MS4 General Permit
Town of Glastonbury, Connecticut 2018 Annual Report
Existing MS4 Permittee
Permit Number GSM 000057
January 1, 2018 – December 31, 2018

This report documents the Town of Glastonbury, Connecticut's efforts to comply with the conditions of the MS4 General Permit to the maximum extent practicable (MEP) from January 1, 2018 to December 31, 2018.

Part I: Summary of Minimum Control Measure Activities

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

1.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
1-1 Implement public education and outreach	Ongoing/In Progress	1. Continue updates to Stormwater Pollution Prevention page located on the Town of Glastonbury's Engineering Division web site as required. 2. "Long Island Sound Study" brochures displayed and available at various departments at Town Hall and Welles Turner Memorial Library.	Compliance with Section 6(a)(1) of the current General Permit	Engineering Division	July 1, 2018	1. Continuously ongoing throughout the duration of the permit. 2. Continuously ongoing throughout the duration of the permit.	1. Web page has been updated to provide residents/business owners/developers with Stormwater Pollution Awareness and links to various brochures related to contributing bacteria pollutants. http://www.glastonbury-ct.gov/departments/department-directory-a-k/engineering/stormwater-pollution-prevention-program
1-2 Address education/ outreach for pollutants of concern*	Currently/In Progress	1. Include bacteria related information on Town web site and other public ed. Materials. 2. Glastonbury's Health Department has continuously provided	Compliance with Section 6(a)(1)(C)(iii) of the current General Permit	Engineering Division	July 1, 2018	1. Continuously ongoing throughout the duration of the permit.	1. Added links to pet waste management and septic system maintenance to website. http://www.glastonbury-ct.gov/departments/department-directory-a-

		information to residents related to septic systems/maintenance located on the web page under Subsurface Sewage/Septic System Basics for Homeowners.					k/engineering/stormwater-pollution-prevention-program 2. http://www.glastonbury-ct.gov/departments/department-directory-a-k/health-department/subsurface-sewage/septic-system-basics-for-homeowners
		3. Distribute pet waste brochures with Dog Licenses.					
Additional BMP: **1-3 Public Education and Outreach**	Ongoing/Yearly	1. Town Staff and Regional Group participation in the Salmon River Watershed Partnership	Non-profit group consisting of 10 towns preserving the integrity of the 96,000 Acre Salmon River Watershed through education and outreach	Community Development and Environmental Department/ Tom Mocko-Environmental Planner	N/A	1. Yearly Membership and town staff representation	1. The Salmon River Watershed Partnership is comprised of 10 towns/representatives that performs clean ups, environmental studies, public education and outreach to local youth groups/school children/residents to preserve the integrity of the watershed. Tom Mocko-Environmental Planner for the Town of Glastonbury services as a longtime member. 2. The 2018 Salmon River Watershed Partnership Outreach & Monitoring Activities Related to Stormwater & Water Quality Report is attached in Appendix A.

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

1-1. Provide additional updates to the Stormwater Pollution Prevention page located on the Town of Glastonbury's Engineering Division web site as necessary, provide tracking of the number of brochures distributed at town facilities for incorporation into annual reports.
1-2. Continue distribution of printed pet waste management brochures in conjunction with dog license renewals. Continue Health Department information to homeowners related to septic systems/maintenance in the year 2019.
1-3. Continue staff membership and involvement in the Salmon River Watershed Partnership.
1-4. Continue working with communications department to post timely news items in the spring related to stormwater pollution prevention awareness using the Town website and social media accounts.

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.
Stormwater Pollution Prevention page located on the Town of Glastonbury's Engineering Division web site	Residents/Business Owners/Developers	Web page contains stormwater pollution prevention awareness information and web brochures	Phosphorus, Nitrogen, and Bacteria	Engineering Division
"Long Island Sound Study" brochures available at various town departments at Town Hall and Welles Turner Memorial Library	Residents/Business Owners/Developers Approximately 100 brochures distributed.	Vehicle washing, pet waste, fertilizing, and leaking oil.	Phosphorus, Nitrogen, and Bacteria	Engineering Division, Building Department, Library
Pet waste brochure distributed with Dog Licenses by Town Clerks Office	Approximately 1,400 brochures distributed	Pet Waste	Bacteria	Engineering Division / Town Clerk
Continued staff membership and involvement in the Salmon Brook Watershed Partnership	Students, Watershed Community	Watershed protection, Clean-ups, Student groups/Membership collaborative studies	Watershed Protection	Town of Glastonbury Environmental Planner and the Salmon River Watershed Partnership

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

2.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
2-1 Continue availability of the Final Stormwater Management Plan to the Public.	Ongoing	Stormwater Management Plan was issued for review on May 8, 2017 and Finalized July 1, 2017	Compliance with Section 4(d)(2) and Section 6(a)(2)(A) of the General Permit	Engineering Division	Apr 3, 2017	May 8, 2017	Stormwater Management Plan was issued for review and posted on the Town of Glastonbury's website
2-2 Comply with public notice requirements for Annual Reports	In Progress	This Annual Report has been publicly noticed and posted to the website as per current DEEP requirements.	Compliance with Section 4(d)(2) and Section 6(a)(2)(A) of the General Permit	Engineering Division	Feb 15, 2019	January 31, 2019 (notice) February 15, 2019 (plan posted) April 1, 2018 (submit to DEEP)	This 2018 Annual Report was posted on the Town of Glastonbury's website on February 15, 2018.
Additional BMP: **2-3 Public Participation**	Ongoing/Yearly	Participation in the Capitol Region East Operating Committee (CREOC) Household Hazardous Waste Collection days located adjacent to the Manchester Landfill on Olcott Street.	Allows residents to properly dispose of Household Hazardous Wastes	Sanitation/Refuse Division	N/A	April 7, 2018 May 5, 2018 August 25, 2018 Sept. 29, 2018 October 27, 2018	
Additional BMP: **2-4 Public Participation**	Ongoing/Yearly	Town Staff and Regional Group participation in the Salmon River Watershed Partnership	Non-profit group consisting of 10 towns preserving the integrity of the 96,000 Acre Salmon River Watershed	Community Development and Environmental Department/ Tom Mocko-Environmental Planner	N/A	Yearly Membership and town staff representation	The Salmon River Watershed Partnership is comprised of 10 towns/representatives that performs education and outreach for watershed protection. Tom Mocko-Environmental Planner for the Town of Glastonbury serves as a longtime member.

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

2-3. Annual participation in the Capitol Region East Operating Committee (CREOC) Household Hazardous Waste Collection days located adjacent to the Manchester Landfill on Olcott Street.

2-7. Continued staff membership and participation in the Salmon River Watershed Partnership.

2.3 Public Involvement/Participation reporting metrics

Metrics	Implemented	Date	Posted
Availability of the Stormwater Management Plan to the public	Yes	May 8, 2017	http://www.glastonbury-ct.gov/departments/department-directory-a-k-/engineering/stormwater-management-plan
Availability of this Annual Report announced to public Annual Report published to Town Website	Yes Yes	January 31, 2019 February 15, 2019	http://www.glastonbury-ct.gov/departments/department-directory-a-k-/engineering/stormwater-management-plan
Town Staff and Regional Group participation in the Salmon River Watershed Partnership	Yes	Yearly membership and participation	http://www.salmonriverct.org/

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	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
3-1 Develop written IDDE program	Completed	IDDE program	Develop written plan of IDDE program	Engineering Division	July 1, 2018	2/1/2019	IDDE Plan has been completed and is now available on the Town web site.
3-2 Develop list and maps of all MS4 stormwater outfalls in priority areas	In Progress	All outfalls in the MS4 have been mapped and can be viewed on the GIS website.	Develop an updated the GIS Datasets and maps of all MS4 stormwater outfalls located within the priority areas.	Engineering Division	July 1, 2019	Anticipate completion by the due date of July 1, 2019.	Stormwater Geodatabase was updated to incorporate watershed, waterbody, and surface water quality classification for each outfall. Currently working with GIS consultant to link outfall inspection data and photos for display with outfall data in GIS website.
3-3 Implement citizen reporting program	Completed	A citizen reporting process has been established using the Town's Qalert System. A link regarding reporting stormwater pollution is locatedon the Town of Glastonbury's Engineering Division Stormwater Pollution Prevention web site.	Implement and track citizen reporting of stormwater pollution	Engineering Division	Currently Active	Completed	Currently Active http://www.glastonbury-ct.gov/departments/department-directory-a-k/engineering/stormwater-pollution-prevention-program No pollution related complaints have been received via this system to date.
3-4 Establish legal authority to prohibit illicit discharges	Completed in 2010	In 2010, the Town of Glastonbury implemented a Town ordinance related to the elimination of illicit discharges.	Establish legal authority to prohibit illicit discharges	Engineering Division	Currently Active	Previously Completed	Illicit Discharge and Connection Stormwater Ordinance is located in Chapter 19, Article III, Sections 19-251 thru 19-275. http://www.glastonbury-ct.gov/departments/department-directory-l-z/town-clerk/glastonbury-town-charter-code-of-ordinances

3-5 Develop record keeping system for IDDE tracking	In Progress	Town is currently in process of tracking any IDDE's from ongoing investigations	Develop record keeping system for IDDE tracking	Engineering Division	July 1, 2017	Ongoing throughout the permit duration	No IDDE's reported or identified within this reporting year.
3-6 Address IDDE in areas with pollutants of concern	In Progress	No IDDE's reported or identified within this reporting year.	Address IDDE in areas with pollutants of concern	Engineering Division	Not specified	Ongoing throughout the permit duration	No IDDE's reported or identified within this reporting year.

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

The written program will be posted to the Town of Glastonbury's Engineering Division web site page and a link listed in next year's Annual Report; will update the written IDDE program as needed throughout the permit term.

Maintain master IDDE tracking spreadsheet and ensure all employees involved in IDDE program understand the logging process.

3.3 List of citizen reports of suspected illicit discharges received during this reporting period.

Date of Report	Location / suspected source	Response taken
No Citizen Reports in 2017 or 2018.	N/A	N/A

3.4 Provide a record of illicit discharges occurring during the reporting period and SSOs occurring July 2012 through end of reporting period using the following table.

Location (Lat long/ street crossing /address and 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)
2687 Main Street/Naubuc Avenue Katz Hardware	Originally a connection to a combined sewer system. Disconnected in 1/2015	Illicit Discharge into MS4 storm drainage system.	Unknown	Old combined sewer system connection which was identified by the Public Works Dept and disconnected in 2015	Single bathroom located at 2687 Main Street that was connected to an old combined sewer system located on Naubuc Avenue that remained connected to the storm sewer as part of a sewer separation incorporated in a reconstruction project of Naubuc Avenue in the 1970's. Illicit discharge was identified by the Town of Glastonbury Public Works and disconnected by the property owner in 2015.	None
104 Benton Lane	03/03/2013 12:30 P.M. to 2:15 P.M.	SSO-surcharged manhole	200-300 Gallons	Blockage from rags in pump station wet well. Cleaned ASAP to relieve surcharge	By Pass system which had been installed during pump station upgrade construction activity removed on 3/4/2013. Cleaned ASAP to relieve Surcharge. Hand spread Limed area around manhole.	None
116 Oak Street	08/23/2013 2:00 P.M. to 5:00 P.M.	SSO to Hubbard Brook	150-250 Gallons	Concrete at the end of lateral connection	Sewer line will require reconstruction. Sewer lateral will need to be reconstructed.	None
Tall Timbers Road	09/14/2014 No start time to 10:30 A.M.	SSO-Private force main leaking below grade	21,500 Gallons (Est.)	Broken 1 ¼" private force main lateral	Broken pipe repaired by town highway staff. Pipe repaired and suggested pressure testing of the line by homeowner (Private system).	None
1909 Main Street	08/09/2014 7:00 A.M. to 9:00 A.M.	SSO-surcharged manhole	500 Gallons	Grease blockage in 8" sewer line	Blockage in sewer line relieved by jet truck, upon release completed jetting. Applied bleach to area around manhole and ground. Added location to Towns routine jetting schedule.	None
2333 Main Street	02/25/2015 11:40 A.M. to 4:30 P.M.	SSO-surcharged manhole in parking lot-Private	Unable to determine	Grease and Root blockage	Property owner arranged with contractor to clear blockage by flushing and root cutting. Routine flushing and root cutting.	None
2756 Main Street	09/04/2016 12:45 P.M. to 1:40 P.M.	SSO-surcharged manhole-Salmon Brook	5,000 Gallons	Electrical failure at Pump Station	Restored Pump Station Operation quickly.	None

3025 Main Street	08/07/2017 1:00 P.M. to 5:00 P.M.	SSO- surcharged manhole-Pump Station	Unknown	Mechanical equipment failure	Burger King regional manager notified to evaluate and repair the reoccurring problem. Repairs made to eliminate future overflows.	None
28 Talcott Road	05/04/2017 6:38 P.M. to 7:15 P.M.	SSO- surcharged manhole/sewer main overflowed into catch basin	Unknown	Grease blockage in sewer main	Jetted and flushed sewer main. Frequent inspection of town sewer main.	None
76-78 Hollister Way South Meadow Hill Condominiums	12/18/2018 3:00 PM to 6:00 PM	SSO- sewer backup and overflow discharge in basement of private property	250 Gallons	Blockage in Towns sewer line on Main Street due to pipe joint separation and soil infiltration	Sewer pipe joint was repaired and sewer line was flushed and televised by Highway Dept. staff to relieve blockage.	None

Note: Data listed above is derived from copies of a Sewage By-Pass Notification Report as submitted to State of Connecticut DEEP Bureau of Water Management.

3.5 Briefly describe the method used to track illicit discharge reports, responses to those reports, and who was responsible for tracking this information.

Over the term of the General Permit since its inception in 2004, One (1) report of and illicit connection was logged from our Public Works department. The illicit connection was removed and reconnected to the sanitary sewer system by the property owner in a timely fashion. The Town of Glastonbury Engineering Division is responsible for maintaining a spreadsheet to track illicit detection and connections as part of this permit.

3.6 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
Angus Pond Residential Septic Systems within the drainage basin	Within the Angus Pond drainage basin Health Department records indicate that 2 septic system repairs or replacements were done in 2018 and 11 repairs and or replacements were done between 2012 to 2017. A total of 53 repairs or replacements occurred between 1988 to 2017 with 3 properties having 2 repairs.	Angus Pond DEEP Basin ID: 4009-00-2-L4
Connecticut River Residential Septic Systems within the drainage basin	within the Connecticut River drainage basin Health Department records indicate that 0 repairs or replacements of existing septic systems were made in 2018 and 12 repairs and or replacement were done between 2012 to 2017. A Total of 45 repairs occurred between 1988 to 2017 with 5 properties having 2 repairs.	Connecticut River DEEP Basin ID: 4009-00-6-R16

3.7 IDDE reporting metrics

Metrics	
Estimated or actual number of MS4 outfalls	Approximately **976±** total outfalls
Estimated or actual number of interconnections	Currently researching, identifying, and mapping
Outfall mapping complete	**100%** -Catch Basins/Manholes/ Pipes/Outfalls
Interconnection mapping complete	**0%** - Presently mapping-In progress
System-wide mapping complete (detailed MS4 infrastructure)	**20%** - Water Quality elements-In Progress **100%** - Sanitary Sewer System mapping
Outfall assessment and priority ranking for IDDE Plan	**100% - See APPENDIX**
Dry weather screening of all High and Low priority outfalls complete	All 25 outfalls to bacteria impaired waters (Angus Pond and CT River) were screened for bacteria indicators (ammonia) in February of 2018.
Catchment investigations complete	0
Estimated percentage of MS4 catchment area investigated	**0**

3.8 Briefly describe the IDDE training for employees involved in carrying out IDDE tasks including what type of training is provided and how often is it given (minimum once per year).

Training for Engineering staff conducting IDDE inspections was conducted on December 4, 2017 in preparation for dry weather screening of priority outfalls to impaired waters. Staff reviewed relevant portions of the IDDE Guidance Manual developed by the Center for Watershed Protection. Additional training for outfall inspections will be performed prior to the next round of testing and inspections. Additional training was provided on 3/2/2018 for kick-off of detention pond inspection work.

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

4.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
4-1 Implement, upgrade, and enforce land use regulations or other legal authority to meet requirements of MS4 general permit	Completed/Ongoing	All proposed development projects have been reviewed for compliance with regulations noted under "Additional Details" section.	Implement, upgrade, and enforce land use regulations or other legal authority to meet requirements of MS4 general permit.	Community Development and Environmental Department Engineering Division Building Inspection/Zoning Enforcement	July 1, 2019	Continued implementation	Proposed developments are reviewed for conformance with the 2002 Guidelines for Soil Erosion and Sedimentation Control, as amended, the Connecticut Stormwater Quality Manual through the Town's Subdivision/ Resubdivision Regulations, Wetlands Regulations, Building Zone Regulations, and Public Improvement Standards.2002 Guidelines for Soil Erosion and Sedimentation Control, as amended: http://www.ct.gov/deep/cwp/view.asp?A=2720&Q=325660 Connecticut Stormwater Quality Manual: http://www.ct.gov/deep/cwp/view.asp?a=2721&q=325704 Town of Glastonbury Subdivision/ Resubdivision Regulations: http://www.glastonbury-ct.gov/departments/department-directory-a-k/community-development-planning-environmental/regulations-applications-forms Town of Glastonbury Wetlands Regulations: http://www.glastonbury-ct.gov/departments/department-directory-a-k/community-development-planning-environmental/regulations-applications-forms Town of Glastonbury Building Zone Regulations:

							http://www.glastonbury-ct.gov/departments/department-directory-a-k/building-inspection-zoning-enforcement/building-zone-regulations Town of Glastonbury Public Improvement Standards: http://www.glastonbury-ct.gov/departments/department-directory-a-k/engineering/public-improvement-standards

4-2 Develop/Implement plan for interdepartmental coordination in site plan review and approval	Completed/Ongoing	All proposed development plans have been reviewed by various departments for conformance to the above referenced regulations.	Develop/Implement plan for interdepartmental coordination in site plan review and approval.	Community Development and Environmental Planning Engineering Division Building Inspection/Zoning Enforcement Health Department Police Department Fire Department	July 1, 2017	Continued implementation	All applicants planning a development or redevelopment project attend an "Administrative Review" meeting attended by representatives from all Town departments involved in land use planning and regulation including Engineering, Community Development, Health, Police, and Fire. Applicants are given general feedback relative to stormwater management, water quality treatment requirements, and protection of wetlands at that meeting to help guide initial design decisions. Applicants submit plans to Community Development for an informal review by the Conservation/Wetlands Commission. This submission will include all provisions for stormwater management and water quality treatment, a maintenance plan and schedule for all stormwater infrastructure, a detailed soil erosion and sediment control plan, and a Stormwater Management Report. Engineering and Community Development both review these plans and reports in detail and provide feedback to the applicant prior to formal application to the Conservation/Wetlands Commission. Specific issues related to the project stormwater management are incorporated as conditions of approval into the final wetlands permit. Plot plans for single family homes and commercial developments are reviewed by all of the same departments listed above for consistency with conditions of approval from Inland Wetlands and Town Plan and Zoning approvals, as well as for overall compliance with stormwater management requirements related to construction site run-off as well as long term storm water quality features.

4-3 Review site plans for stormwater quality concerns	Completed/Ongoing	All proposed development plans have been reviewed for conformance with stormwater quality best management practices.	Review site plans for stormwater quality concerns.	Engineering Division Environmental Planning	July 1, 2017	Continued implementation	All of the Town of Glastonbury Departments involved in land development activities conduct detailed site plan reviews that incorporate consideration of stormwater controls or management practices to prevent or minimize impacts to water quality on sites with soil disturbance of one acre or more as part of the regular plan approval process. A plan review checklist has been implemented by the Engineering Division to ensure that all required components are incorporated on the plans.
4-4 Conduct site inspections	Completed/Ongoing	The Town of Glastonbury Office of Community Development (OCD) has performed construction site inspections and enforcement actions as required to ensure the adequacy of the installation, maintenance, operation, and repair of all soil erosion and sediment control measures during construction.	Conduct site inspections	Community Development and Environmental Planning	July 1, 2017	Continued implementation	The Town of Glastonbury Office of Community Development (OCD) performs construction site inspections and takes enforcement actions as required to ensure the adequacy of the installation, maintenance, operation, and repair of all soil erosion and sediment control measures during construction. Permanent stormwater quality features and treatment measures are inspected by the Design Engineer of record who is required to provide a written certification to the OCD that such measures were installed in a manner consistent with the approved plans and will function as required. A long-term maintenance plan for all stormwater quality features is required to be included on the final approved plans that are filed on the land records to help ensure proper operation and maintenance procedures are being followed and provide a means of enforcement if such features are not being properly maintained. Site inspections for compliance with long-term maintenance of water quality features post-construction are infrequent due to staffing limitations, and are usually triggered based on complaints or flooding.
4-5 Implement procedure to allow public comment on site development	Completed/Ongoing	Glastonbury has incorporated public input on proposed and ongoing development and land disturbance	Implement procedure to allow public comment on site development	Community Development and Environmental Planning	July 1, 2017	Continued implementation	Glastonbury incorporates public input on proposed and ongoing development and land disturbance activities as the questions or requests for information are received and through public hearings required by the approval

		activities as the questions or requests for information are received and through public hearings required by the approval process for significant land development activities.					process for significant land development activities. Questions are generally received by the Community Development department, who will request assistance from other departments as necessary or perform follow up inspections and inquiries as necessary. The following multi-stepped regulatory approval process also allows for input by interested parties at any of the various public meetings where there is a published agenda made available to the public: Administrative review meeting with key department staff, informal review with wetlands commission, formal review and action by wetlands commission (with advertised public hearing for significant activities) , plans review subcommittee review meeting with select members of the Town Plan and Zoning Commission, formal action at Town Plan and Zoning Commission meeting (with advertised public hearing for significant activities).
4-6 Implement procedure to notify developers about DEEP construction stormwater permit	Completed/Ongoing	Notifications to developers have been completed as part of conditions of approval for local regulatory permits.	Implement procedure to notify developers about DEEP construction stormwater permit	Community Development and Environmental Planning Engineering Division	July 1, 2017	Continued implementation	The Town of Glastonbury currently notifies developers and contractors through a standard condition of approval of their potential obligation to obtain authorization under DEEP's General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities (construction general permit) if their project disturbs more than 1 acre of land and results in a point source discharge to Connecticut surface waters directly or through the Town of Glastonbury's MS4. The Town of Glastonbury will also require a copy of the Storm Water Pollution Control Plan be made available to the town on request. The standard condition of approval to be used is as follows: THE APPLICANT IS HEREBY NOTIFIED OF A POTENTIAL OBLIGATION TO OBTAIN AUTHORIZATION UNDER THE DEEP'S GENERAL PERMIT FOR THE DISCHARGE OF STORMWATER AND DEWATERING WASTEWATERS ASSOCIATED WITH CONSTRUCTION ACTIVITIES ("CONSTRUCTION GENERAL PERMIT") IF THEIR DEVELOPMENT OR REDEVELOPMENT PROJECT DISTURBS ONE OR MORE ACRES OF LAND, EITHER INDIVIDUALLY

							OR COLLECTIVELY, AS PART OF A LARGER COMMON PLAN, AND RESULTS IN A POINT SOURCE DISCHARGE TO THE SURFACE WATERS OF THE STATE EITHER DIRECTLY OR THROUGH THE TOWN'S DRAINAGE SYSTEM. THE APPLICANT SHALL PROVIDE A COPY OF THE STORM WATER POLLUTION CONTROL PLAN REQUIRED BY THIS CONSTRUCTION GENERAL PERMIT TO THE TOWN UPON REQUEST.
Additional BMP: **4-7 Engineering Division plan review stormwater compliance checklist**	Completed/Ongoing	Previously developed an internal departmental checklist for stormwater compliance requirements	Standardize plan review related to stormwater compliance	Engineering Division	2015	Continued implementation	Standardized internal plan review checklist for all proposed developments which includes stormwater management compliance parameters.

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

4.1. Continued enforcement of land use regulations to meet requirements of MS4 general permit.
4.2. Continued interdepartmental coordination for the review and approval of all proposed development plans.
4.3. Continued review of all proposed development plans related to stormwater quality concerns.
4.4. Continued site inspections**.**
4.5. Continued implementation of the current procedure to allow public comment on site development.
4.6. Continued implementation of the current procedure to notify developers about DEEP construction stormwater permit.
4.7. Continued use of the internal plan review stormwater compliance checklist.

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

5.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
5-1 Establish and/or update legal authority and guidelines regarding LID and runoff reduction in site development planning	In progress	None. The Town will review the need for additional legal authority / regulations that may be required to meet the intent of this permit.	Establish and/or update legal authority and guidelines regarding LID and runoff reduction in site development planning	Community Development and Environmental Planning Engineering Division	July 1, 2021	In progress to meet due date of July 1, 2021.	The Town of Glastonbury current policy requires developers to meet or exceed those LID and runoff reduction practices required under this permit and in accordance with the CT Stormwater Quality Manual, and Glastonbury's land use regulations and as required to treat the water quality volume and/or water quality flow. Additional regulations and or legal authority will be considered to meet the requirements of this permit. See Town of Glastonbury Stormwater Management Plan Section 5.1 for additional information. http://www.glastonbury-ct.gov/departments/department-directory-a-k-/engineering/stormwater-management-plan
5-2 Enforce LID/runoff reduction requirements for development and redevelopment projects	Ongoing/In progress	LID and runoff reduction requirements have been implemented on all approved development projects in Town over the past year.	Enforce LID/runoff reduction requirements for development and redevelopment projects	Community Development and Environmental Planning Engineering Division	July 1, 2019	In progress to meet due date of July 1, 2019.	Current Town policy requires consideration of LID and runoff reduction measures as well as treatment of the Water Quality Volume for all development and redevelopment projects.

5-3 Identify retention and detention ponds in priority areas	In progress	All Town owned detention ponds were previously mapped and can be viewed in the Town's GIS system. Additional updates to the stormwater dataset are being developed to allow for a streamlined inspection process.	Identify retention and detention ponds in priority areas	Engineering Division	July 1, 2019	In progress to meet due date of July 1, 2019.	121 detention ponds have been mapped and are accessible via the GIS.
5-4 Implement long-term maintenance plan for stormwater basins and treatment structures	In progress	A form to standardize data collection for inspection pond inspections was developed in 2018. A few ponds were inspected however forms could not be completed due to presence of heavy vegetation. Will work with Highway Dept. to prioritize vegetation removal from ponds as an initial step in this process.	Implement long-term maintenance plan for stormwater basins and treatment structures	Physical Services/Highway Division Parks Department Engineering Division	July 1, 2019	In progress to meet due date of July 1, 2019.	The Town of Glastonbury will develop a maintenance plan for retention / detention ponds and stormwater treatment structures that it owns or over which it holds an easement or other authority and that are located in the town's priority areas to ensure their long-term effectiveness. This plan will require an annual inspection of those retention / detention ponds and stormwater treatment structures and removal of accumulated sediment and pollutants in excess of 50% design capacity.
5-5 DCIA mapping	In progress	The Town of Glastonbury has begun the process of defining catchment areas for each of the Town's 967 outfalls, beginning in the priority/ urbanized areas. We have our own impervious cover data from 2014 aerial that we will then use to establish an estimate of DCIA for each catchment area.	DCIA mapping	Engineering Division	July 1, 2020	In progress to meet due date of July 1, 2020.	The Town of Glastonbury will follow guidance provided by DEEP and UConn CLEAR to calculate the Directly Connected Impervious Area (DCIA) that contributes stormwater runoff to each of its MS4 outfalls. Progress on this task will be documented in each Annual Report until completion. Currently mapping contributing watersheds to each MS4 outfall located within the priority areas and DCIA areas >11%.

5-6 Address post-construction issues in areas with pollutants of concern	In progress	No progress to date. This will be looked at once the retrofit program gets underway.	Address post-construction issues in areas with pollutants of concern.	Engineering Division	Not specified	Continuously ongoing throughout the duration of the permit.	For areas contributing to the Connecticut River and Angus Park Pond where bacteria is a Stormwater Pollutant of Concern and erosion or sedimentation problems are found during the annual inspections conducted under the long-term maintenance plan described in BMP 5.2, The Town of Glastonbury will prioritize those areas for the DCIA retrofit program under minimum control measure 6 – Pollution Prevention/Good Housekeeping.

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

5-1. Continued review of legal authority and/ or other updates to the current regulations and policies to meet or exceed those LID and runoff reduction practices required under this permit and in accordance with the CT Stormwater Quality Manual, Glastonbury's land use regulations, guidance or construction project requirements.
5-2. Continued enforcement of LID/runoff reduction/water quality treatment on all approved development and redevelopment project.
5-3. Begin field inspections of all municipality owned retention and detention ponds within the priority areas and throughout the entire town.
5-4. Begin Implementation of a long term maintenance plan for all municipally owned stormwater basins and treatment structures.
5-5. Continued progress on DCIA mapping.
5-6. Continued inspections to address construction issues in areas with pollutants of concern.

5.3 Post-Construction Stormwater Management reporting metrics

Metrics	
Baseline (2012) Directly Connected Impervious Area (DCIA)	? Acres (unknown at this time)
DCIA disconnected (redevelopment plus retrofits)	0.02 acres this year / 17 acres total (as approved, not all constructed to date)
Retrofits completed	101 Acres to be disconnected under Dug Road / Tryon Street Drainage Project under WQC-201206157, to be finished construction in December 2019
DCIA disconnected	% this year / % total since 2012 (unknown at this time)
Estimated cost of retrofits	(unknown at this time)
Detention or retention ponds identified	121 ponds

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

The Town of Glastonbury will be following the guidance provided by DEEP and UConn CLEAR to calculate the baseline Directly Connected Impervious Area (DCIA) of the watershed that contributes stormwater runoff to each of its MS4 outfalls.

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

6.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
6-1 Develop/implement formal employee training program	Completed/Ongoing	Departments responsible for property maintenance activities conduct training for stormwater pollution prevention on an annual basis.	Develop/implement formal employee training program	Physical Services/Highway Division Parks Department	July 1, 2017	Continuously ongoing throughout the duration of the permit.	Training materials consist of generalized stormwater pollution prevention video, review of facility specific Stormwater Pollution Prevention Plans, and other department specific training related to specific maintenance activities (salt application, fertilizer application, etc).
6-2 Implement MS4 property and operations maintenance	In progress	Parks Dept. has taken steps to reduce nitrates in fertilizer applications at Town Facilities.	Implement MS4 property and operations maintenance	Physical Services/Highway Division Parks Dept. Sanitation Dept. Facilities Dept.	July 1, 2018	Ongoing/In Progress	The Town of Glastonbury-owned or -operated properties, parks, and other facilities that are owned, operated, or otherwise the legal responsibility of the Town of Glastonbury will be maintained so as to minimize the discharge of pollutants to its MS4.
							Parks Dept. has reduced nitrates by soil testing, avoiding N applications in very late fall – (November); using SCU urea slow release product, providing training and using licensed personnel as applicators, utilizing IPM as a guide to management and making improvements to irrigation controllers so we don't leach out soluble nitrogen by over watering.

6-3 Implement coordination with interconnected MS4s	In progress	The Town of Glastonbury will coordinate with operators of interconnected MS4's.	Implement coordination with interconnected MS4s	Engineering Division	Not specified	In progress	The Town of Glastonbury will coordinate with operators of interconnected MS4s

6-4 Develop/implement program to control other sources of pollutants to the MS4	On going/In progress	Nitrogen loading computations required for applications in the groundwater protection zones. Other measures will be considered.	Develop/implement program to control other sources of pollutants to the MS4	Engineering Division	Not specified	On going/In progress	The Town of Glastonbury has continuously required the submission of Nitrogen loading computations to be submitted for all proposed developments in the groundwater protection overlay zones.
6-5 Evaluate additional measures for discharges to impaired waters*	In progress	Signage is in place at the dog park and other public parks and trails regarding the need to pick up pet waste. Bags are also provided for use by pet owners at these facilities. Other measures will be considered.	Evaluate additional measures for discharges to impaired waters*	Engineering Division	Not specified	In progress	On Glastonbury-owned or -operated lands with a high potential to contribute bacteria (such as dog parks, parks with open water, sites with failing septic systems) to these waters, the Town of Glastonbury will develop, fund, implement, and prioritize a retrofit or source management program to correct the problem(s) within a specific timeframe.
6-6 Track projects that disconnect DCIA	In progress/Ongoing	A spreadsheet has been developed to track the total acreage of Directly Connected Impervious Area (DCIA), and a review of prior projects from 2013 to present was completed in 2018.	Track projects that disconnect DCIA	Engineering Division	July 1, 2017	In progress	Based on current tracking statistics approximately 17 acres of developed area will be disconnected as part of an approved redevelopment project. An additional 101 acre watershed in South Glastonbury permitted under WQC-201206157 will also be disconnected by the Town once construction is completed in 2019.

6-7 Implement infrastructure repair/rehab program	In progress	The Town of Glastonbury will continue a program to identify MS4 structures to repair, rehabilitate, or upgrade to reduce or eliminate the discharge of pollutants into water bodies.	Implement infrastructure repair/rehab program	Engineering Division Physical Services/Highway Division	July 1, 2021	In progress to meet due date of July 1, 2021.	This program will be responsive to new information on outfalls discharging pollutants, impaired waters, inspections, or observations made during outfall mapping under the IDDE section of this plan.
6-8 Develop/implement plan to identify/prioritize retrofit projects	In progress	No progress to date. The Town of Glastonbury will be developing a Retrofit Project Plan to identify and prioritize potential DCIA disconnection projects.	Develop/implement plan to identify/prioritize retrofit projects	Engineering Division Physical Services/Highway Division	July 1, 2020	In progress to meet due date of July 1, 2020.	Prioritization will be based on several factors, including whether the project lies within one of the MS4 priority areas (urbanized area, DCIA > 11%, discharge to impaired waters). The Town of Glastonbury will include in its annual report for the third year of the permit (2020-2021) its identification and prioritization process, a rationale for the selection of projects to be implemented, and the total acres of DCIA to be disconnected upon implementation.
6-9 Implement retrofit projects to disconnect 2% of DCIA	In progress	No progress to date.	Implement retrofit projects to disconnect 2% of DCIA	Engineering Division Physical Services/Highway Division	July 1, 2022	In progress to meet due date of July 1, 2022.	The Town of Glastonbury will be developing a Retrofit Project Plan to disconnect 2% of DCIA.
6-10 Develop/implement street sweeping program	Ongoing	646 curb miles were swept n in 2018 and approximately 1,046 CY of material was collected and disposed of.	Develop/implement street sweeping program	Physical Services/Highway Division	July 1, 2017		

6-11 Develop/implement catch basin cleaning program	Ongoing	All catch basins were inspected annually for blocked grates and structural problems. Approximately 414 were cleaned as part of the annual paving program and based on locations where routine sediment building up has been noted.	Develop/implement catch basin cleaning program	Physical Services/Highway Division	July 1, 2020	In progress to meet due date of July 1, 2020.	Catch basins are routinely inspected when debris is removed from top grates before all significant rain events. Thorough full depth inspections/vacuum cleaning conducted on all basins located in annual paving program areas, all repairs/rebuilds noted and completed before paving begins. Basins identified as needing regular maintenance/cleaning are placed on a routine annual or semiannual cleaning. The Town of Glastonbury is in the process of refining its existing annual catch basin cleaning program to implement better ways of tracking the number of catch basins cleaned and quantities of material removed through the use of GIS software and field tablets.
6-12 Develop/implement snow management practices	Ongoing	Approximately 19,580 lane miles were treated with the use of computer controlled spreaders with ground speed control to meter amount of material applied and automatically stops application when truck stops moving.	Develop/implement snow management practices	Physical Services/Highway Division	July 1, 2018	In progress to meet due date of July 1, 2018.	Snow and ice management training implemented for every storm event, management directs employee's when to apply salt for pre-treating and during a winter event. Spreaders are set to apply 350-500 lbs./lane mile. Flat routes set at 350 lbs /lane mile while higher hilly terrain set at 500lbs/lane mile.

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

6-1. Continued refinement and updates to the existing annual formal employee training program for each department for compliance with this permit.
6-2. Continued implementation of MS4 property and operations maintenance.
6-3. Begin coordination with interconnected MS4s.
6-4. Begin development and implementation of a program to control other sources of pollutants to the MS4.
6-5. Continue evaluation of additional measures for discharges to impaired waters*.
6-6. Continued tracking of projects that disconnect DCIA.
6-7. Begin review of proposed projects for implementation of an infrastructure repair/rehab program.
6-8. Begin development of a plan to identify/prioritize retrofit projects.
6-9. Begin review of all proposed developments for retrofit projects to disconnect 2% of DCIA.
6-10. Work refinement of the existing street sweeping program.
6-11. Continued review and refining of the existing catch basin cleaning program.
6-12. Continued review and refining of the existing snow management practices.

6.3 Pollution Prevention/ Good Housekeeping reporting metrics

Metrics	
Employee training provided for key staff	Yes – 6/6/2018 Highway Dept. staff SWPPP training, 2/2018 Parks Dept. staff SWPPP training.
Street sweeping	
Curb miles swept	646 miles
Volume (or mass) of material collected	1,046 C.Y.
Catch basin cleaning	
Total catch basins in priority areas	6,373 ±
Total catch basins in MS4	6,772 ±
Catch basins inspected	6,772±
Catch basins cleaned	414
Volume (or mass) of material removed from all catch basins	601.5 C.Y.
Volume removed from catch basins to impaired waters (if known)	Unknown
Snow management	
Type(s) of deicing material used	Treated Salt Blend
Total amount of each deicing material applied	3,828 Tons Highway Dept. 3 tons Parks Dept.
Type(s) of deicing equipment used	Computerized Spreaders with

	ground speed control (Highway Dept. Only)
Lane-miles treated	19,580 miles
Snow disposal location (when required)	Riverfront Park-200 Welles Street
Staff training provided on application methods & equipment	Yes-Implemented for every storm event (Parks and Highway Dept.)
Municipal turf management program actions (for permittee properties in basins with N/P impairments)	
Reduction in application of fertilizers (since start of permit)	N/A
Reduction in turf area (since start of permit)	N/A
Lands with high potential to contribute bacteria (dog parks, parks with open water, & sites with failing septic systems)	Glastonbury Riverfront Dog Park-Welles Street
Cost of mitigation actions/retrofits	N/A

6.4 Catch basin cleaning program

Provide any updated or modifications to your catch basin cleaning program.
Catch basins are routinely inspected when debris is removed from top grates before all significant rain events. Thorough full depth inspections/vacuum cleaning conducted on all basins located in annual paving program areas, all repairs/rebuilds noted and completed before paving begins. Basins identified as needing regular maintenance/cleaning are placed on a routine annual or semi-annual cleaning. The Town of Glastonbury is in the process of refining its existing annual catch basin cleaning program to implement better ways of tracking the number of catch basins cleaned and quantities of material removed through the use of GIS software and field tablets.

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.
This section will be completed for the 2019 Annual Report.

Describe plans for continuing the Retrofit program and how to achieve a goal of 1% DCIA disconnection in future years
This section will be completed for the 2019 Annual Report.

Describe plans for continuing the Retrofit program beyond this permit term with the goal to disconnect 1% DCIA annually over the next 5 years
This section will be completed for the 2019 Annual Report.

Part II: Impaired waters investigation and monitoring

1. Impaired waters investigation and monitoring program

1.1 Indicate which stormwater pollutant(s) of concern occur(s) in your municipality or institution. 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 the results and any notable findings, and 3) any changes to the Stormwater Management Plan based on monitoring results.
The only impacted waterways in Glastonbury are Angus Pond and the CT River, which are both impaired due to bacteria. 25 outfalls were identified that drain directly to these water bodies which were all screened for bacteria using an ammonia test kit in February and March of 2018. Five (5) of these outfalls exceeded 0.5 mg/l of Ammonia and therefore require follow up testing.

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

2.1 Screening data

Complete the table below for any outfalls screened during the reporting period. Each Annual Report will add on to the previous year's screening data showing a cumulative list of outfall screening data.

Outfall ID	**Sample date**	**Parameter** (Nitrogen, Phosphorus, Bacteria, or Other pollutant of concern)	**Results**	**Name of Laboratory (if used)**	**Follow-up required?**
SEE	*ATTACHED*	*SUMMARY TABLE*	*IN APPENDIX B*		

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

Provide the following information for outfalls exceeding the pollutant threshold.

Outfall	**Status of drainage area investigation**	**Control measure implementation to address impairment**
	NONE COMPLETED TO DATE.	

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

Once outfall screening 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	Sample Date	Parameter(s)	Results	Name of Laboratory (if used)

Part III: Additional IDDE Program Data [This section required beginning with 2018 Annual Report]

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

Provide a list of all catchments with ranking results (DEEP basins may be used instead of manual catchment delineations).

1. Catchment ID (DEEP Basin ID)	2. Category	3. Rank
SEE ATTACHED TABLE	*FROM IDDE PLAN IN*	*APPENDIX C*

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

Provide sample data for outfalls where flow is observed. Only include Pollutant of concern data for outfalls that discharge into stormwater impaired waterbodies.

Outfall / Interconnection ID	Screening / sample date	Ammonia	Chlorine	Conductivity	Salinity	E. coli or enterococcus	Surfactants	Water Temp	Pollutant of concern	If required, follow-up actions taken
SEE ATTACHED	*TABLE IN*	*APPENDIX*	*B*							

2.2 Wet weather sample and inspection data

Provide sample data for outfalls and key junction manholes of any catchment area with at least one System Vulnerability Factor.

Outfall / Interconnection ID	Sample date	Ammonia	Chlorine	Conductivity	Salinity	E. coli or Enterococcus	Surfactants	Water Temp	Pollutant of concern
NONE TO DATE									

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. An example is provided below.

Outfall ID	Receiving Water	System Vulnerability Factors
	SEE ATTACHED TABLE IN	*APPENDIX C*

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 failures 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 that 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 that poor owner maintenance).

3.2 Key junction manhole dry weather screening and sampling data

Key Junction Manhole ID	Screening / Sample date	Visual/ olfactory evidence of illicit discharge	Ammonia	Chlorine	Surfactants
NONE TO DATE					

3.3 Wet weather investigation outfall sampling data

Outfall ID	Sample date	Ammonia	Chlorine	Surfactants
NONE TO DATE				

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
NONE TO DATE							

APPENDIX A

2018 Salmon River Watershed Partnership
Outreach & Monitoring Activities Related to
Stormwater & Water Quality Annual Report

2018- Salmon River Watershed Partnership
Outreach & Monitoring Activities Related to Stormwater & Water Quality

(Bolton, Colchester, Columbia, East Haddam, East Hampton,
Glastonbury, Haddam, Hebron, Lebanon & Marlborough)

Outreach presented in this format:

> **Date/*Event*/**Description/Audience and estimated number of individuals reached and/or participated

March 2018: *Annual Newsletter*/Annual newsletter covers a variety of SRWP activities and news items related to protecting watershed resources and preserving water quality/Sent for general distribution to all 10 watershed towns and distributed to public at outreach events and posted on website.

March-August 2018 (and on-going)**: *Planting of Biofilter Project to Address Bacteria Impaired Waters and Public Outreach: Gay City State Park, Hebron/***Partnership Project at Gay City State Park with UCONN Master Gardeners and DEEP Parks to plant a native vegetation buffer areas as a biofilter and aid for deterring Canada geese and filtering run-off. A Society of Women's Environmental Professionals grant was obtained for plants and permanent signage along with funds from the CT Master Gardeners Program and SRWP. 296 native shrubs and perennials were planted. Permanent signage will replace temporary in 2019./Project involved 5-Master Gardeners, park staff and SRWP staff and board members. Temporary signage explaining planting available to 100's through summer months.

April 2018: *Public Event- East Haddam Day-sponsored by EH Business Association/*Booth set-up with display on SRWP activities and sign-up for water quality monitoring with a special focus on impacts of water quality to macroinvertebrates as indicators/General public-100s

April 2018: *Earth Day Guest Speaker at East Haddam Lions Club/*Guest speaker on topic of how to be Good Watershed Stewards/50 attendees

May 2018: *Colchester Land Trust-Salmon River Run/* Booth set-up with display on SRWP activities and sign-up for water quality monitoring with a special focus on impacts of water quality to macroinvertebrates as indicators/Attendees-100.

May-September 2018: *Launching and field checking HOBO stream temperature loggers/*Field Work and Intern/volunteer training: Partnering with DEEP Water Quality Monitoring and Fisheries Depts. Documenting summer stream temperatures using HOBO

loggers. Loggers take hourly readings. Loggers launched in 10 locations in the watershed and summer data was retrieved in Sept and will be added to watershed temperature mapping to compare with land-use/2 college student interns and 2 community volunteers and town land-use staff and boards.

June 2018: Haddam Library-Agricultural Day/ Booth Set-up with Enviroscape-a 3D stormwater teaching module. Also included a display on SRWP activities and sign-up for water quality monitoring with a special focus on impacts of water quality to macroinvertebrates/General public-50+

June 2018: ***Education Program-East Haddam Middle School-Stormwater Run-off Pollution, Treatment and Prevention/*** Partnership Program with Eightmile River Watershed/Featuring Enviroscape Model, presentation covered how water gets polluted and included a challenge to design and build effective stormwater treatment systems to clean up "polluted" water/70 6th graders.

June 2018: ***Amphibian Field Canvassing at Buckley Hill Preserve in Colchester/***Partnering with Mystic Aquarium and The Nature Conservancy led two field canvass excursions to document amphibian species as part of a regional initiative to document impacts to amphibian populations due to environmental stressors/25 community volunteers.

June-August 2018: ***Field Monitoring and Volunteer Training***/Established two new routes for baseline water quality monitoring at 11 stream segments plus continued to monitor the 8 sites in Lake Pocotopaug Watershed (an impaired waterbody) in East Hampton, to establish baseline data and to track future changes. 11 local citizens were trained on hand-held monitoring equipment and took weekly samples for temperature, pH, dissolved oxygen, conductivity, total dissolved solids and salinity. A report will be generated and forwarded to all 10 watershed towns and shared with DEEP/11 local citizens, 2 summer interns and 10 watershed towns.

July-August 2018: ***Field Stream Assessment and Intern Training/*** 2 Stream Macroinvertebrate Assessments conducted in summer of 2018 as seasonal comparison studies using CT DEEP protocol/3 college interns from watershed towns.

August 2018: ***Salmon River Watershed Partnership Brochure/***Published new brochure about the Salmon River Watershed Partnership which includes opportunities for residents to volunteer on water quality initiatives with the Partnership and steps local landowners can take to protect water quality. Brochure was an outcome of assisting the Town of Hebron on Sustainability Certification and brochure is used watershed-wide as an outreach tool/100s, general public-watershed-wide.

August 2018***: Hebron Day Celebration-Public Event***: Booth Set-up with display on SRWP activities and sign-up for water quality monitoring-special focus on impacts of water quality to macroinvertebrates and featuring new brochure which includes steps landowners can take to protect water quality/General public-100s+

September 2018*: Haddam Neck Fair-Public Event*: Booth Set-up with display on SRWP activities and sign-up for water quality monitoring-special focus on impacts of water quality to macroinvertebrates and featuring new brochure which includes steps landowners can take to protect water quality/General public-100s+

September 2018: *5 Miles of River Bank Clean-up*/As part of Source to Sea event, a clean-up on segment of the Salmon River, Jeremy River, Blackledge River, Meadow Brook and Pine Brook (Colchester) was conducted as a community event partnering with CME, UCONN Soil & Water Club, GZA and Town of Colchester Volunteers cleaned-up approximately 5 miles of river banks/Over 35 community volunteers.

September-November 2018: *Field Stream Assessment and Volunteer Training/*11 Stream Macroinvertebrate Assessments Conducted in 2018 with volunteers and students using CT DEEP protocol. Volunteers & students were trained to collect and identify benthic macroinvertebrates as part of CT DEEP protocol for conducting stream assessments to establish whether segments are meeting state water quality goals for aquatic life support. Program is also used as an education component, providing hands on opportunities for students to contribute real data/Local citizen volunteers, RHAM High School Environmental Studies Class and East Hampton HS Environmental Club-60 individuals in total participated.

November 2018: *East Haddam Middle School-Education Program with CT River Museum-Stream Aquatic Life as Indicators of Water Quality*/Partnership program with Eightmile River Watershed-Presentation, field netting, identification and discussion on impacts of water quality on stream-life/75 East Haddam 8th Graders and teachers and parents and family.

Year round: *Field Monitoring: Conductivity Logger Launching and hourly sampling for conductivity and temperature*/Partnership project with GZA, Inc. Green Team (funding also received by GZA for 3 of the loggers in 2015) and SRWP. Data shared with DEEP and USGS. Sites selected (including one stream now designated by DEEP as impaired due to elevated chloride levels) are based on previous elevated conductivity levels which may indicate chloride presence/5 GZA Green Team members, DEEP Fisheries Staff, with intent to share information with all interested parties.

Year round: ***SRWP Outreach and Activities/***SRWP is funded primarily through 7 of the watershed towns. SRWP-Watershed Coordinator represents the Partnership on statewide issues related to water quality and non-point source pollution. Information is shared with 10 towns for their dispersal and use. Coordinator also comments as requested on town activities, regulations or planning projects specific to water quality and stormwater/10 watershed towns.

Year round: *SRWP Outreach: Facebook/* Salmon River Watershed Partnership Information pertaining to watershed monitoring efforts, opportunities to participate and actions local citizens can do to help protect streams/ general public-100s

Year round: *SRWP Outreach: Website – www.salmonriverct.org*/Website posts reports on water quality and monitoring and also offers information and links on issues related to Best

Management Practices for Homeowners, Animal Owners and Business Owners/general public-100s

APPENDIX B

OUTFALL SCREENING RESULTS SUMMARY TABLE

General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer System
Town of Glastonbury, Connecticut
Outfall Testing to Impaired Waterbodies 2018

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	**Outfall ID No.**	**Test Date**	**Test Results**	**Test Date**	**Test Results**	**Street**	**Diameter**	**Material**	**Outlet Style**	**Outlet Protection**	**Waterbody Name**	**Waterbody ID**	**Impairment**
2	NA25-200	2/16/2018	0 PPM			Naubuc Avenue	72"	RCP	Headwall	Minimal Rip Rap	Keeney Cove	Connecticut River	Bacteria
3	NA25-2913	2/16/2018	0 PPM			Naubuc Avenue	21"	VCP	Headwall	None	Keeney Cove	Connecticut River	Bacteria
4	NA25-2919	2/28/2018	0.25 PPM			Naubuc Avenue	15"	RCP	Headwall	None	Keeney Cove	Connecticut River	Bacteria
5	NA25-3213	2/16/2018	0 PPM			Naubuc Avenue	15"	RCP	Headwall	None	Keeney Cove	Connecticut River	Bacteria
6	NA25-3425	2/16/2018	0 PPM			Naubuc Avenue	15"	RCP	Flared End	Rip Rap	Keeney Cove	Connecticut River	Bacteria
7	NA25-4437	2/22/2018	0.25 PPM			Naubuc Avenue	15"	RCP	Headwall	Submerged	Keeney Cove	Connecticut River	Bacteria
8	NA25-4481	2/22/2018	0.25 PPM			Naubuc Avenue	30"	RCP	Headwall	Submerged	Keeney Cove	Connecticut River	Bacteria
9	RFBH-044	2/22/2018	0.25 PPM			Welles Street	12"	CHDPE	Flared End	Rip Rap	Connecticut River	Connecticut River	Bacteria
10	WE20-3484	2/9/2018	0 PPM			Welles Street	36"	RCP	Flared End	Rip Rap	Connecticut River	Connecticut River	Bacteria
11	RFBH-010	2/22/2018	0.25 PPM			Welles Street	15"	CHDPE	Flared End	Rip Rap	Connecticut River	Connecticut River	Bacteria
12	RPPK-018	2/22/2018	0.25 PPM			Welles Street	24"	HDPE	In Culvert	None	Connecticut River	Connecticut River	Bacteria
13	MA15-8193	2/14/2018	0.25 PPM			Main Street	24"	RCP	End of Pipe	?	Connecticut River	Connecticut River	Bacteria
14	MA15-8819	2/14/2018	0 PPM			Main Street	24"	RCP	Flared End	None	Connecticut River	Connecticut River	Bacteria
15	WE40-791	2/14/2018	System Dry			Westview Lane	18"	RCP	Open End	None	Meadow Drain Brook	Connecticut River	Bacteria
16	MA20-1382	2/14/2018	0.50 PPM			Main Street	18"	RCP	Flared End	Minimal Rip Rap	Holland Brook	Connecticut River	Bacteria
17	ST35-1046	2/14/2018	0.15 PPM			Stockade Road	15"	RCP	Open End	None	Roaring Brook	Connecticut River	Bacteria
18	Tryon Street Outfall #1	1/31/2018	0 PPM			Tyron Street	Twin 36"	CHDPE	Flared End	Rip Rap	Wetland Area	Connecticut River	Bacteria
19	Tryon Street Outfall #2	2/14/2018	0.05 PPM			Tyron Street	36"	RCP	Flared End ?	Rip Rap ?	Connecticut River	Connecticut River	Bacteria
20	TR30-4044	1/31/2018	6 PPM	2/28/2018	0.25 PPM	Tryon Street	54"	RCP	Flared End	Rip Rap	Connecticut River	Connecticut River	Bacteria
21	TR30-5308	1/31/2018	6 PPM			Tryon Street	15"	RCP	End of Pipe	?	Connecticut River	Connecticut River	Bacteria
22	TR30-10480	1/31/2018	8 PPM	2/28/2018	0.25 PPM	Tryon Street	15"	RCP	?	?	Connecticut River	Connecticut River	Bacteria
23	TR30-11044	1/31/2018	1 PPM	2/28/2018	0.25 PPM	Tryon Street	18"	CMP	End of Pipe	None	Connecticut River	Connecticut River	Bacteria
24	RT83-19028	2/16/2018	0.05 PPM			Manchester Road	18"	CMP	Flared End	Rip Rap	Angus Pond	Angus Pond	Bacteria
25	BU20-2077	2/16/2018	System Dry			Butler Drive	18"	RCP	Flared End	Rip Rap	Angus Pond	Angus Pond	Bacteria
26	SH50-1512	2/16/2018	0 PPM			Shoddy Mill Road	36"	CMP	Flared End	None	Roaring Brook	Angus Pond	Bacteria
27													
28	**Data References:**												
29	Outfall ID"s and description were obtained from the Town of Glastonbury GIS Data located at https://gis.glastonbury-ct.gov/Html5/Index.html?viewer=public.												
30	Watershed Data was obtained from http://cteco.uconn.edu/viewer/index.html?viewer=simple.												
31													
32													

General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer System
Town of Glastonbury, Connecticut
Outfall Testing to Impaired Waterbodies 2018

	A	N	O	P	Q	R	S	T	U	V
1	**Outfall ID No.**	**Classification**	**Watershed Name**	**Watershed No.**	**Regional Drainage Basin**	**Regional Drainage Basin No.**	**Subregional Drainage Basin Name**	**Subregional Drainage Basin No.**	**Local Basin No.**	**Basin No.**
2	NA25-200	SB	Connecticut	4	Connecticut Main Stem	40	Salmon Brook	4006	4006-13	4006-13-1
3	NA25-2913	SB	Connecticut	4	Connecticut Main Stem	40	Salmon Brook	4006	4006-13	4006-13-1
4	NA25-2919	SB	Connecticut	4	Connecticut Main Stem	40	Salmon Brook	4006	4006-13	4006-13-1
5	NA25-3213	SB	Connecticut	4	Connecticut Main Stem	40	Salmon Brook	4006	4006-13	4006-13-1
6	NA25-3425	SB	Connecticut	4	Connecticut Main Stem	40	Salmon Brook	4006	4006-13	4006-13-1
7	NA25-4437	SB	Connecticut	4	Connecticut Main Stem	40	Salmon Brook	4006	4006-00	4006-00-2-R6
8	NA25-4481	SB	Connecticut	4	Connecticut Main Stem	40	Salmon Brook	4006	4006-00	4006-00-2-R6
9	RFBH-044	SB	Connecticut	4	Connecticut Main Stem	40				
10	WE20-3484	SB	Connecticut	4	Connecticut Main Stem	40	Connecticut River	4000	4000-00	4006-00-2-R12
11	RFBH-010	SB	Connecticut	4	Connecticut Main Stem	40				
12	RPPK-018	SB	Connecticut	4	Connecticut Main Stem	40				
13	MA15-8193	SB	Connecticut	4	Connecticut Main Stem	40	Hubbard Brook	4007	4007-00	4007-00-1
14	MA15-8819	SB	Connecticut	4	Connecticut Main Stem	40	Hubbard Brook	4007	4007-00	4007-00-1
15	WE40-791	SB	Connecticut	4	Connecticut Main Stem	40	Hubbard Brook	4007	4007-00	4007-00-3-R1
16	MA20-1382	SB	Connecticut	4	Connecticut Main Stem	40	Hubbard Brook	4007	4007-04	4007-00-1
17	ST35-1046	SB	Connecticut	4	Connecticut Main Stem	40	Roaring Brook	4009	4009-00	4009-00-3-R5
18	Tryon Street Outfall #1	SB	Connecticut	4	Connecticut Main Stem	40	Connecticut River	4000	4000-00	4000-00-6+R16
19	Tryon Street Outfall #2	SB	Connecticut	4	Connecticut Main Stem	40	Connecticut River	4000	4000-00	4000-00-6+R16
20	TR30-4044	SB	Connecticut	4	Connecticut Main Stem	40	Connecticut River	4000	4000-00	4000-00-6+R16
21	TR30-5308	SB	Connecticut	4	Connecticut Main Stem	40				
22	TR30-10480	SB	Connecticut	4	Connecticut Main Stem	40	Connecticut River	4000	4000-00	4000-00-6+R18
23	TR30-11044	SB	Connecticut	4	Connecticut Main Stem	40	Connecticut River	4000	4000-00	4000-00-6+R18
24	RT83-19028	A	Connecticut	4	Connecticut Main Stem	40	Roaring Brook	4009	4009-00	4009-00-2-L4
25	BU20-2077	A	Connecticut	4	Connecticut Main Stem	40	Roaring Brook	4009	4009-00	4009-00-2-L4
26	SH50-1512	A	Connecticut	4	Connecticut Main Stem	40	Roaring Brook	4009	4009-00	4009-00-2-L4
27										
28	**Data References:**									
29	Outfall ID"s and descripti									
30	Watershed Data was obt									
31										
32										

APPENDIX C

ADDITIONAL INFORMATION FROM
IDDE PROGRAM PLAN
CATCHMENT EVALUATION
AND SVF FACTOR ANALYSIS

Table 6-1. Catchment Assessment and Priority Ranking Matrix

Catchment ID (CTDEEP Local Basin ID#)	Receiving Water	Previous Screening Results Indicate Likely Sewer Input? [1]	Discharging to Area of Concern to Public Health? [2]	Frequency of Past Discharge Complaints	Receiving Water Quality [3]	Density of Generating Sites [4]	Age of Development/ Infrastructure [5]	Historic Combined Sewers or Septic? [6]	Aging Septic? [7]	Culverted Streams? [8]	Additional Characteristics	Score	Priority Ranking
Information Source		Catchment inspections and sample results	GIS Maps	Municipal Staff	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	Other		
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	TBD		
4000-00-6+R11	Connecticut River	0	0	0	3	0	0	0	0	0	Urbanized Area IC = >11 to 84% TMDL	3	Low Priority
4006-00-2-R7	Salmon Brook	0	0	0	3	0	0	0	0	0	Urbanized Area	3	Low Priority
4006-13-1	Salmon Brook	0	0	0	0	2	1	0	0	0	Urbanized Area IC = >11 to 84%	3	Low Priority
4006-09-2-R3	Salmon Brook	3	0	0	0	2	2	1	0	3	Urbanized Area IC = >11 to 84%	11	Problem
4006-12-1	Salmon Brook	0	0	0	0	1	2	0	0	0	Urbanized Area IC = >11 to 84%	3	Low Priority
4006-11-1-L3	Salmon Brook	0	0	0	0	1	2	0	0	0	Urbanized Area IC = >11 to 84%	3	Low Priority
4006-11-1-L1	Salmon Brook	0	0	0	0	1	2	0	0	0	Urbanized Area IC = >11 to 84%	3	Low Priority
4006-00-2-R6	Salmon Brook	3	0	0	0	2	2	3	0	3	Urbanized Area IC = >11 to 84%	13	Problem
4006-06-1	Salmon Brook	0	0	0	0	1	2	0	0	0	Urbanized Area IC = >11 to 84%	3	Low Priority
4006-00-2-L1	Salmon Brook	0	0	0	0	1	2	0	0	0	Urbanized Area IC = >11 to 84%	3	Low Priority
4000-00-6+R12	Connecticut River	3	0	0	3	3	2	3	0	0	Urbanized Area TMDL	11	Problem
4007-00-1	Hubbard Brook	0	0	0	0	3	2	3	0	0	Urbanized Area IC = >11 to 84%	8	Medium Priority
4006-00-2-R5	Salmon Brook	0	0	0	0	2	2	0	0	0	Urbanized Area IC = >11 to 84%	4	Low Priority
4006-00-2-R4	Salmon Brook	0	0	0	0	1	2	0	3	0	Urbanized Area IC = >11 to 84%	6	Medium Priority
4006-00-2-R3	Salmon Brook	0	0	0	0	1	2	0	0	0	Urbanized Area IC = >11 to 84%	3	Low Priority
4006-00-2-R2	Salmon Brook	0	0	0	0	1	2	0	0	0	Urbanized Area IC = >11 to 84%	3	Low Priority
4006-02-1-L1	Salmon Brook	0	0	0	0	1	2	0	3	0	Urbanized Area IC = >11 to 84%	6	Medium Priority

Catchment ID (CTDEEP Local Basin ID#)	Receiving Water	Previous Screening Results Indicate Likely Sewer Input? [1]	Discharging to Area of Concern to Public Health? [2]	Frequency of Past Discharge Complaints	Receiving Water Quality [3]	Density of Generating Sites [4]	Age of Development/ Infrastructure [5]	Historic Combined Sewers or Septic? [6]	Aging Septic? [7]	Culverted Streams? [8]	Additional Characteristics	Score	Priority Ranking
Information Source		Catchment inspections and sample results	GIS Maps	Municipal Staff	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	Other		
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	TBD		
4006-01-1-L1	Salmon Brook	0	0	0	0	1	2	0	3	0	Urbanized Area IC = >11 to 84%	6	Medium Priority
4009-04-1	Roaring Brook	0	0	0	0	0	2	0	3	0	Urbanized Area IC = >11 to 84%	5	Low Priority
4007-00-1-L3	Hubbard Brook	0	0	0	0	2	2	0	0	0	Urbanized Area IC = >11 to 84%	4	Low Priority
4007-00-1-L2	Hubbard Brook	0	0	0	0	2	2	3	1	0	Urbanized Area IC = >11 to 84%	8	Medium Priority
4007-01-1	Hubbard Brook	0	0	0	0	0	2	3	0	0	Urbanized Area IC = >11 to 84%	5	Low Priority
4006-04-1	Salmon Brook	0	0	0	0	0	2	0	3	0	Urbanized Area IC = >11 to 84%	5	Low Priority
4006-04-1-L1	Salmon Brook	0	0	0	0	0	2	0	3	0	Urbanized Area IC = >11 to 84%	5	Low Priority
4007-00-2-R1	Hubbard Brook	0	0	0	0	0	2	3	0	0	Urbanized Area	5	Low Priority
4007-00-3-R1	Hubbard Brook	0	0	0	0	0	2	3	0	0	Urbanized Area IC = >11 to 84%	5	Low Priority
4007-00-3-R2	Hubbard Brook	0	0	0	0	0	0	0	0	0	Urbanized Area	0	Low Priority
4007-02-2-R1	Hubbard Brook	0	0	0	0	1	2	3	0	0	Urbanized Area IC = >11 to 84%	6	Medium Priority
4007-03-1	Hubbard Brook	0	0	0	0	0	2	3	0	0	Urbanized Area IC = >11 to 84%	5	Low Priority
4007-04-1	Hubbard Brook	0	0	0	0	0	2	0	3	0	Urbanized Area IC = >11 to 84%	5	Low Priority
4007-02-1	Hubbard Brook	0	0	0	0	0	2	0	3	0	Urbanized Area IC = >11 to 84%	5	Low Priority
4007-04-1-L1	Hubbard Brook	0	0	0	0	0	2	0	3	0	Urbanized Area IC = >11 to 84%	5	Low Priority
4009-00-3-R5	Roaring Brook	0	0	0	0	1	2	3	3	0	Urbanized Area IC = >11 to 84%	9	Problem
4009-00-3-L6	Roaring Brook	0	0	0	0	0	2	0	3	0	Urbanized Area IC = >11 to 84%	5	Low Priority
4000-00-6+R12	Connecticut River	0	3	0	3	0	0	0	0	0	Urbanized Area TMDL	6	Medium Priority

Catchment ID (CTDEEP Local Basin ID#)	Receiving Water	Previous Screening Results Indicate Likely Sewer Input? [1]	Discharging to Area of Concern to Public Health? [2]	Frequency of Past Discharge Complaints	Receiving Water Quality [3]	Density of Generating Sites [4]	Age of Development/ Infrastructure [5]	Historic Combined Sewers or Septic? [6]	Aging Septic? [7]	Culverted Streams? [8]	Additional Characteristics	Score	Priority Ranking
Information Source		Catchment inspections and sample results	GIS Maps	Municipal Staff	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	Other		
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	TBD		
4000-00-6+R13	Connecticut River	0	3	0	3	0	0	0	0	0	Urbanized Area TMDL	6	Medium Priority
4000-00-6+R15	Connecticut River	0	3	0	3	0	0	0	0	0	Urbanized Area IC = >11 to 84% TMDL	6	Medium Priority
4000-00-6+R16	Connecticut River	0	3	0	3	0	2	0	3	0	Urbanized Area TMDL	5	Low Priority
4009-00-2-L4	Roaring Brook	3	3	2	0	1	2	0	3	0	Urbanized Area IC = >11 to 84% TMDL	14	Problem Angus Pond
4009-00-2-R3	Roaring Brook	0	0	0	0	1	2	0	3	0	Urbanized Area IC = >11 to 84%	6	Medium Priority
4009-00-2-R2	Roaring Brook	0	3	0	0	1	2	0	0	0	Urbanized Area	6	Medium Priority
4009-05-2-R2	Roaring Brook	0	0	0	0	0	2	0	0	0	Urbanized Area IC = >11 to 84%	2	Low Priority
4009-05-2-R1	Roaring Brook	0	0	0	0	0	2	0	0	0	Urbanized Area IC = >11 to 84%	2	Low Priority
4009-00-3-R1	Roaring Brook	0	0	0	0	0	2	0	3	0	Urbanized Area IC = >11 to 84%	5	Low Priority
4009-00-3-R2	Roaring Brook	0	0	0	0	2	2	0	3	0	Urbanized Area IC = >11 to 84%	7	Medium Priority
4008-00-2-L1	Cold Brook	0	0	0	0	0	2	0	0	0	Urbanized Area IC = >11 to 84%	2	Low Priority
4000-00-6+R14	Connecticut River	0	0	2	3	0	2	0	0	0	Urbanized Area TMDL	4	Low Priority
4000-00-6+R16	Connecticut River	3	0	2	3	1	2	0	3	0	Urbanized Area TMDL	11	Problem
4000-00-6+R17	Connecticut River	0	0	0	3	0	2	0	0	0	Urbanized Area TMDL	5	Low Priority
4000-00-6+R18	Connecticut River	0	0	0	3	1	2	0	0	0	Urbanized Area TMDL	6	Medium Priority
4000-30-1	Connecticut River	0	0	0	3	0	2	0	3	0	Urbanized Area TMDL	8	Medium Priority

Catchment ID (CTDEEP Local Basin ID#)	Receiving Water	Previous Screening Results Indicate Likely Sewer Input? [1]	Discharging to Area of Concern to Public Health? [2]	Frequency of Past Discharge Complaints	Receiving Water Quality [3]	Density of Generating Sites [4]	Age of Development/ Infrastructure [5]	Historic Combined Sewers or Septic? [6]	Aging Septic? [7]	Culverted Streams? [8]	Additional Characteristics	Score	Priority Ranking
Information Source		Catchment inspections and sample results	GIS Maps	Municipal Staff	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	Other		
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	TBD		
4000-30-1-L1	Connecticut River	0	0	0	3	0	2	0	0	0	Urbanized Area TMDL	5	Low Priority
4000-35-1	Connecticut River	0	0	0	3	0	2	0	0	0	Urbanized Area TMDL	5	Low Priority
4006-02-1	Salmon Brook	0	0	0	0	0	0	0	0	0	Urbanized Area	0	Low Priority
4006-03-1	Salmon Brook	0	0	0	0	0	2	0	3	0	Urbanized Area	5	Low Priority
4007-00-1-L1	Hubbard Brook	0	0	0	0	0	2	0	0	0	Urbanized Area	2	Low Priority
4009-08-1	Roaring Brook	0	0	0	0	0	2	0	3	0	Urbanized Area	5	Low Priority
4009-00-2-R2	Roaring Brook	0	0	0	0	0	2	0	3	0	Urbanized Area	5	Low Priority
4009-00-2-R1	Roaring Brook	0	0	0	0	0	2	0	0	0	Urbanized Area	2	Low Priority
4009-03-1	Roaring Brook	0	0	0	0	0	2	0	0	0	Urbanized Area	2	Low Priority
4009-09-1	Roaring Brook	0	0	0	0	1	2	0	3	0	Urbanized Area	6	Medium Priority
4009-00-3-L5	Roaring Brook	0	0	0	0	0	2	0	3	0	Urbanized Area	5	Low Priority
4009-07-1	Roaring Brook	0	0	0	0	0	2	0	3	0	Urbanized Area	5	Low Priority
4009-05-1	Roaring Brook	0	0	0	0	0	2	0	3	0	Urbanized Area	5	Low Priority
4009-06-1	Roaring Brook	0	0	0	0	0	2	0	0	0	Urbanized Area	2	Low Priority
4009-00-3-R4	Roaring Brook	0	0	0	0	0	0	0	0	0	Urbanized Area	0	Low Priority
4009-00-2-L3	Roaring Brook	0	0	0	0	0	0	0	0	0	Urbanized Area	0	Low Priority
4009-00-2-L2	Roaring Brook	0	0	0	0	0	0	0	0	0	Urbanized Area	0	Low Priority
4008-00-2-L2	Cold Brook	0	0	0	0	0	2	0	3	0	Urbanized Area	5	Low Priority
4008-03-1	Cold Brook	0	0	0	0	0	2	0	0	0	Urbanized Area	2	Low Priority
4008-01-2-R1	Cold Brook	0	0	0	0	0	2	0	0	0	Urbanized Area	2	Low Priority
4707-06-1-L1	Blackledge River	0	0	0	0	0	2	0	0	0	Urbanized Area	2	Low Priority
4707-04-1	Blackledge River	0	0	0	0	0	2	0	0	0	Urbanized Area	2	Low Priority

Table 8-1. Outfall Catchment System Vulnerability Factor (SVF) Inventory

Catchment ID (CTDEEP Local Basin ID #)	Receiving Water	1 History of SSOs	2 Common or Twin Invert Manholes	3 Common Trench Construction	4 Storm/Sanitary Crossings (Sanitary Above)	5 Sanitary Lines with Underdrains	6 Inadequate Sanitary Level of Service	7 Areas Formerly Served by Combined Sewers	8 Sanitary Infrastructure Defects	9 SSO Potential In Event of System Failures	10 Sanitary and Storm Drain Infrastructure >40 years Old	11 Septic with Poor Soils or Water Table Separation	12 History of BOH Actions Addressing Septic Failure
4000-00-6+R11	Connecticut River	No	No	No	No	No	No	No	No	No	No	No	No
4006-00-2-R7	Salmon Brook	No	No	No	No	No	No	No	No	No	No	No	No
4006-13-1	Salmon Brook	No	No	No	No	No	No	No	No	No	Yes	No	No
4006-09-2-R3	Salmon Brook	No	No	No	No	No	No	No	No	No	Yes	No	No
4006-12-1	Salmon Brook	No	No	No	No	No	No	No	No	No	No	No	No
4006-11-1-L3	Salmon Brook	No	No	No	No	No	No	No	No	No	No	No	No
4006-11-1-L1	Salmon Brook	No	No	No	No	No	No	No	No	No	Yes	No	No
4006-00-2-R6	Salmon Brook	No	No	No	No	No	No	Yes	No	Yes	Yes	No	No
4006-06-1	Salmon Brook	No	No	No	No	No	No	No	No	No	Yes	No	No
4006-00-2-L1	Salmon Brook	No	No	No	No	No	No	No	No	Yes	Yes	No	No
4000-00-6+R12	Connecticut River	No	No	No	No	No	No	Yes	No	No	Yes	No	No
4007-00-1	Hubbard Brook	No	No	No	No	No	No	Yes	No	Yes	Yes	No	No
4006-00-2-R5	Salmon Brook	No	No	No	No	No	No	No	No	Yes	Yes	No	No
4006-00-2-R4	Salmon Brook	No	No	No	No	No	No	No	No	Yes	Yes	No	Yes
4006-00-2-R3	Salmon Brook	No	No	No	No	No	No	No	No	Yes	Yes	No	Yes
4006-00-2-R2	Salmon Brook	No	No	No	No	No	No	No	No	Yes	Yes	No	No
4006-02-1-L1	Salmon Brook	No	No	No	No	No	No	No	No	No	No	Yes	Yes
4006-01-1-L1	Salmon Brook	No	No	No	No	No	No	No	No	No	No	Yes	Yes
4009-04-1	Roaring Brook	No	No	No	No	No	No	No	No	No	No	Yes	Yes
4007-00-1-L3	Hubbard Brook	No	No	No	No	No	No	No	No	Yes	Yes	No	No
4007-00-1-L2	Hubbard Brook	No	No	No	No	No	No	Yes	No	Yes	No	Yes	No

Catchment ID (CTDEEP Local Basin ID #)	Receiving Water	1 History of SSOs	2 Common or Twin Invert Manholes	3 Common Trench Construction	4 Storm/Sanitary Crossings (Sanitary Above)	5 Sanitary Lines with Underdrains	6 Inadequate Sanitary Level of Service	7 Areas Formerly Served by Combined Sewers	8 Sanitary Infrastructure Defects	9 SSO Potential In Event of System Failures	10 Sanitary and Storm Drain Infrastructure >40 years Old	11 Septic with Poor Soils or Water Table Separation	12 History of BOH Actions Addressing Septic Failure
4007-01-1	Hubbard Brook	Yes	No	No	No	No	No	Yes	No	Yes	Yes	No	No
4006-04-1	Salmon Brook	No	No	No	No	No	No	No	No	No	No	No	Yes
4006-04-1-L1	Salmon Brook	No	No	No	No	No	No	No	No	No	No	No	Yes
4007-00-2-R1	Hubbard Brook	No	No	No	No	No	No	No	No	Yes	Yes	No	No
4007-00-3-R1	Hubbard Brook	No	No	No	No	No	No	No	No	No	Yes	No	No
4007-00-3-R2	Hubbard Brook	No	No	No	No	No	No	No	No	No	No	No	No
4007-02-2-R1	Hubbard Brook	No	No	No	No	No	No	Yes	No	Yes	Yes	No	No
4007-03-1	Hubbard Brook	No	No	No	No	No	No	Yes	No	Yes	No	No	No
4007-04-1	Hubbard Brook	No	No	No	No	No	No	No	No	No	No	No	Yes
4007-02-1	Hubbard Brook	No	No	No	No	No	No	No	No	Yes	No	No	Yes
4007-04-1-L1	Hubbard Brook	No	No	No	No	No	No	No	No	Yes	No	No	Yes
4009-00-3-R5	Roaring Brook	No	No	No	No	No	No	Yes	No	Yes	Yes	No	Yes
4009-00-3-L6	Roaring Brook	No	No	No	No	No	No	No	No	No	No	No	Yes
4000-00-6+R12	Connecticut River	No	No	No	No	No	No	No	No	No	No	No	No
4000-00-6+R13	Connecticut River	No	No	No	No	No	No	No	No	No	No	No	No
4000-00-6+R15	Connecticut River	No	No	No	No	No	No	No	No	No	No	No	No
4000-00-6+R16	Connecticut River	No	No	No	No	No	No	No	No	No	No	No	Yes
4009-00-2-L4	Roaring Brook	No	No	No	No	No	No	No	No	No	Yes	Yes	Yes
4009-00-2-R3	Roaring Brook	No	No	No	No	No	No	No	No	Yes	Yes	No	Yes
4009-00-2-R2	Roaring Brook	No	No	No	No	No	No	No	No	No	Yes	No	No
4009-05-2-R2	Roaring Brook	No	No	No	No	No	No	No	No	No	No	No	Yes
4009-05-2-R1	Roaring Brook	No	No	No	No	No	No	No	No	No	No	No	No

Catchment ID (CTDEEP Local Basin ID #)	Receiving Water	1 History of SSOs	2 Common or Twin Invert Manholes	3 Common Trench Construction	4 Storm/Sanitary Crossings (Sanitary Above)	5 Sanitary Lines with Underdrains	6 Inadequate Sanitary Level of Service	7 Areas Formerly Served by Combined Sewers	8 Sanitary Infrastructure Defects	9 SSO Potential In Event of System Failures	10 Sanitary and Storm Drain Infrastructure >40 years Old	11 Septic with Poor Soils or Water Table Separation	12 History of BOH Actions Addressing Septic Failure
4009-00-3-R1	Roaring Brook	No	No	No	No	No	No	No	No	No	No	No	Yes
4009-00-3-R2	Cold Brook	No	No	No	No	No	No	No	No	No	Yes	No	Yes
4008-00-2-L1	Cold Brook	No	No	No	No	No	No	No	No	No	Yes	No	Yes
4000-00-6+R14	Connecticut River	No	No	No	No	No	No	No	No	No	No	No	No
4000-00-6+R16	Connecticut River	No	No	No	No	No	No	No	No	No	No	No	Yes
4000-00-6+R17	Connecticut River	No	No	No	No	No	No	No	No	No	No	No	No
4000-00-6+R18	Connecticut River	No	No	No	No	No	No	No	No	No	No	No	No
4000-30-1	Connecticut River	No	No	No	No	No	No	No	No	No	No	No	Yes
4000-30-1-L1	Connecticut River	No	No	No	No	No	No	No	No	No	No	No	No
4000-35-1	Connecticut River	No	No	No	No	No	No	No	No	No	No	No	No
4006-02-1	Salmon Brook	No	No	No	No	No	No	No	No	No	No	No	No
4006-03-1	Salmon Brook	No	No	No	No	No	No	No	No	Yes	No	No	Yes
4007-00-1-L1	Hubbard Brook	No	No	No	No	No	No	No	No	No	No	No	No
4009-08-1	Roaring Brook	No	No	No	No	No	No	No	No	No	No	No	Yes
4009-00-2-R2	Roaring Brook	No	No	No	No	No	No	No	No	No	No	No	Yes
4009-00-2-R1	Roaring Brook	No	No	No	No	No	No	No	No	No	No	No	No
4009-03-1	Roaring Brook	No	No	No	No	No	No	No	No	No	No	No	No
4009-09-1	Roaring Brook	No	No	No	No	No	No	No	No	No	No	No	Yes
4009-00-3-L5	Roaring Brook	No	No	No	No	No	No	No	No	No	No	No	Yes
4009-07-1	Roaring Brook	No	No	No	No	No	No	No	No	No	No	No	Yes
4009-05-1	Roaring Brook	No	No	No	No	No	No	No	No	No	No	No	Yes
4009-06-1	Roaring Brook	No	No	No	No	No	No	No	No	No	No	No	No

Catchment ID (CTDEEP Local Basin ID #)	Receiving Water	1 History of SSOs	2 Common or Twin Invert Manholes	3 Common Trench Construction	4 Storm/Sanitary Crossings (Sanitary Above)	5 Sanitary Lines with Underdrains	6 Inadequate Sanitary Level of Service	7 Areas Formerly Served by Combined Sewers	8 Sanitary Infrastructure Defects	9 SSO Potential In Event of System Failures	10 Sanitary and Storm Drain Infrastructure >40 years Old	11 Septic with Poor Soils or Water Table Separation	12 History of BOH Actions Addressing Septic Failure
4009-00-3-R4	Roaring Brook	No	No	No	No	No	No	No	No	No	No	No	Yes
4009-00-2-L3	Roaring Brook	No	No	No	No	No	No	No	No	No	No	No	No
4009-00-2-L2	Roaring Brook	No	No	No	No	No	No	No	No	No	No	No	No
4008-00-2-L2	Cold Brook	No	No	No	No	No	No	No	No	No	No	No	Yes
4008-03-1	Cold Brook	No	No	No	No	No	No	No	No	No	No	No	No
4008-01-2-R1	Cold Brook	No	No	No	No	No	No	No	No	No	No	No	No
4707-06-1-L1	Blackledge River	No	No	No	No	No	No	No	No	No	No	No	No
4707-04-1	Blackledge River	No	No	No	No	No	No	No	No	No	No	No	No
4707-00-2-L3	Blackledge River	No	No	No	No	No	No	No	No	No	No	No	No
4707-00-2-R4	Blackledge River	No	No	No	No	No	No	No	No	No	No	No	No
4707-06-1	Blackledge River	No	No	No	No	No	No	No	No	No	No	No	No
4707-06-1-L2	Blackledge River	No	No	No	No	No	No	No	No	No	No	No	No

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 that 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 that poor owner maintenance)