

MS4 General Permit
Town of Woodbury 2020 Annual Report
Existing MS4 Permittee
Permit Number GSM 000007
January 1, 2020 – December 31, 2020

This report documents the Town of Woodbury’s efforts to comply with the conditions of the MS4 General Permit to the maximum extent practicable (MEP) from January 1, 2020 to December 31, 2020.

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 Responsible | Due | Date completed or projected completion date | Additional details |
|---|---------|---|--|------------------------|---------|---|--|
| 1-1 Implement public education and outreach | Ongoing | Continue to maintain the Town Stormwater Management website which provides educational information and links to various websites (EPA, CT DEEP, UCONN NEMO, PRWC) related to water quality and stormwater management topics | Create Town website to include educational materials | Land Use | Ongoing | December 2017 | woodburyct.org/stormwatermanagement |
| 1-2 Address education/outreach for pollutants of concern* | Ongoing | Online educational materials focused on bacteria (pet waste management, impervious cover, impacts of illicit discharges, waterfowl and manure | Updated Town website to include educational materials related to pollutants of concern in Woodbury | Land Use | Ongoing | December 2017 | woodburyct.org/stormwatermanagement http://nemo.uconn.edu/ms4/index.htm http://clear.uconn.edu |

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|---|---------|---|---|---------------|---------|--------------------------------|--|
| 1-3 Implement public education and outreach | Ongoing | Utilize existing educational materials to continue public education and outreach. Materials are available in the Land Use office, Town Clerks Office and the Library River Smart Resource Kits, provided to the Town by Pomperaug River Watershed Coalition (PRWC) are available in the Land Use Office and at Public Works. These kits have been given to residents of the community including applicants for projects near waterbodies and watercourses. The River Smart Resource Kit includes the following brochures and handouts on how to protect water resources | Distribute educational materials and make them available to the public in municipal offices | Land Use | Ongoing | January 2017 | Examples of educational materials include EPA's After the Storm: A Citizen's Guide to Understanding Stormwater, Do Not Feed Waterfowl, SepticSmart, Aquatic Hikers, Watershed Newsletter |
| 1-4 Implement public education and outreach | Ongoing | | Distribute educational materials and make the available in municipal offices | PRWC Land Use | Ongoing | January 2017 | https://www.riversmartct.org/learn |
| 1-5 Implement public education and outreach | Ongoing | The Town and PRWC will continue targeted outreach to K-12 students, agricultural, developers, homeowners and businesses on specific aspects of stormwater management | Public Outreach Activities | PRWC Land Use | Ongoing | Various events throughout 2020 | |
| 1-6 Implement public education and outreach | Ongoing | The Town continues to work with the Northwest Conservation District to promote the use of Low Impact Development in the town | Creation of an LID manual | Land Use | Ongoing | 2021 | http://nwc.org/wpsite/low-impact-development-lid/ |
| 1-7 Implement public education and outreach | Ongoing | A link is included on the Town website dedicated to the PRWC and their goal of maintaining the health watershed and sharing that with the community. | Update as needed | Land Use | Ongoing | January 2017 | www.pomperaug.org . |

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

PRWC will share its environmental message and outreach materials at various events, including Woodbury Earth Day Celebration.

The Town will continue to partner with local groups, to provide vests for annual litter clean-up events. The public is encouraged to help remove litter and debris, which is then picked up and disposed of by the Public Works Department.

The Woodbury Conservation Commission will hold a Spring and Fall Town-Wide Clean Up Day.

The Town will continue to update our online education materials and educational brochures.

1.3 Details of activities implemented to educate the community on stormwater (See Attachment A)

| Program Element/Activity | Audience (and number of people reached) | Topic(s) covered | Pollutant of Concern addressed (if applicable) | Responsible dept. or partner org. |
|--|---|--|---|--|
| Public comments presented on Woodbury Plan of Conservation and Development | Planning Commission and Woodbury Residents (15) | Plan of Conservation and Development | | Woodbury Planning Commission |
| Case Study in Resource Management: Pomperaug Low Flow Operations Plan | High School Students (40) | Watershed Protection, Environmental Stewardship | | Pomperaug River Watershed Coalition |
| Water Wednesday: "Wonders of the Pond" | Watershed Residents (15) | Watershed Protection, Environmental Stewardship | | Pomperaug River Watershed Coalition |
| Water Wednesday: "Water Dance" | Watershed Residents (18) | Watershed Protection, Environmental Stewardship | | Pomperaug River Watershed Coalition |
| Water Watchers Webinar | Watershed Residents (18) | Watershed Protection, Environmental Stewardship | | Pomperaug River Watershed Coalition |
| Water Wednesday: "The Salamander Room" | Watershed Residents (267) | Watershed Protection, Environmental Stewardship | | Pomperaug River Watershed Coalition |
| Water Wednesday: "The Little Raindrop" | Watershed Residents (3) | Water Quality, Watershed Protection | | Pomperaug River Watershed Coalition |
| DIY Underwater Viewer | Watershed Residents (251) | Watershed Protection and Environmental Stewardship | | Pomperaug River Watershed Coalition |
| Rain Barrel Workshops (3) | Watershed Residents (32) | Environmental Stewardship | | Pomperaug River Watershed Coalition |
| CT Trails Day, Overlook and River Trail Hike | Watershed Residents (Self-Guided) | Watershed Protection, Environmental Stewardship | | Pomperaug River Watershed Coalition |
| Watershed Connections Presentation | Flanders Summer Campers (4) | Watershed Protection, Environmental Stewardship | | Pomperaug River Watershed Coalition |
| Watershed Video Tour | Watershed Residents (60) | Watershed Protection | | Pomperaug River Watershed Coalition |

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|--|--|---|---|
| O&G Quarry Geology Tour with Flanders | Watershed Community (50) | Environmental Stewardship | Pomperaug River Watershed Coalition |
| Annual Macroinvertebrate Survey | Volunteers (5) | Water Quality | Pomperaug River Watershed Coalition |
| Watershed Based Plan Implementation Projects Planning Meetings | PRWC Staff, Project Partners including private landowners, and municipal representatives of Woodbury, Southbury, and Bethlehem | Water Quality, Watershed Protection | Pomperaug River Watershed Coalition |
| Stormwater Management Committee Meeting | Committee Members (3) | Watershed Protection, Water Quality and Environmental Stewardship | Pomperaug River Watershed Coalition |
| Joint PRWC Board and Advisory Council | PRWC Board and Advisory Council Members (25) | Watershed Protection, Water Quality and Environmental Stewardship | Pomperaug River Watershed Coalition |
| Spring Clean-up day | Woodbury Residents (~20) | Water quality, environmental stewardship | Woodbury Conservation Commission |
| Fall Clean-up day | Woodbury Residents (~20) | Water Quality, environmental stewardship | Woodbury Conservation Commission, |
| Stormwater Management Plan and MS4 Training Session | Municipal Officials (20) | Stormwater Management, MS4 Program | Woodbury Land Use Office |
| Stormdrain Marker Installations | Watershed Residents | Watershed Protection, Water Quality and Environmental Stewardship | Pomperaug River Watershed Coalition, Youth Conservation Corps |

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 Comply with public notice requirements for the Stormwater Management Plan | Complete | Complete Stormwater Management Plan | Make final Stormwater Management Plan available electronically on the Town website and paper copies available in Town Hall | Land Use | April 3, 2017 | July 2017 | |

| | | | | | | | |
|---|----------------------------|--|--|---------------------------------|--------------|--|--------------------|
| 2-2 Comply with public notice requirements for Annual Reports | Complete (update annually) | The 2020 Annual Report has been publicly noticed and posted on the website as per current DEEP requirements. | Make draft Annual Report available electronically on the Town website and paper copies available in Town Hall. Publish notice of availability on website or local newspaper. | Land Use | Feb 15, 2021 | February 15, 2021 (plan posted) April 1, 2021 (submit to DEEP) | www.woodburyct.org |
| 2-3 Establish Stormwater Committee | Complete | An Ad-hoc Stormwater Management Committee was appointed by the Board of Selectmen and consists of Town Employees and a member of PRWC. | Provide forum to coordinate SWMP implementation across depts. and commissions. Meet as required. | Land Use Public Works | - | January 2018 | |
| 2-5 Continue to work with local organizations and groups | Ongoing | Continue to work with local organizations (PRWC, etc.) to identify public involvement opportunities and assist with plan implementation. | Ensure local coordination related to public involvement opportunities | Stormwater Management Committee | Ongoing | Ongoing | |

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

Hold stormwater committee meetings as necessary to review SMP/General Permit implementation progress.

PRWC will continue the installation of storm drain markers as part of their public participation program if funding is available.

Woodbury will continue to collaborate with area organizations such as the PRWC and the Northwest Conservation District to provide additional public involvement opportunities

2.3 Public Involvement/Participation reporting metrics

| Metrics | Implemented | Date | Posted |
|--|-------------|------------------|---|
| Availability of the Stormwater Management Plan announced to public | Yes | July 2017 | Woodburyct.org/ stormwatermanagement |
| Availability of Annual Report announced to public | Yes | January 29, 2021 | Woodburyct.org/ Landuse/Townplanner and Woodburyct.org/ stormwatermanagement |

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 | Complete | Town staff has drafted the written IDDE program using the CT IDDE program template | Develop written plan of IDDE program | Land Use | Jul 1, 2018 | July 1, 2018. | |
| 3-2 Develop list and maps of all MS4 stormwater outfalls in priority areas | Complete | Consultant developed a list and map of all MS4 stormwater outfalls in priority areas | Update GIS storm system mapping to include required Elements; Develop a list of stormwater outfalls in priority areas. | Land Use, Consultant | Jul 1, 2019 | December 2019 | |
| 3-3 Implement citizen reporting program | Complete | The Town has a citizen reporting system. An email address and phone number have been added to the Town website for submitting a report. The reports will be investigated and included in the annual report | Establish a citizen reporting hotline and advertise it on the Town website and in municipal offices. | Land Use Public Works | Jul 1, 2017 | December 2017 | |
| 3-4 Establish legal authority to prohibit illicit discharges | Complete | The town has drafted and adopted the necessary legal authority to eliminate illicit discharges. | Adopted Illicit Discharge Ordinance | Land Use | Jul 1, 2018 | Ordinance adopted May 21, 2018 | |
| 3-5 Develop record keeping system for IDDE tracking | Complete | An IDDE Tracking Form has been created to record illicit discharge abatement activities. | Develop IDDE record keeping system | Land Use | Jul 1, 2017 | January 2018 | |
| 3-6 Address IDDE in areas with pollutants of concern | Ongoing | Areas of concern have been identified by Public Works and are being monitored. These are also identified in the Watershed Based Plan as areas of concern needing further assessment. | Identify areas with high potential for septic system failure. | Public Works | Not specified | June 2019 | |
| 3-7 Conduct SSO Inventory | N/A | N/A | The Town does not contain a municipal sanitary sewer system and this permit requirement does not apply. | N/A | N/A | N/A | |

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|---|----------|--|---|-----------------------------------|-----------|------------------|
| 3-8 Assess and prepare a priority ranking of catchments | Complete | Consultant completed the Assessment and Priority Ranking of Catchments | Classified each catchment within priority areas as an excluded, problem, high priority, or low priority catchment. | Land Use, Consultant Public Works | July 2019 | July 2019 |
| 3-9 Conduct outfall and interconnection screening and sampling | Complete | Consultant completed the outfall screening | Conduct dry weather screening and sampling (where flowing) of every MS4 outfall and interconnection (except for excluded and problem catchments) Evaluate catchments for System Vulnerability Factors and begin catchment investigations | Consultant | June 2019 | June 2019 |
| 3-10 Conduct catchment investigations and remove illicit discharges | Started | A consultant is working toward completing this task. | Where System Vulnerability Factors are present, conduct manhole inspections. Isolate and verify sources. Remove identified illicit discharges and conduct confirmatory outfall screening. | Consultant Public Works | - | Anticipated 2021 |

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

The written program will be posted to the Stormwater Management webpage and a link is listed in the Annual Report; the Town 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 |
|----------------|-----------------------------|----------------|
| None | | |

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) |
|---|---------------------------------|-----------------------------------|-----------------------------|--|---|-------------------------------|
|---|---------------------------------|-----------------------------------|-----------------------------|--|---|-------------------------------|

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|------|--|--|--|--|--|--|
| None | | | | | | |
|------|--|--|--|--|--|--|

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

Citizens that wish to report illicit discharges can call the Land Use office or Public Works or send an email to stormwater@woodburyct.org. The Land Use Office reviews the report, records the information on an IDDE Hotline Tracking Form and contacts the IDDE inspector. The Public Works Department IDDE Inspector investigates and responds to the complaint and provides follow-up information and resolution to the Land Use office.

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 |
|--|--|---|
| N/A (There are no known septic failures at this time) | | |
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3.7 IDDE reporting metrics

| Metrics | |
|--|------------------------------------|
| Estimated or actual number of MS4 outfalls | 187 town wide, 72 in priority area |
| Estimated or actual number of interconnections | 24 town wide, 18 in priority area |
| Outfall mapping complete | 100% |
| Interconnection mapping complete | 100% |
| System-wide mapping complete (detailed MS4 infrastructure) | 100% |
| Outfall assessment and priority ranking | 100% |
| Dry weather screening of all High and Low priority outfalls complete | 100% |
| 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).

The Town of Woodbury will expand on its existing training program which currently addresses stormwater management and water quality issues (conducted annually).

Tighe & Bond conducted a Stormwater Management Plan and MS4 Training Session with Town staff involved in carrying out various IDDE tasks on January 24, 2020.

The following Stormwater Best Management Practices education materials have been made available to applicable staff: Salt, Sand and Deicer Storage & Snow Disposal; Good Housekeeping & Spill Prevention; Illicit Connections & Illegal Discharge Reporting; and Spill Clean Up. Appropriate staff were also provided with a PowerPoint on recognizing and reporting illicit discharges.

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 | Ongoing | All proposed development projects have been reviewed for compliance with regulations noted | Review and update, as necessary, existing land use regulations and implementation policies for compliance with MS4 permit requirements. | Land Use | Jul 1, 2019 | Continued implementation | Proposed developments are reviewed for conformance with the 2002 Guidelines for Soil Erosion and Sedimentation Control, as amended, the CT Stormwater Water Quality Manual through the Town's Subdivision, Zoning and Wetland Regulations. |
| 4-2 Develop/Implement plan for interdepartmental coordination in plan review and approval | Ongoing | Coordinate the functions of all departments and boards involved in the review, permitting, or approval of land disturbance projects. | Continue to implement interdepartmental coordination procedures as described in Section 5.2 of the Town's Stormwater Management Plan. | Land Use | Jul 1, 2017 | Jul 1, 2017 | |

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|--|---------|---|---|----------|-------------|-------------|
| 4-3 Review site plans for stormwater quality concerns | Ongoing | Continue to conduct 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. | Complete site plan reviews for all projects subject to specific land use regulations. | Land Use | Jul 1, 2017 | Jul 1, 2017 |
| 4-4 Conduct site inspections | Ongoing | Continue to conduct site inspections to assess the adequacy of the installation, maintenance, operation, and repair of construction and post-construction control measures and take enforcement action when necessary | Conduct inspections and enforcement to assess and ensure the adequacy of the installation, maintenance, operation, and repair of construction and post construction control measures. | Land Use | Jul 1, 2017 | Ongoing |
| 4-5 Implement procedure to allow public comment on site development | Ongoing | The Land Use office continues to allow the public to comment on proposed and ongoing land disturbance and development activities | Post notice of Woodbury's email address for stormwater related comments on the Town website | Land Use | Jul 1, 2017 | Jul 1, 2017 |
| 4-6 Implement procedure to notify developers about DEEP construction stormwater permit | Ongoing | The Land Use office continues to notify developers and contractors of their potential obligation to obtain approval under DEEP's Construction General Permit. | Continue to inform developers/contractors of their potential obligation to register under the DEEP construction general permit and to provide a copy of the Storm Water Pollution Control Plan to Woodbury upon request | Land Use | Jul 1, 2017 | Jul 1, 2017 |
| 4-7 Require erosion and sedimentation controls throughout construction | Ongoing | Meet local land use regulations | Compliance with approved plans | Land Use | - | Ongoing |

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

Zoning regulations are in the process of being updated
 Continue to review site plans and inspect construction activity associated with development
 Continued enforcement of land use regulations to meet requirements of the MS4 general permit
 Continued site inspections

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 | Zoning regulations are being updated and will continue to incorporate LID use. The Northwest Conservation District is developing a Low Impact Development Manual that will be incorporated into various land use regulations | Review and update, as necessary, existing land use regulations and implementation policies for compliance with the General Permit post construction stormwater management requirements | Zoning Commission Planning Commission Land Use | Jul 1, 2021 | Anticipate completing by the deadline of July 1, 2021 | |
| 5-2 Enforce LID/runoff reduction requirements for development and redevelopment projects | Ongoing | Began reviewing regulations, conduct plan reviews to ensure compliance LID techniques are encouraged in commercial and industrial zones | Review and update, as necessary, current regulations to identify, reduce, or eliminate existing regulatory barriers to implementation of LID and runoff reduction practices. Complete plan reviews and ensure compliance for all projects subject to the legal authority | Land Use | Ongoing beginning July 1, 2019 | Ongoing | Current regulations require that Special Permit applications in certain districts include a narrative outlining the LID techniques which have been incorporated into the site plan. Reference shall be made to the 2002 CT Stormwater Quality Manual |
| 5-3 Identify retention and detention ponds in priority areas | Ongoing | A list of all retention and detention ponds has been created | List of all retention and detention ponds in priority areas | Public Works | Jul 1, 2019 | July 1, 2019 | |
| 5-4 Implement long-term maintenance plan for stormwater basins and treatment structures | Ongoing | The Town currently maintains structures as required. Annual inspections are conducted to determine extent of maintenance work that will be required | Develop a long-term maintenance plan for retention/detention basins and stormwater treatment structures. Implement maintenance plan | Public Works | Ongoing beginning July 1, 2019 | Ongoing | |

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|--|-------------|--|---|--|-----------------|-----------------|
| | | | including annual inspection of retention / detention basins and stormwater treatment structures and removal of accumulated sediment and pollutants. | | | |
| 5-5 DCIA mapping | Complete | Consultant has completed the DCIA analysis for the Town | Calculate the Directly Connected Impervious Area (DCIA) of outfall catchment areas using guidance provided by DEEP and UConn CLEAR. Revise DCIA estimate as development, redevelopment, or retrofit projects effectively add or remove DCIA. | Consultant Public Works Land Use | July 1, 2019 | January 2019 |
| 5-6 Address post-construction issues in areas with pollutants of concern | In progress | The Town currently addresses erosion and sedimentation problems and will focus on areas with pollutants of concern | Address erosion and sediment problems noted during inspections | Land Use Public Works | Not specified | Ongoing |

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, Woodbury land use regulations, guidance or construction project requirements.
- 5-3. Begin field inspections of all municipality owned retention and detention ponds within the priority areas and throughout the entire town.
- 5-4. Continued inspections to address construction issues in areas with pollutants of concern.

5.3 Post-Construction Stormwater Management reporting metrics

Metrics

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|---|-----------------------------------|
| Baseline (2012) Directly Connected Impervious Area (DCIA) | Acres - 192 |
| DCIA disconnected (redevelopment plus retrofits) | 0.006 acres / acres total – 0.006 |
| Retrofits completed | # - TBD |
| DCIA disconnected | 0.006 / % total since 2012 - TBD |
| Estimated cost of retrofits | \$ - TBD |
| Detention or retention ponds identified | 23 town owned or maintained |

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

The DCIA was calculated following the guidance provided by DEEP and UConn CLEAR

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 | Ongoing | Identified additional training materials for municipal staff related to spill response and illicit discharge identification and reporting | Implement training program for Town employees, building on the Town's current program | Public Works Land Use | Jul 1, 2017 | July 1, 2017 | |
| 6-2 Implement MS4 property and operations maintenance | Ongoing | The Town maintains pet waste baggies and disposal receptacles Increased educational efforts | Maintain properties and facilities in accordance with the General Permit requirements | Parks and Recreation Public Works | Jul 1, 2018 | July 1, 2018 | |
| 6-3 Implement coordination with interconnected MS4s | Ongoing | Review mapping to identify interjurisdictional stormwater discharges/connections | Coordinate with neighboring municipalities, institutions, and DOT regarding stormwater management program activities associated with the adjacent MS4s | Public Works | Not specified | | |
| 6-4 Develop/implement program to control other sources of pollutants to the MS4 | Ongoing | Continue to control through IDDE program, water quality monitoring, the Town's Ordinance, and targeted education and outreach to commercial, industrial, municipal, institutional facilities owners/operators Signage is in place at Town parks regarding the need to pick up pet waste. Bags are also provided for use by pet owners at these locations. | Control through IDDE program, water quality monitoring, the Town's Ordinance, and targeted education and outreach to commercial, industrial, municipal, institutional facilities owners/operators | Public Works Land Use | Not specified | | |
| 6-5 Evaluate additional measures for discharges to impaired waters* | Ongoing | Town staff will continue discussions regarding other possible measures for impaired waters and bacteria. | Implement the measures and procedures described in Section 7.2 including those measures to address stormwater pollutants of concern | Public Works Land Use Parks & Rec | Not specified | | |

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| 6-6 Track projects that disconnect DCIA | Ongoing | The Town has begun to review files to track DCIA. The Town will track the total acreage of DCIA that is disconnected as a result of redevelopment or retrofit projects within the town. | Annually track total acreage of DCIA that is disconnected as a result of redevelopment or retrofits | Public Works Land Use | Jul 1, 2017 | Jul, 1 2017 | |
| 6-7 Implement infrastructure repair/rehab program | Not Started | None. The Town will begin to develop a plan to identify MS4 structures to repair, rehabilitate or upgrade to reduce or eliminate the discharge of pollutants into water bodies. | Repair, rehabilitate, or retrofit MS4 infrastructure (e.g., conveyances, structures, outfalls) as needed in a timely manner. | Public Works | Jul 1, 2021 | | Anticipate completing by the deadline of July 1, 2021 |
| 6-8 Develop/implement plan to identify/prioritize retrofit projects | Complete | Fuss & O'Neil prepared a DCIA Reduction/Retrofit Plan | Develop retrofit plan and list of priority sites | Public Works | Jul 1, 2020 | August 2020 | |
| 6-9 Implement retrofit projects to disconnect 2% of DCIA | Not Started | No progress to date. | Disconnect 1% per year of Woodbury's DCIA from the MS4 | Public Works | Jul 1, 2022 | | Anticipate completing by the deadline of July 1, 2022 A Stormwater Retrofit project has been included in the upcoming budget |
| 6-10 Develop/implement street sweeping program | Complete | The Town currently sweeps all streets a minimum of one time per year, beginning in the spring, to remove winter road sand and other debris. This year 180 linear miles of paved roads were swept. Approximately 800 to 1,000 tons of material was removed from town streets during this process. | Continue to inspect and sweep all municipally-owned or -operated streets and parking lots annually in spring following the cessation of winter maintenance activities (i.e., sanding, deicing). Evaluate runoff reduction measures such as permeable pavement or other measures to promote sheet flow of stormwater for all new and redeveloped municipal parking lots | Public Works | Jul 1, 2017 | Jul 1, 2017 | |
| 6-11 Develop/implement catch basin cleaning program | Ongoing | The Town of Woodbury continued a catch basin cleaning program utilizing a vacuum type truck to better clean catch basins. | A. Inspect and clean catch basins a. 100% within Priority Areas b. 100% of MS4 B. optimize catch basin cleaning | Public Works | Ongoing | | |

Approximately 387 catch basins were cleaned in 2020. based on inspection findings, such that no catch basin is more than 50% full

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|---|----------|--|--|--------------|-------------|---------------|
| 6-12 Develop/implement snow management practices | Complete | Woodbury continues to implement standard operating practices for the use, handling, storage, application, and disposal of deicing products such as salt and sand to minimize exposure to stormwater; and continues to implement standard operating procedures regarding snow and ice control to minimize the discharge of sand, anti-icing or de-icing chemicals and other pollutants. | Implement practices for deicing material management and snow and ice control | Public Works | Jul 1, 2018 | February 2018 |
|---|----------|--|--|--------------|-------------|---------------|

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

In conjunction with other communities within the NVCOG, the Town of Woodbury will participate in three household hazardous waste collection days in Woodbury and neighboring communities. The program has been successful in removing household hazardous materials from the town’s waste stream for many years.

The Town will sweep all streets a minimum of one time per year, beginning in the spring, to remove winter road sand and other debris. Spot sweeping occurs as needed.

The Town will continue its catch basin cleaning program.

The Conservation Commission conducts two roadside clean-ups annually.

6.3 Pollution Prevention/ Good Housekeeping reporting metrics

| Metrics | |
|--|-------------------------------------|
| Employee training provided for key staff | No – COVID Precautions Y (annually) |
| Street sweeping | |
| Curb miles swept | 180 miles |
| Volume (or mass) of material collected | 800-1,000 tons |
| Catch basin cleaning | |
| Total catch basins in priority areas | 779 |
| Total catch basins in MS4 | 2,256 |

| | |
|--|--|
| Catch basins inspected | 431 |
| Catch basins cleaned | 387 |
| Volume (or mass) of material removed from all catch basins | 52 tons |
| Volume removed from catch basins to impaired waters (if known) | 0 tons |
| Snow management | |
| Type(s) of deicing material used | Sodium chloride/sand |
| Total amount of each deicing material applied | 765.23 tons of sodium chloride, 2,295 tons of sand |
| Type(s) of deicing equipment used | Multi-purpose side dump spreader |
| Lane-miles treated | 194 miles |
| Snow disposal location | N/A |
| Staff training provided on application methods & equipment | No – COVID Precautions |
| Municipal turf management program actions (for permittee properties in basins with N/P impairments) | N/A |
| 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) | Y (Agricultural) |
| Cost of mitigation actions/retrofits | N/A |

6.4 Catch basin cleaning program

Briefly describe the method used to optimize your catch basin inspection and cleaning schedule.

The Town of Woodbury seeks bids for catch basin cleaning annually. Each year different areas are cleaned and inspected with a rotation to complete all basins within budget restraints.

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.

Development of the retrofit plan consisted of three major tasks: screening level assessment, field inventories and retrofit concept designs. A total of 30 sites were identified. Sites were selected for concept designs because they 1) have the greatest feasibility for stormwater retrofits, 2) provide the best opportunities to infiltrate, 3) were considered the most likely candidates for implementation by the town. Many sites are highly visible, public locations and provide good demonstration sites. Five projects were identified for the development of stormwater retrofit design concepts. The disconnection of each project upon completion is as follows: Mitchell Elementary = 1.8 acres, Town Hall Complex = .20 acres, North Green = 0.87 acres, ROW on Route 6 and Scratchville Road = 0.72 acres and Post Office = 0.41 acres for a total of 4.07 acres.

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

The Town will continue to work towards the implementation of identified retrofit projects as feasible.

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

N/A

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.

Dry weather screening and impaired waters outfall sampling has been completed

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

2.1 Screening data collected under 2017 permit

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 (Ecoli) | Results (total coliform) | Name of Laboratory (if used) | Follow-up required? |
|------------|-------------|---|-----------------|--------------------------|------------------------------|---------------------|
| WR-02 | 4/26/2019 | Bacteria | 79.8 | 2419.6 | Phoenix | No |
| WR-03 | 4/26/2019 | Bacteria | 33.2 | 2419.6 | Phoenix | No |
| WR-05 | 4/26/2019 | Bacteria | 90.6 | 2419.6 | Phoenix | No |
| WR-06 | 4/26/2019 | Bacteria | <1 | 1553.1 | Phoenix | No |
| WR-09 | 4/26/2019 | Bacteria | 648.8 | 2419.6 | Phoenix | Yes |
| WR-10 | 4/26/2019 | Bacteria | 517.2 | 2419.6 | Phoenix | Yes |
| WR-11 | 4/26/2019 | Bacteria | 241.5 | 2419.6 | Phoenix | No |

2.2 Credit for screening data collected under 2004 permit

If any outfalls to impaired waters were sampled under the 2004 MS4 permit, that data can count towards the monitoring requirements under the modified 2017 MS4 permit. Complete the table below to record sampling data for any outfalls to impaired waters under the 2004 MS4 permit.

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

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 |
|---------|---------------------------------------|--|
| N/A | | |

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) |
|---------|-------------|--------------|---------|------------------------------|
| N/A | | | | |

Part III: Additional IDDE Program Data

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 Attachment B | | |

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 |
|------------------------------------|-------------------------------|---------|----------|--------------|----------|----------------------------|-------------|---------------|-------------------------|---|
| GH-11 | 1/17/2019 | <0.05 | 0 | 155.29 | 0.07 | 52 | <0.05 | 4.67 | N/A | N/A |
| HE-02 | 1/17/2019 | <0.05 | 0.1 | 308.36 | 0.15 | <10 | <0.05 | 8.98 | N/A | N/A |
| HE-14 | 1/18/2019 | <0.05 | 0.02 | 23 | 0.02 | <10 | <0.05 | 1.64 | N/A | N/A |
| HE-19 | 1/18/2019 | <0.05 | 0.01 | 64 | 0.05 | <10 | <0.05 | 1.74 | N/A | N/A |
| HE-23 | 1/18/2019 | 0.07 | 0.07 | 19 | 0.02 | 120 | <0.05 | 2.07 | N/A | N/A |
| HE-24 | 1/17/2019 | 0.07 | 0.05 | 194 | 0.15 | <10 | <0.05 | 4.09 | N/A | N/A |
| HE-26 | 1/17/2019 | <0.05 | 0.06 | 599 | 0.45 | 1840 | 0.07 | 5.68 | N/A | N/A |
| HE-27 | 1/17/2019 | <0.05 | 0.2 | 1117 | 0.92 | 1100 | <0.05 | 1.98 | N/A | N/A |

| | | | | | | | | | | |
|-------|-----------|-------|------|--------|------|-----|-------|------|----------|-----|
| HR-37 | 1/17/2019 | <0.05 | 0.88 | 587 | 0.46 | 450 | <0.05 | 2.57 | N/A | N/A |
| PR-12 | 1/17/2019 | <0.05 | 0 | 274.34 | 0.13 | 10 | <0.05 | 8.79 | N/A | N/A |
| PR-18 | 1/17/2019 | <0.05 | 0 | 135.89 | 0.06 | 10 | <0.05 | 8.9 | N/A | N/A |
| TH-04 | 1/17/2019 | <0.05 | 0 | 214.29 | 0.1 | <10 | <0.05 | 6.6 | N/A | N/A |
| TH-06 | 1/17/2019 | <0.05 | 0.1 | 75.88 | 0.03 | 20 | <0.05 | 4.43 | N/A | N/A |
| TP-10 | 1/17/2019 | <0.05 | 0.1 | 463.4 | 0.24 | <10 | <0.05 | 9.1 | N/A | N/A |
| TP-11 | 1/17/2019 | <0.05 | 0.1 | 293.9 | 0.14 | <10 | <0.05 | 3.6 | N/A | N/A |
| TP-12 | 1/17/2019 | <0.05 | 0.1 | 194 | 0.09 | 41 | <0.05 | 0.6 | N/A | N/A |
| TP-13 | 1/17/2019 | <0.05 | 0.1 | 553 | 0.26 | <10 | <0.05 | 1.5 | N/A | N/A |
| TP-18 | 1/17/2019 | <0.05 | 0 | 624.94 | 0.3 | 41 | <0.05 | 9.9 | N/A | N/A |
| TP-24 | 1/17/2019 | <0.05 | 0.1 | 133 | 0.06 | 302 | <0.05 | 2.3 | N/A | N/A |
| WB-01 | 1/17/2019 | <0.05 | 0.1 | 189 | 0.05 | <10 | <0.05 | 3.6 | N/A | N/A |
| WB-03 | 1/17/2019 | <0.05 | 0.1 | 236.4 | 0.11 | 10 | <0.05 | 3.2 | N/A | N/A |
| WR-02 | 1/29/2019 | 0.11 | 0 | 334.67 | 0.18 | 0 | 0 | 16.9 | Bacteria | N/A |
| WR-03 | 1/29/2019 | 0.12 | 0 | 100.23 | 0.05 | 10 | 0 | 15.8 | Bacteria | N/A |

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 |
|------------------------------|-------------|---------|----------|--------------|----------|-------------------------|-------------|------------|----------------------|
| N/A | | | | | | | | | |

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 |
|------------|-----------------|------------------------------|
| TBD | | |

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 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

| Key Junction Manhole ID | Screening / Sample date | Visual/ olfactory evidence of illicit discharge | Ammonia | Chlorine | Surfactants |
|-------------------------|-------------------------|---|---------|----------|-------------|
| N/A | | | | | |

3.3 Wet weather investigation outfall sampling data

| Outfall ID | Sample date | Ammonia | Chlorine | Surfactants |
|------------|-------------|---------|----------|-------------|
| N/A | | | | |

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 |
|--------------------|-----------------|-----------------------|---------------------|-------------------|---------------------|----------------------------------|----------------------------------|
| N/A | | | | | | | |

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

Print name:

Barbara K. Perkinson
Signature / Date:

Barbara K. Perkinson 3/30/21

Document Prepared by

Print name:

Maryellen Edwards
Signature / Date:

Maryellen Edwards 3/30/2021

ATTACHMENT A
PUBLIC OUTREACH

PRWC Outreach Log 2020 (Calendar Year)

SUMMARY

Total Number of Outreach Programs & Water Resource Planning Meetings: 50

(does not include mass media hits)

Number of Program & Meeting Attendees: 935

(does not include mass media)

Additional Number Reached through Mass Media Outreach: 122,467

(newsletter, brochures, other publications, website, radio appearances, educational interpretive signage and stormdrain markers)

| Date | Topic / Program Title | Venue | Audience | # of Attendees / Viewers | # of Programs |
|-------------------|--|---|--|--------------------------|---------------|
| January 8, 2020 | Public Comments Presented on Woodbury Plan of Conservation and Development | Woodbury Planning Commission Special Meeting | Planning Commission and Woodbury Residents | 15 | 1 |
| January 18, 2020 | Case Study in Resource Management: Pomperaug Low Flow Operations Plan | Connecticut EnviroThon Aquatics Workshop Connecticut River Academy | High School Students | 40 | 2 |
| February 19, 2020 | Nonnewaug High School Vo-Ag Program Fair Outreach Booth | Nonnewaug High School, Region 14 | High School Students | 30 | 1 |
| April 1, 2020 | Water Wednesday: "Wonders of the Pond" | Facebook Live | Watershed Families | 15 | 1 |
| April 8, 2020 | Water Wednesday: "Water Dance" | Facebook Live | Watershed Families | 16 | 1 |
| April 14, 2020 | Water Watchers Webinar | Zoom - Online | Watershed Residents | 18 | 1 |
| April 15, 2020 | Water Wednesday: "The Salamander Room" | Facebook Live | Watershed Families | 267 | 1 |
| April 22, 2020 | Water Wednesday: "The Little Raindrop" | Facebook | Watershed Families | 3 | 1 |
| April 29, 2020 | Water Wednesday: "Where the River Begins" | Facebook Live | Watershed Families | 60 | 1 |
| April 30, 2020 | DIY Underwater Viewer | Facebook | Watershed Families | 251 | 1 |
| June 6, 2020 | CT Trails Day, Overlook and River Trail Hike | Audubon Bent of the River, Southbury | Watershed Families | Self-Guided | 1 |
| July 9, 2020 | Watershed Connections Presentation Flanders Wetlands Academy | Flanders Nature Center & Land Trust, Woodbury | Flanders Summer Campers | 4 | 1 |

| Date | Topic / Program Title | Venue | Audience | # of Attendees / Viewers | # of Programs |
|-------------------------|---------------------------------------|---|-------------------------------------|--------------------------|---------------|
| June 30 – July 30, 2020 | Watershed Overview | Woodbury Public Library Community Display Case | Woodbury Residents | unknown | 1 |
| September 26, 2020 | Watershed Video Tour | Zoom - Online | Watershed Residents | 60 | 1 |
| October 3, 2020 | O&G Quarry Geology Tour with Flanders | O&G Industries, Southbury Quarry | Watershed Community | 50 | 2 |
| October 7, 2020 | Watershed Video Tour | Zoom - Online | Naugatuck Pomperaug Trout Unlimited | 8 | 1 |
| October 14 & 22, 2020 | Macroinvertebrate Survey Training | Zoom | Survey Volunteers | 10 | 2 |
| October 17, 2020 | Annual Macroinvertebrate Survey | Eight Mile Brook, Oxford Bullet Hill Brook, Southbury Transylvania Brook, Southbury | Watershed Residents/ Volunteers | 7 | 3 |
| October 24, 2020 | Annual Macroinvertebrate Survey | East Spring Brook, Bethlehem Carmel Hill Brook, Woodbury Sprain Brook, Woodbury | Watershed Residents/ Volunteers | 5 | 3 |
| December 9, 2020 | PRWC Advisory Council Meeting | Zoom - Online | PRWC Advisory Council | | 1 |

| Date | Topic / Program Title | Venue | Audience | # of Attendees | # of Programs |
|-------------------------|---|--|--|----------------|---------------|
| Various Dates (Monthly) | Water Planning Council Advisory Group (WPCAG) | PURA Offices, New Britain & Zoom Conference Calls | WPCAG Members & Public | 25 | 8 |
| Various Dates | DEEP Environmental Advocates Meetings | DEEP Hartford & Conference Calls | Environmental Advocates Group Members | 20 | 4 |
| Various Dates (Monthly) | Water Planning Council (WPC) | PURA Offices, New Britain | Council Members, Subcommittee Members & Consultants | 25 | 8 |
| Various Dates | Watershed Based Plan Implementation Projects Planning Meetings | Various | PRWC Staff, Project Partners including private landowners, and municipal representatives of Woodbury, Southbury, and Bethlehem | | |
| Various Dates | Woodbury Stormwater Management Committee Mtgs / Sustainable CT Meetings | Town of Woodbury | Committee Meetings | 2 | 2 |
| Various Dates | LID and Engineering Class Service Learning Project | The Frederick Gunn School, Washington, CT | High School Students | 4 | 1 |

PRWC Outreach through Mass Media

| Date | Activity | Audience | # Reached |
|---|---|--------------------------------------|--|
| Ongoing | PRWC Website (www.pomperaug.org) | Watershed Residents and beyond | 4,526 unique users between 1/1/20 and 12/31/20 <i>(up by 1.5% since 2019)</i> |
| Ongoing | RiverSmart Website (www.riversmartct.org) | Watershed Residents and beyond | 458 unique users between 1/1/20 and 12/31/20 |
| Ongoing | Earth Day Website (www.woodburyearthday.org) | Watershed Residents and beyond | 759 unique users between 1/1/20 and 12/31/20 |
| Ongoing | YouTube Watershed Video Tour and Aquarion Environmental Champion Award | Watershed Residents and beyond | 207 as of 1/7/2021 |
| Fall/ Winter | PRWC Newsletter* | Watershed Residents and beyond | ~950 each issue |
| Ongoing | PRWC Facebook Page | Watershed Residents and beyond | 1026 Page Likes as of 1/7/21 <i>(up by 95 since 12/31/19)</i> 1,183 page followers as of 1/7/21 MAX Daily Total Reach: <u>1,412</u> unique users |
| Ongoing | PRWC Instagram Page | Watershed Residents and beyond | 646 followers as of 1/7/21 <i>(up by 386 since 12/31/19)</i> |
| Ongoing | Press Releases in Voices Newspaper | Watershed Residents | 31,300 per issue |
| Ongoing | Press Releases in Waterbury Rep-Am | Watershed Residents and beyond | 45,000 per issue |
| Ongoing | Press Releases in Litchfield County Times | Watershed Residents and beyond | 5000 per issue |
| Ongoing | Stormdrain Markers | Watershed Residents | 30,000 |
| Ongoing | Educational Interpretive Signage at Cedarland Park & Community House Park, Southbury | Watershed Residents | Unknown |
| Ongoing | Informational Brochures, Newsletters, etc. at Public Libraries, Town Hall Offices, and locally owned grocery stores | Watershed Residents and beyond | Unknown |
| July 9, 2019 August 15, 2019 September 26, 2019 | Southbury Code Red System & HVWC Customer Notification Call Lists -- Low Flow Operations Plan – Thresholds reached / request for voluntary water conservation | Southbury Residents / HVWC customers | Unknown |

** May be overlap in persons reached.

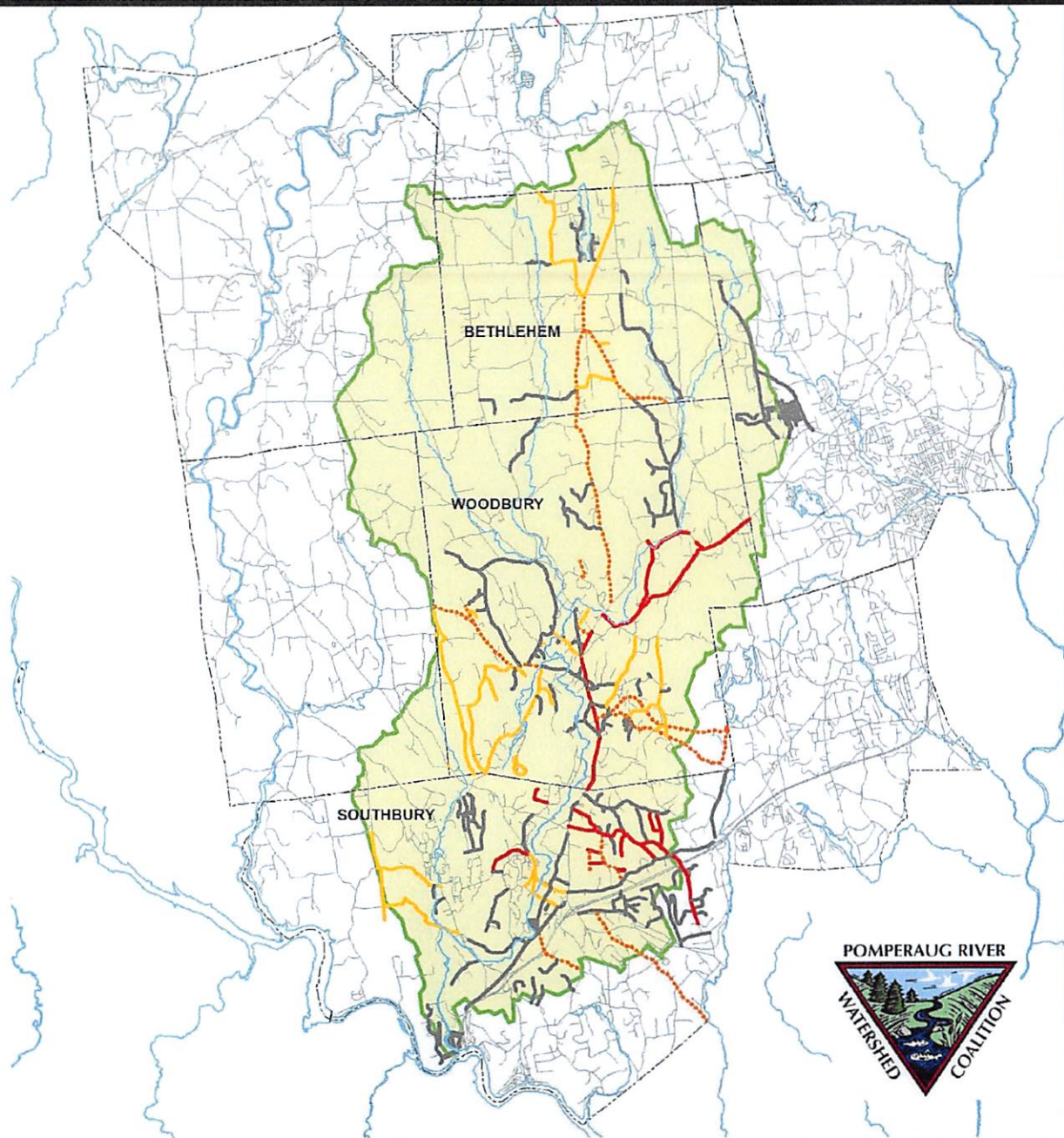
Stormdrain Marker Installations Pomperaug River Watershed Area



Legend

Stormdrain Progress

- 2014; 2015; 2016; 2017
- 2019
- 2020
- ⋯ In Progress
- Roads
- ⊠ Towns
- ▭ Pomperaug Watershed



STORMDRAIN MARKER PROJECT



Approximately 3320 Storm Drain Markers have been installed throughout the Pomperaug River Watershed towns since 2014.

Storm drains are the openings you see along curbs and in streets and parking lots. They collect stormwater and transport it through a system of pipes to nearby ponds, lakes and streams, and ultimately to Long Island Sound. Storm drains do not lead to a treatment facility. Anything that goes into a storm drain eventually ends up in our waters. The storm drain markers provide a gentle prompt to not dump anything down the drain and that only rain should go down the drain because of the connection to nearby rivers and streams.

Reminders

Drain Marker Inventory Depleted in 2017; Drain Marker Inventory Replenished in 2019

*** = Replacement Stormdrain Markers Added*

| Town <i>(Approx. Marker Count)</i> | Year | List of Roads / Locations | | |
|---------------------------------------|----------------------|---|---|---|
| Bethlehem <i>(~176 Markers)</i> | 2019 <i>(141)</i> | Main Street N Sunset Rd | Munger Ln Main Street S <i>(partial)</i> | Robert Leather Rd Flanders Rd <i>(partial)</i> |
| | 2016 | Nonnewaug Rd | | |
| | 2015 | Double Hill Rd | Kasson Ave | Orchard Ave |
| | 2014 | Crane Hollow Rd Lake Ave | Lake Dr | Long Horizon Rd |
| Watertown <i>(~340 Markers)</i> | 2015 | Balmoral Dr Dunrobin Ln Eastwood Hall Rd Guernseytown Rd Inverary Dr Stonehenge Pl | Kent Ter Malvern Hill Rd Neill Dr Pepperidge Tree Rd Platt Rd | Stoneleigh Rd Warwick Rd Westgate Rd Whispering Hill Rd Winding Brook Farm Rd |

| Town (Approx. Marker Count) | Year | List of Roads / Locations | | |
|-----------------------------------|---------------|---|--|---|
| Woodbury (~847 Markers) | 2020 (200) | Minortown Rd Mill Rd | Main St N Main St S | Middle Road Turnpike |
| | 2019 (192) | Grassy Hill Rd Woodlake Entrance Bacon Pond Rd Bear Run Trolley Bed Rd Linden Rd Old Sherman Hill Rd** Whittlesey Rd (partial) | Upper Grassy Hill Rd Tuttle Rd Park Rd River Bend Dr Saxony Ln Meadowbrook Ln Sherman Hill Rd (partial) Church Street | Transylvania Rd Sage Rd Judson Ave Owl Ridge Rd Cam Ave Arrowhead Way (partial) Good Hill Rd (partial) Flanders Rd (partial) |
| | 2017 | White Deer Rocks Rd. Sage Rd Terrell Rd Joshua Hill Rd Crane Rd Barbara Ln Park Rd Rail Tree Hill Rd | Hollow Rd** Streamside Ave Westside Rd Fairgrounds Rd Westwood Rd Stone Pit Rd Hoop Pole Hill Rd | Fieldstone Rd Essex Ln Inwood Ln Good Hill Rd Meadowbrook Ln Old Grassy Hill Rd Grassy Hill Rd |
| | 2016 | Old Sherman Hill Rd | | |

| | | | | |
|----------|------|--|---|--|
| Woodbury | 2015 | Alder Ct Bacon Pond Rd Barn Hill Rd Barnhill Rd Beechwood Ct Cedar Spring Ln Church St Clubhouse Dr Deer Hill Ct Edgehill Ct Fox Run Great Hollow Rd Grey Fox Trl Hesseky Meadow Rd | Hilltop Dr Hollow Rd Ironwood Ln Juniper Ct Lower Commons Maple Hill Ln Meadow Crest Dr N Gate Rd No Meadows Old Town Farm Rd Orenaug Ave Plumb Brook Rd Racoon Ridge | S Meadows School St Shagbark Ln Silver Brook Ln Summit Ct Sycamore Ave Tamarack Ln Timber Ln Transylvania Rd Upper Cmns Washington Ave Woodlake Rd Woods Way |
| | 2014 | Coach Light Dr Gate Post Ln Hillview Ln Hyland Ave Meadow Ave Middle Quarter Rd | Old Fair Grounds Rd Old Sherman Hill Rd Orchard Ave Orchard Ln Orton Ln | Pomperaug Rd River View Ln S Pomperaug Ave Sherman Heights Rd Weekepeemee Rd |

| Town (Approx. Marker Count) | Year | List of Roads / Locations | | |
|--------------------------------|---------------|---|--|--|
| Southbury (~1237 Markers) | 2020 (400) | Hinman Ln Ivy Hills Rd Old Highway Rd Sunset Ridge Rd | Grasslands Rd Wood Lot Rd New Wheeler Rd | Short Rock Rd Dublin Hill Rd Bucks Hill Rd |
| | 2019 (137) | Heritage Rd Poverty Rd Jeremy Swamp Rd (<i>partial</i>) | Hillhouse Rd Peach Orchard Rd Peter Rd (<i>partial</i>) | Spruce Brook Rd E Flat Hill Rd |
| | 2017 | Glen Ln Sunburst Dr Settlers Hill Rd Lumlot Rd Chestnut Tree Hill South Ridge Rd Cedar Grove Rd | Skyview Dr Horizon Hill Hill Crest Dr Beecher Dr Woodland Hills Rd Ivy Hills Rd | Homestead Rd Railstone Dr Overton Farm Rd Luther Rd Forest Rd Bagley Rd |
| | 2016 | Main Street South (<i>partial</i>) Heritage Rd | North Poverty Rd Flood Bridge Rd | Old Field Rd** |
| | 2015 | Eagle View Rd Grey Rock Rd | Little Fox Ln Sleepy Hill Rd | Valley Stream Ln |

| | | | | |
|-----------|------|--|---|---|
| Southbury | 2014 | Bagley Rd Berkshire Rd Carriage Dr Cedar Trl Charter Oak Rd Coachmans Dr Colonial Dr Community House Rd Coughlin Dr E Hill Rd Fawn Ridge Ct Forest Rd Fox Run Dr Gate Post Ln Hicock Dr Hillside Rd Old Waterbury Rd | Horse Fence Hill Rd Housatonic Trl Judd Rd Lantern Park Ln N Lantern Park Ln S Luther Dr Manor Rd Mansion House Rd Meadow Brook Rd Midland Trl Munn Rd Northern Trl Oak Tree Rd Oakdale Dr Old Field Rd Old Poverty Rd | Painter Rd Pascoe Dr Patriot Rd Patriot Rd Peck Ln Pepper Tree Hill Ln Pine Hill Rd Pomperaug Trl Poplar Dr Poverty Rd Poverty Rd River Trl Spring Trl Sylvan Crest Dr White Birch Ln Wolfpit Dr |
|-----------|------|--|---|---|





Crew Accomplishments 2020 Field Season

PRWC gainfully employed four Youth Conservation Corps (YCC) staff (2 Dr. Marc Taylor Intern Crew Leaders, and 2 high school student crew members), along with increased hours for PRWC's Outreach Coordinator to provide training, safety protocol supervision, stream assessments quality controls and educational enrichment for a six-week field season. Over the course of their season, the Crew was able to achieve the following quantitative outputs:

- Conducted 22 stream crossing assessments (bridges and culverts) in Woodbury following North Atlantic Aquatic Connectivity Collaborative protocols to evaluate suitability for aquatic life passage. Aquatic life passage barrier ratings and field data for each crossing and can be viewed online at https://naacc.org/naacc_search_crossing.cfm. Crossings along Jacks Bridge Road; Mill Road; Minortown Road Extension; Judson Avenue; Westside Road; Quassapaug Road were assessed.
- Completed 2.62 miles of stream walk survey assessments covering four different stream sections within the watershed:
 - Three Rivers Park Buffer Assessment –
 - Documented buffer condition/erosion and potential planting options every 100 feet along the Pomperaug River
 - Orton Pond Stream Walk/Neighborhood Survey –
 - Investigated the extent of a problematic site along certain section of the Pomperaug at which a long term log jam has diverted water into a private pond leaving the River dry for a stretch
 - Conducted neighborhood survey to see the problem from a different angle
 - Transylvania Brook Stream Walk and Neighborhood Surveys –
 - Identified and GPS located areas of serious erosion along Transylvania Brook
 - Conducted windshield survey of neighborhoods close to the stream with the intent of identifying any potential sources of pollution that may run into the brook
 - Removed 722 water chestnut seeds from the Brook slowing the invasive plant from growing downstream and into Lake Zoar
 - Collected trash

- Southbury Dog Park Stream Walk –
 - Documented and measured spots along the Pomperaug River channel with serious erosion from dog traffic and identified potential solutions that would reduce erosion such as stone steps and plantings
- Collected four rounds of bacteria, nitrate, and conductivity samples from 13 sites located throughout the watershed providing data on water quality to CT DEEP
 - Created an online, interactive, color-coded map of sampling results that shows whether the given location is suitable for swimming, fishing, boating, etc. Map is viewable at www.pompearug.org/monitoring
 - Updated the web pages for each sampling site to include a table showing bacteria, nitrate, and conductivity data for each round of sampling.
 - Created tablet based field data collection forms using EpiCollect5 App.
- Planted 48 trees and shrubs (sycamore, silver maple, silky dogwood, and viburnum) at Three Rivers Field in Woodbury and Cedarland Park in Southbury to improve stream buffer; also removed invasive plants (mugwort) to make room for the native species.
- Physically removed 12 cubic yards / half-ton / dump truck load of trash and scrap metal from the following areas:
 - Pomperaug River between Audubon Center at Bent of the River and South Britain Dam in Southbury
 - Transylvania Brook from Spruce Brook Road to East Flat Hill Road in Southbury
 - Former Southbury Town Beach where Pomperaug River flows into Lake Zoar
 - Janie Pierce Park / Transylvania Pond on Southbury – Woodbury townline
 - Trails around Nonnewaug Falls in Woodbury
- Installed more than 500 stormdrain markers along 22 road segments in Woodbury and Southbury; updated GIS map showing the completed roads.
- Conducted thermal spot checks for stream temperature data loggers placed at 10 monitoring sites throughout the watershed. Stream temperature is taken and recorded to serve as a data point to compare the logger data to for quality assurance purposes.

Pomperaug Youth Conservation Corps positions were funded in part by grant support from Connecticut Community Foundation.

ATTACHMENT B
CATCHMENT RANKING RESULTS

M E M O R A N D U M

TO: Town of Woodbury

FROM: Nelson Tull, EIT, Julianne Busa, PhD, Erik Mas, PE

DATE: July 17, 2019

RE: Town of Woodbury MS4 Compliance
Assessment and Priority Ranking of Catchments

Introduction

Each regulated community, pursuant to the 2016 Connecticut Municipal Separate Storm Sewer System General Permit (2016 MS4 Permit or MS4 Permit), is required to assess and priority rank outfalls and catchments within their Priority Area. This requirement is part of the written illicit discharge detection and elimination (IDDE) program described in Section 7 of Appendix B in the permit. The priority ranking (Appendix B, Section A.7.c.i-iii) reflects the potential of a particular outfall or catchment to have illicit discharges or Sanitary Sewer Overflows (SSOs).

Catchment rankings must reflect screening factors that indicate illicit discharge and SSO potential and the related public health significance. Each catchment must be classified into one of four categories, listed in Table 1. The permit further prescribes eight mandatory and two recommended screening factors and allows the consideration of other local conditions, as applicable. The Town of Woodbury contracted with Fuss and O'Neill to assess and rank catchments using CT DEEP local basin delineations as the geographic basis for the analysis.

Table 1: Catchment priority categories defined by the 2016 MS4 Permit

| Catchment Priority Category | Description |
|-----------------------------|---|
| Problem | Catchments with known or suspected contributions of illicit discharges based on existing information shall be designated as Problem Catchments. This shall include any catchments where previous screening indicates likely sewer input. |
| High | Catchments that have not been classified as Problem Catchments and that are: <ul style="list-style-type: none"> • discharging to an area of concern to public health due to proximity of public beaches, recreational areas, drinking water supplies or shellfish beds; or • categorized by the permittee as high priority based on outfall/interconnection screening; or • categorized by the permittee as high priority based on the screening factors detailed in Table 2 or other available information. |
| Low | Catchments not listed as Problem or High priority and categorized by the permittee as Low priority based on the screening factors detailed in Table 2 or other available information. |
| Excluded | Catchments with no potential for illicit discharges may be excluded from the IDDE program. This category is limited to roadway drainage in undeveloped areas with no dwellings and no sanitary sewers; drainage for athletic fields, parks or undeveloped green space and associated parking without services; cross-country drainage alignments (that neither cross nor are in proximity to sanitary sewer alignments) through undeveloped land. |

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Catchment Ranking and Prioritization

Due to the time-consuming process of delineating catchments associated with individual outfalls, CT DEEP allows the use of the smallest watershed unit mapped by CT DEEP as a surrogate for individual outfall catchment areas (refer to guidance provided by the UConn Center for Land Use Education and Research on the Connecticut MS4 Guide website). These watershed units are referred to as “local basins” and are provided as a downloadable GIS layer by CT DEEP. The local basins were clipped to the geographic extent of the Town and therefore only include areas of each basin within this extent. The terms “local basin” and “catchment” can be considered interchangeable for the purposes of this assessment.

For purposes of the IDDE program, the Town should focus only on those catchments located within the “Priority Area” (defined by the MS4 Permit to include Urbanized Area within the Town, areas that discharge directly to impaired waters, and local basins with directly connected impervious area (DCIA) greater than 11% (although Woodbury does not have any of the latter)). All local basins overlapping with the Town of Woodbury Priority Area were screened using the factors detailed in Table 2. Fuss and O’Neill developed a ranking matrix where scores were assigned to reflect catchment-specific information. Assigned scores were summed and normalized by the maximum possible score (27), resulting in a 0 to 10 scale, where a score of zero indicates the lowest relative likelihood of the presence of illicit discharge. Classification into the four catchment priority categories (Problem, High, Low, and Excluded) was performed manually and reflects the assigned scores as well as consideration of public health concerns (Attachment A). Individual scoring was completed for each of the screening factors listed in Table 2.

Table 2: Outfall catchment screening factors required for consideration by the 2016 MS4 Permit

| Screening Factor | Description | Scoring Method | Data Source |
|--|--|--|--|
| Past Discharge Complaints and Reports | Any information regarding the potential for an illicit connection based on previous inspection, reports, or complaints. | Screened, No flow: 0 Unscreened: 1 Flow, no illicit discharge evidence: 2 Flow, illicit discharge evidence: 3 | Town of Woodbury (outfall screening data collected by Fuss & O’Neill 2019) |
| Poor Dry Weather Receiving Water Quality | Water quality limited waterbodies that receive a discharge from the MS4 or waters with approved TMDLs applicable to the permittee, where illicit discharges have the potential to contain the pollutant identified as the cause of the water quality impairment. | Receiving Water Quality Good or unassessed: 0 Category 4c: 1 Category 5: 2 Category 4a: 3 | CT DEEP 2016 Integrated Water Quality Report |

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| Screening Factor | Description | Scoring Method | Data Source |
|------------------------------------|--|---|--|
| Land Use / Generating Site Density | Generating sites are those places, including institutional, municipal, commercial, or industrial sites, with a potential to generate pollutants that could contribute to illicit discharges. | Low: 1 Medium: 2 High: 3 | MRLC NLCD (2011), Aerial imagery, Google Maps and Streetview |
| Development Age and Septic Age | Industrial areas greater than 40 years old and areas where the sanitary sewer system is more than 40 years old will probably have a high illicit discharge potential. Developments 20 years or younger will probably have a low illicit discharge potential. | Development Age: 1990s-present: 1 1970-1990: 2 Pre-1970: 3 Septic Age: < 20 years: 0 20 to 40 years: 1 > 40 years: 3 | Town of Woodbury GIS: Parcel Annotation |
| Sewer Conversion | Contributing catchment areas that were once serviced by septic systems, but have been converted to sewer connections may have a high illicit discharge potential. | Past Sewer Conversion No sewers: 0 Sewers, infrastructure post 1970: 0 Basin partially sewered, infrastructure pre-1970: 2 Sewers, infrastructure pre-1970: 3 | CT MAGIC GIS |
| Historic Combined Sewer Systems | Contributing areas that were once serviced by a combined sewer system, but have been separated may have a high illicit discharge potential. | Past CSO separation: No: 0 Yes: 3 | |
| Culverted Stream | Any river or stream that is culverted for distances greater than a simple roadway crossing may have a high illicit discharge potential. | Stream Crossings Road crossings only: 0 Limited Potential: 1 High Potential: 3 | CT DEEP Hydrography |
| Public Health Area | Outfall discharges to waterbodies containing a public bathing area, drinking water source, or recreational shellfishing area. | Public Health Area Yes: Automatically given highest score (10.0) | CT DPH Mapping |

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Past discharge complaints and reports:

Certain outfalls in the Town had been inspected previously for dry-weather flow. Those that have been inspected and were found to have no flow were given a score of 0, while those that were flowing received a score of 2 if there was no evidence of illicit discharges. Unscreened outfalls were given a score of 1. No outfalls in the Town were found to have evidence of illicit discharges, so no catchments received a score of 3 for this category.

Poor dry weather receiving water quality:

Catchments were ranked by water quality of the receiving waterbody using the 303d listing status from the State of CT 2016 Integrated Water Quality Report. Receiving waterbodies with a current TMDL (category 4a) were given highest priority (score of 3). Impaired waterbodies in need of a TMDL (category 5) were assigned a score of 2. Waterbodies with non-pollutant impairments (category 4c) were assigned a score of 1. Waterbodies that were unassessed or fully supporting their designated use were given lowest priority (score of 0). The only impaired waterbody in the Town is the Weekepeemee River, which is part of the Statewide Bacteria TMDL. Catchments contributing to this waterbody were given a score of 3, while all other catchments were given scores of 0.

Density of generating sites:

The National Land Cover Database (Homer, et al., 2015) was used to determine the percent area of each local basin that is either developed or undeveloped. For evaluation purposes, land cover codes 21, 22, 23, and 24 were considered “Developed” while all other land cover codes were considered “Undeveloped.” Table 3 lists each land cover code present in the Town of Woodbury and its corresponding classification. Basins with undeveloped land cover area accounting for more than 50% of the basin were considered to have a “low” density of generating sites and were given a score of 1. All basins in the Town are less than 50% developed, so it was determined to be unnecessary to screen for generating sites.

Table 3: Land cover and development classifications for the Town of Woodbury

| NLCD Land Cover Code | Classification |
|------------------------------------|----------------|
| 11: Open Water | Undeveloped |
| 21: Developed Open Space | Developed |
| 22: Developed Low Intensity | Developed |
| 23: Developed Medium Intensity | Developed |
| 24: Developed High Intensity | Developed |
| 31: Barren Land (rock, sand, clay) | Undeveloped |
| 41: Deciduous Forest | Undeveloped |
| 42: Evergreen Forest | Undeveloped |
| 43: Mixed Forest: | Undeveloped |
| 52: Shrub/Scrub | Undeveloped |
| 71: Grassland/Herbaceous | Undeveloped |
| 81: Pasture/Hay | Undeveloped |

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| NLCD Land Cover Code | Classification |
|----------------------------------|----------------|
| 82: Cultivated Crops | Undeveloped |
| 90: Woody Wetlands | Undeveloped |
| 95: Emergent Herbaceous Wetlands | Undeveloped |

Age of surrounding development and infrastructure:

The Town of Woodbury's parcel GIS layer was used to estimate the age of development and infrastructure within each local basin. The local basins were classified into three categories based on the age of the majority of the structures in the basin; pre-1970 (score of 3), 1970-1990 (score of 2) and 1990 to present (score of 1).

Sewer conversion:

The Town of Woodbury does not have a sanitary sewer system. All properties in the Town were assumed to have septic systems.

Historic combined sewer systems:

The Town does not have any areas that were previously part of a combined sewer system. Scoring was considered to be zero for all local basins.

Density of aging septic systems:

The age of septic systems was determined by the dominant age of surrounding development and infrastructure. If the age of infrastructure was pre-1970, it was assumed that septic systems could be more than 40 years old and the basin was given a score of 3. If the age of infrastructure was mixed or 1970 to 1990, the majority of septic systems could be assumed to be between 20 and 40 years old and the basin was assigned a score of 1. If the age of infrastructure was post-1990, the majority of septic systems were assumed to be less than 20 years old and the basin was given a score of 0.

Culverted streams:

The CT DEEP hydrography layer was examined along with aerial imagery of the Town to determine if any streams are culverted for distances greater than a simple roadway crossing. If only standard road crossings were observed, the basin was given a score of 0. If any streams in the basin were observed to be buried or culverted for more than the distance of an average road crossing, the basin was given a score of 1 for a relatively short distance and a 3 if the buried distance was relatively long. Only one instance of a buried stream was found, where a stream runs under Sherman Hill Road and continues under an adjacent parking lot before daylighting. This was determined to be a relatively short distance (400-450 feet).

Public health area:

If the local basin discharges to a drinking water supply, recreational shellfishing area, or beach or water used for contact recreation, the basin was automatically listed as High Priority and given the maximum

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possible score of 10. If the local basin does not discharge to any of the above areas, the score was not affected.

Results

Of the Town's 326 mapped outfalls, 227 are located within local basins that overlap with the Town's Priority Area. Of these 227 outfalls, 27 are associated with High Priority catchments and 200 are associated with Low Priority catchments (Attachment A), based on the priority ranking of the local basin associated with each outfall. The analysis did not identify any "Problem" or "Excluded" catchments.

Receiving water quality, age of development and infrastructure, and public health consideration are the primary determining factors for Woodbury's High Priority catchments and outfalls. Outfalls in the three local basins in Woodbury that drain to the Weekepeemee River are near the top of the priority ranking because this river is the only impaired waterbody in the Town, as part of the statewide bacteria TMDL. These basins received the maximum score of 3 for both the receiving water quality category and illicit connection TMDL category. Based on Town parcel data, most areas of Woodbury have infrastructure built in the years between 1970 and 1990, although many parcels did not have infrastructure age information. Most of the basins where the majority of infrastructure was built prior to 1970 were at the top of the priority ranking, as the septic age category was also related to this infrastructure age data, and basins with older infrastructure are considered to have a higher potential for illicit discharges. Public health consideration can be regarded as the most important factor used in this analysis. Per the CT MS4 General Permit, basins containing an area of public health concern (e.g., drinking water supply area) were automatically placed at the top of the ranking and categorized as High Priority.

Outfalls had been previously screened by Fuss & O'Neill on behalf of the Town, although no evidence of illicit discharges was found. No basin in the Town is greater than 50% developed (all basins are less than 33% developed), therefore no analysis of generating site density was performed. Based on CT DEEP streams GIS data and aerial imagery, only one location within the basins with Priority Area showed evidence of a stream that is buried longer than a typical road crossing. The stream is buried under one road and an adjacent commercial property, so outfalls in this basin were given the designation of "limited potential" (score of 1). Woodbury has no existing or historic sanitary or combined sewer systems. There were also no records of past discharge complaints or reports.

Woodbury should proceed with implementation of its IDDE program, with a focus on those outfalls that are ranked as High Priority. The MS4 Permit requires that Woodbury update this assessment and priority ranking annually based on the results of dry weather screening, catchment investigations, and other new relevant information. Woodbury should also provide a listing of catchments and the results of the ranking for each catchment in each annual report.

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Works Cited

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Homer, C., Dewitz, J., Yang, L., Jin, S., Danielson, P., Xian, . . . Megown, K. (2015). Completion of the 2011 National Land Cover Database for the conterminous United States – representing a decade of land cover change information. *Photogrammetric Engineering and Remote Sensing*, 345-353.

Attachment A

Outfall and Catchment Inventory and Ranking

