
72	10-33	SD 20	1P	Walker Street	French River	0	2	0	3	1		1	7	3
73	14-03	SD 13	1P	Klondike Street	Sunset Hill Brook	0	2	0	2	1		1	6	3
74	14-04	SD 126	1P	Reardon Road	French River	0	2	0	2	1	3	1	9	1
75	14-07	SD 142	1P	Gaymond Road	Quinebaug River	2	2	0	2	1		2	9	2
76	14-08	SD 143	1P	Gaymond Road	Quinebaug River	2	2	0	2	1		2	9	2
77	14-09	SD 144	1P	Seastrand Road	Quinebaug River	2	2	0	2	1		1	8	2
78	14-10	SD 145	1P	Blain Road	French River	2	2	0	2	1		1	8	2
79	14-11	SD 146	1P	Reardon Road	French River	2	2	0	2	1		0	7	3
80	14-12	SD 149	1P	Gaumond Road	Quinebaug River	0	2	0	2	1		2	7	3
81	14-13	SD 155	1P	Park Street	French River	0	2	0	4	2		1	9	2
82	15-01	SD 57	2N	Maple Ln	Quinatissett Brook	0	0	0	3	1		1	5	3
83	15-03	SD 59	2N	Chase Rd	Quinatissett Brook	0	0	0	3	1		2	6	3
84	15-04	SD 60	2N	Chase Rd	Quinatissett Brook	0	0	0	2	1		1	4	3
85	15-06	SD 64	2N	Quaddick Rd	Quinatissett Brook	0	0	0	2	1		1	4	3
86	18-01	SD 1	1P	Old Route 12	French River	0	2	0	2	1		0	5	3
87	18-02	SD 46	1P	West Thompson Rd	Wheatons Brook	2	2	0	2	1		0	7	2
88	18-04	SD 51	1P	Azud Rd	Quinebaug River	2	2	0	2	1		0	7	3
89	18-05	SD 52	1P	Azud Rd	Quinebaug River	2	2	0	2	1		0	7	3
90	18-06	SD 53	1P	Azud Rd	Quinebaug River	2	2	0	2	1		0	7	3

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	<b>Table 6-1 CATCHMENT ASSESSMENT AND PRIORITY RANKING MATRIX</b>													
2								Discharging						Priority Ranking (7)
3							Within Priority	To Area of			Previous			1 - problem
4						Receiving	area with DCIA	Concern to		Density of	Screening	System		2 - high priority
5					Receiving	Water	> 11%, urbanized, or	Public	Connectivity	Generating	Indicated	Vulnerability		3 - low priority
6	New Id #	Old Id #	Type	Street	Water Body	Quality (1)	impaired water body	Health (2)	level (3)	Sites (4)	Sewage (5)	Factor (6)	Score	4 - excluded
91	18-07	SD 54	1P	Azud Rd	Quinebaug River	2	2	0	2	1		0	7	3
92	18-08	SD 112	1P	Church Street	Quinebaug River	2	2	0	2	1		1	8	2
93	18-09	SD 113	1P	Oak Hill Dr	Quinebaug River	2	2	0	2	1		1	8	2
94	18-10	SD 124	1P	Oak Hill Dr	does not exist									does not exist
95	18-11	SD 125	1P	Oak Hill Dr	Quinebaug River	2	2	0	3	1		1	9	2
96	18-12	SD 128	1P	Messier Road	Wheatons Brook	2	2	0	2	1		1	8	2
97	19-01	SD 55	1P	Ballard Rd	French River	2	2	0		1		0	5	cross culvert
98	1-01	SD 11	2N	Fabyan Road	Quinebaug River	0	0	0	2	1		1	4	3
99	1-02	SD 12	2N	Fabyan Road	Quinebaug River	0	0	0	2	1		1	4	3
100	1-03	SD 23	2N	Fabyan Woodstock	Quinebaug River	0	0	0	2	1		1	4	3
101	1-04	SD 25	2N	Fabyan Woodstock	Quinebaug River	0	0	0	2	1		1	4	3
102	1-05	SD 27	2N	Fabyan Road	Quinebaug River	0	0	0	2	1		1	4	3
103	1-06	SD 28	2N	Fabyan Road	Quinebaug River	0	0	0	2	1		2	5	3
104	1-07	SD 29	2N	Fabyan Road	Quinebaug River	0	0	0	2	1		1	4	3
105	1-08	SD 30	2N	Parker Road	Quinebaug River	0	0	0	3	1		1	5	3
106	1-16	new	2N	Donovan Dr	Quinebaug River	0	0	0	3	1		0	4	3
107	1-17	new	2N	Donovan Dr	Quinebaug River	0	0	0	3	1		0	4	3
108	1-18	new	2N	Donovan Dr	Quinebaug River	0	0	0	3	1		0	4	3
109	1-19	new	2N	Fabyan Rd	Quinebaug River	0	0	0	3	1		0	4	3
110	1-20	new	2N	Fabyan	Quinebaug River	0	0	0	3	1		0	4	3
111	1-21	new	2N	Blackmer Rd	Quinebaug River	0	0	0	3	1		0	4	3
112	2-01	SD 114	2N	Ryler Court	French River	0	0	0	3	1		0	4	3
113	2-02	SD 115	2N	Wilsonville Rd	French River	0	0	0	3	1		2	6	3
114	2-03	SD 117	2N	Fairway Dr	French River	0	0	0	3	1		0	4	3
115	3-02	SD 96	2N	Wilsonville Rd	Five Mile River	0	0	0	2	1		1	4	3
116	3-06	SD 116	2N	Wilsonville Rd	Long Branch	0	0	0	2	1		1	4	3
117	3-07	SD 153	2N	Lowell Davis Road	Stoud Brook	0	0	0	2	1		1	4	3
118	4-04	SD 37	2N	Meadow Drive	Five Mile River	0	0	0	3	1		1	5	3
119	4-06	SD 39	2N	Sand Dam Road	Five Mile River	0	0	0	2	1		1	4	3
120	4-07	SD 40	2N	Orchard Drive	Five Mile River	0	0	0	3	1		1	5	3
121	4-09	SD 44	2N	Sunny Side Drive	Five Mile River	0	2	0	3	1		1	7	3
122	4-10	SD 45	2N	Sand Dam Road	Five Mile River	0	0	0	2	1		1	4	3
123	4-11	SD 81	2N	New Rd	Five Mile River	0	0	0	2	1		1	4	3
124	4-12	new		East Thompson Rd	Five Mile River	0	0	0	3	1		0	4	3
125	5-01	SD 8	2N	Fabyan Road	Quinebaug River	0	0	0	2	1		1	4	3
126	5-02	SD 9	2N	Fabyan Road	Quinebaug River	0	0	0	2	1		1	4	3
127	5-03	SD 10	2N	Fabyan Road	Quinebaug River	0	0	0	2	1		1	4	3
128	5-04	SD 26	2N	Fabyan Woodstock	Quinebaug River	0	0	0	2	1		1	4	3
129	6-02	SD 122	2N	Cortis Rd	Backwater Brook	0	0	0	2	1		1	4	3
130	7-03	SD 95	2N	Jason Heights	Janson Brook	0	0	0	3	1		1	5	3
131	7-06	SD 102	2N	Heritage Circle	Baptist Brook	0	0	0	3	1		0	4	3
132	8-01	SD 43	2N	Porter Plain Road	Five Mile River	0	0	0	2	1		1	4	3

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	<b>Table 6-1 CATCHMENT ASSESSMENT AND PRIORITY RANKING MATRIX</b>													
2								Discharging						Priority Ranking (7)
3							Within Priority	To Area of			Previous			1 - problem
4						Receiving	area with DCIA	Concern to		Density of	Screening	System		2 - high priority
5					Receiving	Water	> 11%, urbanized, or	Public	Connectivity	Generating	Indicated	Vulnerability		3 - low priority
6	New Id #	Old Id #	Type	Street	Water Body	Quality (1)	impaired water body	Health (2)	level (3)	Sites (4)	Sewage (5)	Factor (6)	Score	4 - excluded
133	8-02	SD 76	2N	Quaddick Town Farm	Five Mile River	0	0	0	2	1		1	4	3
134	8-03	SD 77	2N	Quaddick Town Farm	Five Mile River	0	0	0	2	1		1	4	3
135	8-04	SD 78	2N	Quaddick Town Farm	Five Mile River	0	0	0	2	1		1	4	3
136	8-05	SD 79	2N	East Thompson Rd	Five Mile River	0	0	0	2	1		1	4	3
137	8-06	SD 80	2N	East Thompson Rd	Five Mile River	0	0	0	2	1		1	4	3
138	8-07	SD 89	2N	Lehtinen Rd	Five Mile River	0	0	0	2	1		1	4	3
139	8-08	SD 90	2N	Richard Bennett Ln	Five Mile River	0	0	0	2	1		1	4	3
140	8-09	SD 91	2N	East Thompson Rd	Five Mile River	0	0	0	2	1		1	4	3
141	9-01	SD 5	2N	Ravenelle Road	Quinebaug River	0	0	0	2	1		2	5	3
142	9-02	SD 6	2N	Ravenelle Road	Quinebaug River	0	0	0	2	1		2	5	3
143	9-03	SD 7	2N	Fabyan Road	Quinebaug River	0	0	0	2	1		1	4	3
144	9-201	new		Fabyan Road	Quinebaug River	0	0	0	3	1		0	4	3
145	10-14	SD 123	2N	Mountain Hill Rd	Backwater Brook	0	0	0	2	1		2	5	3
146	11-01	SD 69	2N	Brandy Hill Rd	Five Mile River	0	0	0	2	1		1	4	3
147	11-02	SD 82	2N	East Thompson Rd	Five Mile River	0	0	0	2	1		1	4	3
148	11-03	SD 108	2N	Pasay Rd	French River	0	0	0	2	1		1	4	3
149	12-01	SD 67	2N	Brandy Hill Rd	Five Mile River	0	0	0	2	1		1	4	3
150	12-02	SD 68	2N	Brandy Hill Rd	Five Mile River	0	0	0	2	1		1	4	3
151	12-03	SD 70	2N	Gawron Rd	Five Mile River	0	0	0	2	1		1	4	3
152	12-04	SD 75	2N	Quaddick Town Farm	Five Mile River	0	0	0	2	1		1	4	3
153	12-05	SD 83	2N	East Thompson Rd	Five Mile River	0	0	0	2	1		1	4	3
154	12-06	SD 84	2N	Alm Rd	Janson Brook	0	0	0	2	1		1	4	3
155	12-07	SD 85	2N	East Thompson Rd	Janson Brook	0	0	0	2	1		1	4	3
156	12-08	SD 86	2N	East Thompson Rd	Five Mile River	0	0	0	2	1		1	4	3
157	12-09	SD 87	2N	Spicer Rd	Five Mile River	0	0	0	2	1		1	4	3
158	12-10	SD 88	2N	Logans Lane	Five Mile River	0	0	0	2	1		0	3	3
159	12-11	SD 155	2N	East Thompson Rd	Janson Brook	0	0	0	2	1		1	4	3
160	14-01	SD 3	2N	Ravenelle Road	Quinebaug River	0	0	0	2	1		1	4	3
161	14-02	SD 4	2N	Ravenelle Road	Quinebaug River	0	0	0	2	1		2	5	3
162	14-05	SD 140	2N	Gaymond Road	Quinebaug River	0	0	0	2	1		2	5	3
163	14-06	SD 141	2N	Gaymond Road	Quinebaug River	0	0	0	2	1		2	5	3
164	15-02	SD 58	2N	Paula Ln	French River	0	0	0	3	1		1	5	3
165	15-05	SD 63	2N	Quaddick Rd	Five Mile River	0	0	0	2	1		1	4	3
166	16-01	SD 65	2N	Oleary Rd	Five Mile River	0	0	0	2	1		0	3	3
167	16-02	SD 66	2N	Brandy Hill Rd	Five Mile River	0	0	0	2	1		2	5	3
168	16-03	SD 74	2N	Quaddick Town Farm	Five Mile River	0	0	0	2	1		1	4	3
169	18-03	SD 47	1P	West Thompson Rd	Little River	0	2	0	2	1		1	6	3
170	19-02	SD 56	2N	Robbins Rd	French River	0	0	0	3	1		0	4	3
171	20-01	SD 61	2N	Hill Rd	Five Mile River	0	0	0	2	1		0	3	3
172	20-02	SD 62	2N	Quaddick Rd	Five Mile River	0	0	0	2	1		1	4	3
173	20-03	SD 71	2N	Lakeside Dr	Five Mile River	0	0	3	3	1		1	8	2
174	20-04	SD 72	2N	Quaddick Town Farm	Five Mile River	0	0	0	3	1		1	5	3

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	<b>Table 6-1 CATCHMENT ASSESSMENT AND PRIORITY RANKING MATRIX</b>													
2								Discharging						Priority Ranking (7)
3							Within Priority	To Area of			Previous			1 - problem
4						Receiving	area with DCIA	Concern to		Density of	Screening	System		2 - high priority
5				Receiving	Water	> 11%, urbanized, or	Public	Connectivity	Generating	Indicated	Vulnerability			3 - low priority
6	New Id #	Old Id #	Type	Street	Water Body	Quality (1)	impaired water body	Health (2)	level (3)	Sites (4)	Sewage (5)	Factor (6)	Score	4 - excluded
175	20-05	SD 73	2N	Quaddick Town Farm	Five Mile River	0	0	0	3	1		1	5	3

	A	B	C	D	E	F	G	H	I	J
1	<b>Table 8-1 OUTFALL CATCHMENT SYSTEM VULNERABILITY FACTOR (SVF) INVENTORY</b>									
2								Sanitary and		System
3								Stormdrain	Septic	Vulnerability Factor
4					History	Increased	Sanitary	Infrastructure	System	(SVF) Score =
5				Receiving	of	SSO	Infrastructure	> 40 years old	Areas of	number of
6	New Id #	Old ID #	Street	Water Body	SSO's (1)	Potential (2)	Defects (3)	med/dense areas (4)	Concern (5)	Yes Answers
7	1-01	SD 11	Fabyan Road	Quinebaug River	No	N/A	N/A	No	No	0
8	1-02	SD 12	Fabyan Road	Quinebaug River	No	N/A	N/A	no	No	0
9	1-03	SD 23	Fabyan Woodstock	Quinebaug River	No	N/A	N/A	no	No	0
10	1-04	SD 25	Fabyan Woodstock	Quinebaug River	No	N/A	N/A	no	No	0
11	1-05	SD 27	Fabyan Road	Quinebaug River	No	N/A	N/A	no	No	0
12	1-06	SD 28	Fabyan Road	Quinebaug River	No	N/A	N/A	no	Yes	1
13	1-07	SD 29	Fabyan Road	Quinebaug River	No	N/A	N/A	no	No	1
14	1-08	SD 30	Parker Road	Quinebaug River	No	N/A	N/A	no	No	1
15	1-09	SD 31	Poulin Drive	Quinebaug River	No	N/A	N/A	Yes	Yes	2
16	1-10	SD 32	Leo Circle	Quinebaug River	No	N/A	N/A	Yes	Yes	2
17	1-11	SD 33	Walker Drive	Quinebaug River	No	N/A	N/A	Yes	Yes	2
18	1-12	SD 48	Green Acres Ln.	Quinebaug River	No	N/A	N/A	Yes	Yes	2
19	1-13	SD 49	Green Acres Ln.	Quinebaug River	No	N/A	N/A	Yes	Yes	2
20	1-14	SD 50	Linda Ln.	Quinebaug River	No	N/A	N/A	yes	Yes	2
21	1-15	new	Linda Ln.	Quinebaug River	No	N/A	N/A	yes	yes	2
22	1-16	new	Donovan Drive	Quinebaug River	No	N/A	N/A	no	no	0
23	1-17	new	Donovan Drive	Quinebaug River	No	N/A	N/A	no	no	0
24	1-18	new	Donovan Drive	Quinebaug River	No	N/A	N/A	no	no	0
25	1-19	new	Fabyan Road	Quinebaug River	No	N/A	N/A	no	no	0
26	1-20	new	Fabyan Road	Quinebaug River	No	N/A	N/A	no	no	0
27	1-21	new	Blackmer Downs	Quinebaug River	No	N/A	N/A	no	no	0
28	2-01	SD 114	Ryler Court	French River	No	N/A	N/A	No	No	0
29	2-02	SD 115	Wilsonville Rd	French River	No	N/A	N/A	yes	Yes	2
30	2-03	SD 117	Fairway Dr	French River	No	N/A	N/A	No	No	0
31	2-04	SD 121	Tuft Rd	Shunway Brook	No	N/A	N/A	no	No	0
32	3-01	SD 42	Laurel Wood Drive	Five Mile River	No	N/A	N/A	yes	Yes	2
33	3-02	SD 96	Wilsonville Rd	Five Mile River	No	N/A	N/A	no	No	0
34	3-03	SD 97	Wagher Rd	Long Branch	No	N/A	N/A	no	No	0
35	3-04	SD 98	Labby Rd	Long Branch	No	N/A	N/A	no	No	0
36	3-05	SD 99	Dennis Dr	French River	No	N/A	N/A	Yes	Yes	2
37	3-06	SD 116	Wilsonville Rd	Long Branch	No	N/A	N/A	no	No	0
38	3-07	SD 153	Lowell Davis Road	Stoud Brook	No	N/A	N/A	no	No	0
39	4-01	SD 34	Sand Dam Road	Five Mile River	No	N/A	N/A	Yes	No	1
40	4-02	SD 35	Oakwood Drive	Five Mile River	No	N/A	N/A	Yes	No	1
41	4-03	SD 36	Shady Lane	Five Mile River	No	N/A	N/A	Yes	No	1

	A	B	C	D	E	F	G	H	I	J
1	<b>Table 8-1 OUTFALL CATCHMENT SYSTEM VULNERABILITY FACTOR (SVF) INVENTORY</b>									
2								Sanitary and		System
3								Stormdrain	Septic	Vulnerability Factor
4					History	Increased	Sanitary	Infrastructure	System	(SVF) Score =
5				Receiving	of	SSO	Infrastructure	> 40 years old	Areas of	number of
6	New Id #	Old ID #	Street	Water Body	SSO's (1)	Potential (2)	Defects (3)	med/dense areas (4)	Concern (5)	Yes Answers
42	4-04	SD 37	Meadow Drive	Five Mile River	No	N/A	N/A	Yes	No	1
43	4-05	SD 38	Sand Dam Road	Five Mile River	No	N/A	N/A	Yes	No	1
44	4-06	SD 39	Sand Dam Road	Five Mile River	No	N/A	N/A	Yes	No	1
45	4-07	SD 40	Orchard Drive	Five Mile River	No	N/A	N/A	Yes	No	1
46	4-08	SD 41	Jezierski Lane	Five Mile River	No	N/A	N/A	Yes	Yes	2
47	4-09	SD 44	Sunny Side Drive	Five Mile River	No	N/A	N/A	Yes	No	1
48	4-10	SD 45	Sand Dam Road	Five Mile River	No	N/A	N/A	Yes	No	1
49	4-11	SD 81	New Rd	Five Mile River	No	N/A	N/A	no	No	0
50	4-12	new	East Thompson Rd	Five Mile River	No	N/A	N/A	no	No	0
51	5-01	SD 8	Fabyan Road	Quinebaug River	No	N/A	N/A	no	No	0
52	5-02	SD 9	Fabyan Road	Quinebaug River	No	N/A	N/A	no	No	0
53	5-03	SD 10	Fabyan Road	Quinebaug River	No	N/A	N/A	no	No	0
54	5-04	SD 26	Fabyan Woodstock	Quinebaug River	No	N/A	N/A	no	No	0
55	6-01	SD 15	Buckley Hill Road	French River	No	No	No	Yes	N/A	1
56	6-02	SD 122	Cortis Rd	Backwater Brook	No	N/A	N/A	Yes	No	1
57	6-03	SD 154	Pompeo Road	French River	No	N/A	N/A	no	No	0
58	7-01	SD 93	Emil Dr	Five Mile River	No	N/A	N/A	Yes	No	1
59	7-02	SD 94	Emil Dr	Five Mile River	No	N/A	N/A	Yes	No	1
60	7-03	SD 95	Jason Heights	Janson Brook	No	N/A	N/A	Yes	No	1
61	7-04	SD 100	Pasay Rd	Stoud Brook	No	N/A	N/A	no	No	0
62	7-05	SD 101	Stawicki Rd	Stoud Brook	No	N/A	N/A	no	No	0
63	7-06	SD 102	Heritage Circle	Baptist Brook	No	N/A	N/A	No	No	0
64	7-07	SD 103	Stawicki Rd	Stoud Brook	No	N/A	N/A	No	No	0
65	7-08	SD 104	Stawicki Rd	Stoud Brook	No	N/A	N/A	No	No	0
66	7-09	SD 106	Stawicki Rd	French River	No	N/A	N/A	No	No	0
67	7-10	SD 107	Stawicki Rd	French River	No	N/A	N/A	No	No	0
68	7-11	SD 118	Pompeo Rd	Stoud Brook	No	N/A	N/A	No	No	0
69	7-12	SD 119	Pompeo Rd	Stoud Brook	No	N/A	N/A	No	No	0
70	8-01	SD 43	Porter Plain Road	Five Mile River	No	N/A	N/A	Yes	No	1
71	8-02	SD 76	Quaddick Town Farm Rd	Five Mile River	No	N/A	N/A	no	No	0
72	8-03	SD 77	Quaddick Town Farm Rd	Five Mile River	No	N/A	N/A	Yes	No	1
73	8-04	SD 78	Quaddick Town Farm Rd	Five Mile River	No	N/A	N/A	No	No	0
74	8-05	SD 79	East Thompson Rd	Five Mile River	No	N/A	N/A	No	No	0
75	8-06	SD 80	East Thompson Rd	Five Mile River	No	N/A	N/A	No	No	0
76	8-07	SD 89	Lehtinen Rd	Five Mile River	No	N/A	N/A	No	No	0

	A	B	C	D	E	F	G	H	I	J
1	<b>Table 8-1 OUTFALL CATCHMENT SYSTEM VULNERABILITY FACTOR (SVF) INVENTORY</b>									
2								Sanitary and		System
3								Stormdrain	Septic	Vulnerability Factor
4					History	Increased	Sanitary	Infrastructure	System	(SVF) Score =
5				Receiving	of	SSO	Infrastructure	> 40 years old	Areas of	number of
6	New Id #	Old ID #	Street	Water Body	SSO's (1)	Potential (2)	Defects (3)	med/dense areas (4)	Concern (5)	Yes Answers
77	8-08	SD 90	Richard Bennett Ln	Five Mile River	No	N/A	N/A	No	No	0
78	8-09	SD 91	East Thompson Rd	Five Mile River	No	N/A	N/A	No	No	0
79	9-01	SD 5	Ravenelle Road	Quinebaug River	No	N/A	N/A	No	Yes	1
80	9-02	SD 6	Ravenelle Road	Quinebaug River	No	N/A	N/A	No	Yes	1
81	9-03	SD 7	Fabyan Road	Quinebaug River	No	N/A	N/A	No	No	0
82	9-201	new	Fabyan Road	Quinebaug River	No	N/A	N/A	No	No	0
83	10-01	SD 2	Main Street	French River	No	No	No	Yes	N/A	1
84	10-02	SD 14	Rachel Drive	Stoud Brook	No	No	No	Yes	N/A	1
85	10-03	SD 16	Marshall Lane	French River	No	No	No	Yes	N/A	1
86	10-04	SD 17	Marshall Lane	French River	No	No	No	Yes	N/A	1
87	10-05	SD 18	Walker Street	French River	No	No	No	Yes	N/A	1
88	10-06	SD 19	Walker Street	French River	No	No	No	Yes	N/A	1
89	10-07	SD 21	Main Street	French River	No	No	No	Yes	N/A	1
90	10-08	SD 22	Rachel Drive	Sunset Hill Brook	No	No	No	Yes	N/A	1
91	10-09	SD 24	Murolo Road	Stoud Brook	No	N/A	N/A	Yes	No	1
92	10-10	SD 105	Valley Rd	Stoud Brook	No	N/A	N/A	Yes	No	1
93	10-11	SD 110	Buckley Hill Road	Stoud Brook	No	N/A	N/A	no	No	0
94	10-12	SD 111	Buckley Hill Road	Stoud Brook	No	N/A	N/A	no	No	0
95	10-13	SD 120	Pompeo Rd	Stoud Brook	No	N/A	N/A	no	No	0
96	10-14	SD 123	Mountain Hill Rd	Backwater Brook	No	N/A	N/A	no	Yes	1
97	10-15	SD 127	Mason Terr.	French River	No	No	No	Yes	N/A	1
98	10-16	SD 129	Murolo Road	Stoud Brook	No	N/A	N/A	Yes	No	1
99	10-17	SD 130	Buckley Hill Road	French River	No	N/A	N/A	no	No	0
100	10-18	SD 131	Buckley Hill Road	French River	No	No	No	no	N/A	0
101	10-19	SD 132	Buckley Hill Road	French River	No	No	No	no	N/A	0
102	10-20	SD 133	Rawson Road	French River	No	No	No	Yes	N/A	1
103	10-21	SD 134	Blain Road	French River	No	N/A	N/A	Yes	No	1
104	10-22	SD 135	Reardon Road	French River	No	N/A	N/A	no	No	0
105	10-23	SD 136	Reardon Road	French River	No	N/A	N/A	no	No	0
106	10-24	SD 137	Reardon Road	French River	No	No	No	no	N/A	0
107	10-25	SD 138	Ravenelle Street	French River	No	No	No	Yes	N/A	1
108	10-26	SD 139	Gaymond Road	French River	No	N/A	N/A	no	No	0
109	10-27	SD 147	School Street	Backwater Brook	No	No	No	Yes	N/A	1
110	10-28	SD 148	Whittemore Street	French River	No	No	No	Yes	N/A	1
111	10-29	SD 150	Reardon Road	French River	No	N/A	N/A	no	No	0

	A	B	C	D	E	F	G	H	I	J
1	<b>Table 8-1 OUTFALL CATCHMENT SYSTEM VULNERABILITY FACTOR (SVF) INVENTORY</b>									
2								Sanitary and		System
3								Stormdrain	Septic	Vulnerability Factor
4					History	Increased	Sanitary	Infrastructure	System	(SVF) Score =
5				Receiving	of	SSO	Infrastructure	> 40 years old	Areas of	number of
6	New Id #	Old ID #	Street	Water Body	SSO's (1)	Potential (2)	Defects (3)	med/dense areas (4)	Concern (5)	Yes Answers
112	10-30	SD 151	Red Bridge Road	French River	No	No	no	no	N/A	0
113	10-31	SD 152	Rawson Road	French River	No	No	No	Yes	N/A	1
114	10-32	SD 109	Buckley Hill Road	Stoud Brook	No	N/A	N/A	No	No	0
115	10-33	SD 20	Walker Street	French River	No	No	No	Yes	N/A	1
116	11-01	SD 69	Brandy Hill Rd	Five Mile River	No	N/A	N/A	Yes	No	1
117	11-02	SD 82	East Thompson Rd	Five Mile River	No	N/A	N/A	No	No	0
118	11-03	SD 108	Pasay Rd	French River	No	N/A	N/A	No	No	0
119	12-01	SD 67	Brandy Hill Rd	Five Mile River	No	N/A	N/A	Yes	No	1
120	12-02	SD 68	Brandy Hill Rd	Five Mile River	No	N/A	N/A	Yes	No	1
121	12-03	SD 70	Gawron Rd	Five Mile River	No	N/A	N/A	No	No	0
122	12-04	SD 75	Quaddick Town Farm Rd	Five Mile River	No	N/A	N/A	No	No	0
123	12-05	SD 83	East Thompson Rd	Five Mile River	No	N/A	N/A	Yes	No	1
124	12-06	SD 84	Alm Rd	Janson Brook	No	N/A	N/A	Yes	No	1
125	12-07	SD 85	East Thompson Rd	Janson Brook	No	N/A	N/A	No	No	0
126	12-08	SD 86	East Thompson Rd	Five Mile River	No	N/A	N/A	No	No	0
127	12-09	SD 87	Spicer Rd	Five Mile River	No	N/A	N/A	No	No	0
128	12-10	SD 88	Logans Lane	Five Mile River	No	N/A	N/A	No	No	0
129	12-11	SD 155	East Thompson Rd	Janson Brook	No	N/A	N/A	No	No	0
130	14-01	SD 3	Ravenelle Road	Quinebaug River	No	N/A	N/A	No	No	0
131	14-02	SD 4	Ravenelle Road	Quinebaug River	No	N/A	N/A	Yes	No	1
132	14-03	SD 13	Klondike Street	Sunset Hill Brook	No	No	No	Yes	N/A	1
133	14-04	SD 126	Reardon Road	French River	No	N/A	N/A	No	No	0
134	14-05	SD 140	Gaumond Road	Quinebaug River	No	N/A	N/A	no	Yes	1
135	14-06	SD 141	Gaumond Road	Quinebaug River	No	N/A	N/A	no	Yes	1
136	14-07	SD 142	Gaumond Road	Quinebaug River	No	N/A	N/A	no	Yes	1
137	14-08	SD 143	Gaumond Road	Quinebaug River	No	N/A	N/A	no	Yes	1
138	14-09	SD 144	Seastrand Road	Quinebaug River	No	N/A	N/A	no	No	0
139	14-10	SD 145	Blain Road	French River	No	N/A	N/A	Yes	No	1
140	14-11	SD 146	Reardon Road	French River	No	N/A	N/A	No	No	0
141	14-12	SD 149	Gaumond Road	Quinebaug River	No	N/A	N/A	no	Yes	1
142	14-13	SD 155	Park Street	French River	No	N/A	No	Yes	N/A	1
143	15-01	SD 57	Maple Ln	Quinatissett Brook	No	N/A	N/A	Yes	No	1
144	15-02	SD 58	Paula Ln	Quinatissett Brook	No	N/A	N/A	Yes	Yes	2
145	15-03	SD 59	Chase Rd	Quinatissett Brook	No	N/A	N/A	Yes	Yes	2
146	15-04	SD 60	Chase Rd	Quinatissett Brook	No	N/A	N/A	Yes	No	1

	A	B	C	D	E	F	G	H	I	J
1	<b>Table 8-1 OUTFALL CATCHMENT SYSTEM VULNERABILITY FACTOR (SVF) INVENTORY</b>									
2								Sanitary and		System
3								Stormdrain	Septic	Vulnerability Factor
4					History	Increased	Sanitary	Infrastructure	System	(SVF) Score =
5				Receiving	of	SSO	Infrastructure	> 40 years old	Areas of	number of
6	New Id #	Old ID #	Street	Water Body	SSO's (1)	Potential (2)	Defects (3)	med/dense areas (4)	Concern (5)	Yes Answers
147	15-05	SD 63	Quaddick Rd	Five Mile River	No	N/A	N/A	Yes	No	1
148	15-06	SD 64	Quaddick Rd	Quinatissett Brook	No	N/A	N/A	Yes	No	1
149	16-01	SD 65	Oleary Rd	Five Mile River	No	N/A	N/A	No	No	0
150	16-02	SD 66	Brandy Hill Rd	Five Mile River	No	N/A	N/A	Yes	No	1
151	16-03	SD 74	Quaddick Town Farm Rd	Five Mile River	No	N/A	N/A	No	Yes	1
152	18-01	SD 1	Old Route 12	French River	No	No	No	No	N/A	0
153	18-02	SD 46	West Thompson Rd	Wheatons Brook	No	N/A	N/A	No	No	0
154	18-03	SD 47	West Thompson Rd	Little River	No	N/A	N/A	No	No	0
155	18-04	SD 51	Azud Rd	Quinebaug River	No	N/A	N/A	No	No	0
156	18-05	SD 52	Azud Rd	Quinebaug River	No	N/A	N/A	No	No	0
157	18-06	SD 53	Azud Rd	Quinebaug River	No	N/A	N/A	No	No	0
158	18-07	SD 54	Azud Rd	Quinebaug River	No	N/A	N/A	No	No	0
159	18-08	SD 112	Church Street	Quinebaug River	No	N/A	N/A	Yes	No	1
160	18-09	SD 113	Oak Hill Dr	Quinebaug River	No	N/A	N/A	Yes	No	1
161	18-10	SD 124	Oak Hill Dr	Wheatons Brook	No	N/A	N/A	Yes	No	1
162	18-11	SD 125	Oak Hill Dr		No	N/A	N/A	Yes	No	1
163	18-12	SD 128	Messier Road	Wheatons Brook	No	N/A	N/A	Yes	No	1
164	19-01	SD 55	Ballard Rd	French River	No	N/A	N/A	No	No	0
165	19-02	SD 56	Robbins Rd	French River	No	N/A	N/A	No	No	0
166	20-01	SD 61	Hill Rd	Five Mile River	No	N/A	N/A	No	No	0
167	20-02	SD 62	Quaddick Rd	Five Mile River	No	N/A	N/A	no	Yes	1
168	20-03	SD 71	Lakeside Dr	Five Mile River	No	N/A	N/A	Yes	Yes	2
169	20-04	SD 72	Quaddick Town Farm Rd	Five Mile River	No	N/A	N/A	no	Yes	1
170	20-05	SD 73	Quaddick Town Farm Rd	Five Mile River	No	N/A	N/A	no	Yes	1