

Town of Groton 2022 Annual Stormwater Report

As required per the Small Municipal Separate Storm Sewer Systems (MS4) General Permit

Existing Permittee, Permit Number GSM 000055, Reporting period: January 1, 2022 – December 31, 2022

This report documents The Town of Groton’s efforts to comply with conditions of the MS4 Storm Sewer Permit to the maximum extent practicable (“MEP”) from January 1, 2022 to December 31, 2022. Though the Permit expired June 30, 2022, the Town has maintained its efforts and has thus included July-December activities as well in the interest of continuity. Note these additional frequently used abbreviations: **TOG** = Town of Groton, **PWD** = Public Works Department, **OPDS** = Office of Planning & Development Services, **ECCD** = Eastern Connecticut Conservation District, **B&L** = Barton & Loguidice, LLC (stormwater engineering firm), **SPCC** = Spill Prevention Control & Counter-measures (a set of EPA regulations which governs point-source pollution).

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The Town of Groton invites your questions and comments. Direct feedback to Michelle Maitland, Project Management Specialist, Department of Public Works, mmaitland@groton-ct.gov 860-448-4544. Note, section & page numbers beside sub-headings reference the permit content. The MS4 permit can be found here: <https://portal.ct.gov/DEEP/Water-Regulating-and-Discharges/Stormwater/Municipal-Stormwater>.

EXECUTIVE SUMMARY

Submission of this report maintains compliance with the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems. The Town certifies with this documentation that terms & conditions of the Permit are being met to the maximum extent practicable (MEP).

The Town first contracted with professional engineers Barton & Loguidice, LLC (B&L) in May 2020. Through B&L, the Town continues toward completion of all outfall screening, sampling, and most engineering-dependent obligations. In 2022, B&L completed a foundational MS4 task: initial visual survey of the 351 municipally-owned outfalls during dry weather. Visiting in dry weather enables ID of potential issues as ‘flow’ in most cases would be unexpected and a prompt for investigation. In 2022, finish of “**dry weather screening**” with 18 outfalls and three new samples brought total completed screenings to 304 and samples to 79. Only one new sample had lab results suggesting an illicit discharge. Added to the 12 from the prior year, there are 13 prospective issues ID’d via dry weather surveys. These are categorized as high priority and are being investigated.

Of the 351 Town outfalls, a subset discharge to impaired waters, or those known to be polluted. These 52 sites of special interest require a higher level of examination which is added “**wet weather sampling.**” B&L collected 31 new wet weather samples during the reporting period. Of wet weather samples collected from this subset in 2022, 22 were found to have possible illicit discharges. To date, 40 of the 52 outfalls to impaired waters have been sampled, with possible illicit discharges now totaling 31. These are also being investigated. Simplified dry and wet weather sample results are reflected in the attached *Priority Ranking of Catchment Data* which B&L updates, and are part of a multi-factor scoring system tracking areas of concern.

The number of low ‘wet weather samples’ relative to ‘dry weather’ (31 vs 79) is due to the ratio of outfalls to impaired waters vs. overall outfalls (52 of 351), but also because there has been a lack of “qualifying storm events” which meet needed volume, day, &/or time parameters. Further, many Town outfalls are tidally influenced (underwater at times). In these cases, B&L may shift collection of samples to upgradient, or next closest, structures. B&L however will continue to pursue collection of samples until all sites are accounted for. Note, in the course of this work, some assets are found to have been moved or removed, often due to road work or construction. These call for **mapping updates** which B&L coordinates with the TOG GIS Coordinator.

Illicit Discharge Detection & Elimination (IDDE) is the discovery process meant to find impairments and track-down the source. Of the 16 investigations initiated so far (11 from dry screening set + 5 from wet weather), 8 were tied to a source area. Remaining sites were dry at follow-up or need Town help, so will be revisited. Stormwater ordinance ‘notice of violation’ (NOV) letters are drafted. Note, further sampling may lead to added IDDE flags.

B&L’s finish of a Directly Connected Impervious Area (DCIA) **retrofit plan** in early 2022 led PWD to seek funding for plan implementation. Two proposals were submitted to the TOG Long Range Recovery Committee with hopes of American Rescue Plan Act (ARPA) monies. The first, “Retrofits: Part I,” featured two of five proposed Town-owned sites (a Fishtown Rd. drainage area + Burrows Field small lot). The second was an adaptation of an ECCD “319” Clean Water grant submission seeking to expand Public Works’ capacity for Low Impact Development. That sought pervious paver installs at the golf club & Sparkle Lake, a maintenance vehicle, and education for municipal staff. At this writing, funding decisions are not yet determined.

In 2021, B&L inspected 35 of 46 sites with underground oil-water separators, retention, and detention ponds, for creation of a draft **Stormwater structure maintenance plan**. The remainder needed confirmation against “As-Built” plans. These are records of the condition or specifications of finished projects vs. design plans. With delivery of these in August 2022, B&L is now studying these to determine next steps. Updates to Town inventories may prompt needed assessment of ownership obligations. A maintenance schedule and estimated costs will follow. To **control other pollutants**, in 2021, B&L identified unregistered businesses which might be candidates for Industrial & Commercial Stormwater General Permits and designed educational brochures for Town distribution. These will go out in 2023. Lastly, B&L also leads **Stormwater Committee meetings**.

For its part, Groton maintained its commitment to **pollution prevention** through catch basin cleaning, street sweeping, intensive inspection schedules, construction site runoff control, and post-construction stormwater management. Relevant Boards and Commissions have become increasingly engaged in MS4 work and Town staff are leaders on Eastern CT Conservation District’s Baker Cove Watershed Committee. As well, the Town continued its stormwater education show on Groton Municipal Television (GMTV) with non-profit partner Save the Sound. “Clean Water Ways” can be viewed on-demand on GMTV’s YouTube channel and is aired locally via Comcast XFINITY & Breezeline Groton Channel 2, and Frontier Vantage Channel 6110.

The Town has also been active in supporting community efforts to advance stormwater improvements, partnering with the Eastern CT Conservation District and a new Groton Pollinator Pathway volunteer group to install **a new rain garden** at the Town Library; and with Groton Utilities to support a staff-led **catch basin stenciling** event for schoolchildren in Noank, a seaside neighborhood with a marina and popular tourist area.

The Town is also amidst integration of “Energov” into relevant OPDS and PWD administrative processes. This online application tracking software will allow the public to apply for permits on-line, and for **digital tracking of new projects including changes in impervious surface**. As well, in 2022, OPDS welcomed **two new employees with extensive stormwater knowledge**. Megan Granato, Sustainability & Resilience Manager, was chosen for this new full-time position focused on community and ecosystem health and preparedness, while David Prescott, a Planner II, filled a staff vacancy, and brings his own expertise in coastal environments. Together they bring added talent to the Town and, through their own work, supplement the efforts of the Stormwater Committee to elevate Town efforts to responsibly manage its stormwater.

PART I: Summary of Minimum Control Measure Activities

1. Public Education and Outreach (Section 6 (a)(1) / page 19)

1.1 BMP Summary (Best Management Practice)

BMP	Activities in current reporting period	Sources Used (if applicable)	Method of Distribution	Audience (and number of people reached)	Measurable goal	Dept. / Person Responsible	Additional details
1-1 Implement public education and outreach	PWD distributes info via Facebook, YouTube, website, municipal TV, and conducts outreach with Parks & Rec, Library and ECCD.	Not Applicable	See details provided in the events / BMPs that follow in Table 1.1	See details provided below.	Post info on social media annually	Public Works/ Greg Hanover, Director	The TOG website in its entirety was redesigned in 2021 + in 2022 PWD stormwater content was made more attractive and user friendly
1-1 Implement public education and outreach (Continued)	A 1-wk overnight education program at Marine Science camp hosted in July 2022 for grades 9-12	Not Applicable	Education program at Marine Science camp	15 campers (4 students focused on water quality)	Implement water quality related public outreach events	Local non-profit Project Oceanology	Covered nitrates, ammonium, and coliform bacteria sampling in Baker Cove & Poquonnock River
	A 1-wk overnight education program at Marine Science camp hosted in July 2022 for grades 7-9	Not Applicable	Education program at Marine Science camp	28 campers (4 students focused on water quality)			Covered temp, salinity, pH, and dissolved oxygen sampling in Baker Cove & Poquonnock River
	8-hr Teacher Bay Watershed Education & Training (B-WET) given in August 2022	Not Applicable	Education /training program for teachers	7 teachers			Covered watersheds, point & non-point source pollutants, permeable surfaces, enviroscape, & school run-off assessment
	Three 2.5-hr Water Quality education sessions given to Grade 5 on 10/24, 10/27, 11/24 and 12/1/22.	Not Applicable	Education for students at Thames River Magnet School & Kolnaski STEAM Elementary	150 students			Covered temp, salinity, pH, and dissolved oxygen sampling in Baker Cove & Poquonnock River
	Two, 3-hr Teacher Bay Watershed Education and Training (B-WET) Programs provided on 10/12/22 & 11/2/22.	Not Applicable	Education /training program for teachers	10 teachers			Covered watershed mapping/land use, surveyed Baker Cove & Poquonnock River, Covered temp, salinity, pH, dissolved oxygen & nutrients

BMP	Activities in current reporting period	Sources Used (if applicable)	Method of Distribution	Audience (and number of people reached)	Measurable goal	Dept. / Person Responsible	Additional details
1-2 Address education/ outreach for pollutants of concern*	DEEP "Do Not Feed Waterfowl" brochures continue to be available at Town Hall Annex.	CT DEEP "Do Not Feed Waterfowl" brochure	Brochures available at Town Hall Annex	Available to all residents	Post info on social media annually	Public Works/ Greg Hanover, Director	See BMP 1-5 for education/outreach related to pet waste, Efforts will expand in 2023
1-2 Address education/ outreach for pollutants of concern* (Continued)	Distribution of Bacvac map showing groups & individuals ways to help prevent stormwater pollution (pet waste, geese, septic, rain gardens/ barrels, be a volunteer or leader).	Not Applicable	*Available at Town Hall Annex *Tabling at farmers market *Used by Project O in grant-funded classroom education program *Various small distributions	*Available at Town Hall Annex *General distribution at various events/ programs	Developed stormwater-centric map for education use by the general public	Public Works as member of Baker Cove Watershed Committee	PWD & OPDS are active on the Eastern CT Conservation District Baker Cove Watershed Committee to reduce pollutants of concern
1-3 Stormwater info provided on local cable access	PWD/OPDS continued public access stormwater TV program "Clean Water Ways" with Save the Sound. 2022 - Ep. 2 featured Bill Lucy, Soundkeeper	Not Applicable	Content aired annually on Groton Municipal Television via cable access and posted online through YouTube, with attempts to share widely	Available to all residents	Content aired annually on cable access	Public Works/ Greg Hanover, Director	Program will seek to educate residents & business community on ways to support town stormwater efforts
1-4 Stormwater info provided on town website	SWMP, Illicit Discharge reporting, Catch Basin Cleaning, & educational links are on PWD stormwater page	CT DEEP, EPA, Long Island Sound Study, Long Island Sound Resource Center	Town Webpage: https://www.groton-ct.gov/departments/pubwks/storm_water.php	Available to all residents	Update Stormwater webpage annually	Public Works/ Greg Hanover, Director	The TOG website in its entirety was redesigned in 2021 + in 2022 PWD stormwater features made more attractive and user friendly
	Educational information on lawn care, auto care, and pet waste provided on website	Not Applicable	Town Webpage: https://www.groton-ct.gov/departments/pubwks/pollution.php				

BMP	Activities in current reporting period	Sources Used (if applicable)	Method of Distribution	Audience (and number of people reached)	Measurable goal	Dept. / Person Responsible	Additional details
1-5 Educate dog owners about picking up pet waste	Brochures offered annually with dog license application & June renewals. A limited # of Spanish language versions made available via LISS fund	“Step by Step, A citizen’s guide to curbing polluted runoff” brochure by the Long Island Sound Study	Brochures offered annually with dog license application & June renewals	2254 licenses were issued 7/21-6/22 (DOA Town Dog Fund Report) The increase (1,675 prior yr.) is due to a CT update requiring broader licensing.	Pet waste info given to dog owners with annual license.	Public Works/ Greg Hanover, Director	Brochure offers proper pet waste disposal instruction. Funds were found for the coming year to institute a Pks & Rec pilot program offering biodegradable pet waste bags at Copp Dog Park

1.2 Describe any Public Education and Outreach activities planned for the next year, if applicable.

TOG will continue the above efforts including production and release of the next segments—numbers 2 & 3-- of the public access GMTV show *‘Clean Water Ways’* offered in partnership with leading non-profit Save the Sound. The episodes are approximately 25 min. each and available for on-demand viewing on [GMTV’s YouTube channel](#) (search "Clean Water Ways"). They are also aired via Comcast XFINITY of Groton Channel 2, Breezeline (fka Atlantic Broadband of Groton) Channel 2, and Frontier Vantage TV Channel 6110. If you haven’t seen them— watch the first & second episodes anytime. ~ The Town will continue its active role in *the Baker Cove Watershed Committee* or BACWAC (pr. Back-whack), which includes ongoing outreach, education, and an ambitious workplan of school partnership, and rain barrel and rain garden installations. This ECCD-led, public-private, all volunteer task force was as outgrowth of a DEEP approved Watershed Based Plan. ~ The Town will also increase use of its *‘Enviroscape’ table-top watershed model* by training members of the Conservation Commission in its use. They will use the engagement tool at public tabling events as part of volunteer solicitation. Also, metal plates printed with a notice “Drains to Fishers Island Sound”, provided by Groton Utilities, are expected to be mounted on selected storm drains. Finally, as time & budget allows, the Town will also continue collaboration with our Town Parks & Rec, Library programs, Thrive 55+ (Senior Center), and other area organizations.

2. Public Involvement/Participation (Section 6(a)(2) / page 21)

2.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Dept. / Person Responsible	Projected or actual date complete	Location Posted
2-1 Final Stormwater Management Plan publically available	Completed / Ongoing	Posted required notices and reports	Report available online	Public Works/ Greg Hanover, Director	April 2019	https://www.groton-ct.gov/departments/pubwks/storm_water.php
2-2 Comply with public notice requirements for Annual Reports (annually by 2/15)	Completed / Ongoing	Public notice posted for Annual Report to Town website in Jan 2022	Comply with annual notice requirements	Public Works/ Greg Hanover, Director	Feb 15, 2022	https://www.groton-ct.gov/departments/pubwks/storm_water.php

BMP	Status	Activities in current reporting period	Measurable goal	Dept. / Person Responsible	Projected or actual date complete	Location Posted
2-3 Conduct Stormwater Committee Meetings	Completed / Ongoing	May & December meeting discussed MS4 and ongoing project details	One meeting held annually	Public Works/ Greg Hanover, Director	May 5 & Dec 12, 2022	
2-4 Sponsor community participation event	Completed / Ongoing	On Sept. 15, 2022, PWD hosted a LID educational lunch with 12 attendees "Urban Green Infrastructure" led by Ferguson Waterworks BMP specialist Leland Jones. ~ And on Oct. 29, Megan Granato, OPDS Resiliency & Sustainability Mgr. (a new full-time position) and consultants GZA Geo-Environmental, co-hosted a public Downtown Mystic resiliency workshop as part of a LISFF funded Downtown Mystic Resiliency & Sustainability Planning grant. The presentation featured discussion of a vulnerability assessment which is underway but included content on stormwater & natural resource protection.	One event held annually	Public Works/ Greg Hanover, Director	September 15, 2022	Email invite to LID lunch was sent via email to PWD Stormwater stakeholders list The Resiliency Workshop was promoted widely on the Town website, social media, and announced in local newspapers.

2.2 Describe any Public Involvement/Participation activities planned for the next year, if applicable.

See Section 1.2 – The aforementioned Public Education partnerships will also support Public Involvement and Participation. Further, as noted, TOG will give public notice of the draft annual report, offer it for review and comment on the Town website, conduct routine Stormwater Committee Meetings, and host community participation events. Plans for 2023 include a Community Stakeholder Group Fall Field Trip, as well as enhanced training for Town employees engaged in stormwater activities (Engineers will receive training in design of LID features, plus we are pursuing training for Roads & Streets Foremen in specialized outfall maintenance techniques.)

3. Illicit Discharge Detection and Elimination (Section 6(a)(3) and Appendix B / page 22)

3.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Dept. / Person Responsible	Projected or actual date complete	Additional details
3-1 Develop written IDDE program (Due 7/1/19)	Completed	n/a	written IDDE program	Public Works/ Greg Hanover, Director	October 2018	

BMP	Status	Activities in current reporting period	Measurable goal	Dept. / Person Responsible	Projected or actual date complete	Additional details
3-2 Develop list and maps of all MS4 stormwater outfalls in priority areas (Due 7/1/20)	Substantially Complete	PWD is in year three of a contract with stormwater engineers Barton & Loguidice, which includes field verification/ updates to the municipal outfall list with corresponding mapping	Outfall & Interconnections inventory / map completed by deadline.	Public Works/ Greg Hanover, Director	Ongoing / June 30, 2020	Maps were considered substantially complete as of June 2020 but continued work has revealed areas of clarification are needed. Changes continue to be incorporated when field investigation finds errors.
3-3 Implement citizen reporting program (Ongoing)	Completed	Program is being maintained	Complete citizen reporting program	Public Works/ Greg Hanover, Director	2017 and ongoing	
3-4 Establish legal authority to prohibit illicit discharges (Due 7/1/19)	Completed	Legal authority remains in place	Town enacts Ordinance	Public Works/ Greg Hanover, Director	May 1, 2018 and ongoing	Notice of the ordinance was added to the TOG website stormwater page
3-5 Develop record keeping system for IDDE tracking (Due 7/1/17)	Completed / Ongoing	The Town currently uses excel spreadsheets, along with GIS, for IDDE tracking. SSO Tracking is ongoing. See Table below.	IDDE tracking & SSO Inventory developed and incidents included in Annual Report.	Public Works/ Greg Hanover, Director	2017 and ongoing	
3-6 Address IDDE in areas with pollutants of concern	Completed / Ongoing	B&L is continuing to investigate IDDE issues in catchment areas that discharge to impaired waters. B&L will complete those already started and continue track-downs for added suspicions of illicit discharges in 2023 to the maximum extent practicable.	ID of areas w/ failing septic; % of failing systems addressed each yr.	Public Works/ Greg Hanover, Director	Ongoing	No notice received of new failing septic systems, except as noted in item 3-4 (resolved by LLHD)

3.2 Describe any IDDE activities planned for the next year, if applicable.

Stormwater engineering contractor, B&L, engaged since 2020, completed initial dry weather screenings of all outfalls, and continues to update the IDDE tracking spreadsheet and investigate reports. The TOG will continue the implementation of IDDE policy, including continued stand-up of the administrative portion. With the assistance of B&L, the Town will continue to refine its list and mapping of municipal outfalls in 2023. It is an incremental process. B&L completed initial IDDE investigations, is amidst drafting of notices, and will continue to investigate additional suspected illicit discharges in 2023 to the maximum extent practicable.

3.3 Provide a record of all citizen reports of suspected illicit discharges and other illicit discharges occurring during the reporting period and SSOs occurring July 2017 through end of reporting period using the following table. 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.

Location (Lat long/ Str crossing /address & receiving water)	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)
Mumford Cove Pump Station, 80 Sunrise Rd, GLP	9/14/2017 @ 5:00 PM	No discharge to surface water / MS4	7,000 gallons	Mechanical equip. failure	SSO stop @ 6 PM on 9/14. Valve temp repaired, replacement completed 2018.	
Poquonnock River Pump Station: 1286 Poquonnock Rd	7/29/2018 @ 3:30 PM	Poquonnock River	Est 5,400 gal	Electrical equip. failure	SSO stop @ 4:55 PM w pump restart	
WPCF, 170 Gary Court	7/29/2018 @ 6:50 PM	Fort Hill Brook	125,000 gal	Electrical equip. failure	SSO stopped at 9:00 AM on 7/30/18. Repaired electrical power distribution.	
WPCF, 170 Gary Court	1/5/2019 @ 7:29 pm - 7:38 pm	Fort Hill Brook	62,500 gallons	Excess flow during storm event	Duration short (9 m) w only fully treated (clean) effluent. A \$5.5 million Effluent Pump Station upgrade is underway & will increase capacity and back-ups.	
I-95 right-of-way betw. north & south lanes at Pamela Avenue	1/14/2019 @ 10:48 am	Drozdyk Drive stormwater basin	undetermined	Grease blockage plus pipe under I-95 sagged from weight	Reported by DOT, incident time span & volume unknown. Sewer line jetted to resolve. Correction was to add monitoring & jetting 1x monthly).	
WPCF, 170 Gary Court	7/22/2019 @ 10:28 pm - 11:23 pm	Fort Hill Brook	125,000 gallons	Excess flow during storm event	Bypass was fully treated (clean) effluent though DEEP filing says 'disinfected partially treated raw sewage' as 'clean' not a choice. A recently finished Pump Station upgrade will reduce overflows.	
WPCF, 170 Gary Court	8/3/2019 @ 5:30 am – 6:30 pm	Fort Hill Brook	20,001 – 50,000 gallons	Electrical Equipment Failure	On-site guard reported, resolved when commercial power was restored & equipment reset	
2590 Gold Star Hwy, private lateral (condo betw Pumpkin Hill + Chesebrough Farm Rd)	7/28/2020 2 hours	MS4 (very little reached catch basin)	51-500 gallons	Private force main struck during fence post install. Sewage seepage along 900 ft of uncurbed road edge.	Contractor repaired main same day	
514 Judson Avenue manhole near New London Road	9/3/2020 1.75 hours	Fishtown Brook	1-50 gallons	blocked sewer	jetted sewer to clear blockage	
54 West Main Street	Reported 12/9/2020 Observed 11/30/2020	Not Applicable	undetermined	A corrugated pipe at rear of property drains to the parking lot behind it, which is associated with 1 Pearl Street.	PWD Engineering determined that what had appeared as a storm drain was a privately owned dry well, nullifying the complaint.	

Location (Lat long/ Str crossing /address & receiving water)	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)
78 Valley Road	Reported 5/13/2021	MS4	undetermined	An across the street neighbor called with a complaint that the 78 Valley homeowners habitually dump leaves & grass clippings into the storm drain which results in flooding to his yard	Staff took photos next morning which did not substantiate complaint + there were no prior reports/notes of flooding. Because SW ordinance is new, and such practices accepted historically, it was explained in a reply call to complainant that likely outcome for 1st time violation if found would be education. PWD suggested he call at time of incident. PWD will create a related flyer for are distribution, if not more widely.	
Manhole at 1250 Poquonnock Road	9/2/2021 1 hour	Poquonnock River	undetermined	Excessive flow from storm (3-4" per hour)	Sewage seeping from manhole in storm, draining to nearby river. Character clear grey water, no solids, very dilute.	
Pamela Ave, near 1-95, Exit 87 Frontage road	Observed 5/9/22 2 pm; 3:30 pm end	Not Applicable	Estimate: 15,000 gallons	WPCD routine inspection found sewage line grease block, seeping through manhole vent holes.	Jetted sewer to restore flow	
170 Gary Court (WPCF)	9/5 11:15 pm 9/6/22 4 am 4.75 hrs.	Fort Hill Brook to Mumford Cove	1.1 MG	Storm related electrical failure downed 3 of 4 pumps, 1 pump not enough for flow	Flow diminished w/ end of storm, pumps came back online. Note, discharge was fully treated and disinfected effluent.	
58 Pumpkin Hill Rd near Deerfield Ridge Drive	12/22 @ 3 pm-12/28/22 3:30 pm; appr 1 wk.	Unnamed wetland off Pons Rd (drains to Haley Brook)	8,000-9,000 gallons	Resident called water company who called WPCF. Cause found to be a break in sewer force main (TOG resp)	The Town WPCF excavated and repaired the force main	

3.4 Provide a 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
Ledge Light reported there were no septic failures in 2022		

3.5 Briefly describe the method and effectiveness of said method used to track illicit discharge reports.

The Town of Groton’s stormwater webpage includes a link “How to Report Illicit Discharges”, which includes a phone number and email address that the public can use to submit a report. Public Works is notified of illicit discharges by citizens, organizations, and/or police dispatch, and responds accordingly. The IDDE program contains guidance and a reporting template (Excel spreadsheet). Reports prompt investigation (site visit, interviews &/or photos) as soon as is practicable to gauge degree and manner of follow-up needed. The Public Works Project Management Specialist tasked with MS4 compliance tracking is responsible for the information.

3.6 IDDE reporting metrics

Metrics			
Estimated or actual number of MS4 outfalls	351 Town-owned	Outfall assessment and priority ranking	351 outfalls have initial rankings
Estimated or actual number of interconnections	74	Dry weather screening of all High and Low priority outfalls complete	Outfall screening initiated at 351 outfalls; 301 outfall screens are complete
Outfall mapping complete	100%	Catchment investigations complete	8 are complete, 8 are ongoing.
Interconnection mapping complete	Will start in 2023	Estimated % of MS4 catchment area investigated	Investigations initiated on 5% of the MS4 catchment area
System-wide mapping complete (detailed MS4 infrastructure)	85%		

3.7 Briefly describe IDDE training for employees involved in carrying out IDDE tasks including type of training provided and how often given (min 1x yr.).

Due to safety restrictions resulting from COVID-19, a virtual training was provided to select personnel from Public Works on May 27, 2021 and again May 12, 2022. IDDE specific training slated for development in 2019 will be undertaken in 2023. Many IDDE topics are covered in the Town’s annual SPCC & SWPPP training events.

4. Construction Site Runoff Control (Section 6(a)(4) / page 25)

4.1 BMP Summary

BMP	Status	Activities in reporting period	Measurable goal	Dept. / Person Responsible	Projected or actual date complete	Additional details
4-1 Implement, upgrade, &enforce land use regulations or other legal authority to meet requirements of MS4 general permit (Due 7/1/20)	Completed / Ongoing	Current standards were the result of 2019 updates and are enforced through plan review & the Zoning Officer.	Existing E&S control and stormwater regulations reviewed and revised as necessary by deadline.	Office of Planning & Development Svcs. (OPDS), Jon Reiner, Director	October 1, 2019	
4-1b: Establish interagency or inter-jurisdictional agreements	Completed / Ongoing	The agreements from 2019 remain in use.	Inter-jurisdictional agreements established to control pollutants between entities	Public Works/ Greg Hanover, Director	Jul 1, 2019	As time/funding permits, added attention will be given to DOT impact

BMP	Status	Activities in reporting period	Measurable goal	Dept. / Person Responsible	Projected or actual date complete	Additional details
4-2 Develop/ Implement plan for interdepartmental coordination in site plan review and approval (Ongoing)	Completed / Ongoing	TOG maintains a team approach; used since 1980 for site plan review. OPDS sends applications to PWD, Pks & Rec, Fire Marshal, Police & Health District. Dept. reps meet the applicant to discuss concerns, then plan goes to Planning & Zoning Commission for decision.	Site plan review and approval procedures outlined.	Office of Planning & Development Svcs. (OPDS), Jon Reiner, Director	July 1, 2017	
4-3 Review site plans for stormwater quality concerns (Ongoing)	Completed / Ongoing	OPDS reviewed all site plans & administrative site plans received for E&S control to prevent or minimize impacts to water quality prior to approval.	100% of site plans reviewed for E&S control.	Office of Planning & Development Svcs. (OPDS), Jon Reiner, Director	July 1, 2017	All 2021 proposals which included site, subdivision and/or wetland permit plans were also reviewed by proper officials.
4-4 Conduct site inspections (Ongoing)	Completed / Ongoing	OPDS conducted weekly inspections for adequate E&S controls on all projects under construction until project sites were permanently stabilized	100% of site inspections conducted for all sites constructed within reporting period.	Office of Planning & Development Svcs. (OPDS), Jon Reiner, Director	July 1, 2017	
4-5 Implement procedure to allow public comment on site development (Ongoing)	Completed / Ongoing	Meetings were properly posted and held for required projects.	Public mtgs held by Planning, Zoning & Inland Wetlands Agency for 100% of eligible projects. 100% of projects posted on TOG website when not presented at a meeting.	Office of Planning & Development Svcs. (OPDS), Jon Reiner, Director	July 1, 2017	
4-6 Implement procedure to notify developers about DEEP construction stormwater permit (Ongoing)	Completed / Ongoing	Continued to provide flyers in 100% of preconstruction meetings and land use application reviews.	Flyers provided in 100% of preconstruction meetings and land use application reviews.	Jonathan Reiner, Director of Office of Planning and Developmental Services (OPDS)	July 1, 2017	
4-7 Document compliance with CT Anti-Degradation Implementation Policy in Water Quality Standards for all new or increased discharges to High Quality Waters	Completed / Ongoing	None - there were no relevant applications	100% compliance with policy for all new or increased discharges to high quality waters.	Office of Planning & Development Svcs. (OPDS), Jon Reiner, Director	July 1, 2017	

BMP	Status	Activities in reporting period	Measurable goal	Dept. / Person Responsible	Projected or actual date complete	Additional details
4-8 Demonstrate no new or increased discharges to Impaired Waters from the MS4	Completed / Ongoing	None - there were no relevant applications	Zero net increase in pollutant load in discharges to Impaired Waters.	Office of Planning & Development Svcs. (OPDS), Jon Reiner, Director	July 1, 2017	
4-9 Retain Water Quality Volume for all new stormwater discharges located less than 500 feet from a tidal wetland	Completed / Ongoing	None - there were no relevant applications	100% Water Quality Volume retained for new discharges <500 ft from non-freshwater tidal wetland.	Office of Planning & Development Svcs. (OPDS), Jon Reiner, Director	July 1, 2017	
4-10 Obtain required permits for stormwater discharges below coastal jurisdiction line	Completed / Ongoing	None - there were no relevant applications	100% of all required permits obtained	Office of Planning & Development Svcs. (OPDS), Jon Reiner, Director	July 1, 2017	

4.2 Describe any Construction Site Runoff Control activities planned for the next year, if applicable.

TOG will continue current efforts and maintain enforcement of strengthened Zoning Regulations.

5. Post-construction Stormwater Management (Section 6(a)(5) / page 27)

5.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Dept. / Person Responsible	Projected or actual date complete	Additional details
5-1 Establish or update legal authority & guidelines regarding LID and runoff reduction in site development planning (Due 7/1/22)	Completed	New 2019 Zoning Regulations encourage LID & more strict stormwater reduction & treatment	Adoption of updated legal authority & guidelines	Office of Planning & Development Svcs. (OPDS), Jon Reiner, Director	October 1, 2019	Efforts will continue to update guidelines to promote best practices to the maximum extent practicable
5-2 Enforce LID/runoff reduction requirements for development and redevelopment projects (Due 7/1/22)	Completed / Ongoing	Requirements, updated in 10/19, are enforced via site plan review & the Zoning Enforcement Officer.	Percent of Water Quality Volume retained.	Office of Planning & Development Svcs. (OPDS), Jon Reiner, Director	October 1, 2019	
5-3 Identify retention and detention ponds in priority areas (Due 7/1/20)	In Progress	To date 46 suspected municipal stormwater treatment structures were ID'd; 31 of which are ponds	ID retention and detention ponds	Public Works/ Greg Hanover, Director	July 2023	B&L will continue to verify the location of the municipal stormwater treatment structures in 2023.

BMP	Status	Activities in current reporting period	Measurable goal	Dept. / Person Responsible	Projected or actual date complete	Additional details
5-4 Implement long-term maintenance plan for stormwater basins and treatment structures (Ongoing)	Substantially Complete / Ongoing	B&L prepared a draft town-owned stormwater structure maintenance plan. 35 out of 46 stormwater treatment structures were inspected in 2021.	Inspect 100% of Town-owned stormwater basins & structures in Priority Areas	Public Works/ Greg Hanover, Director	July 2023	
5-5 DCIA mapping (Due 7/1/20)	Substantially Complete / Ongoing	TOG used impervious cover layers available to calculate DCIA priority areas.	Percent of total sub-basins for which DCIA has been mapped and calculated.	Public Works/ Greg Hanover, Director	June 2021/ Ongoing	DCIA mapping to be updated as retrofit, new development, & redevelopments data compilation is complete.
5-6 Address post-construction issues in areas with pollutants of concern	Not started			Office of Planning & Development Svcs. (OPDS), Jon Reiner, Director		

5.2 Describe any Post-Construction Stormwater Management activities planned for the next year, if applicable.

TOG will continue to enforce LID/runoff reduction for development and redevelopment projects, work toward finishing inspections of all stormwater treatment structures, and completing the maintenance plan. The Town is also amidst integration of Energov into relevant OPDS and PWD administrative processes. Energov is an online application tracking software that will allow the public to apply for permits on-line. It will store plans and reports and allow for digital tracking of new projects and changes in impervious surface. Further, the Town seeks funds for a SW intern to compile the data to update DCIA calculations for increased accuracy of plan.

5.3 Post-Construction Stormwater Management reporting metrics

For details on this requirement, visit www.nemo.uconn.edu/ms4/tasks/post-construction.htm. Scroll down to DCIA section.

Metrics	
Baseline (2012) Directly Connected Impervious Area (DCIA)	Est. 2,755 acres of impervious area; 814 acres DCIA
DCIA disconnected (redevelopment plus retrofits)	0 acres this year / 0 acres total
Retrofit projects completed	0
DCIA disconnected	0% this year / Unknown % total since 2012
Estimated cost of retrofits	Approximately \$461,000 to disconnect an estimated 3.19 acres of DCIA
Stormwater treatment structures identified (including detention/retention ponds, oil water separators, hydrodynamic separators, green infrastructure, etc.)	46 suspected municipal stormwater treatment structures; 31 stormwater basins

5.4 Briefly describe the method to be used to determine baseline DCIA.

- UCONN CLEAR calculated the impervious cover area for each DEEP sub basin in the Town and this info was incorporated into the Town’s GIS.
- To update the baseline DCIA for the Town, Barton & Loguidice, LLC, used the process found on the CT NEMO website. CT NEMO developed 5 formulas to calculate the DICA and Impervious Cover (IC) based independently for each basin in Groton using the percent DCIA for the basin with the state DCIA removed from the equation. Barton & Loguidice took the formulas and created a bell curve to input the calculated percent of DCIA for each basin and calculate the total DCIA and IC amounts for the Town. Each basin value was added together to create the baseline for the DCIA and IC for the Town of Groton.

6. Pollution Prevention/Good Housekeeping (Section 6(a)(6) / page 31)

6.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Dept. / Person Responsible	Projected or actual date complete	Additional details
6-1 Develop/ implement formal employee training program (Ongoing)	Completed / Ongoing	Due to safety restrictions due to COVID, in-person training was delayed. The prior year’s attempt at wide-scale digital training wasn’t effective so in-person will be restored in 2023. A virtual training was given to selected PWD personnel on May 12, 2022.	Conducted annual training.	Public Works/ Greg Hanover, Director	Completed 2017/ Ongoing	
6-2a Minimize the discharge of pollutants to MS4 from parks & open space mgmt.	Completed / Ongoing	Continued to follow SOPs	100% of existing SOP’s reviewed updated	Public Works/ Greg Hanover, Director	Completed 2017/ Ongoing	
6-2b Minimize the discharge of pollutants to MS4 from pet waste	Completed / Ongoing	Continued parks monitoring for pet waste pollution, parks pet waste stations, no dumping signs, & education.	1) Inappropriate pet waste management sites IDed 2) % locations with compliance complete.	Public Works/ Greg Hanover, Director	Completed 2017/ Ongoing	
6-2c Minimize the discharge of pollutants to MS4 from waterfowl	Completed / Ongoing	"Do Not Feed Waterfowl" brochures at Town Hall Annex, Library & Parks. Continued representation on the ECCD Baker Cove Watershed Committee, formed in part to continue Goose Task Force work.	1) Identify waterfowl congregations & feed on a schedule 2) % of ID’d land w/ educational signs or methods to discourage feeding; 3) % of ID’d land prevention practices, congregation or areas of direct drainage isolated.	Public Works/ Greg Hanover, Director	Completed 2017/ Ongoing	

BMP	Status	Activities in current reporting period	Measurable goal	Dept. / Person Responsible	Projected or actual date complete	Additional details
6-2d Minimize the discharge of pollutants to MS4 from buildings & facilities	Completed / Ongoing	Parking lots swept per plan. Existing SWPPP followed and maintained.	1) Dumpster procedures developed & implemented; 2) Parking lots swept 2x annually; 3) Non-SWPPP facilities evaluated to ensure no interior floor drains connect to MS4.	Public Works/ Greg Hanover, Director	Completed 2017/ Ongoing	
6-2e Minimize discharge of pollutants to MS4 from municipal vehicle and equipment maintenance	Completed / Ongoing	Continued to follow procedures established for vehicle storage and washing.	TOG procedures established for vehicle storage; & to ensure wash water not discharged to the MS4.	Public Works/ Greg Hanover, Director	Completed 2017/ Ongoing	
6-2f Minimize the discharge of pollutants to MS4 from leaf management	Completed / Ongoing	Streets are swept & resident leaf mgmt. promoted. Transfer Station flyer re-design better communicates guidelines (free drop off, loose or in paper bags)	Problem streets swept annually in fall as part of BMP #6-9; Educational info on TOG Stormwater page (BMP #1-4).	Public Works/ Greg Hanover, Director	Completed 2017/ Ongoing	
6-2 Implement MS4 property and operations maintenance (Ongoing)	Completed / Ongoing	Continued to follow SOPs. TOG salt is stored under cover & on impervious surface. Industrial stormwater discharges are monitored. Vehicle maintenance is performed undercover.	Review and update existing SOPs.	Public Works/ Greg Hanover, Director	Completed 2017/ Ongoing	The Town continues review of current practices and looking for optimization.
6-3 Implement coordination with interconnected MS4s	Completed / Ongoing	Via outfall ID, TOG identified interconnections with neighboring towns/cities. Communication is ongoing with municipalities, the DOT and the Naval Base.	Coordinated among interconnected MS4s reps: Groton City, Ledyard, Navy Sub Base, & CT Dept. of Transportation	Public Works/ Greg Hanover, Director	Completed 2017/ Ongoing	
6-4 Develop/ implement program to control other sources of pollutants to the MS4	Complete/ Ongoing	B&L ID'd industrial & commercial facilities not registered under DEEP' SW General Permit, and drafted educational brochures.	Program developed and implemented to control the contribution of pollutants to MS4 by deadline	Public Works/ Greg Hanover, Director		Brochures to be mailed in 2023, alerting potential obligation to register.

BMP	Status	Activities in current reporting period	Measurable goal	Dept. / Person Responsible	Projected or actual date complete	Additional details
6-5 Evaluate additional measures for discharges to impaired waters*	Ongoing	Via IDDE investigations, sites with elevated levels of pollutants to impaired waters are being ID'd and notified.	Evaluate additional measures for discharges to impaired waters.	Public Works/ Greg Hanover, Director	Ongoing	
6-6 Track projects that disconnect DCIA (Ongoing)	Completed / Ongoing	TOG initiated DCIA tracking using UCONN CLEAR spreadsheet tool, updated by B&L. OPDS is also in process of implementing a process upgrade to assist with DCIA updates moving forward.	Continue to annually track the total acreage of DCIA that is disconnected from the MS4 as a result of redevelopment or retrofit projects.	Public Works/ Greg Hanover, Director	Ongoing	TOG has applied to fund an intern in 2023 to record past data for a higher degree of accuracy to town DCIA info.
6-7 Implement infrastructure repair/rehab program (Due 7/1/21)	In Progress	As part of outfall screening, B&L identified sites that require maintenance. TOG started addressing issues and will complete in 2023 to the maximum extent practicable.	Program developed and implemented by deadline.	Public Works/ Greg Hanover, Director	December 2023	In 2023, it is anticipated TOG will review aging infrastructure to ID maintenance needs.
6-8 Develop/ implement plan to ID/prioritize retrofit projects (Due 7/1/20)	Substantially Completed/ Ongoing	A Stormwater Retrofit Plan was completed in February 2022.	Develop and implement plan to ID & prioritize DCIA disconnection/ retrofits with focus on urbanized area (DCIA >11%) & discharge to impaired waters.	Public Works/ Greg Hanover, Director	February 2022 Ongoing	Final report was made available on TOG Stormwater webpage
6-9 Implement retrofit projects to disconnect 2% of DCIA (Due 7/1/22)	Not started	TOG has begun process of fundraising in order to advance implementation of the Feb 2022 Retrofit Plan.	Develop and implement retrofit projects to disconnect 2% of all DCIA.	Public Works/ Greg Hanover, Director	December 2025	Applied for ARPA Covid relief funds (determination is outstanding) & will seek other funds
6-10 Develop/ implement street sweeping program	Completed / Ongoing	Town street sweeping continued through 2022.	Continue to implement the Town's street sweeping program.	Public Works/ Greg Hanover, Director	Ongoing	
6-11 Develop/implement catch basin cleaning program (Ongoing)	Completed / Ongoing	Town catch basin cleaning continued as possible.	Continue with Town-wide catch basin cleaning program.	Public Works/ Greg Hanover, Director	Ongoing	
6-12 Develop/implement snow management practices (Due 7/1/18)	Completed / Ongoing	Town snow management practices continued and in Dec 2022 Roads & Streets foremen received CT T2 "Green Sno Pro" certification	1) SOPs implemented, 2) % of road crew trained on application methods and equipment; 3) goals for chemical application rates met annually	Public Works/ Greg Hanover, Director	December 31, 2017 Ongoing	

6.2 Describe any Pollution Prevention/ Good Housekeeping activities planned for the next year, if applicable.

Existing efforts will be maintained but with added emphasis on finding possibilities to improve efficiency and quantifying results.

6.3 Pollution Prevention/ Good Housekeeping reporting metrics

Metrics	
Employee training provided for key staff	A virtual training was provided to select personnel from Public Works 5/12/22. It is anticipated that in-person training will resume in 2023
Street sweeping	
Curb miles swept	Est 435 miles
Volume (or mass) of material collected	Est 682 cubic yards
Catch basin cleaning	
Total catch basins in priority areas (value will be less than or equal to total catch basins town-wide)	590
Total catch basins town- (or institution-) wide	2,656
Catch basins inspected	94
Catch basins cleaned	88
Volume (or mass) of material removed from all catch basins	23 CY
Volume removed from catch basins to impaired waters (if known)	unknown
Snow management	
Type(s) of deicing material used	Liquid Magnesium Chloride and IB30/70 treated salt
Total amount of each deicing material applied	Est 150-gal Magnesium Chlorides + est 2500 tons IB30/70 treated salt
Type(s) of deicing equipment used	Computerized ground speed control spreaders
Lane-miles treated (A lane-mile is a mile of roadway in a single driving lane)	190.42 miles
Snow disposal location	741 Flanders Rd.
Staff training provided on application methods & equipment	Yes – Also, foremen this year completed Green Sno Pro training
Municipal turf management program actions (for permittee properties in basins with N/P impairments)	
Reduction in application of fertilizers (since start of permit)	Unknown – will attempt to determine or begin tracking in 2023
Reduction in turf area (since start of permit)	Unknown – will attempt to determine or begin tracking in 2023
Land w/ high potential to contribute bacteria (dog parks, parks w/ open water, & sites w/ failing septic systems)	
Cost of mitigation actions/retrofits	Unknown – will attempt to determine or begin tracking in 2023

6.4 Catch basin cleaning program

Provide any updates or modifications to your catch basin cleaning program

Catch basins are on a schedule to be inspected and cleaned out and the sumps are measured to the maximum extent practicable. When inspections and cleaning are conducted, the conditions and amount of material removed are recorded. A list is generated of catch basins with excess material present to be put on a more frequent cleaning schedule to ensure that the 50% design capacity for the sump is not exceeded.

6.5 Retrofit program

Briefly describe the Retrofit Program identification and prioritization process, the projects selected for implementation, the rationale for the selection of those projects and the total DCIA to be disconnected upon completion of each project. (Due 7/1/20)

In 2020, TOG twice worked with UCONN CLEAR (Land Use Center) and its Climate Corps undergrad team to identify potential projects for Retrofits. Stakeholders (including Bacwac) received final reports and were invited to presentations. In 2021, the Town’s consultant, B&L, reviewed the retrofit projects proposed by Climate Corps for feasibility and the presence of DCIA. Two of the Climate Corps projects were carried over into the Town’s retrofit plan.

In 2021, the Town and B&L worked to prepare a retrofit plan. B&L identified Town-owned properties with a half acre or more of total impervious area. Two privately-owned commercial sites in need of upgrade were also added. A total of forty (40) sites were evaluated through desktop analysis for DCIA, soil drainage class, and estimated depth to groundwater. Sites without DCIA were not evaluated further. Sites with poor soil or shallow groundwater (per USDA NRCS Web Soil Survey) were also not considered further.

Candidate sites were discussed with the Town. Sites where ownership or use is in transition were tabled as potential future sites. A total of five (5) municipal sites were chosen, retrofit concepts & estimated costs developed, and estimated disconnection calculated. Sites were then prioritized based on cost DCIA disconnected, as shown below:

Proposed Retrofit Project Sites	Total DCIA Disconnected	Total Estimated Project Capital Cost	Cost per DCIA Disconnected
1. Fishtown Road (Outfall 0424)	28,200 sq ft	\$30,000	\$1.06/sq ft
2. Community Center	18,000 sq ft	\$79,000	\$4.40/sq ft
3. Noank Community Garden	11,000 sq ft	\$55,000	\$5.00/sq ft
4. Village Lane Senior Housing	19,500 sq ft	\$247,000	\$13.00/sq ft
5. Calvin Burrows Field	3,800 sq ft	\$65,000	\$17.00/sq ft
Total:	80,500 sq ft	\$476,000	

If all five (5) projects are implemented, the total DCIA disconnected would be approximately 80,500 sq ft (1.85 acres). Funds will be requested for implementation though availability may be limited. In addition, retrofit concepts and estimates will be made available to the private property owners with an invitation to discuss partnership.

PWD & OPDS are both part of the ECCD Baker Cove Watershed Committee or ‘Bacwac’ (noted in Sect. 1). ECCD submitted a proposal for the Clean Water Act 319 Non-Point Source Pollution Grant program in hopes of receiving funds for Fiscal Year 2022-2023, but was declined. PWD subsequently sought project funding through the Town’s Long-Term Recovery Committee via its ARPA Covid Recovery fund program and as of December 31, had not received notice of a determination. The process of seeking funding, in any case, helps elevate awareness among Town Council members of the need for retrofits and presence of a plan.

In late 2020, Project Oceanology, local non-profit organization, joined Bacwac. Project O partnered with the Groton Board of Ed and was awarded funding towards education and resiliency projects for three school years (fall 2021 through spring 2024). Project O has applied to Project Rain Barrel for 25 rain barrels. If awarded, rain barrels will be implemented at the Thames River Magnet School and other parts of Town.

Describe plans for continuing the Retrofit program and how to achieve a goal of 1% DCIA disconnection annually in future years. (Due 7/1/22)

In 2023, the Town will begin seeking funds for project implementation to the maximum extent practicable.

PART II: Impaired Waters Investigation And Monitoring

1. Impaired waters investigation and monitoring program

1.1 Indicate which stormwater pollutants of concern occur in your municipality. This data is available on the MS4 map viewer: <http://s.uconn.edu/ctms4map>.

Nitrogen/ Phosphorus Bacteria Mercury Other Pollutant of Concern

1.2 Describe program status.

Discuss 1) the status of monitoring work completed, 2) a summary of results and any notable findings, and 3) any changes to the Stormwater Management Plan based on monitoring results.

Barton & Loguidice, LLC (B&L), the Town’s consultant, attempted to collect samples during multiple rain events during 2020, 2021 and again during 2022. Due to relevant outfalls’ proximity to the coast, many are impacted by tide levels and storm surges which create added complexity in sample collection. During 2022, B&L was able to collect an additional 31 samples during wet weather for impaired waterbody outfalls. To date, B&L has collected wet weather samples at 40 outfalls. Of the 40 samples collected during wet weather events, 31 were found with elevated parameters, triggering a need for further investigation.

Due to the limited number of qualifying storm events and the tidal influence on the remaining outfalls, in 2023, B&L will focus on collecting the remaining wet weather samples from outfalls discharging to impaired waters and at the upgradient structures closest to the outfalls to the maximum extent practicable. B&L will continue to attempt to collect wet weather samples from the outfalls discharging to impaired waters until all known locations are sampled. Once the remaining impaired wet weather samples are collected, B&L will focus on the six annual priority samples and then wet weather investigation samples.

Coordination with the tide schedule, storm surges and qualifying rain events will continue to be conducted for future monitoring events. Weather conditions during 2021 did not allow B&L to gain significant progress towards wet weather sampling; however, other local efforts resulted in the refinement of the Town’s list of outfalls to impaired waters. Previously there were 29 such outfalls and B&L has now located an additional 13 outfalls, bringing the total number of impaired outfalls to 52. No additional changes have been made to the Stormwater Management Plan at this time.

2. Screening data for outfalls to impaired waterbodies (Section 6(i)(1) / page 41)

2.1 Screening data

Outfall ID	Latitude	Longitude	Sample Date	Enterococcus (col/100mL)	Fecal Coliform (col/100mL)	Nitrogen (mg/L)	Phosphorous (mg/L)	Lab	Investigation Required
0020	41.37257385	-71.96648407	11/30/2020	11200	2910	n/a	n/a	Phoenix	Yes
0025	41.34514866	-72.03647417	3/24/2022	20	52	n/a	n/a	Phoenix	Yes
0026	41.34255336	-72.03520038	3/24/2022	573	52	n/a	n/a	Phoenix	Yes
0095	41.38053131	-72.08732605	3/18/2021	145	327	0.06	0.34	Phoenix	Yes

Outfall ID	Latitude	Longitude	Sample Date	Enterococcus (col/100mL)	Fecal Coliform (col/100mL)	Nitrogen (mg/L)	Phosphorous (mg/L)	Lab	Investigation Required
0099	41.37949753	-72.08753204	3/18/2021	109	< 10	0.083	5.97	Phoenix	Yes
0102	41.37841034	-72.08766937	3/18/2021	62	< 10	0.143	0.7	Phoenix	Yes
0103	41.37800598	-72.0874939	3/18/2021	191	< 10	0.177	0.97	Phoenix	Yes
0154	41.34407412	-72.03570829	3/24/2022	279	75	n/a	n/a	Phoenix	Yes
0156	41.33128209	-71.99163707	4/6/2022	1250	2850	n/a	n/a	Phoenix	Yes
0191	41.34911568	-71.97244705	3/24/2022	259	108	n/a	n/a	Phoenix	No
0196	41.34134148	-72.0350516	3/24/2022	121	< 10	n/a	n/a	Phoenix	No
0213	41.36173874	-71.96887182	3/24/2022	990	480	n/a	n/a	Phoenix	Yes
0214	41.3604959	-71.9689119	3/24/2022	473	576	n/a	n/a	Phoenix	Yes
0215	41.35822098	-71.96826284	3/24/2022	2910	1150	n/a	n/a	Phoenix	Yes
0216	41.35726906	-71.96886867	3/24/2022	581	98	n/a	n/a	Phoenix	Yes
0217	41.35683817	-71.96920846	3/24/2022	243	145	n/a	n/a	Phoenix	No
0218	41.35545326	-71.96966835	3/24/2022	14100	86	n/a	n/a	Phoenix	Yes
0220	41.355551	-71.96954616	3/24/2022	557	31	n/a	n/a	Phoenix	Yes
0221	41.35567054	-71.96942835	3/24/2022	408	41	n/a	n/a	Phoenix	No
0222	41.35682523	-71.96921525	3/24/2022	323	146	n/a	n/a	Phoenix	No
0267	41.32113305	-71.99584665	4/6/2022	85	448	n/a	n/a	Phoenix	Yes
0271	41.33088244	-72.00327869	4/6/2022	504	754	n/a	n/a	Phoenix	Yes
0288	41.35184992	-71.97186853	12/16/2022	435	61	n/a	n/a	Phoenix	No
0296	41.34161798	-72.03477382	3/24/2022	272	134	n/a	n/a	Phoenix	Yes
0360	41.32286649	-71.99167438	4/6/2022	369	6130	n/a	n/a	Phoenix	Yes
0378	41.38312531	-72.08728027	3/18/2021	84	< 10	0.062	1.05	Phoenix	Yes
0381	41.34436032	-72.03585914	3/24/2022	336	41	n/a	n/a	Phoenix	Yes
0395	41.32302952	-71.991494	4/6/2022	563	31	n/a	n/a	Phoenix	Yes
0422	41.31893366	-71.99098032	4/6/2022	216	988	n/a	n/a	Phoenix	Yes
0426	41.32366823	-72.00165782	4/6/2022	231	480	n/a	n/a	Phoenix	Yes
0451	41.35338698	-71.97048165	12/16/2022	399	41	n/a	n/a	Phoenix	No
0458	41.32771255	-72.00284226	4/6/2022	960	295	n/a	n/a	Phoenix	Yes
0464	41.37352	-71.96603	11/30/2020	959	31	n/a	n/a	Phoenix	Yes
0525	41.35134137	-71.97168017	12/16/2022	331	63	n/a	n/a	Phoenix	No
0851	41.32063078	-72.00058178	4/6/2022	30	< 10	n/a	n/a	Phoenix	No
0885	41.37315	-71.9662	11/30/2020	5790	2490	n/a	n/a	Phoenix	Yes
0924	41.3234732	-71.99329511	4/6/2022	369	738	n/a	n/a	Phoenix	Yes
1022	41.36279353	-71.96952752	12/16/2022	2100	315	n/a	n/a	Phoenix	Yes
1074	41.37157822	-72.08493805	3/18/2021	457	< 10	0.103	0.62	Phoenix	Yes
1491	41.35772869	-71.96873774	3/24/2022	437	2190	n/a	n/a	Phoenix	Yes

Note: n/a = not applicable

2.2 Credit for screening data collected under 2004 permit

Outfall ID	Latitude / Longitude	Sample date	Parameter (Nitrogen, Phosphorus, Bacteria, or Other pollutant of concern)	Results	Name of Laboratory (if used)	Follow-up required?
0312		12/12/16	Bacteria – E. Coli	360 col/100mL	CTL, Inc.	No

3. Follow-up investigations (Section 6(i)(1)(D) / page 43)

Provide the following information for outfalls exceeding the pollutant threshold.

Outfall ID	Status of drainage area investigation	Control measure to address impairment
Due to the recent limited number of qualifying storm events and the fact that most of the outfalls in the Town of Groton are tidally influenced, in 2022, B&L focused mainly on collecting initial wet weather samples from outfalls to impaired waters and the upgradient structures closest to the outfalls to the maximum extent practicable. In 2023, B&L will continue to attempt to collect wet weather samples from the impaired outfalls until all known locations are sampled and once the remaining impaired wet weather samples are collected, B&L will focus on the wet weather follow-up investigations.		

4. Prioritized outfall monitoring (Section 6(i)(1)(D) / page 43)

Once outfall sampling has been completed for at least 50% of outfalls to impaired waters, identify 6 of the highest contributors of any pollutants of concern. Begin monitoring these outfalls on an annual basis by July 1, 2020.

Outfall ID	Latitude / Longitude	Sample Date	Parameter(s)	Results	Name of Laboratory (if used)
Due to the recent limited number of qualifying storm events and the fact that most of the outfalls are in the Town of Groton tidally influenced, in 2022, B&L focused mainly on collecting initial wet weather samples from outfalls to impaired waters and the upgradient structures closest to the outfalls to the maximum extent practicable. In 2023, B&L will continue to attempt to collect wet weather samples from the impaired outfalls until all known locations are sampled and once the remaining impaired wet weather samples are collected, B&L will focus on the six annual priority samples.					

PART III: IDDE (Illicit Discharge Detection & Elimination) Program Data

1. Assessment & Priority Ranking of Catchments data (Appendix B (A)(7)(c) / page 5)

List all catchments with their ranking (DEEP basins may be used instead of manual catchment delineations).

See attachment provided with this report.

2. Outfall and Interconnection Screening and Sampling data (Appendix B (A)(7)(d) / page 7)

2.1 Dry weather screening and sampling data from outfalls and interconnections

Table 2.1a - Non-Impaired Waterbody Samples

Outfall ID	Latitude	Longitude	Sample Date	Ammonia (mg/L)	Chlorine (mg/L)	Conductivity (umhos/cm)	Salinity (g/kg)	Temp (oC)	Surfactants (mg/L)	E. Coli (col/100ml)	Lab	Investigation Required
0039	41.34665298	-72.05225372	5/6/2020	0.25	0	91.3	0.043	12.8	0.25	6490	Phoenix	No
0124	41.3646965	-71.97394562	5/19/2020	0	0	387	0.186	16.3	0.5	< 10	Phoenix	No
0125	41.36558533	-71.97405243	5/18/2020	0	0	161	0.0756	21.5	0.25	< 10	Phoenix	No
0132	41.35253143	-72.00740814	5/18/2020	0	0.09	390	0.192	14.2	0.25	< 10	Phoenix	No
0133	41.35408783	-71.99932861	5/19/2020	0.25	0.07	141	0.0669	15.4	0.25	< 10	Phoenix	No
0149	41.34929276	-71.98882294	5/14/2020	0	0	396	0.192	14.8	0.5	< 10	Phoenix	No
0155	41.33382416	-72.00167084	5/6/2020	0	0.23	302	0.146	14.3	0.5	< 10	Phoenix	No
0176	41.34951782	-72.05661774	5/13/2020	0.5	0.09	228	0.15	10.4	0.25	< 10	Phoenix	Yes
0180	41.35266113	-71.99863434	5/18/2020	0	0	267	0.126	15.5	0.35	< 10	Phoenix	No
0181	41.34946823	-71.9954834	5/19/2020	0	0.04	245	0.119	17.8	0.25	< 10	Phoenix	No
0186	41.34967804	-71.97966003	5/13/2020	0	0	381	0.184	15	0.25	< 10	Phoenix	No
0205	41.35307312	-72.00856018	5/21/2020	0.25	0.01	156.9	0.07	20.6	0.5	10	Phoenix	No
0209	41.38142395	-72.00195313	5/13/2020	0	0.04	194.8	0.09	11.9	0.25	< 10	Phoenix	No
0210	41.38180923	-72.00057983	5/13/2020	0.25	0.08	84.9	0.04	9.4	2	10	Phoenix	No
0225	41.37506866	-71.98500824	5/6/2020	0.25	0.04	234	0.14	14.9	0.25	< 10	Phoenix	No
0237	41.39171982	-72.00437927	5/13/2020	0	0.05	4.3	0	15.9	0.25	20	Phoenix	No
0247	41.3711586	-72.07237244	5/14/2020	0.25	0	311	0.19	13.3	0.25	< 10	Phoenix	No
0250	41.35211945	-72.06320953	5/6/2020	0	0.12	542	0.244	12.2	0.25	< 10	Phoenix	No
0252	41.35556412	-72.05262756	5/6/2020	0	0	245	0.117	11.9	0.5	< 10	Phoenix	No
0262	41.32733154	-71.98497772	5/6/2020	0	0.21	685	0.335	11.6	1	< 10	Phoenix	No
0264	41.32585907	-71.99036407	5/6/2020	0	0.02	520	0.23	14.5	0.25	< 10	Phoenix	No

Table 2.1a - Non-Impaired Waterbody Samples

Outfall ID	Latitude	Longitude	Sample Date	Ammonia (mg/L)	Chlorine (mg/L)	Conductivity (umhos/cm)	Salinity (g/kg)	Temp (oC)	Surfactants (mg/L)	E. Coli (col/100ml)	Lab	Investigation Required
0275	41.36267471	-71.99302673	5/19/2020	0	0.08	233	0.111	14.4	0.5	< 10	Phoenix	No
0292	41.33322144	-72.00208282	5/19/2020	0	0.05	274	0.131	17	0.5	10	Phoenix	No
0300	41.34113693	-72.01931	5/6/2020	0	0.06	184.9	0.09	13.5	0.25	10	Phoenix	No
0317	41.35688782	-72.05446625	5/6/2020	0.5	0.07	268	0.135	16	0.75	41	Phoenix	Yes
0319	41.35826874	-72.05838776	5/6/2020	0.5	0.08	361	0.173	15.6	0.25	10	Phoenix	Yes
0320	41.34470367	-71.98292542	5/14/2020	0	0	543	0.244	12.1	0.25	< 10	Phoenix	No
0340	41.34743118	-71.98931122	5/14/2020	0.25	0.02	265	0.125	16	0.75	41	Phoenix	No
0348	41.35110092	-71.98899078	5/19/2020	0	0.05	315	0.15	16.9	0.3	768	Phoenix	No
0372	41.33790588	-72.04663849	5/19/2020	1	0.12	692	0.41	15.75	0.75	< 10	Phoenix	Yes
0393	41.34672165	-71.97821045	5/13/2020	0	0.01	273	0.132	10.7	0.25	161	Phoenix	No
0394	41.37468719	-71.98301697	5/6/2020	0	0.01	206	0.12	14	0.25	< 10	Phoenix	No
0397	41.33848572	-72.00110626	5/6/2020	0	0	322.8	0.17	10.6	0.25	< 10	Phoenix	No
0400	41.36626816	-71.98139954	5/6/2020	0.25	0.02	217	0.13	13.8	0.25	10	Phoenix	No
0403	41.36229324	-71.98247528	5/19/2020	0	0	190	0.0902	16.1	0.25	< 10	Phoenix	No
0404	41.35911942	-71.98323059	5/19/2020	0	0.02	120	0.0571	17	0.25	20	Phoenix	No
0417	41.36755753	-72.0593338	5/21/2020	0.25	0.21	198	0.0942	18.5	0.25	20	Phoenix	No
0420	41.38817596	-72.00553894	5/13/2020	0	0.03	430.6	0.21	14.1	0.25	134	Phoenix	No
0431	41.39502335	-72.07965851	5/18/2020	0	0	126	0.07	18.3	0.25	740	Phoenix	No
0432	41.33686066	-72.02018738	6/2/2020	0.25	0	204	0.0972	18.4	0.25	< 10	Phoenix	No
0435	41.36832047	-72.05063629	5/21/2020	0.25	0.19	324	0.154	17.3	0.25	< 10	Phoenix	No
0437	41.34486389	-71.98265076	5/14/2020	0	0.2	815	0.4	15.4	0.75	< 10	Phoenix	No
0439	41.36780548	-71.98384094	5/6/2020	0.25	0	394	0.23	15.2	0.25	< 10	Phoenix	No
0444	41.3358345	-72.00187683	5/6/2020	0	0.03	333	0.16	14.7	0.25	< 10	Phoenix	No
0463	41.39541245	-71.96191406	5/18/2020	0.25	0.03	104	0.0491	20.3	0.25	< 10	Phoenix	No
0477	41.37667465	-71.98602295	5/6/2020	0	0	237	0.15	13.1	0.25	< 10	Phoenix	No
0479	41.38464737	-71.98223877	5/13/2020	0	0	145.7	0.07	14.3	0.25	< 10	Phoenix	No
0484	41.35070419	-71.97642517	5/21/2020	0	0.04	194	0.09	20.3	0.5	< 10	Phoenix	No
0787	41.38428497	-72.0198822	5/18/2020	0	0.01	99.4	0.04964	20.9	0.25	< 10	Phoenix	No
0796	41.38261414	-72.06428528	5/21/2020	0.25	0.13	258	0.124	14.3	1.5	< 10	Phoenix	No
0817	41.34192276	-72.05704498	6/2/2020	0.25	0.13	361	0.17	19	0.25	310	Phoenix	No
0843	41.36203766	-72.06021118	5/6/2020	0.25	0.07	250	0.12	13	0.5	< 10	Phoenix	No
0881	41.38715744	-72.00253296	5/13/2020	0.25	0.12	177.3	0.23	15	0.25	< 10	Phoenix	No

Table 2.1a - Non-Impaired Waterbody Samples

Outfall ID	Latitude	Longitude	Sample Date	Ammonia (mg/L)	Chlorine (mg/L)	Conductivity (umhos/cm)	Salinity (g/kg)	Temp (oC)	Surfactants (mg/L)	E. Coli (col/100ml)	Lab	Investigation Required
1084	41.35917664	-72.02720642	5/14/2020	0	0	125.1	0.623	9.9	0.5	< 10	Phoenix	No
1137	41.39427567	-72.07929993	5/18/2020	0.25	0.02	199	0.1	17.78	0.5	< 10	Phoenix	No
1157	41.34456	-72.06062	5/6/2020	0.25	0	275	0.132	10.9	0.25	< 10	Phoenix	No
1162	41.38291168	-71.98423004	5/13/2020	0.25	0.01	251	0.12	14.5	0.25	< 10	Phoenix	No
1181	41.34675217	-72.02043915	5/13/2020	1	0.02	422	0.205	14.2	0.25	< 10	Phoenix	Yes
1193	41.37896729	-72.0759964	5/18/2020	0	0.06	371	0.178	14	0.25	84	Phoenix	No
1204	41.36036301	-72.06958008	3/23/2021	0	0.02	1738	0.874	10.3	0.17	10	Phoenix	No
1297	41.37345123	-72.05503082	3/23/2021	0	0.11	577	0.265	2	0.09	10	Phoenix	No
1306	41.3721962	-72.06406403	3/23/2021	0.5	0.02	386	0.189	9.8	0.41	10	Phoenix	Yes
1362	41.35009003	-71.9886322	5/14/2020	0	0.04	377	0.181	16.1	0.5	< 10	Phoenix	No

Table 2.1b - Class SA & SB Impaired Waterbody Samples

Outfall ID	Latitude	Longitude	Sample Date	Enterococcus (col/100mL)	Fecal Coliform (col/100mL)	Nitrogen (mg/L)	Phosphorous (mg/L)	Lab	Investigation Required
0103*	41.37800685	-72.08749479	5/31/2022	146		0.97	0.047	Phoenix	No
0105*	41.376711	-72.08676762	5/31/2022	41		1.08	0.066	Phoenix	No
0106*	41.37507636	-72.08606975	5/31/2022	85		3.86	0.123	Phoenix	Yes
0156	41.33128357	-71.99163818	5/6/2020	< 10	< 10	n/a	n/a	Phoenix	No
0213	41.36174011	-71.96887207	5/13/2020	144	450	n/a	n/a	Phoenix	Yes
0216	41.35726929	-71.96887207	6/2/2020	52	10	n/a	n/a	Phoenix	No
0217	41.35683817	-71.96920846	9/30/2021	414	359	n/a	n/a	Phoenix	Yes
0222	41.35682678	-71.96921539	6/2/2020	771	75	n/a	n/a	Phoenix	Yes
0288	41.3518486	-71.97187042	5/13/2020	10	< 10	n/a	n/a	Phoenix	No
0296	41.34161758	-72.03477478	5/13/2020	< 10	20	n/a	n/a	Phoenix	No
0378	41.38312531	-72.08728027	5/14/2020	< 10	< 10	< 0.01	3.69	Phoenix	Yes
0426	41.32366943	-72.00165558	5/6/2020	41	< 10	n/a	n/a	Phoenix	No
0458	41.32771301	-72.00284576	5/6/2020	20	< 10	n/a	n/a	Phoenix	No
1022	41.36279297	-71.9695282	5/13/2020	75	160	n/a	n/a	Phoenix	No
1074	41.37157822	-72.08493805	5/18/2020	10	< 10	< 0.01	3.54	Phoenix	Yes

Notes:

n/a - Not Applicable

* - Fecal Coliform parameter was missed at these outfalls during the initial screening process and will be rescreened

2.2 Wet weather sample and inspection data

Outfall / Interconnection ID	Latitude / Longitude	Sample date	Ammonia	Chlorine	Conductivity	Salinity	E. coli or Enterococcus	Surfactants	Water Temp	Pollutant of concern
<p>Due to the limited number of qualifying storm events and the fact that most of the outfalls in the Town of Groton are tidally influenced, in 2022, B&L focused mainly on collecting initial wet weather samples from outfalls to impaired waters and the upgradient structures closest to the outfalls to the maximum extent practicable. In 2023, B&L will continue to attempt to collect wet weather samples from the impaired outfalls until all known locations are sampled and once the remaining wet weather samples are collected, B&L will focus on the wet weather investigation samples.</p>										

3. Catchment Investigation data (Appendix B (A)(7)(e) / page 9)

3.1 System Vulnerability Factor Summary

For those catchments being investigated for illicit discharges (i.e. categorized as high priority, low priority, or problem) document the presence or absence of System Vulnerability Factors (SVF). If present, report which SVF's were identified.

Outfall ID	Receiving Water	System Vulnerability Factors
A preliminary effort was made by staff at the initiation of the MS4 permit, but a revisit and update expectedly will be initiated in 2023.		

Where SVFs are:

1. History of SSOs, including, but not limited to, those resulting from wet weather, high water table, or fat/oil/grease blockages.
2. Sewer pump/lift stations, siphons, or known sanitary sewer restrictions where power/equipment failure or blockages could readily result in SSOs.
3. Inadequate sanitary sewer level of service (LOS) resulting in regular surcharging, customer back-ups, or frequent customer complaints.
4. Common or twin-invert manholes serving storm and sanitary sewer alignments.
5. Common trench construction serving both storm and sanitary sewer alignments.
6. Crossings of storm and sanitary sewer alignments.
7. Sanitary sewer alignments known or suspected to have been constructed with an underdrain system;
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. Areas formerly served by combined sewer systems.
10. Any sanitary sewer and storm drain infrastructure greater than 40 years old in medium and densely developed areas.
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 local health department or sanitarian 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).

3.2 Key junction manhole dry weather screening and sampling data

Outfall ID	Pipe ID	Latitude	Longitude	Sample Date	Visual/olfactory evidence of illicit discharge	Ammonia (mg/L)	Chlorine (mg/L)	Surfactants (mg/L)	E.coli (col/100ml)	Enterococcus (col/100mL)	Fecal Coliform (col/100mL)	Nitrogen (mg/L)	Phosphorous (mg/L)
0039	UNK31-MH0383	41.3459	-72.05304	5/7/2021	Sewage Smell	0	0.01	0.39	10				
0176	MH0177-CB2286	41.35004	-72.05795	8/3/2021	None	0.25	0.05	0.08					
	CB2285-CB2286	41.35004	-72.05795	8/3/2021	None	0	0.07	0.1					
	CB2298-CB2299	41.35025	-72.05881	8/3/2021	None	0.25	0.22	0.1					
0210	Inlet-CB1225	41.38252	-72.00068	5/7/2021	None	0	0	0.11					
0213	CB1475-CB0204	41.36176	-71.96973	8/3/2021	None	0	0.02	0.11			10		
	CB3437-CB0213	41.36168	-71.97198	8/3/2021	None	0	0.05	0.14			31		
	CB0214-CB0213	41.36168	-71.97198	8/3/2021	None	0	0	0.1			31		
	UNK1-CB0213	41.36168	-71.97198	8/3/2021	None	0	0.05	0.09			<10		
	CB0213-CB0212	41.36168	-71.97198	8/3/2021	None	0	0.02	0.09			<10		
	UNK10-CB0178	41.3573	-71.97042	8/3/2021	None	0	0.06	0.11		565	52		
	CB0180-CB0181	41.35699	-71.97034	8/3/2021	Musty Smell	0	0.04	0.12		441	10		
CB0180-CB0182	41.35699	-71.97034	8/3/2021	None	0.25	0.07	0.31		41	<10			
0222	UNK11-CB0179	41.35729	-71.97033	5/14/2021	None	0	0.09	0.11		<10	<10		
	CB0183-MH0224	41.35626	-71.9705	5/14/2021	None	0.25	0.05	0.29		63	20		
	CB1951-CB1676	41.32733	-71.98554	5/14/2021	None	0.25	0.08	0.15		576			
	CB1674-CB1676	41.32733	-71.98554	5/14/2021	None	0	0	0.18		160			
	CB1677-CB1676	41.32733	-71.98554	5/14/2021	None	0.25	0.02	0.15		<10			
0317	CB1811-CB1758	41.35583	-72.0558	8/3/2021	None	0	0.04	0.11					
	CB1757-CB2808	41.35679	-72.05468	8/3/2021	None	0.25	0.05	0.12					
	CB0168-CB2808	41.35679	-72.05468	8/3/2021	None	0	0.01	0.11					
	UNK1-CBUNK2	41.35571	-72.05708	8/3/2021	None	0.5	0.01	0.1					
0378	CB0162-CB1068	41.38351	-72.0867	5/7/2021	None	0.25	0.01	0.15		20	<10	2.68	0.011
	Stream-CB0908	41.38308	-72.08667	5/7/2021	None	0	0.03	0.24		30	10	7.48	0.055
1074	CB3911-MH0630	41.37252	-72.08498	5/7/2021	None	0	0.02	0.13		<10	<10	3.6	

Outfall ID	Latitude	Longitude	Date of Initial Sample	Date of Follow-Up	Evidence of Discharge at Time of Follow Up
0020	41.37257385	-71.96648407	11/30/2020	5/14/2021	No
0039	41.34665298	-72.05225372	5/6/2020	5/7/2021	Yes
0156	41.33128357	-71.99163818	5/6/2020	5/14/2021	No
0176	41.34951782	-72.05661774	5/13/2020	8/13/2021	Yes
0210	41.38180923	-72.00057983	5/13/2020	5/7/2021	Yes
0213	41.36174011	-71.96887207	5/13/2020	8/13/2021	Yes
0222	41.35682678	-71.96921539	5/13/2020	5/14/2021	Yes
0262	41.32733154	-71.98497772	5/6/2020	5/14/2021	Yes
0317	41.35688782	-72.05446625	5/6/2020	8/13/2021	Yes
0319	41.35826874	-72.05838776	5/6/2020	5/14/2021	No
0372	41.33790588	-72.04663849	5/19/2020	5/14/2021	No
0378	41.38312531	-72.08728027	5/14/2020	5/7/2021	Yes
0885	41.37314606	-71.96620178	11/30/2020	5/14/2021	No
1074	41.37157822	-72.08493805	5/18/2020	5/7/2021	Yes
1181	41.34675217	-72.02043915	5/13/2020	5/14/2021	No
1449	41.38490295	-71.98001862	6/16/2020	5/14/2021	No

3.3 Wet weather investigation outfall sampling data

Outfall ID	Latitude / Longitude	Sample date	Ammonia	Chlorine	Surfactants
<p>Due to the recent limited number of qualifying storm events and the fact that most of the outfalls in the Town of Groton are tidally influenced, in 2022, B&L focused mainly on collecting initial wet weather samples from outfalls to impaired waters and the upgradient structures closest to the outfalls to the maximum extent practicable. In 2023, B&L will continue to attempt to collect wet weather samples from the impaired outfalls until all known locations are sampled and once the remaining wet weather samples are collected, B&L will focus on annual priority outfalls prior and wet weather investigations.</p>					

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

Discharge location (Outfall ID)	Source Location(s) (Address)	Discharge Description	Method of Discovery	Date of Discovery	Date of Elimination	Mitigation or Enforcement Action
0039	820 Poquonnock Rd	There is only one pipe discharging in this system coming from the direction of 820 Poquonnock Rd that is exceeding the threshold limits of surfactants and chlorine	Visually in field and Lab/Field Testing	5/7/2021		NOV letters will be sent to property owners, as necessary
0176	670 Meridian St Ext	There is a pipe discharging in this system coming from the direction of 670 Meridian St Ext that is exceeding the threshold limits of surfactants with trace amounts of surfactants and ammonia	Visually in field and Lab/Field Testing	8/3/2021		NOV letters will be sent to property owners, as necessary
0210	129 and 147 Yetter Rd	The only pipe discharging water is an open channel/stream running through the system so likely spike of exceeding thresholds could have come from an illicit dumping upstream	Visually in field and Lab/Field Testing	5/7/2021		NOV letters will be sent to property owners, as necessary
0213	55 Clift Ln, and 105,110 Starr St	There is a lateral discharging into the system coming from 55 Cliff Ln that is discharging exceeding limits of chlorine and trace amounts of surfactants and the main drainage line between 105 and 110 Starr St discharging exceeding amounts of chlorine and trace amount of surfactants	Visually in field and Lab/Field Testing	8/3/2021		NOV letters will be sent to property owners, as necessary
0222	17 and 30 Pearl St, and 20 Bank St	There is a lateral discharging from the area of 20 Bank St that is discharging exceeding amounts of chlorine and enterococcus. 30 Pearl St is discharging exceeding levels of chlorine and an area around 17 Pearl St is discharging exceeding levels of chlorine and surfactants with trace amounts of ammonia	Visually in field and Lab/Field Testing	5/14/2021		NOV letters will be sent to property owners, as necessary
0262	60 and 65 Front St	An area around 60 and 65 Front St is discharging exceeding levels of chlorine and enterococcus, near exceeding levels of surfactants and trace amounts of ammonia.	Visually in field and Lab/Field Testing	5/14/2021		NOV letters will be sent to property owners, as necessary
0317	79 Maxson Rd, 27 Tormberg Ln, 168 and 176 Azalea Dr	79 Maxson Rd is discharging exceeding levels of chlorine and ammonia with trace amounts of surfactants. 27 Tormberg Ln is discharging exceeding levels of chlorine and trace amounts of surfactants. A pipe in between 168 and 176 Azalea Dr is discharging a small exceeding amount of chlorine and a trace amount of surfactants	Visually in field and Lab/Field Testing	8/3/2021		NOV letters will be sent to property owners, as necessary
1074	Odd Fellows Home Rd	The only discharging pipe in this system was coming from the private housing development of Odd Fellows Home Rd. This pipe is discharging exceeding levels of nitrogen and chlorine with trace amounts of surfactants	Visually in field and Lab/Field Testing	5/7/2021		NOV letters will be sent to property owners, as necessary

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: Greg A. Hanover	Print name: Michelle Maitland
Signature / Date:  <small>Greg A Hanover (Apr 3, 2023 14:34 EDT)</small>	Signature / Date: 
Apr 3, 2023	Apr 3, 2023
Email: ghanover@groton-ct.gov	Email: mmaitland@groton-ct.gov

Town of Groton MS4 2022 Annual Report FINAL esig

Final Audit Report

2023-04-03

Created:	2023-04-03
By:	Michelle Maitland (mmaitland@groton-ct.gov)
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