

MS4 General Permit  
City of Middletown 2022 Annual Report  
Existing MS4 Permittee  
Permit Number GSM 000011  
January 1, 2022 – December 31, 2022  
Primary MS4 Contact: Tom Nigosanti, City Engineer  
860-638-4862, Tom.Nigosanti@MiddletownCT.gov

---

This report documents Middletown’s efforts to comply with the conditions of the MS4 General Permit to the maximum extent practicable (MEP) from January 1, 2022 to December 31, 2022.

**Part I: Summary of Minimum Control Measure Activities**

**1. Public Education and Outreach**

**1.1 BMP Summary**

<b>BMP</b>	<b>Status</b>	<b>Activities in current reporting period</b>	<b>Measurable goal</b>	<b>Department / Person Responsible</b>	<b>Due</b>	<b>Date completed or projected completion date</b>
1-1 Implement public education and outreach	Ongoing	See details below.	Document how many brochures have been distributed.	Kim O'Rourke, Recycling Coordinator	Ongoing	In Progress as of 2018
1-2 Address education/outreach for pollutants of concern	Ongoing	Bacteria (E. coli) is addressed in the “Protect the Waterways” brochure. The City installed pet waste receptacles (bags and containers) in many of the parks and promoted it on social media.	Create educational materials to target: a. Septic systems b. Sanitary cross connections c. Waterfowl d. Pet waste e. Manure piles associated with livestock & horses	Kim O'Rourke, Recycling Coordinator	Ongoing	2020 and prior

### 1.1 BMP Summary (continued)

1-3 Target education to specific properties known to contribute bacteria to stormwater	Began in 2022	A few properties have been identified through the dry weather screening process	Identify properties and owners based on historic sanitary system failures, proximity to bacteria impaired waters, low infiltrative soils, and shallow groundwater.	Kim O'Rourke, Donald Fisco and Tom Nigosanti	Ongoing	This BMP commenced in 2022.
--	---------------	---	--	--	---------	-----------------------------

#### Additional descriptions of BMP activities:

BMP	
1-1 Implement public education and outreach	<p>1) Middletown maintains their own link to UConn NEMO's comprehensive online library of stormwater educational material. A link to UConn NEMO's comprehensive web-based library of stormwater educational materials can be found at the top of the page under LID Resources at <a href="https://www.middletownct.gov/DocumentCenter/View/16248/LID-Brochure-002?bidId=">https://www.middletownct.gov/DocumentCenter/View/16248/LID-Brochure-002?bidId=</a>. Interested parties will need to copy and paste the NEMO link (<a href="http://nemo.uconn.edu">http://nemo.uconn.edu</a>) into their browser.</p> <p>2) Educational brochures have been developed and distributed to various segments of the population; elementary schools, Russell Library, Wesleyan, Household Hazardous Waste Collection participants, public meetings and/or included with water bills. Some topics may include green lawns, household hazardous waste, pet waste, fertilizers, herbicides, and pesticides, impervious cover and impacts of illicit discharges and improper disposal of waste. Kim O'Rourke ensures that the brochures are available at many outreach events. They are also available at the City Hall and Russell Library.</p> <p>3) Middletown uses the "SeeClickFix" program to allow for citizen reporting of suspected illicit discharges into the stormwater system.</p> <p>4) A specific brochure was developed for "Project Green Lawn". The purpose was a public awareness campaign to encourage residents and businesses to maintain healthy, lush lawns free of chemicals that are harmful to people, pets and the environment. Organic lawn care &amp; stormwater run-off are addressed in the brochure.</p>

- 5) Educational Outreach for Project Green Lawn was made available to the public at the following events in 2022:
- Middletown Farmers Market – every Friday June through October
  - Compost Bin sales - Spring & Fall
  - Household Hazardous Waste Events - Spring, Summer & Fall
  - Composting presentation - Spring, Summer & Fall
  - Earth Day Event - April
  - Presentation to High School Class - April
  - Daffodil Festival at Wadsworth Mansion - April
  - Distributed through summer camp - Summer
  - Kids Health and Safety Fair - May
  - Make Music Day at Wadsworth Mansion - June
  - Summer Music Concert Series - Summer
  - Open Air Market - August
  - Paper Shred Events - Spring & Fall
  - Amistad Event - October
  - Recycling Workshop – November

### 1.2 Public Education and Outreach activities planned for the next year.

Though they are not scheduled yet, Middletown will hold similar events for 2023, where the Project Green Lawn brochures will be made available:

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• Middletown Farmers Market</li> <li>• Compost Bin sales</li> <li>• Household Hazardous Waste Events</li> <li>• Composting presentation</li> <li>• Earth Day Event</li> <li>• Presentation to High School Class</li> <li>• Daffodil Festival at Wadsworth Mansion</li> <li>• Distributed through summer camp</li> </ul> | <ul style="list-style-type: none"> <li>• Kids Health and Safety Fair</li> <li>• Make Music Day at Wadsworth Mansion</li> <li>• Summer Music Concert Series</li> <li>• Open Air Market</li> <li>• Paper Shred Events</li> <li>• Amistad Event</li> <li>• Recycling Workshop</li> </ul> |
|--|---|

### 1.3 Details of activities implemented to educate the community on stormwater

Program Element/Activity	Audience (and number of people reached)	Topic(s) covered	Pollutant of Concern addressed (if applicable)	Responsible dept. or partner org.
BMPs are listed in Section 1-1 above.	Residents of all ages are targeted at these events	Maintaining a chemical-free lawn, list of organic landscapers, lawncare product catalogs and url links to additional resources	Phosphorus (fertilizers) add'l toxins (pesticides)	Kim O'Rourke, Recycling Coordinator

## 2. Public Involvement/Participation

### 2.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date
2-1 Final Stormwater Management Plan publicly available	Completed	The plan has been developed and implementation dates updated to reflect realistic resources. A copy of the Stormwater Management Plan can be found at: <a href="https://www.middletownct.gov/DocumentCenter/View/646/Storm-Water-Management-Plan-PDF?bidId=">https://www.middletownct.gov/DocumentCenter/View/646/Storm-Water-Management-Plan-PDF?bidId=</a>	Post the Stormwater Management Plan on the City website.	Tom Nigosanti	April 1, 2017	The Stormwater Management Plan was posted on the City website in early 2017. Exact date is not available.
2-2 Comply with public notice requirements for Annual Reports	Ongoing	The public notice is scheduled to be posted on Feb 15, 2023 for the 2022 reporting period.	Post Annual Report on City website by Feb 15 annually. Final report must be submitted to CTDEEP by April 1.	Tom Nigosanti	Annually by Feb 15	Feb 15, 2023

### 2.2 Public Involvement/Participation activities planned for the next year.

No additional Public Involvement/Participation activities are planned during this reporting period. A link to UConn NEMO's comprehensive online library of stormwater educational materials can be found at the top of the page under LID Resources at <https://www.middletownct.gov/DocumentCenter/View/16248/LID-Brochure-002?bidId=>. Interested parties will need to copy and paste the NEMO link (<http://nemo.uconn.edu>) into their browser.

### 2.3 Public Involvement/Participation reporting metrics

Metrics	Implemented	Date	Posted
Availability of the Stormwater Management Plan to public	Yes	April 2017	Town Hall and Russell library and <a href="https://www.middletownct.gov/">https://www.middletownct.gov/</a>
Availability of Annual Report announced to public	Yes, the report will be announced by the Feb 15 deadline.	Feb 15, 2023	Town Hall and Russell library and <a href="https://www.middletownct.gov/">https://www.middletownct.gov/</a>

### 3. Illicit Discharge Detection and Elimination

#### 3.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date
3-1 Develop written IDDE program	Completed	The written IDDE program was completed in Nov 2021.	N/A	Public works Tom Nigosanti	N/A	Completed ahead of the July 1, 2022 deadline.
3-2 Develop list and maps of all MS4 stormwater outfalls in priority areas	Completed in 2022	Catchment basins with impervious cover greater than 11% that discharge to impaired waters have been ID'd and delineated. Priority outfalls have been ID'd.	Exceeded the 50% complete goal by November 1, 2022. Completed in 2022.	Public works Tom Nigosanti & Hired Contractor	Completed	Completed in 2022.
3-3 Implement citizen reporting program	Ongoing	Middletown began "SeeClickFix" program to allow for citizen reporting.	Assign a tracking # to each report. Issue follow up report.	Public works Tom Nigosanti	Ongoing	The "SeeClickFix" program was implemented in 2021.

### 3.1 BMP Summary (continued)

3-4 Establish legal authority to prohibit illicit discharges	Complete	Already fulfilled.	N/A	N/A	Jul 1, 2018	Article II of Chapter 258, Stormwater Management– Illicit Discharges and Connections was Adopted 6-3-2013 by Ord. No. 16-13.
3-5 Develop record keeping system for tracking IDDE abatement	Complete	IDDE abatement actions will be recorded in Table 1-7 in the IDDE Program.	Fill in Table 1-7 to start tracking.	Public works/Tom Nigosanti	Jul 1, 2017	The written IDDE program was completed in Nov 2021, and IDDE Tracking system is in Table 1-7.
3-6 Address IDDE in areas with pollutants of concern	In progress	Baseline outfall and dry weather screening 80% complete.	Complete remaining 20% dry weather screening.	Public works/Tom Nigosanti	Not specified	Projected completion July 1, 2023.

### 3.2 Describe any IDDE activities planned for the next year.

If necessary to narrow the location of suspected illicit discharges, the city will conduct dry weather investigations involving opening and inspecting key junction manholes. Wet weather investigations are scheduled to begin in 2023.

**3.3 List of citizen reports of suspected illicit discharges received during this reporting period.** Illicit discharges are any unpermitted discharge to waters of the state that do not consist entirely of stormwater or uncontaminated groundwater except those discharges identified in Section 3(a)(2) of the MS4 general permit when such non-stormwater discharges are not significant contributors of pollution to a discharge from an identified MS4.

Date of Report	Location / suspected source	Response taken
N/A	N/A	No illicit discharges have been reported in the “SeeClickFix” program for 2022.

### 3.4 A record of illicit discharges and SSOs occurring during the reporting period.

SSOs are reported annually to the CT Department of Energy and Environmental Protection and the EPA under the Capacity, Management, Operation, and Maintenance (CMOM) program. The reporting period summarized is June 2021 – May 2022.

Location	Date and duration of occurrence	Discharge to MS4 or surface water	Estimated volume discharged	Known or suspected cause / Responsible party	Corrective measures planned and completed (include dates)	Sampling data (if applicable)
17 Blue Grass Drive	6/1/2021 2:00 - 3:00 PM	Sewage released into field	50-500 gal	Blockage (roots)	Jetted sewer line to remove blockage.	N/A
377 Ridge Road – Basement	7/9/2021 10:00 PM – 2:15 AM	Sewage released via floor drain in basement.	1-50 gal	Blockage (roots)	Sewer main jetted and roots cut to remove blockage.	N/A
100 River Road – Manhole	7/9/2021 1:13 – 3:30AM	Sewage released out of manhole – to CT River	Undetermined	Excessive flow from storm event	Two engineering firms have been hired to create construction contracts to rehabilitate the sewer mains and MH's to reduce I&I in basins 25, 26 & 27.	N/A
34 East Main Street – Pump Station	7/9/2021 10:30 - 10:45 AM	Sewage release into basement of Pump Station – to CT River	Undetermined	Excessive flow from storm event	Two engineering firms have been hired to create construction contracts to rehabilitate the sewer mains and MH's to reduce I&I in basins 25, 26 & 27.	N/A
100 River Road – Manhole	9/2/2021 10:45 AM – 12:50PM	Sewage released out of manhole – to CT River	Undetermined	Excessive flow from storm event – 6.5"	Two engineering firms have been hired to create construction contracts to rehabilitate the sewer mains and MH's to reduce I&I in basins 25, 26 & 27.	N/A
Manhole @ intersection of Newfield Street & Rose Circle	9/3/2021 6:01 - 6:02 AM	Sewage released via manhole at intersection of Newfield Street & Rose Circle	51-500 gal	Blockage (grease)	Jetted sewer line to remove grease.	N/A
189, 195, 201 Newfield Street	9/3/2021 12:00 PM (end time unkn)	Sewage release into basement	Undetermined	Blockage (grease)	Jetted sewer line to remove grease.	N/A

### 3.4 A record of illicit discharges and SSOs occurring during the reporting period (continued)

Pameacha Avenue	10/4/2021 10:00 AM – 12PM	Sewer main in tunnel under Pameacha Ave dislodged during rain event – to CT River	Undetermined	Offset Joint	A project to replace the sewer main under Pameacha Ave has been awarded with work to begin in the fall of 2022.	N/A
-----------------	------------------------------	---	--------------	--------------	---	-----

### 3.5 Method used to track illicit discharge reports, responses to those reports, and who was responsible for tracking this information.

IDDE abatement actions will be recorded in Table 1-7 in the IDDE Program. Tom Nigosanti of the Public Works department is responsible.

### 3.6 Summary of actions taken to address septic failures using the table below.

Location and nature of structure with failing septic systems	Actions taken to respond to and address the failures	Impacted waterbody or watershed, if known
No failing septic systems to report at this time.	N/A	N/A

### 3.7 IDDE reporting metrics

Metrics	
Estimated or actual number of MS4 outfalls: Total Town Acres = 27,171.80 (data source from CTDEEP website <a href="http://www.ct.gov/deep/municipalstormwater">www.ct.gov/deep/municipalstormwater</a> and Municipality Factsheets)	The original estimate of 990 was high. The new estimate includes only MS4 outfalls that discharge to impaired waters and are owned by Middletown. 93 outfalls were identified in the screening process in 2022. Of those 93 outfalls, 79 were determined to be Middletown-owned after reviewing city GIS parcel maps. Since 80% of the catchment areas were screened (see entry 5 rows below) and 79 Middletown-owned outfalls were identified, a more accurate estimate of total MS4 outfalls would be 99 (79 / .8).
Estimated or actual number of interconnections (2% estimated)	3 estimated (previous estimate was 22)
Outfall mapping complete	95% completed in 2022

### 3.7 IDDE reporting metrics (continued)

Interconnection mapping complete (with other MS4s)	0% The maps and GIS data are attributed from the City’s plans “Topographic Map of the City of Middletown, Connecticut with Drainage Systems and Inland Wetland Superimposed”. Interconnections with other MS4’s are not called out on these maps, or in the GIS data.
System-wide mapping complete (detailed MS4 infrastructure)	95% completed in 2022.
Outfall assessment and priority ranking	Catchment areas have been assessed and a priority ranking matrix has been developed in the IDDE program, Table 6-1. All 8 of the ranking factors have been assessed and assigned.
Dry weather screening of all High and Low priority outfalls complete	15 of the total 24 catchment areas will be, or have been screened, as follows: 12 of the 15 catchment areas (80%) were screened during dry weather in 2022. 3 of the 15 catchment areas (20%) were not screened due to vegetation overgrowth or remote locations and are planned to be screened in 2023. 9 of the 24 catchment areas will not be screened for various reasons (e.g., catchment areas do not discharge to impaired water or no city-owned parcels were identified in the GIS parcel maps).
Catchment investigations complete	Additional dry weather investigations involve opening and inspecting key junction manholes. These are scheduled to begin in 2023. Wet weather investigations are scheduled to begin in 2023. These are required only where System Vulnerability Factors are present, however due to the age of systems in Middletown, every catchment basin has at least one SVF.
Estimated percentage of MS4 catchment area investigated	79 outfalls were identified during dry weather; only 10 were flowing, and of those 10 only 2 were ID’d as high priority. 1 needs to be sampled. 1 was backed up, but water was not moving indicating no actual flow. It appears only a small percent will require investigation. Outfall CON 4000 011 in Catchment 4000-00-6+R25 was investigated based on visual observation and odor. A large section of the marsh that discharges to the outfall was explored but resulted in no illicit discharge. Further investigation is necessary at nearby manhole.

### 3.8 IDDE training for employees involved in carrying out IDDE tasks including what type of training is provided and how often is it given.

Monarch Environmental provided annual IDDE training on December 15, 2022 to Bob Russo, Howard Weissberg, Tom Nigosanti and Chris Holden. Recognizing and reporting illicit discharges, and investigation steps were covered in the PowerPoint program of 48 slides.

#### 4. Construction Site Runoff Control

##### 4.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date
4-1 Implement, upgrade, and enforce land use regulations or other legal authority to meet requirements of MS4 general permit	Complete	N/A	Existing regs were amended to meet permit requirements.	Director of Planning, Conservation & Development	Jul 1, 2019	Adopted 1-7-1980
4-2 Develop/Implement plan for interdepartmental coordination in site plan review and approval	Complete	N/A	Site plans are reviewed by the Planning, Conservation & Development Department and DPW Engineering Division for sedimentation and erosion controls.	Director of Planning, Conservation & Development and DPW	Complete	Completed in 2011. The City established requirements in Section 4.2 of its Stormwater Management Plan to address this issue.
4-3 Review site plans for stormwater quality concerns	Ongoing	No activities to report	Develop a procedure to conduct site plan reviews incorporating consideration of stormwater controls or mgmt practices to prevent or minimize impacts to water quality.	Director of Planning, Conservation & Development	Ongoing	Ongoing as construction projects and plans are developed

**4.1 BMP Summary (continued)**

4-4 Conduct site inspections	Ongoing	No activities to report	Procedures are in place to assess the adequacy of the installation, maintenance, operation, and repair of construction and post construction control measures. <sup>1</sup>	Director of Planning, Conservation & Development and/or Inland Wetlands Enforcement Officer and Third-Party Inspectors	Ongoing	Ongoing as construction and post construction control measures are completed. Section 10.09.03 of the City's Planning and Zoning Code addresses this and was effective as of 2/28/95.
4-5 Implement procedure to allow public comment on site development	Completed	No activities to report	Site development projects are announced on the city website with a link for public comment. Public involvement includes receipt and consideration of input submitted through the link. <sup>2</sup>	Director of Planning, Conservation & Development	Completed and Ongoing	No date available
4-6 Implement procedure to notify developers about DEEP construction stormwater permit	Completed	Section 42 of the City's Planning and Zoning Code addresses this requirement.	Develop a procedure to notify developers of their potential obligation to obtain a "construction general permit" from DEEP.	Director of Planning, Conservation & Development	Completed	Section 42 of the City's Planning and Zoning Code was amended effective 5/26/98.

Notes:

- 1) Progress reports are prepared by the developer and/or the Zoning Enforcement Officer. A checklist of issues and prioritizing rating system will be implemented as a measuring tool going forward.
- 2) Public comments can be made during hearings held by the City's Planning and Zoning Commission or Inland/Wetlands and Watercourses Agency.

**4.2 Construction Site Runoff Control activities planned for the next year.**

Construction and post construction control measures will be assessed regarding the adequacy of the installations, maintenance, operations, and repairs needed, if any.

## 5. Post-construction Stormwater Management

### 5.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date
5-1 Establish and/or update legal authority and guidelines regarding LID and runoff reduction in site development planning	Complete	N/A	Existing regs were amended to meet permit requirements. The regulations can be found at: <a href="https://www.middlestownct.gov/508/Zoning-Code">https://www.middlestownct.gov/508/Zoning-Code</a> Cluster Design standards are written in the Middletown Zoning Code, Section 44. Also please see: <a href="https://www.middlestownct.gov/DocumentCenter/View/1550/Section-44--Special-Exception-PDF">https://www.middlestownct.gov/DocumentCenter/View/1550/Section-44--Special-Exception-PDF</a> The stormwater detention requirements can be found in Section 10 of the City's Planning and Zoning Code: <a href="https://www.middlestownct.gov/DocumentCenter/View/1475/Section-10--General-Provisions-PDF">https://www.middlestownct.gov/DocumentCenter/View/1475/Section-10--General-Provisions-PDF</a>	Director of Planning, Conservation & Development	Jul 1, 2021	Prior to Jul 1, 2021
5-2 Enforce LID/runoff reduction requirements for dev and re-dev projects	As needed	No activities to report	Implement appropriate enforcement procedures and actions as needed. Create a table to track the activities.	Director of Planning, Conservation & Development	Ongoing beginning Jul 1, 2019	As needed
5-3 Identify retention and detention ponds in priority areas	Complete	24 Detention basins have been mapped.	Identify those in priority areas. 90 in total have been identified from a previous analysis, thus there are an estimated 66 additional basins to be mapped. Until they are all mapped, it is assumed that the 24 mapped are in priority areas.	Thomas Nigosanti, City Engineer, DPW	Jul 1, 2019	ID of basins in priority areas projected for 2022

**5.1 BMP Summary (continued)**

5-4 Implement long-term maintenance plan for stormwater basins and treatment structures	In Progress	N/A	Annually inspect all such ponds and structures.	Chris Holden, DPW Director as of 2022 (formerly William Russo)	Ongoing beginning Jul 1, 2019	Projected to start in 2022 No add'l activity to report
5-5 DCIA calculation (previously listed as "mapping")	Complete	Baseline DCIA was determined to be 250.7 acres.	Completed the requirement to calculate DCIA (DCIA mapping is not required.)	Thomas Nigosanti, City Engineer, DPW	Jul 1, 2020	Completed 2022
5-6 Address post-construction issues in areas with pollutants of concern	In Progress	A tracking sheet was developed for assessing construction control measures	Address erosion and sediment problems noted during inspections of retention ponds and treatment structures for discharges to impaired waters. Develop, fund, implement, and prioritize a program to address these problems under the Retrofit program. Establish a schedule to correct the problems and establish a short and long-term maintenance program.	Director of Planning, Conservation & Development	Not specified	Projected to start in 2022 No add'l activity to report

## 5.2 Post-Construction Stormwater Management activities planned for the next year.

The following projects were listed to be assessed in 2022 under the Post-Construction Stormwater Management program. It is unknown whether they were assessed or not. Erosion and sediment problems for discharges to impaired waters, if any, will be addressed at some point depending on available funding. Issues will be prioritized and addressed accordingly under the Retrofit program; a short and long-term maintenance program will be established. Additionally, any improvements to the DCIA (disconnections of impervious surfaces) will be assessed.

- Municipal Field (Pat Kidney)
- Woodrow Wilson Middle School Renovation
- Recreation Building Renovations
- Columbus Avenue, Mazzotta Place & Berlin Street Water, Sanitary Sewer, Drainage & Roadway Improvements
- Harbor Park Boardwalk and Handrail Improvements
- J.S. Roth Water Treatment Plant Roof Renovations
- John S. Roth Wellfield Improvements
- Community Boathouse Remediation
- South Fire District Building Renovations
- Water Pollution Control Facility (WPCF) Decommissioning
- Reconstruction of Millbrook Road
- Woodrow Wilson Middle School Phase I
- Potential Renovations at Russell Library Following Assessment
- Forest City Laundry Property - Future Brownfield Project
- Riverfront Restaurant, Canoe Club
- Installation of Concrete Sidewalks and Extruded Concrete Curbing

## 5.3 Post-Construction Stormwater Management reporting metrics

For additional information on this requirement, visit <https://nemo.uconn.edu/ms4/tasks/post-construction.htm>, and scroll down to the DCIA section.

### 5.3 Post-Construction Stormwater Management reporting metrics (continued)

Metrics	
Baseline (2012) Directly Connected Impervious Area (DCIA) (based on factors and formulas by development type as presented by nemo.uconn.edu) See Excel sheet 3.2 IC and Priority Areas	Total Town Acres = 27,171.80 (data source: CTDEEP website www.ct.gov/deep/municipalstormwater and Municipality Factsheets) DCIA: <b>250.70 acres</b>
DCIA disconnected (redevelopment plus retrofits)	0.57 acres this year / 0.57 acres total
Retrofit projects completed	0
DCIA disconnected	0.227 % this year / 0.227 % since 2012 (0.57/250.70 acres = 0.227)
Estimated cost of retrofits	No estimates available at this time
Detention or retention ponds identified	90 (including pipe easements)

### 5.4 Method used to determine baseline DCIA.

The baseline DCIA was determined using the impaired waterbodies map developed by NEMO and impervious cover (IC) by CTDEEP Basin IDs (11-84% IC) and data obtained from the attribute tables for each basin within which there is an impaired water. Factors and formulas as presented by nemo.uconn.edu were used in calculations. "Development type" was determined by visual review/judgement of the land use map within each basin (catchment area). The factors in the calculation include: Total Impervious Cover (acres), Total Impervious Cover (%), Connectivity Level, Exponent Factor and Connectivity Level Factor.

**The data is presented on the next page.**

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB
2	Priority areas determined by NEMO impaired waterbodies map + impervious cover (IC) by DEEP Basin ID (11-84% IC). Data obtained from the attribute tables for each basin within which there is an impaired water body.																				DCIA that contributes stormwater runoff to each basin /catchment						
3	Unique DEEP Basin Number	Local Basin	Subregional Basin	Subregional Basin Name	Regional Basin	Regional Basin Name	Unique Basin ID	Clipped Basin Area (Acres)	Clipped Basin Area (SqMiles)	Total Impervious Cover <sup>1</sup> (acres)	Total Impervious Cover (%)	Buildings IC (acres)	Buildings IC (%)	All Roads IC (acres)	All Roads IC (%)	DOT Roads IC (acres)	DOT Roads (%)	Town Roads (acres)	Town Road (%)	Other Impervious (acres)	Other Impervious (%)	Total Impervious Cover (%)	Connectivity Level <sup>2</sup>	Exponent	Connectivity Level Factor	% DCIA Calculated <sup>3</sup>	# DCIA Acres/ Basin
4	4604-00-2-R1	4604-00	4604	Sawmill Brook	46	Mattabesett	5531	474.27	0.74	100.56	21.2	26.51	5.59	20.14	4.25	2.89	0.61	17.24	3.64	53.92	11.37	21.2	Moderate	1.5	0.1	9.50	9.5544
5	4604-00-1*	4604-00	4604	Sawmill Brook	46	Mattabesett	5663	729.41	1.14	142.77	19.57	30.03	4.12	36.88	5.06	17.99	2.47	18.89	2.59	75.86	10.4	19.57	Moderate	1.5	0.1	8.77	12.5219
6	4600-00-3-R10	4600-00	4600	Mattabesett River	46	Mattabesett	5461	69.22	0.11	14.48	20.92	0.13	0.18	2.74	3.96	0	0	2.74	3.96	11.61	16.77	20.92	Moderate	1.5	0.1	9.38	1.3576
7	4600-00-3-R13	4600-00	4600	Mattabesett River	46	Mattabesett	5440	241.53	0.38	61.12	25.3	20.22	8.37	20.09	8.32	3.42	1.42	16.67	6.9	20.8	8.61	25.3	Low	1.7	0.04	5.54	3.3858
8	4600-26-2-R1	4600-26	4600	Mattabesett River	46	Mattabesett (to Miner Br)	5549	339.56	0.53	90.32	26.6	26.97	7.94	17.4	5.12	9.79	2.88	7.61	2.24	45.95	13.53	26.6	Low	1.7	0.04	5.82	5.2605
9	4600-25-1	4600-25	4600	Mattabesett River	46	Mattabesett (to Miner Br)	5619	104.34	0.16	24.88	23.85	7.55	7.23	7.66	7.35	2.85	2.73	4.82	4.62	9.67	9.27	23.85	Low	1.7	0.04	5.22	1.2993
10	4600-24-1	4600-24	4600	Mattabesett River	46	Mattabesett (to Miner Br)	5616	252.96	0.4	38.54	15.23	11.89	4.7	9.52	3.76	0	0	9.52	3.76	17.13	6.77	15.23	Low	1.7	0.04	3.33	1.2852
11	4600-25-1-L1	4600-25	4600	Mattabesett River	46	Mattabesett (to Miner Br)	5769	475.8	0.74	70.16	14.74	20.03	4.21	22.92	4.82	5.79	1.22	17.13	3.6	27.21	5.72	14.74	Low	1.7	0.04	3.23	2.2644
12	4600-30-2-R1	4600-30	4600	Mattabesett River	46	Mattabesett	5571	217.11	0.34	37.86	17.44	9.45	4.35	6.13	2.82	3.04	1.4	3.1	1.43	22.28	10.26	17.44	Moderate	1.5	0.1	7.82	2.9592
13	4600-00-3-R15	4600-00	4600	Mattabesett River	46	Mattabesett	5570	18.11	0.03	2.25	12.42	1.31	7.22	0	0	0	0	0	0	0.94	5.2	12.42	Low	1.7	0.04	2.72	0.0612
14	4600-00-3-R16	4600-00	4600	Mattabesett River	46	Mattabesett	5424	514.19	0.8	132.82	25.83	40.23	7.82	20.46	3.98	3.44	0.67	17.01	3.31	72.14	14.03	25.83	Moderate	1.5	0.1	11.58	15.3755
15	4607-00-3-R9 (Mid-Town Rt 66)	4607-00	4607	Coginchaug River	46	Mattabesett	5796	1,366.38	2.13	271.27	19.85	69.82	5.11	64.93	4.75	15.26	1.12	49.67	3.63	136.52	9.99	19.85	High	1.2	0.4	26.36	71.5115
16	4607-00-3-L2	4607-00	4607	Coginchaug River	46	Mattabesett	6032	741.69	1.16	130.39	17.58	34.71	4.68	33.97	4.58	10.48	1.41	23.5	3.17	61.71	8.32	17.58	Moderate	1.5	0.1	7.88	10.2732
17	4607-13-1	4607-13	4607	Coginchaug R/Laurel Br	46	Mattabesett	2467	323.49	0.51	42.31	13.08	13.61	4.21	10.56	3.27	0.41	0.13	10.15	3.14	18.13	5.6	13.08	Low	1.7	0.04	2.86	1.2117
18	4000-00-6+R24 (Downtown Area)	4000-00	4000	Connecticut River	40	Connecticut Main Stem	5874	406.79	0.64	173.1	42.55	48.06	11.82	46.08	11.33	21.22	5.22	24.86	6.11	78.95	19.41	42.55	High	1.2	0.4	56.51	97.8160
19	4000-00-6+R25 (SE of Downtown incl CT Valley Hosp)	4000-00	4000	Connecticut River	40	Connecticut Main Stem	5764	365.35	0.57	46.86	12.82	10.48	2.87	12.35	3.38	5.24	1.43	7.11	1.95	24.02	6.58	12.82	Low	1.7	0.04	2.81	1.3154
20	4000-00-6+R30 (SE corner with P&W)	4000-00	4000	Connecticut River	40	Connecticut Main Stem	6143	303.99	0.47	36.62	12.05	5.88	1.94	3.79	1.25	0	0	3.79	1.25	26.95	8.87	12.05	Moderate	1.5	0.1	5.40	1.9776
21	4013-00-3-R1	4013-00	4013	Sumner Brook	40	Connecticut Main Stem	6136	398.64	0.62	143.23	35.93	40.13	10.07	38.38	9.63	5.59	1.4	32.8	8.23	64.71	16.23	35.93	Low	1.7	0.04	7.87	11.2681
22	<b>Notes:</b>																								Total DCIA Acres in Middletown =	250.70	
23	1) Only catchment areas (basins) that are 11 - 84% impervious are included.																										
24	"Catchment area" means the land area from which stormwater runoff is collected by a permittee's MS4 and discharges through a single outfall to surface water.																										
25	2) Connectivity Levels were determined based on map review and Catchment Assessment and Priority Ranking Matrix in the IDDE program, Table 6-1.																										
26	3) Estimates are based on factors and formulas using the "Prius" approach by development type as presented by nemo.uconn.edu.																										
27	3 Catchment Basins with impervious cover (IC) by DEEP Basin ID (11-84% IC) but which do not contain an impaired water body are listed below:																										
28	4013-00-3-R2	4013-00	4013	Sumner Brook	40	Connecticut Main Stem		217.2	0.3	108.59	50	25.51	12	32.1	15	13.2	Unk	Unk	Unk	50.97	Unk	50	Low	1.7	0.04	10.95	11.8883
29	4600-24-1	4600-24	4600	Mattabesett River	46	Mattabesett (to Miner Br)	5616	252.96	0.4	38.54	15.23	11.89	4.7	9.52	3.76	0	0	9.52	3.76	17.13	6.77	15.23	Low	1.7	0.04	3.33	1.2852
30	4600-30-2-R1	4600-30	4600	Mattabesett River	46	Mattabesett	5571	217.11	0.34	37.86	17.44	9.45	4.35	6.13	2.82	3.04	1.4	3.1	1.43	22.28	10.26	17.44	Moderate	1.5	0.1	7.82	2.9592

## 6. Pollution Prevention/Good Housekeeping

### 6.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date
6-1 Develop/implement formal employee training program	In Progress	A training session for 14 City Yard employees was held in-person by Chris Holden.	Present training of main topics at least annually. Make use of other trainings coordinated by UConn CLEAR or NEMO.	Tom Nigosanti	Ongoing and Annually	December 15, 2022
6-2 Implement MS4 property and operations maintenance	Ongoing	A Spill Prevention, Control and Countermeasure Plan (SPCC) has been in effect for the City Yard since 2014. Pet waste bags and receptacles have been installed at the city parks. <sup>1</sup>	List each property type with relevant BMPs (i.e., parks and open space, buildings and facilities, etc.). Develop relevant metrics to measure progress of each.	Tom Nigosanti and Bob Russo	Ongoing beginning Jul 1, 2018	Property and operations maintenance has been in effect for many years. The programs are ongoing.
6-3 Implement coordination with interconnected MS4s	Not started	No activities to report, however interconnections with other towns are expected to be minimal. <sup>2</sup>	Make contact with Middlesex Hospital, CT Valley Hosp, Wesleyan Univ., Middlesex Community College.	Tom Nigosanti	Not specified	Coordination w/ Middlefield, Berlin and institutions is expected to begin in the future.

### 6.1 BMP Summary (continued)

6-4 Develop/implement program to control other sources of pollutants to the MS4	Not started	No activities to report in the current period.	Focus on commercial and industrial facilities that are not regulated under a stormwater permit.	Tom Nigosanti	Not specified	Coordination with relevant facilities is expected to begin in the future.
6-5 Evaluate additional measures for discharges to impaired waters	In Progress	No activities to report in the current period.	Create a list of dog parks, parks with open water, sites with failing septic systems. Locate the closest outfalls. Correct any problems. Prohibit feeding geese or waterfowl and implement a program to manage these.	Tom Nigosanti	Not specified	These additional measures are expected to begin in the future.
6-6 Track projects that disconnect DCIA	In Progress. Initial results are reported in 5.3 above.	DCIA has been calculated to be 250.70 acres.	Annually track total acreage of DCIA disconnected as a result of redevelopment or retrofit projects. Document the amount of existing DCIA that is modified/disconnected.	Tom Nigosanti	Ongoing	Goal is to reduce 1% of total DCIA acreage per year starting in 2022, however this is dependent on funding.

**6.1 BMP Summary (continued)**

<p>6-7 Implement infrastructure repair/rehab program</p>	<p>Not started</p>	<p>No activities to report in the current period.</p>	<p>Evaluate and prioritize repairs, retrofits or upgrades of conveyances, structures and outfalls. Monitoring results, impaired waters, inspection observations or observations made during outfall mapping will be used to develop this program.</p>	<p>Tom Nigosanti</p>	<p>Jul 1, 2021</p>	<p>This program is expected to begin in the future.</p>
<p>6-8 Develop/implement plan to identify/prioritize retrofit projects</p>	<p>Ongoing</p>	<p>No activities to report in the current period. As projects arise, efforts to minimize impervious surfaces will be made.</p>	<p>1) Identify and prioritize developed sites with DCIA of 40% or more. Develop a plan to retain half the water quality volume, or retain runoff volume to the maximum extent achievable. 2) Develop a similar plan for developed sites with DCIA less than 40%. Goal is to retain all the water quality volume for the site, or provide documentation of site constraints that prevent retention.</p>	<p>Tom Nigosanti</p>	<p>July 1, 2020</p>	<p>This program is expected to begin in 2023.</p>

**6.1 BMP Summary (continued)**

6-9 Implement retrofit projects to disconnect 2% of DCIA	Not started	No activities to report in the current period.	Identify potential areas for retrofits to reduce DCIA	Tom Nigosanti	Jul 1, 2022	This program is expected to begin in the future.
6-10 Develop/implement street sweeping program	Ongoing	The City sweeps streets in priority areas beginning in the spring of each year, after the salt/sanding season is over for the winter months. All streets are swept at least annually.	1) Identify streets and parking lots within the Urbanized Area, and outside the Urbanized Area with either DCIA of greater than 11% or which discharge to impaired waters. 2) Complete the same for areas outside Urban Areas	Tom Nigosanti	Ongoing beginning Jul 1, 2017	This program has been ongoing informally for years. Formal documentation has been developed for tracking and reporting.
6-11 Develop/implement catch basin cleaning program	Ongoing	1,100 catch basins were cleaned in this reporting period.	Conduct routine cleaning of all catch basins. Document data such as total # of catch basins, # inspected, # cleaned, the total volume or mass of material removed from all catch basins and, if practicable, the volume or mass of material removed from each catch basin draining to priority areas.	Tom Nigosanti	Ongoing beginning Jul 1, 2020	This program has been ongoing for years. Formal documentation has been developed for tracking and reporting.

**6.1 BMP Summary (continued)**

6-12 Develop/implement snow management practices	Ongoing	4,670 lbs of salt were applied in 2022. Annual records of salt use are kept. Add'l details are in the metrics table below. The City converted from a sand and salt mix to salt only. The current standard procedure is for straight rock salt to be applied.	Develop and implement SOPs for the use, handling, storage, application, and disposal of salt and sand to minimize exposure to stormwater. Track efforts to minimize the use and optimize the application of chloride-based or other salts or deicing products.	Tom Nigosanti	Ongoing beginning Jul 1, 2018	This program has been ongoing for years. Formal documentation has been developed for tracking and reporting.
--	---------	--	--	---------------	-------------------------------	--

**Notes:**

1) The City follows procedures in Section 6.2 of the Stormwater Management Plan to address properties and vehicles, grass clippings, leaf management and waterfowl management. Leaves are currently disposed at a composting facility. Additionally, a Stormwater Pollution Prevention Plan was developed for the 3 regulated industrial properties (City Yard, Parks and Rec and Recycling Center) and updated in 2017.

2) Interconnections with other municipalities are expected to be minimal because the N, and NE of Middletown is bordered by the Mattabesset R., and the E is bordered by the CT River. There are no priority areas on the S bordering Durham or Haddam. The SW border with Middlefield may have connections to Basins 4607-13-1 and 4607-00-3-L2. The N border with Berlin may have connections to Basins 4600-16-1 and 4600-13-2-R3.

**6.2 Pollution Prevention/Good Housekeeping activities planned for the next year.**

Improved documentation of Pollution Prevention/Good Housekeeping activities are planned in the next reporting period.

### 6.3 Pollution Prevention/ Good Housekeeping reporting metrics

Metrics	
Employee training provided for key staff	December 15, 2022
Street sweeping	
Curb miles swept	400 Miles (every street at least 1/yr)
Volume (or mass) of material collected	2 Tons (mostly trash and leaves)
Catch basin cleaning	
Total catch basins in priority areas	4,400 (estimated 40% of total)
Total catch basins town-wide	11,000
Catch basins inspected	142
Catch basins cleaned	1,000 cleaned by contractor/100 by the town
Volume (or mass) of material removed from all catch basins	10 Tons
Volume removed from catch basins to impaired waters (if known)	Unknown
Snow management	
Type(s) of deicing material used	Rock salt
Total amount of each deicing material applied	4,670 tons (July 2021 to July 2022)
Type(s) of deicing equipment used	Conventional truck with spreader
Lane-miles treated (miles of roadway in a single driving lane)	400 Miles per storm
Snow disposal location	Palmer Field on gravel parking lot
Staff training provided on application methods & equipment	12/19/2022 and 12/20/2022
Municipal turf management program actions (for permittee properties in basins with N/P impairments)	<i>Not applicable to Middletown</i>
Lands with high potential to contribute bacteria (dog parks, parks with open water, & sites with failing septic systems)	
Cost of mitigation actions/retrofits	\$0
There have been no retrofitting projects at this time, thus pollutant reduction has not been assessed.	

#### 6.4 Catch basin cleaning program

##### **Updates or modifications to the catch basin cleaning program**

The majority of catch basins are cleaned by a subcontractor; a small percentage are cleaned by the City. No modifications to the program are expected.

#### 6.5 Retrofit program

##### **Description of the Retrofit Program identification and prioritization process, projects selected for implementation, rationale for the selection of those projects and the total DCIA to be disconnected upon completion of each project.**

Monitoring results, impaired waters assessments, inspection observations or observations made during outfall mapping will be used to develop this program.

##### **Plans for continuing the Retrofit program and how to achieve a goal of 1% DCIA disconnection in future years.**

Catchment areas (basins) with either Directly Connected Impervious Area (DCIA) of greater than 11% or which discharge directly to impaired waters (priority areas) have been identified and ranked. Those with the highest ranking priority will be addressed as funding becomes available.

##### **Plans for continuing the Retrofit program beyond this permit term with the goal to disconnect 1% DCIA annually over the next 5 years.**

The plan described above will be followed to achieve a goal of 1% DCIA disconnection in future years. Catchment areas (basins) with either Directly Connected Impervious Area (DCIA) of greater than 11% or which discharge directly to impaired waters (priority areas) have been identified and ranked. Those with the highest ranking priority will be addressed as funding becomes available.

## Part II: Impaired waters investigation and monitoring

### 1. Impaired waters investigation and monitoring program

For details on this requirement, visit <https://nemo.uconn.edu/ms4/tasks/monitoring.htm>. Refer to the yellow column of the Monitoring comparison chart and the Impaired waters monitoring flowchart. Ms. Karen Allen, DEEP Water Permitting and Enforcement Division, and staff in the Water Planning and Standards Division clarified: “The MS4 impaired waters mapping on the UCONN CLEAR MS4 website identifies “stormwater impaired waters”, a subset of the surface waters of the state identified as impaired as a result of stormwater runoff. These are the impairments to be prioritized under the MS4 general permit.” Accordingly, PCBs are not pollutants of concern with regard to MS4 permitting. See the Stormwater Management Plan for further detail.

**1.1 Stormwater pollutant(s) of concern in Middletown.** This data is available on the MS4 map viewer: <http://s.uconn.edu/ctms4map>.

Nitrogen/ Phosphorus  Bacteria  Mercury  Other Pollutant of Concern

### 1.2 Monitoring program status.

- 1) Status: The monitoring program began in 2022.  
93 outfalls were initially identified in the screening process.  
Of those 93 outfalls, 79 were determined to be Middletown-owned after reviewing city GIS parcel maps. Many parcels that border impaired waters have been purchased by MIDDLESEX LAND TRUST INC. and the ROCKFALL FOUNDATION INC. over the years. This action has helped to protect the rivers from further impairment.
- 2) A summary of the results and any notable findings: **See the dry weather screening table below.**  
Of the 84 rows in the table, 1 is the heading, 1 is a possible groundwater flow but not confirmed, 3 are notes of marsh investigations = 79 actual outfalls. The outfalls were located and identified by the following combination of methods: Review of GIS parcel maps, NEMO basin maps and impaired waters to locate relevant areas for screening. Monarch Environmental physically climbed, walked and waded up and down each river to locate the outfalls. Data and pictures were collected using the Epicollect5 app and field kits. All data was then uploaded to an Excel spreadsheet which is presented below. Some insignificant or redundant columns have been hidden to fit the page.
- 3) No changes to the Stormwater Management Plan based on monitoring results are expected at this time.

## Dry Weather Screening Results

	A	C	F	G	I	J	K	L	O	P	Q	R	S	T	U	V	W
	Unique Outfall Identifier	Date of Inspection	Current weather conditions	Time Discharge Started (wet weather only)	Latitude	Longitude	Accuracy (meters)	Describe Waterbody	Physical condition of the outfall	Type, material and size of outfall (e.g. 24" concrete pipe)	Is there a flow? (Note during dry weather)	If flowing, confirm testing done	Evidence of previous flow or other pollution indicators?	Final notes to add, if any	Dry Weather Sampling Done?	Sample Results Show High Priority?	Flagged for follow up or repair
1	COG 4607 010	4/14/2022	sunny	NA - Dry screen	41.556711	-72.672459	4		Good	Brick type material 4-in diameter, a little broken.	No	NA	No		NA	NA	NA
2	COG 4607 011	4/14/2022	sunny	NA - Dry screen	41.557228	-72.671202	3		Fair (minimal debris)	Corrugated metal approx 24 in diameter	Unknown, water is backed up but does not appear flowing. Leaves and sticks blocking flow.	NA	No		NA	NA	NA
3	COG 4607 012	4/14/2022	sunny	NA - Dry screen	41.554937	-72.673944	4		Good	Corrugated metal 5 ft diameter	Yes	Yes	No	The only evidence of pollution is some foam in the area. Bubbly foam. Needed test kits and equipment for add'l parameters for dry weather	E coli on 4/15/2022. Others on 5/6/22	No	NA
4	COG 4607 013	4/14/2022	sunny	NA - Dry screen	41.555434	-72.673416	6		Poor: in need of repair, debris build up	Concrete approx 12-in diameter	No	NA	No		NA	NA	Repair
5	COG 4607 016	5/6/2022	cloudy	NA - Dry screen	41.557358	-72.66898	6	Ultimate discharge is to the COG. Between Palmer Field and Meineke Car	Poor: in need of repair, debris build up	8 in metal, rusty and filled with sand or silt.	No	NA	No	There's a manhole about 30 ft west of the outfall. Can't determine if they are connected.	NA	NA	Repair
6	COG 4607 016-A	5/6/2022	cloudy	NA - Dry screen	41.558324	-72.66879	4	Tributary to the COG located between Palmer Field and Meineke Car	Good (no issues observed)	NA	Yes, tributary flowing	"No, explain in Notes section"	Yes	Approximately 100 ft from the COG are some spots of oil. See picture. Oil sheen on edge.	NA	NA	Investigated upstream outfall COG 4607 022. See those notes below.
7	COG 4607 016-B	5/6/2022	cloudy	NA - Dry screen	41.558721	-72.668862	2	Tributary flows from the south side of Route 66, between Palmer Field and Meineke	Good (no issues observed)	NA. Tributary was located.	Yes, tributary flowing	"No, explain in Notes section"	No	This is a flowing tributary. Need to investigate upstream for outfalls.	NA	NA	NA
8	COG 4607 017	5/6/2022	cloudy	NA - Dry screen	41.55656	-72.66893	2	Same tributary to the COG. Approximately 60 ft north of Route 66. Distributary appears to run behind the Sunoco	Good (no issues observed)	12-in corrugated plastic	No	NA	None	Note that this is upstream from the oil sheens previously reported. The section behind Sunoco is all fenced in and inaccessible.	NA	NA	NA
9	COG 4607 018	5/6/2022	cloudy	NA - Dry screen	41.55977	-72.665606	4	Directly into the COG. End of Jackson St.	Poor: in need of repair, debris build up	30 inch diameter corrugated metal.	No	NA	None	Bottom of pipe is completely rotted about six feet in. A closer look at the flow appears to be groundwater flowing underneath the pipe. Need to return with better flashlight to inspect the flow and take sample.	Yes. 5/10/22	No	Repair
10	COG 4607 019	5/6/2022	cloudy	NA - Dry screen	41.559266	-72.66842	7	Discharge is directly to the COG. Across from Vet Park	Good (no issues observed)	15-in concrete pipe supported by flat rocks	Yes	Yes	Slight sewage odor	Light oil sheen along the edges of the river adjacent to outfall. Bacteria sample to be taken another day due to timing.	Yes. 5/6/22 E.coli on 5/10 - All results within good range.	No	NA
11	COG 4607 022	8/12/2022	sunny	NA - Dry screen	41.556035	-72.668574	3	Unnamed tributary starts on the south side of Route 66. The same swale that discharges to the COG on the east side of the Palmer Field property.	Good (no issues observed)	Two- 5 ft diameter concrete culverts. Best to access from Route 66 on the east side of the bridge and block parallel to railroad tracks	Yes	"No, explain in Notes section"	Color	The color is cloudy, grayish. No sample taken because 0.19 inches of rain recorded in the last 24 hours for the Cog. Possibly sample from catch basin on the other side at City Yard because flow is at bottom of pipe level.	No	TBD	TBD
12	MIN 4600 001	6/20/2022	sunny	NA - Dry screen	41.598569	-72.699849	10	Miner Brook	Fair (minimal debris and/or a little maintenance required)	18-in concrete. The larger piece of 30 in wide reinforced concrete culvert has broken off.	Yes	"No, explain in Notes section"	None	The drip is extremely slow. One drop per 5 seconds. Absolutely no odor. Same as TRX 1	NA	NA	NA

	A	C	F	G	I	J	K	L	O	P	Q	R	S	T	U	V	W
1	Unique Outfall Identifier	Date of Inspection	Current weather conditions	Time Discharge Started (wet weather only)	Latitude	Longitude	Accuracy (meters)	Describe Waterbody	Physical condition of the outfall	Type, material and size of outfall (e.g. 24" concrete pipe)	Is there a flow? (Note during dry weather)	If flowing, confirm testing done	Evidence of previous flow or other pollution indicators?	Final notes to add, if any	Dry Weather Sampling Done?	Sample Results Show High Priority?	Flagged for follow up or repair
14	MIN 4600 002	6/20/2022	sunny	NA - Dry screen	Outfall not found. Same as TRX 2	no data	no data	Miner Brook	no data	no data	no data	no data	no data	Outfall needs to be cleared of vegetation for screening.	NA	NA	Best to screen early spring before growth.
15	MIN 4600 003	6/20/2022	sunny	NA - Dry screen	Outfall not found. Same as TRX 3	no data	no data	Miner Brook	no data	no data	no data	no data	no data	Outfall needs to be cleared of vegetation for screening.	NA	NA	Best to screen early spring before growth.
16	MIN 4600 004	6/20/2022	sunny	NA - Dry screen	Outfall not found. Same as TRX 4	no data	no data	Miner Brook	no data	no data	no data	no data	no data	Outfall needs to be cleared of vegetation for screening.	NA	NA	Best to screen early spring before growth.
17	MIN 4600 005	6/20/2022	sunny	NA - Dry screen	Outfall not found. Same as WLK 2	no data	no data	Miner Brook	no data	no data	no data	no data	no data	Outfall needs to be cleared of vegetation for screening.	NA	NA	Best to screen early spring before growth.
18	MIN 4600 006	6/20/2022	sunny	NA - Dry screen	Outfall not found. Same as WLK 3	no data	no data	Miner Brook	no data	no data	no data	no data	no data	Outfall needs to be cleared of vegetation for screening.	NA	NA	Best to screen early spring before growth.
19	MIN 4600 007	6/20/2022	sunny	NA - Dry screen	41.596913	-72.699877	8	Miner Brook	Good (no issues observed)	24 inch concrete	No	NA	None	The outfall is damp but no flow. Appears to be GVW 1. Located about 60 ft from the road.	NA	NA	NA
20	MIN 4600 008	6/20/2022	sunny	NA - Dry screen	41.595338	-72.699341	5	Miner Brook	Good (no issues observed)	17 inch corrugated metal. A little rusting with a few holes on the bottom	Yes	Yes	None	Same ID as GVW 2	Yes. 6/20/22	No	NA
21	NA See Notes	6/20/2022	sunny	NA - Dry screen	41.597033	-72.699759	4		Good (no issues observed)	NA See final notes	Yes	"No, explain in Notes section"	None	Heard strong water flow <b>under ground</b> at this location. Possibly another discharge point but cannot determine.	NA	NA	NA
22	MIN 4600 009	6/24/2022	sunny	NA - Dry screen	41.588535	-72.701551	3	East Miner Brook	Good (no issues observed)	24-in wide concrete culvert	No	NA	None	Same as SYL 1	NA	NA	NA
23	MIN 4600 010	6/24/2022	sunny	NA - Dry screen	41.588246	-72.701144	5	East Miner Brook	Fair (minimal debris and/or a little maintenance required)	24 inch Y-shaped concrete	No	NA	None	Same as HTG 1. Outfall is prone to clogging with dirt from adjacent slope. A significant amount of clogging has begun.	NA	NA	NA
24	MIN 4600 011	6/24/2022	sunny	NA - Dry screen	41.588069	-72.701381	7	East Miner Brook	Fair (minimal debris and/or a little maintenance required)	32-in wide, Y-shaped concrete	No	NA	None	Same as HTG 2. Outfall is prone to clogging from erosion of adjacent slope. Some clogging has begun.	NA	NA	NA
25	MIN 4600 012	6/24/2022	sunny	NA - Dry screen	41.587556	-72.701734	5	East Miner Brook	Poor: in need of repair, debris build up	22-inch, Y-shaped concrete	No	NA	None	Same as FIE 1. Outfall is significantly clogged with dirt eroding from adjacent slope as well as grass clippings from adjacent lawn.	NA	NA	NA
26	MIN 4600 013	6/24/2022	sunny	NA - Dry screen	41.585897	-72.702652	3	East Miner Brook	Good (no issues observed)	16 inch reinforced concrete	No	NA	None	Same as GHL 2. Adjacent property owner described major flooding last year and showed me a video of the flood level.	NA	NA	NA
27	MIN 4600 014	6/24/2022	partly cloudy	NA - Dry screen	41.585736	-72.702867	3	East Miner Brook	Good (no issues observed)	18-in concrete	No	NA	None	Same as GHL 1. Second photo is not the outfall. It shows the clogged channel that flows under Grove Hill Road. Possibly because of last year's flooding.	NA	NA	NA
28	MIN 4600 015	6/24/2022	partly cloudy	NA - Dry screen	41.583604	-72.70313	2	East Miner Brook	Good (no issues observed)	15 inch corrugated plastic pipe	No	NA	None	Same as GLT 1. Though no evidence of pollution checked in app, there is a significant amount of algae in the vicinity.	NA	NA	NA
29	MIN 4600 016	6/24/2022	partly cloudy	NA - Dry screen	41.583628	-72.703092	5	East Miner Brook	Good (no issues observed)	16 inch concrete pipe	No	NA	None	Same as GLT 2. Second photo is the algae in the river.	NA	NA	NA

	A	C	F	G	I	J	K	L	O	P	Q	R	S	T	U	V	W
1	Unique Outfall Identifier	Date of Inspection	Current weather conditions	Time Discharge Started (wet weather only)	Latitude	Longitude	Accuracy (meters)	Describe Waterbody	Physical condition of the outfall	Type, material and size of outfall (e.g. 24" concrete pipe)	Is there a flow? (Note during dry weather)	If flowing, confirm testing done	Evidence of previous flow or other pollution indicators?	Final notes to add, if any	Dry Weather Sampling Done?	Sample Results Show High Priority?	Flagged for follow up or repair
30	MIN 4600 017	6/24/2022	partly cloudy	NA - Dry screen	41.581166	-72.703521	3	East Miner Brook	Poor: in need of repair, debris build up	Area overgrown. Outfall not found.	No	NA	None	Same as MIN 1. Area is completely overgrown. Flow could not be determined.	NA	NA	Outfall needs to be cleared of vegetation for screening. Or wait until early next spring.
31	MIN 4600 018	6/24/2022	partly cloudy	NA - Dry screen	41.581081	-72.704905	5	West Miner Brook which is not impaired.	Good (no issues observed)	Outfall could not be assessed due to overgrowth, however discharge is not to impaired water.	No	NA	None	Same as MIN 2; discharging to West Miner Brook	NA	NA	NA
32	MAT 4600 001	6/29/2022	sunny	NA - Dry screen	41.600413	-72.689989	7	Mattabasset river	Good (no issues observed)	17-in concrete pipe	No	NA	None	Located along the bike path.	NA	NA	NA
33	MAT 4600 002	6/29/2022	sunny	NA - Dry screen	41.600706	-72.687133	3	Mattabasset river	Good (no issues observed)	Approximately 3 ft by 3 ft concrete blocks as culvert/tunnel for natural stream crossing under bike path	Yes	"No, explain in Notes section"	None	Walked upstream to assess illicit discharge. Unnamed natural stream was mostly dry with a few small ponding areas. Stream runs between Pond Place and Rolling Green. No ID detected.	NA	NA	NA
34	MAT 4600 003	6/29/2022	partly cloudy	NA - Dry screen	41.600602	-72.687099	3	Indirect discharge to mattabasset river via unnamed stream.	Good (no issues observed)	8-in PVC pipe	No	NA	None	Hard to determine where the beginning of this pipe is located.	NA	NA	NA
35	MAT 4600 004	6/29/2022	partly cloudy	NA - Dry screen	41.600518	-72.686983	4	Indirectly to mattabasset river via unnamed stream	Good (no issues observed)	28 inch y-shaped concrete	No	NA	None		NA	NA	NA
36	MAT 4600 005	7/15/2022	sunny	NA - Dry screen	41.600146	-72.684535	15	Mattabasset river	Good (no issues observed)	4 ft 7 in high and 4 ft wide arched with stone blocks with concrete base	No	NA	None		NA	NA	NA
37	MAT 4600 006	7/16/2022	partly cloudy	NA - Dry screen	41.599923	-72.696664	7	Mattabasset river	Good (no issues observed)	Slope is too steep to climb down at the moment. Will have to come back	Yes	"No, explain in Notes section"	None	I observed the flow while riding my bike on the path. Will return to investigate. Appears to be a stream but need to confirm.	No	TBD	TBD
38	SAW 4604 001 A (changed from 001)	6/24/2022	partly cloudy	NA - Dry screen	41.580563	-72.711201	4	Does not discharge to impaired water body	Fair (minimal debris and/or a little maintenance required)	Too much overgrowth to locate the outfall, as well as abundant poison ivy.	No	NA	None	Same as MIN 3. Too much overgrowth to assess the outfall.	NA	NA	NA
39	SAW 4604 001 B (changed from 001)	8/3/2022	sunny	NA - Dry screen	41.590124	-72.714402	9	Tributary that leads directly to the Sawmill Brook	Poor: in need of repair, debris build up	12 to 15 inch corrugated metal. The underside is rusted out.	No. Potentially greater than 0.1 rain last night, based on Meriden airport data, however there is no discharge from the outfall.	NA	None	Confirmed by GIS database that the parcel is Middletown owned. Will a 1-in storm discharging from this outfall reach the Sawmill Brook? If no, outfall can be eliminated.	NA	NA	NA
40	SAW 4604 002	8/12/2022	sunny	NA - Dry screen	41.585507	-72.718603	4	Sawmill Brook	Good (no issues observed)	15-in concrete pipe that opens to a 32-in wide, flat bottom	No	NA	None		NA	NA	NA
41	SAW 4604 002 A	8/12/2022	sunny	NA - Dry screen	41.586442	-72.716644	6	Tributary to The Sawmill Brook	Good (no issues observed)	8-in dia PVC	No	NA	None	Need to determine if this is a Middletown owned outfall or owned by the business. The property is a Middletown parcel that includes the tributary	NA	NA	NA
42	SAW 4604 002 B	8/12/2022	sunny	NA - Dry screen	41.586453	-72.716639	7	Tributary to The Sawmill Brook	Good (no issues observed)	6-in diameter PVC	No	NA	None	These two outfalls are right next to each other. 002 A and 002 B	NA	NA	NA
43	SAW 4604 002 C	8/12/2022	sunny	NA - Dry screen	41.586627	-72.716993	5	Tributary to The Sawmill Brook	Good (no issues observed)	3 inch diameter PVC	No	NA	None	Need to determine if this is Middletown owned pipe or the Industrial business owned, and if it is considered an interconnection	NA	NA	NA
44	SAW 4604 002 D	9/30/2022	partly cloudy	NA - Dry screen	41.588267	-72.716393	3	Sawmill Brook	Good (no issues observed)	18 inch corrugated plastic	Yes	"Yes, tests confirmed"	Color, Foam	No odor. Color was a very, very light tan or brown. Very lightly "dirty". Confirmed Middletown owned - Parcel ID: 1278, Map-Lot: 06-0023	Yes	No; only E Coli was high: 1011/100mL	NA

	A	C	F	G	I	J	K	L	O	P	Q	R	S	T	U	V	W
1	Unique Outfall Identifier	Date of Inspection	Current weather conditions	Time Discharge Started (wet weather only)	Latitude	Longitude	Accuracy (meters)	Describe Waterbody	Physical condition of the outfall	Type, material and size of outfall (e.g. 24" concrete pipe)	Is there a flow? (Note during dry weather)	If flowing, confirm testing done	Evidence of previous flow or other pollution indicators?	Final notes to add, if any	Dry Weather Sampling Done?	Sample Results Show High Priority?	Flagged for follow up or repair
45	SAW 4604 002 E	9/30/2022	partly cloudy	NA - Dry screen	41.587324	-72.717131	3	About 50 ft from Sawmill Brook with a distinct swale	Poor: in need of repair, debris build up	Approx 10 in corrugated metal or plastic with a plastic extension	No	NA	None	Water not moving but backed up to 1/2 the dia of outfall. Possibly not Middletown-owned according to map.	NA	NA	NA
46	SAW 4604 003	6/24/2022	partly cloudy	NA - Dry screen	41.583928	-72.712103	3	Does not discharge to impaired water body	NA	Appears to be 3 ft corrugated metal	No	NA	None	Appears to be same as SMI 1. Flow appears to be entering the brook from the east side of the pipe, not the pipe itself. It's all overgrown.	NA	NA	NA
47	SAW 4604 004	6/24/2022	partly cloudy	NA - Dry screen	41.583917	-72.712133	3	Does not discharge to impaired water body	NA	Approximately 3 ft concrete pipe.	Yes	"No, explain in Notes section"	Foam	Appears to be the same as SMI 2. Difficult to confirm if this is just a conduit for the brook under the road, but that's what it appears to be.	NA	NA	NA
48	SAW 4604 005	6/24/2022	partly cloudy	NA - Dry screen	41.584261	-72.711973	4	Does not discharge to impaired water body	NA	Outfall not located.	No	NA	None	Same as WLK 8. Outfall was not located.	NA	NA	NA
49	SAW 4604 006	8/12/2022	sunny	NA - Dry screen	41.585482	-72.71894	6	Sawmill Brook	Poor: in need of repair, debris build up	15 inch corrugated metal that opens up to a wider flat bottom metal	Yes	"No, explain in Notes section"	Foam	This appears to be the last and northernmost outfall of this Middletown parcel. The flow appeared to be due to the back up caused by sediment accumulation.	No	TBD	Sediment needs to be cleared.
50	SAW 4604 007	8/12/2022	sunny	NA - Dry screen	41.585228	-72.718964	4	Sawmill Brook	Good (no issues observed)	15 to 18-in concrete with flat bottom. 005 is flat bottom also	No	NA	None	Accessed from the Saw Mill Brook. Access for sampling will be easier from the road.	NA	NA	NA
51	SAW 4604 008	8/12/2022	sunny	NA - Dry screen	41.585038	-72.719018	5	Sawmill Brook	Good (no issues observed)	15 to 18 in concrete	No	NA	None	Will have to use long/lat to find it again from the road.	NA	NA	NA
52	SAW 4604 009 Multi (28)	8/12/2022	sunny	NA - Dry screen	41.584192	-72.716851	3	Sawmill Brook	Good (no issues observed)	4 inch PVC. There are 14 of these on the north side of the culvert, and 14 on the south side of the culvert. All dry. No flows.	No	NA	None	Access through the corner of the Marc property	NA	NA	NA
53	SAW 4604 010	8/12/2022	sunny	NA - Dry screen	41.584184	-72.716829	4	Sawmill Brook	Good (no issues observed)	18 in plastic coated corrugated metal	Yes	"No, explain in Notes section"	None	Flow is barely dripping, but no sample taken because of rain last night. Outfall locating, assessing and mapping only.	NA	TBD	TBD
54	CON 4000 001 N	9/2/2022	sunny	NA - Dry screen	41.562371	-72.646873	3	Directly to CT River	Poor: in need of repair, debris build up	14-in corrugated plastic	Yes	"No, explain in Notes section"	Oil sheen observed on side of pipe in photo; was not visible in person with bright sun.	Pipe runs under sidewalk. Significant amt of gravel building up, blocking flow. Unsuccessful attempt to clear gravel with shovel to sample. 2nd photo is the other side of sidewalk.	No	TBD	Gravel needs to be removed for sampling. Also, gravel is caught up in fabric filter exacerbating the issue.
55	CON 4000 001 S	9/2/2022	sunny	NA - Dry screen	41.562368	-72.646847	3	Directly to CT River	Fair (minimal debris and/or a little maintenance required)	14-in corrugated plastic	Yes	Yes	None	Pipe runs under sidewalk to an excavated fenced area on the other side. This identifier number may change if I find others north of this point. Sampled at 1:30pm	Yes	No	NA
56	CON 4000 002	9/2/2022	sunny	NA - Dry screen	41.562031	-72.646338	2	Directly to CT River	Good (no issues observed)	Approximately 30-inch concrete	Yes	Yes	None		Yes	No; only E Coli was high: 1986/100mL - 2nd test 1120/100mL	Returned to determine if there is odor. Discharge was clear and odor was minimal. Smelled typical of City water; not sewage, just slightly poor quality in general, but not offensive as sewage.

	A	C	F	G	I	J	K	L	O	P	Q	R	S	T	U	V	W
1	Unique Outfall Identifier	Date of Inspection	Current weather conditions	Time Discharge Started (wet weather only)	Latitude	Longitude	Accuracy (meters)	Describe Waterbody	Physical condition of the outfall	Type, material and size of outfall (e.g. 24" concrete pipe)	Is there a flow? (Note during dry weather)	If flowing, confirm testing done	Evidence of previous flow or other pollution indicators?	Final notes to add, if any	Dry Weather Sampling Done?	Sample Results Show High Priority?	Flagged for follow up or repair
57	CON 4000 002 N	9/16/2022	sunny	NA - Dry screen	41.562214	-72.646489	4	Directly to CT River	Poor: in need of repair, debris build up	Approx 6 inch metal pipe disconnected from source	No	NA	None	Pipe is disconnected and lying on rocky edge	NA	NA	Pipe needs to be reconnected or removed.
58	CON 4000 003	9/16/2022	sunny	NA - Dry screen	41.561302	-72.645668	4	Directly to CT River	Good (no issues observed)	Approx 18-in appears to be metal	No	NA	None	River level is up over the top of the outfall. Approx 3 hrs after high tide.	NA	NA	NA
59	CON 4000 004	9/16/2022	sunny	NA - Dry screen	41.560672	-72.6451	5	Directly to CT River	Good (no issues observed)	3 ft concrete	Yes	"No, explain in Notes section"	None	Low volume flow is coming from above the pipe. River level is above top of pipe or at the top, so no sample possible. Approx 3 hrs after high tide. Accessible from the dock.	NA	NA	NA
60	CON 4000 005	9/16/2022	sunny	NA - Dry screen	41.560647	-72.645044	3	Directly to CT River	Poor: in need of repair, debris build up	3 ft concrete	No	NA	None	River level is at top of pipe. Sampling not possible and flow detection not possible. Significant amount of gunky stuff accumulating in the outfall. Accessible from the dock.	NA	NA	Gunk and sediment need to be removed.
61	CON 4000 006 N/S	9/16/2022	sunny	NA - Dry screen	41.560423	-72.644774	2	Directly to CT River	Fair (minimal debris and/or a little maintenance required)	4-in PVC two pipes within inches of each other (both)	No	NA	None	Pipes are 6 ft above the river level. Accessible from the dock.	NA	NA	NA
62	CON 4000 007	9/16/2022	sunny	NA - Dry screen	41.560037	-72.644665	4	Directly to CT River	Good (no issues observed)	12-in metal	No	NA	None		NA	NA	NA
63	CON 4000 008	9/16/2022	sunny	NA - Dry screen	41.559748	-72.643924	5	Directly to CT River	Good (no issues observed)	4-ft concrete y shaped	No	NA	Color	Color is green apparently from algae. Water level is close the top so sampling not possible. 2nd photo shows color. Located directly in center of Wesleyan boathouse, so may not be Middletown's	NA	NA	NA
64	SUM 4013 001	9/16/2022	sunny	NA - Dry screen	41.55798	-72.64367	4	Sumner Brook	Good (no issues observed)	4 to 6 inch, possibly clay	No	NA	None	Picture looks like it's flowing, but the color is only a stain.	NA	NA	NA
65	SUM 4013 002	9/16/2022	sunny	NA - Dry screen	41.558029	-72.643566	3	Sumner Brook	Good (no issues observed)	4 to 6 inch, possibly clay	No	NA	None		NA	NA	NA
66	SUM 4013 003	9/16/2022	sunny	NA - Dry screen	41.558068	-72.643352	6	Sumner Brook	Poor: in need of repair, debris build up	6 Inch corrugated plastic	No	NA	None	Outfall is backed up with gravel	NA	NA	Gravel and sediment need to be removed.
67	SUM 4013 004	10/21/2022 and 10/28/2022	sunny	NA - Dry screen	41.555723	-72.644101	5	Sumner Brook	Poor: in need of repair, debris build up	Approx 12 inch wide, partially visible concrete. Could be bigger; Mostly covered with heavy dirt.	Yes	Yes	Color, Turbidity, Floatables	During observation on 10/21/22, I moved some of the blockage and orange discharge began. Orange appears to be natural algae observed at other outfalls. On 10/28/22, color cleared up once blockage was removed.	Yes	No, results meet water quality criteria (E coli 261)	NA
68	SUM 4013 005 A	10/21/2022 and 10/28/2022	sunny	NA - Dry screen	41.555696	-72.644166	4	Sumner Brook	Poor: in need of repair, debris build up	4 ft wide concrete	Yes	Yes	Color, Turbidity, Floatables	Discharge is orange also with what appears to be small pieces of dry oil sheen or other shiny substance on surface. Muck has built up not allowing total flow. Orange algae: "It is not considered directly toxic, but can cause de-oxygenation and/or high ammonia concentrations as it breaks down."	Yes	Yes, based on visual, odor, high NH3 and bacteria. These conditions may also be natural.	Follow up to determine the source.
69	SUM 4013 005 B	10/28/2022	sunny	NA - Dry screen	41.555659	-72.644146	6	Sumner Brook	Poor: in need of repair, debris build up	14-in concrete	No	NA	None	Outfall is backed up with dirt and leaves.	NA	NA	NA

	A	C	F	G	I	J	K	L	O	P	Q	R	S	T	U	V	W
1	Unique Outfall Identifier	Date of Inspection	Current weather conditions	Time Discharge Started (wet weather only)	Latitude	Longitude	Accuracy (meters)	Describe Waterbody	Physical condition of the outfall	Type, material and size of outfall (e.g. 24" concrete pipe)	Is there a flow? (Note during dry weather)	If flowing, confirm testing done	Evidence of previous flow or other pollution indicators?	Final notes to add, if any	Dry Weather Sampling Done?	Sample Results Show High Priority?	Flagged for follow up or repair
70	SUM 4013 006	10/21/2022	sunny	NA - Dry screen	41.555214	-72.645424	5	Sumner Brook	Good (no issues observed)	18 to 24 in concrete	No	NA	None	Located about 20 ft from bridge on Main Street Extension	NA	NA	NA
71	SUM 4013 007	10/21/2022	sunny	NA - Dry screen	41.552092	-72.646209	5	Sumner Brook	Fair (minimal debris and/or a little maintenance required)	26 inch Y-shaped concrete	No	NA	None	Dirt and vegetation have built up at the outfall. Needs to be cleared.	NA	NA	NA
72	SUM 4013 009	10/21/2022	sunny	NA - Dry screen	41.550826	-72.645792	4	Sumner Brook	Fair (minimal debris and/or a little maintenance required)	24-in Y- shaped concrete (or horseshoe shape)	No	NA	None	Large rip-rap rocks have fallen in, however it appears a flow would not be blocked. Second photo is a brick / concrete structure, closer to the brook and about 20 ft from the outfall.	NA	NA	NA
73	CON 4000 009	11/7/2022	partly cloudy	NA - Dry screen	41.558555	-72.641858	3	Connecticut River	Good (no issues observed)	18 to 24-in concrete	No	NA	None	Located at the northern edge of sewer treatment property.	NA	NA	NA
74	CON 4000 010	11/7/2022	partly cloudy	NA - Dry screen	41.558234	-72.639582	3	Connecticut River	Fair (minimal debris and/or a little maintenance required)	24-in concrete. High tide is half way up the pipe vertically.	Could not determine flow due to high tide.	"No, explain in Notes section"	None	A section of the concrete has broken off. Could not sample due to high tide.	Needs to be done if flowing at low tide.	TBD	Return at low tide to check for flow
75	CON 4000 011	11/7/2022	sunny	NA - Dry screen	41.558363	-72.637939	3	Connecticut River	Fair (minimal debris and/or a little maintenance required)	14-in wide, rectangle shape. Appears to be natural rock material.	Yes	"No, explain in Notes section"	Odor, Color, Floatables, Oil Sheen, Foam	Outfall is halfway submerged. Olfactory indicates possible sewer input. No samples taken. Investigated upstream from the pipe for possible sampling point or illicit source.	No. Used olfactory to determine possible sewer input.	High priority based on visual & odor, but investigation resulted in no illicit discharge. Nearby manhole needs to be assessed.	Followed up on 11/9/22 to isolate & determine the source. Notes in "Follow Up Investigations" folder. DPW needed to access the manhole. See notes on marsh investigation.
76	CON 4000 012	11/7/2022	sunny	NA - Dry screen	41.559812	-72.635033	3	Connecticut River	Good (no issues observed)	12-in metal. Coming out of concrete wall just below the wood fence.	No	NA	None	Location is at the end of Eastern Drive.	NA	NA	NA
77	CON 4000 013	11/7/2022	sunny	NA - Dry screen	41.559816	-72.634815	3	Connecticut River	Fair (minimal debris and/or a little maintenance required)	24-in concrete pipe that opens up to 36 in wide Y shape	No	NA	None	Some logs and debris piling up between pipe and river.	NA	NA	NA
78	CON 4000 011 Marsh investigation location #1	11/10/2022	sunny	NA - Dry screen	41.556225	-72.635558	3	Wet grassy area with slight sewage smell flowing into the natural tributary in the middle of the marsh. Odor was detected in wet leaves but not standing in the area.	NA: Marsh area	Wet Grassy area	Yes	"No, explain in Notes section"	Odor	Wetland investigation. Entry created with location to locate spot again for further investigation if needed.	NA	NA	NA
79	CON 4000 011 Marsh investigation location #2	11/10/2022	sunny	NA - Dry screen	41.556459	-72.636051	3	Marsh upstream of CON 4000 011	NA: Marsh area	First sighting of colored bluish sheen on top of water and orange algae as I head north but no odor detectable.	Yes	"No, explain in Notes section"	Color, Oil Sheen	Wetland investigation. Entry created with location to locate spot again for further investigation if needed.	NA	NA	NA
80	CON 4000 011 Marsh investigation location #3	11/10/2022	sunny	NA - Dry screen	41.556664	-72.636376	3	Marsh upstream of CON 4000 011	NA: Marsh area	No odor, or orange algae or sheen at this spot.	Yes	"No, explain in Notes section"	None	Wetland investigation. This is the last location reached as I head north in the center of the marsh. Later returned and headed south from River Road.	NA	NA	NA
81	CON 4000 014	11/14/2022	sunny	NA - Dry screen	41.559241	-72.627657	3		Good (no issues observed)	18-in concrete opens up to 3 ft Y shape	No	NA	None	Located in between in the middle to westernmost sheds, little buildings.	NA	NA	NA
82	CON 4000 015	11/14/2022	sunny	NA - Dry screen	41.558928	-72.625953	2		Fair (minimal debris and/or a little maintenance required)	34 inch concrete	Yes	"No, explain in Notes section"	None	Leaves & debris blocking flow. I cleared them to drain the pipe. Returned 1.5 hours later and it's still flowing. Check back another time. Location is about 1/2 dist between main bldg & sm outbuilding to the west.	No	TBD	TBD

	A	C	F	G	I	J	K	L	O	P	Q	R	S	T	U	V	W
	Unique Outfall Identifier	Date of Inspection	Current weather conditions	Time Discharge Started (wet weather only)	Latitude	Longitude	Accuracy (meters)	Describe Waterbody	Physical condition of the outfall	Type, material and size of outfall (e.g. 24" concrete pipe)	Is there a flow? (Note during dry weather)	If flowing, confirm testing done	Evidence of previous flow or other pollution indicators?	Final notes to add, if any	Dry Weather Sampling Done?	Sample Results Show High Priority?	Flagged for follow up or repair
1	CON 4000 016	11/14/2022	sunny	NA - Dry screen	41.558373	-72.623214	2		Good (no issues observed)	4 ft concrete culvert under the road for stream crossing.	Yes	"No, explain in Notes section"	None	Natural stream crossing under the road. No sample taken. Upstream source is simply natural drainage from Reservoir Brook and associated marsh located to the east of the Rushford Center.	NA	NA	NA
83	CON 4000 017	11/14/2022	sunny	NA - Dry screen	41.55771	-72.622406	2	Outfall is behind the rushford Center and discharges to a man-made swale or retention pond/swale or a natural stream.	Good (no issues observed)	16 inch corrugated metal to a 2.5 ft metal y-shaped outfall	No	NA	None	Ownership is HHC. Upstream source is simply natural drainage from Reservoir Brook and associated marsh located to the east of the Rushford Center.	NA	NA	NA
84																	

## 2. Screening data for outfalls to impaired waterbodies

### 2.1 Screening data (wet weather)

The table below shows data for any wet weather sampling completed for MS4 outfalls that discharge directly to a stormwater impaired waterbody during the reporting period.

Each Annual Report will add on to the previous year’s data showing a cumulative list of sampling data. (or see Excel spreadsheet with the same data)

Outfall ID	Latitude / Longitude	Sample date	Parameter <sup>1</sup> (Bacteria)	Results	Name of Laboratory (if used)	Follow-up required? *
------------	----------------------	-------------	-----------------------------------	---------	------------------------------	-----------------------

No wet weather sampling was conducted in 2022.

Wet weather sampling and investigation is expected to begin in 2023. A sampling plan has been developed, and large sections of each river or brook will be sampled during a single rain event.

Note: 1) Nitrogen or Phosphorus are not pollutants of concern in Middletown.

### 2.2 Credit for screening data collected under 2004 permit

Outfalls to impaired waters that were sampled under the 2004 MS4 permit count towards the monitoring requirements under the modified 2017 MS4 permit. The table below shows sampling data for any outfalls to impaired waters under the 2004 MS4 permit.

Outfall	Latitude / Longitude	Sample date	Parameter (Nitrogen, Phosphorus, Bacteria, or Other pollutant of concern)	Results	Name of Laboratory (if used)	Follow-up required? *
---------	----------------------	-------------	---	---------	------------------------------	-----------------------

No sampling was completed under the 2004 MS4 permit.

The Parks & Recreation Department hires TruGreen for fertilizing although Nitrogen or Phosphorus are not pollutants of concern in Middletown.

\*Follow-up investigation required if the following pollutant thresholds are exceeded.

Pollutant of concern	Pollutant threshold
Bacteria (fresh waterbody) <sup>1</sup>	<ul style="list-style-type: none"> <li>E. coli &gt; 235 col/100ml for swimming areas or 410 col/100ml for all others</li> <li>Total Coliform &gt; 500 col/100ml</li> </ul>

Note 1): Bacteria (fresh waterbody) is the only pollutant of concern for Middletown.

The Pollutants of Concerns in the following table are *not applicable* to the City:

Pollutant of concern	Pollutant threshold
Nitrogen (N/A)	Total N > 2.5 mg/l
Phosphorus (N/A)	Total P > 0.3 mg/l
Bacteria (salt waterbody) (N/A)	<ul style="list-style-type: none"> <li>Fecal Coliform &gt; 31 col/100ml for Class SA and &gt; 260 col/100ml for Class SB</li> <li>Enterococci &gt; 104 col/100ml for swimming areas or 500 col/100 for all others</li> </ul>
Other pollutants of concern (N/A)	Sample turbidity is 5 NTU > in-stream sample

### 3. Follow-up investigations

The following information is provided for outfalls exceeding the pollutant threshold.

Outfall ID	Status of drainage area investigation	Control measure to address impairment
	No wet weather data to report.	

### 4. Prioritized outfall monitoring

Once outfall sampling has been completed for at least 50% of outfalls to impaired waters, the 6 highest contributors of pollutants of concern will be identified. These outfalls will then be monitored on an annual basis.

Outfall	Latitude / Longitude	Sample Date	Parameter(s)	Results	Name of Laboratory (if used)
Data below is from Section 2.1 Dry weather screening and sampling data.					
COG 4607 019	41.55926, -72.66842	5/6/2022	Bacteria Olfactory	35/100mL Slight sewage odor	Env Monitoring Lab
SUM 4013 005 A	41.555696, -72.644166	10/28/22	Bacteria Ammonia Olfactory Visual	2420/100mL 2.0 ppm Odor Dark with oil sheen	Env Monitoring Lab

## Part III: Additional IDDE Program Data

### 1. Assessment and Priority Ranking of Catchments Data (Table 6-1 IDDE Program)

Below is a list of all catchments with ranking results. See next page.

Catchment ID <sup>10</sup> (CT Basin Name)	Receiving Water	Previous Screening Results Indicate Likely Sewer Input? <sup>1</sup>	Discharging to Area of Concern to Public Health? <sup>2</sup>	Frequency of Past Discharge Complaints	Receiving Water Quality <sup>3</sup>	Density of Generating Sites <sup>4</sup>	Age of Development/Infrastructure <sup>5</sup>	Historic Combined Sewers or Septic? <sup>6</sup>	Aging Septic? <sup>7</sup>	Culverted Streams? <sup>8</sup>	Score	Priority Ranking (Problem, High, Low) <sup>10</sup>
Information Source		Catchment inspections and sample results	<a href="https://cteco.uconn.edu/viewers">https://cteco.uconn.edu/viewers</a>	Municipal Staff, other	Impaired Waters List	Land Use/GIS Maps, Aerial Photography	Land Use Information, Visual Observation	Municipal Staff, GIS Maps	Land Use, Municipal Staff	GIS and Storm System Maps		
Scoring Criteria		Yes = 3 (Problem Catchment) No = 0	Yes = 3 No = 0	Frequent = 3 Occasional = 2 None = 0	Poor = 3 Fair = 2 Good = 0	High = 3 Medium = 2 Low = 1	High = 3 Medium = 2 Low = 1	Yes = 3 No = 0	Yes = 3 No = 0	Yes = 3 No = 0		
4604-00-2-R1	Sawmill Br 4604-00-1	Dry screening done: 0 (FedEx owns lg portion)	0	0	3	2	1	0	0	0	6	Low
4604-00-1	Sawmill Br 4604-00-1	Dry screening done: 0 Several large portions are owned by Army Reserves & Middlesex Land Trust	0	0	3	2	1	0	0	0	6	Low
4600-00-3-R10 Tiny section in NW near Berlin	Mattabesset R 4600-00_02	No screening yet	0	0	3 (listed as 4a and 5)	2	1	0	0	0	6	Low
4600-00-3-R13	Mattabesset R 4600-00_02	Dry screening done: 0	0	0	3 (listed as 4a and 5)	1	2	0	0	0	6	Low
4600-26-2-R1	Miner Br 4600-26_01	<i>(5 known outfalls need to be located)</i>	0	0	3	1	2	0	0	0	6	Low
4600-25-1	Miner Br 4600-26_01	Dry screening done: 0	0	0	3	1	2	0	0	0	6	Low
4600-25-1-L1	Miner Br 4600-26_01	Dry screening done: 0	0	0	3	1	2	0	0	0	6	Low
4600-24-1	Miner Br 4600-26_01	<i>Does not appear to discharge to impaired water</i>	0	0	0	1	<i>Catchment basin does not discharge to an impaired water body</i>					N/A
4600-30-2-R1	Mattabesset R	<i>Marshy areas or not Middletown-owned</i>	0	0	0	2	<i>Catchment basin does not discharge to an impaired water body</i>					N/A
4600-00-3-R15	Mattabesset R 4600-00_01	<i>NONE of the properties abutting the Matt R on the west are Middletown-owned. East side is entirely marsh. Also, basin is &lt; 11% DCIA = 0</i>			3	1	2	0	0	0	N/A	N/A
4600-00-3-R16 (north section)	Mattabesset R 4600-00_01	<i>NONE of the properties that abut the Matt R on the west side, in the north section of this catchment basin, are Middletown-owned. East side is entirely marsh = 0</i>			3	2	0	0	0	0	N/A	N/A

4600-00-3-R16 (south section)	Mattabeset R 4600-00_01	<i>Properties along the west side of the Matt R, in the south section of this catchment basin, are Middletown- owned but marshy and direct outfalls are not expected. Also, a 1-inch storm is not expected to reach the river in this area = 0</i>			3	2	3	0	0	0	N/A	N/A
4607-00-3-R9 (Mid-Town Rt 66)	Coginchaug R 4607-00_01	Dry screening done: 0	0	0	2	3	3	0	0	0	8	High
4607-00-3-R9 (Mid-Town Rt 66)	Coginchaug R 4607-00_02	Dry screening done: 0	0	0	3	3	3	0	0	0	9	High
4607-00-3-R9 (Mid-Town Rt 66)	Coginchaug R 4607-00_03	Dry screening done: 0	0	0	3	3	3	0	0	0	9	High
4607-00-3-L2	Coginchaug R 4607-00_04	Dry screening done: 0	0	0	3	2	2	0	0	0	7	Low
	<i>Town owns 2 parcels w/ approx 600 ft of frontage.</i>											
4607-13-1	Coginchaug R/ Laurel Br 4607-13_01	No screening planned <i>The entire section of the Coginchaug River in this basin is owned by the State of CT.</i>			3	1	1	0	0	0	4	Low
4000-00-6+R24 (Downtown) <sup>9, 9a</sup>	Connecticut R 4000-00_02	Dry screening done: 0	0	0	2	3	3	3 See Note 9c	0	0	11	High
4000-00-6+R25 (SE of Downtown incl CT Valley Hosp) <sup>9, 9a</sup>	Connecticut R 4000-00_02	Dry screening done: 0	0	0	2	1	2	0	0	0	5	Low
4000-00-6+R27 <sup>9b</sup>	Connecticut R	See note 9b										N/A
4000-00-6+R30 (SE corner with Pratt & Whitney) <sup>9</sup>	Connecticut R 4000-00_02	No screening yet <i>See note on next line (These 2 sections of the river have 2 different impairment levels, so they are listed separately)</i>			2	2	1	0	0	0	5	Low
4000-00-6+R30 (Southernmost section of Pratt & Whitney) <sup>9</sup>	Connecticut R 4000-00_01	No screening planned <i>Total IC in this basin is only 5%. Very small Parcel ID 120 MAP Lot 56-0017 is owned by Middletown. Cannot visually identify the exact location of the Middletown parcel. All others south of Pratt &amp; Whitney are owned by others or unknown.</i>			3	2	1	0	0	0	6	N/A
4013-00-3-R1	Sumner Brook Middletown-02	No screening planned <i>No Middletown-owned parcels about the Sumner Bk in this basin. Check on easements.</i>			2	1	3	0	0	0	6	N/A
4013-00-3-R2 <i>urbanized area but</i>	Sumner Brook Middletown-02	Dry screening done: 0	0	0	2	3	3	0	0	0	8	High
	<i>only a few city-</i>	<i>owned parcels or easements about the brook</i>										

Scoring Criteria on next page:

**Scoring Criteria:**

<sup>1</sup> Previous screening results indicate likely sewer input if any of the following are true:

- 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

<sup>2</sup> Catchments that discharge to or in the vicinity of any of the following areas: public beaches, recreational areas, drinking water supplies, or shellfish beds

<sup>3</sup> Receiving water quality based on latest version of State of Connecticut Integrated Water Quality Report.

- Poor = Waters with approved TMDLs (Category 4a Waters) where illicit discharges have the potential to contain the pollutant identified as the cause of the impairment
- Fair = Water quality limited waterbodies that receive a discharge from the MS4 (Category 5 Waters)
- Good = No water quality impairments

<sup>4</sup> Generating sites are institutional, municipal, commercial, or industrial sites with a potential to contribute to illicit discharges (e.g., car dealers, car washes, gas stations, garden centers, industrial manufacturing, etc.)

<sup>5</sup> Age of development and infrastructure:

- High = Industrial areas greater than 40 years old and areas where the sanitary sewer system is more than 40 years old
- Medium = Developments 20-40 years old
- Low = Developments less than 20 years old

<sup>6</sup> Areas once served by combined sewers and but have been separated, or areas once served by septic systems but have been converted to sanitary sewers.

<sup>7</sup> Aging septic systems are septic systems 30 years or older in residential areas. *(If issues are found during wet and dry weather screening, they will be investigated.)*

<sup>8</sup> Any river or stream that is culverted for distance greater than a simple roadway crossing. *In 2022, Tom Nigosanti reported that there are “not many in the system”. This column will be re-assessed in the future if/when specific locations are determined.*

**Additional Notes:**

<sup>9</sup> App B-1 lists PCBs & E. coli as pollutants of concern and the cteco.uconn map data only lists E. coli. Ms. Karen Allen, DEEP Water Permitting and Enforcement Division, and staff in the Water Planning and Standards Division clarified: “The MS4 impaired waters mapping on the UCONN CLEAR MS4 website identifies “stormwater impaired waters”, a subset of the surface waters of the state identified as impaired as a result of stormwater runoff. These are the impairments to be prioritized under the MS4 general permit.” Accordingly, PCBs are not pollutants of concern with regard to MS4 permitting.

<sup>9a</sup> *Middletown owns all the frontage of this section of the CT River basin.*

<sup>9b</sup> *Basin 4000-00-6+R27 is not assessed for several reasons. Only 6% is impervious cover, and, although this section of the river is impaired, most properties are owned by others, not Middletown.*

<sup>9c</sup> *In 2022, the sewer department found a connection on Main Street through the hydrant flushing program where they observed an immediate response at the pump station. Investigations were conducted and a temporary connection between the sanitary sewer and the storm sewer was found. It has since been abandoned/fixed/disconnected.*

<sup>10</sup> Larger-scale watershed boundaries, such as CTDEEP Local Basin boundaries, may be used instead of individual outfall catchment areas to support the initial assessment and priority ranking of catchments.

## 2. Outfall and Interconnection Screening and Sampling data

### 2.1 Dry weather screening and sampling data from outfalls and interconnections

For details on this requirement, visit <https://nemo.uconn.edu/ms4/tasks/monitoring.htm>. Refer to the blue column of the Monitoring comparison chart and the IDDE baseline monitoring flowchart.

An “interconnection” is the point where Middletown’s stormwater discharges to another MS4 or other storm sewer system (such as neighboring municipalities, institutions and DOT), 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.

The table below shows sample data for outfalls where flow is observed. Samples must be analyzed at a minimum for those listed in this table. All analyses with the exception of indicator bacteria can be performed with field test kits or field instrumentation. In addition, where the discharge is directly into a water quality limited water or a water subject to an approved TMDL, the sample shall be analyzed for the pollutants identified as the cause of the impairment; Since E. coli is the only pollutant of concern in Middletown, there are no additional analyses required other than those listed below.

Outfall ID & Location Description Lat/Long	Screening Date Time	Bacteria <sup>5</sup>	Visual/olfactory evidence	Ammonia (NH <sub>3</sub> ) (ppm)	Chlorine (ppm)	Sample Temp (F)	Conductivity <sup>3</sup> (μS)	Salinity <sup>4</sup> (ppm)	Surfactants (ppm)	High Priority Catchment <sup>1, 2</sup> (IDDE Follow-up) (Yes/No)
COG 4607 012 NE of Rt 66 Bridge 41.55493, -72.67394	5/6/22 9:10 am	E. Coli 140/100mL (4/15/22)	None	0	< 0.05	59°	673	320	0.25	No (due to NH <sub>3</sub> = 0)
COG 4607 018 Jackson Street 41.5597, -72.66560	5/10/22 11:00 am	21/100mL (5/10/22)	None	0	0	59°	791	396	1.0	No (due to NH <sub>3</sub> = 0)
COG 4607 019 Vet’s Memorial Park 41.55926, -72.66842	5/6/22 12:50 pm	35/100mL (5/10/22)	Slight sewage odor	0	0	63°	220	102	0.25	Yes, based on odor
MIN 4600 008 41.59533, -72.69934	6/20/22 2:45 pm	12/100mL (6/20)	None	0	0	72°	756	358	0.25	No (due to NH <sub>3</sub> = 0)
CON 4000 001 S North in Harbor Pk	9/2/22 1:30pm	15/100mL	None	0	0	74°	2.38	1.13	0.25	No (due to NH <sub>3</sub> = 0)
CON 4000 002 * Mid Harbor Pk	9/2/22 12:25pm	1986/100mL	None	0	0	75.5°	2.32	1.19	0.25	No (due to NH <sub>3</sub> = 0)

## 2.1 Dry weather screening and sampling data (continued)

Outfall ID & Location Description Lat/Long	Screening Date Time	Bacteria <sup>5</sup>	Visual/olfactory evidence	Ammonia (NH <sub>3</sub> ) (ppm)	Chlorine (ppm)	Sample Temp (F)	Conductivity <sup>3</sup> (μS)	Salinity <sup>4</sup> (ppm)	Surfactants (ppm)	High Priority Catchment <sup>1, 2</sup> (IDDE Follow-up) (Yes/No)
CON 4000 002 * Mid Harbor Pk	9/30/22 9:55am	1120/100mL * <i>Tested 2x to confirm</i>	None	0	0	62°	2.49	1.23	0.25	No (due to NH <sub>3</sub> = 0)
SAW 4604 002 D West of 155 Industrial Pk Rd	9/30/22 12:15pm	1011/100mL	None	0	0	60°	667	319	< 0.25	No (due to NH <sub>3</sub> = 0)
SAW 4604 002 E West of 155 Industrial Pk Rd	9/30/22	Identified but not tested.	H2O backed up. No movement	0	NA	NA	NA	NA	NA	NA
SUM 4013 004 Behind Hubbard Park <sup>1</sup>	10/28/22 11:20am	261/100mL	Orange algae (natural)	0	0	56.6	1060	518	0.25 (sampled 11/3 @ 8:20am)	No (due to NH <sub>3</sub> = 0)
SUM 4013 005 A Behind Hubbard Park <sup>1</sup>	10/28/22 11:30am	2420/100mL	Dark, odor, oil sheen	2.0	0	53	2.69	1.37	1 <sup>st</sup> sample > hold time, no flow on 2 <sup>nd</sup> attempt	Yes, based on visual, odor, NH <sub>3</sub> and bacteria
Note 1) These 2 outfalls are adjacent to each other; it was hard to distinguish between the flows as they mixed with each other at the end of SUM 4013 005 A.										
CON 4000 015 Water Dept	Sampling	needed.								

### Notes:

- 1) Screening indicates sewer input based on olfactory/visual evidence or sampling results (ammonia ≥ 0.5 mg/l, surfactants ≥ 0.25 mg/l, **and** bacteria levels greater than the water quality criteria applicable to the receiving water; **or** ammonia ≥ 0.5 mg/l, surfactants ≥ 0.25 mg/l, **and** detectable levels of chlorine. Must schedule for catchment investigation for any of these combinations.
- 2) NEMO: “If a sample exceeds all three thresholds for ammonia, surfactants and bacteria (or ammonia, surfactants and detectable chlorine), then rank the catchment at the top of the High Priority catchments for investigation.”
- 3) Conductivity benchmark that may indicate pollution and/or illicit discharges: > 1,500 or 2,000 μS/cm (Guidance only; not listed in MS4 permit)
- 4) Salinity benchmark: ≥ 0.5ppm for freshwater (Guidance only; not listed in MS4 permit)
- 5) Applicable Water Quality Criteria for Bacteria:  
E. coli >235 col/100ml for swimming areas  
E. coli >410 col/100ml for all others

## 2.2 Wet weather sample and inspection data

For details on this requirement, visit <https://nemo.uconn.edu/ms4/tasks/monitoring.htm>.

The table below shows sample data for outfalls and key junction manholes of catchment areas with at least one System Vulnerability Factor.

Outfall / Interconnection ID	Latitude / Longitude	Sample date	Ammonia	Chlorine	Conductivity	Salinity	E. coli	Surfactants	Temp	Pollutant of concern
No data to report for 2022. Wet weather screening is expected to begin in 2023.										

## 3. Catchment Investigation data

### 3.1 System Vulnerability Factor Summary

The presence or absence of System Vulnerability Factors (SVF) for catchments that are being investigated for illicit discharges (i.e. categorized as high priority, low priority, or problem) are documented below. If present, the specific SVF is identified.

**The SVF assessment is presented on the following page.**

Catchment ID	Receiving Water	1 History of SSOs (Yes/No)	2 Common or Twin Invert Manholes (Yes/No)	3 Common Trench Construction (Yes/No)	4 Storm/Sanitary Crossings (Sanitary Above) (Yes/No)	5 Sanitary Lines with Underdrains (Yes/No)	6 Inadequate Sanitary Level of Service (Yes/No)	7 Areas Formerly Served by Combined Sewers (Yes/No)	8 Sanitary Infrastructure Defects (Yes/No)	9 SSO Potential In Event of System Failures (Yes/No)	10 Sanitary and Storm Drain Infrastructure >40 Years Old (Yes/No)	11 Septic with Poor Soils or Water Table Separation (Yes/No)	12 History of BOH Actions Addressing Septic Failure (Yes/No)
4604-00-2-R1	Sawmill Br 4604-00-1	No	No	T. Nigosanti believes none	T. Nigosanti believes none	No	Will inquire w/ sewer dept	None	None known	Possible	Yes	None known	None known
4604-00-1	Sawmill Br 4604-00-1	No	No	T. Nigosanti believes none	T. Nigosanti believes none	No	Will inquire w/ sewer dept	None	None known	Possible	Yes	None known	None known
4600-00-3-R10 Tiny section in NW near Berlin	Mattabesset R 4600-00_02	No	No	T. Nigosanti believes none	T. Nigosanti believes none	No	Will inquire w/ sewer dept	None	None known	Possible	Yes	None known	None known
4600-00-3-R13	Mattabesset R 4600-00_02	No	No	T. Nigosanti believes none	T. Nigosanti believes none	No	Will inquire w/ sewer dept	None	None known	Possible	Yes	None known	None known
4600-26-2-R1	Miner Br 4600-26_01	No	No	T. Nigosanti believes none	T. Nigosanti believes none	No	Will inquire w/ sewer dept	None	None known	Possible	Yes	None known	None known
4600-25-1	Miner Br 4600-26_01	No	No	T. Nigosanti believes none	T. Nigosanti believes none	No	Will inquire w/ sewer dept	None	None known	Possible	Yes	None known	None known
4600-25-1-L1	Miner Br 4600-26_01	No	No	T. Nigosanti believes none	T. Nigosanti believes none	No	Will inquire w/ sewer dept	None	None known	Possible	Yes	None known	None known
4600-24-1 <sup>13</sup>	Miner Br 4600-26_01	No	No	T. Nigosanti believes none	T. Nigosanti believes none	No	Will inquire w/ sewer dept	None	None known	Possible	Yes	None known	None known
4600-30-2-R1 <sup>13</sup>	Mattabesset R	No	No	T. Nigosanti believes none	T. Nigosanti believes none	No	Will inquire w/ sewer dept	None	None known	Possible	Yes	None known	None known
4600-00-3-R15	Mattabesset R 4600-00_01	No	No	T. Nigosanti believes none	T. Nigosanti believes none	No	Will inquire w/ sewer dept	None	None known	Possible	Yes	None known	None known
4600-00-3-R16	Mattabesset R 4600-00_01	No	No	T. Nigosanti believes none	T. Nigosanti believes none	No	Will inquire w/ sewer dept	None	None known	Possible	Yes	None known	None known
4607-00-3-R9 (Mid-Town Rt 66)	Coginchaug R 4607-00_01	Yes - 42 Columbus Av & 207 Westfield St	No	T. Nigosanti believes none	T. Nigosanti believes none	No	Will inquire w/ sewer dept	None	None known	Possible	Yes	None known	None known
4607-00-3-R9 (Mid-Town Rt 66)	Coginchaug R 4607-00_02	No	No	T. Nigosanti believes none	T. Nigosanti believes none	No	Will inquire w/ sewer dept	None	None known	Possible	Yes	None known	None known
4607-00-3-R9 (Mid-Town Rt 66)	Coginchaug R 4607-00_03	No	No	T. Nigosanti believes none	T. Nigosanti believes none	No	Will inquire w/ sewer dept	None	None known	Possible	Yes	None known	None known
4607-00-3-L2	Coginchaug R 4607-00_04	No	No	T. Nigosanti believes none	T. Nigosanti believes none	No	Will inquire w/ sewer dept	None	None known	Possible	Yes	None known	None known
4607-13-1	Coginchaug R/ Laurel Br 4607-13_01	No	No	T. Nigosanti believes none	T. Nigosanti believes none	No	Will inquire w/ sewer dept	None	None known	Possible	Yes	None known	None known
4000-00-6+R24 (Downtown)	Connecticut R 4000-00_02	No	No	T. Nigosanti believes none	T. Nigosanti believes none	No	Will inquire w/ sewer dept	One <sup>14</sup>	None known	Possible	Yes	None known	None known
4000-00-6+R25 (SE of Downtown incl CT Valley Hsp)	Connecticut R 4000-00_02	No	No	T. Nigosanti believes none	T. Nigosanti believes none	No	Will inquire w/ sewer dept	One <sup>14</sup>	None known	Possible	Yes	None known	None known
4000-00-6+R30 (SE corner with Pratt & Whitney)	Connecticut R 4000-00_02	No	No	T. Nigosanti believes none	T. Nigosanti believes none	No	Will inquire w/ sewer dept	None	None known	Possible	Yes	None known	None known
4000-00-6+R30 (Southernmost section of Pratt & Whitney)	Connecticut R 4000-00_01	No	No	T. Nigosanti believes none	T. Nigosanti believes none	No	Will inquire w/ sewer dept	None	None known	Possible	Yes	None known	None known
4013-00-3-R1	Sumner Brook Middletown-02	No	No	T. Nigosanti believes none	T. Nigosanti believes none	No	Will inquire w/ sewer dept	None	None known	Possible	Yes	None known	None known

Presence/Absence Evaluation Criteria is listed on the following page.

**Presence/Absence Evaluation Criteria:**

1. History of SSOs, including, but not limited to, those resulting from wet weather, high water table, or fat/oil/grease blockages
2. Common or twin-invert manholes serving storm and sanitary sewer alignments
3. Common trench construction serving both storm and sanitary sewer alignments
4. Crossings of storm and sanitary sewer alignments where the sanitary system is shallower than the storm drain system
5. Sanitary sewer alignments known or suspected to have been constructed with an underdrain system
6. Inadequate sanitary sewer level of service (LOS) resulting in regular surcharging, customer back-ups, or frequent customer complaints
7. Areas formerly served by combined sewer systems
8. Sanitary sewer infrastructure defects such as leaking service laterals, cracked, broken, or offset sanitary infrastructure, directly piped connections between storm drain and sanitary sewer infrastructure, or other vulnerability factors identified through Inflow/Infiltration Analyses, Sanitary Sewer Evaluation Surveys, or other infrastructure investigations
9. Sewer pump/lift stations, siphons, or known sanitary sewer restrictions where power/equipment failures or blockages could readily result in SSOs
10. Any sanitary sewer and storm drain infrastructure greater than 40 years old
11. Widespread code-required septic system upgrades required at property transfers (indicative of inadequate soils, water table separation, or other physical constraints of the area rather than poor owner maintenance)
12. History of multiple health department actions addressing widespread septic system failures (indicative of inadequate soils, water table separation, or other physical constraints of the area rather than poor owner maintenance)

**Additional Notes:**

13. This catchment may not discharge to an impaired water body. Needs to be field checked.
14. In 2022, the sewer department found a connection on Main Street through the hydrant flushing program where they observed an immediate response at the pump station. Investigations were conducted and a temporary connection between the sanitary sewer and the storm sewer was found. It has since been abandoned (fixed/disconnected).

### 3.2 Key junction manhole dry weather screening and sampling data

Key Junction Manhole ID	Latitude / Longitude	Screening / Sample date	Visual/ olfactory evidence of illicit discharge	Ammonia	Chlorine	Surfactants
No data to report for 2022.						

### 3.3 Wet weather investigation outfall sampling data

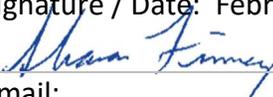
Outfall ID	Latitude / Longitude	Sample date	Ammonia	Chlorine	Surfactants
No data to report for 2022. Wet weather investigations are expected to begin in 2023.					

### 3.4 Data for each illicit discharge source confirmed through the catchment investigation procedure

Discharge location	Source location	Discharge description	Method of discovery	Date of discovery	Date of elimination	Mitigation or enforcement action	Estimated volume of flow removed
No data to report for 2022. To date, there have been no confirmed illicit discharges.							

**Part IV: Certification**

“I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that a false statement made in this document or its attachments may be punishable as a criminal offense, in accordance with Section 22a-6 of the Connecticut General Statutes, pursuant to Section 53a-157b of the Connecticut General Statutes, and in accordance with any other applicable statute.”

Chief Elected Official or Principal Executive Officer	Document Prepared by
Print name: Benjamin Florsheim, Mayor	Print name: Sharon Finney
Signature / Date:	Signature / Date: February 9, 2023 
Email: mayor@MiddletownCT.gov	Email: sharonfinney@comcast.net