MS4 General Permit
Town of Wallingford 2019 Annual Report
Existing MS4 Permittee
Permit Number GSM 000050
January 1, 2019 – December 31, 2019

This report documents the town of Wallingford efforts to comply with the conditions of the MS4 General Permit to the maximum extent practicable (MEP) from January 1, 2019 to December 31, 2019.

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	All completed	Brochures, posters and fact sheet are provided at various town departments.	Educate town residents.	DPW, Engineering, Wetlands, Planning and Zoning	12/31/19	Completed in 2017-2019	Continue to add and update materials.
		Flyer sent out to all town residents - Annual "Clean a Road" flyer.	Improve stormwater quality.	DPW	12/31/19	Completed in 2017-2019	Continue to send out flyer annually.
		Town Hall Display on stormwater.	Inform the public.	DPW	12/31/19	Completed in 2017-2019	Continue to display.
		Stormwater activity books to schools.	Educate students.	DPW	12/31/19	Previously Completed in 2017-2018	Continue to reach out to schools.

		Library Series on stormwater and water quality topics. "Stormwater and You" Booth. Town website with Stormwater Management Plan and other links to stormwater information. Household Hazardous Waste Collection Point for residents – at Regional Water Authority in New Haven.	Educate the public. Educate public on stormwater. Educate public. Public can properly dispose of household hazardous waste.	Town Library Sponsored by Town Program Planning and DPW Engineering Information on town website and Town of Wallingford hosts twice a year	12/31/19 12/31/19 12/31/19 12/31/19	Previously Completed in 2017-2018 Completed in 2017-2019 Completed in 2017-2019 Completed in 2017-2019	Continue to support. Continue with current sponsor or new sponsors. Update as new information comes in. Continue with Regional Water Authority as the leading agency.
1-2 Address education/ outreach for pollutants of concern*	In progress	Town Department brochures and pamphlets on pollutants of concern.	Educate public about Bacteria, nitrogen and phosphorus.	Water Pollution Control Authority, Aquifer Protection Regulations as supplied by various town departments	12/31/19	Completed in 2017-2019	Continue/update informational flyers.

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

Plan to implement new brochures, pamphlets, and update/continue with town display and booth as new stormwater information is made available from regulatory sources (CTDEEP and/or EPA). Update town website on stormwater as information is required (e.g., Annual Report posting requirement). This will continue to be changed/developed as new informational brochures and pamphlets come available.

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.
Brochures, posters and fact sheet	Town residents doing business at Town Hall and DPW.	Potential contaminants and stormwater impacts.	Phosphorus, nitrogen, bacteria, oils and TSS	DPW, Engineering, Wetlands, Planning and Zoning
Flyer sent out to all town residents - Annual "Clean a Road" flyer.	All town residents.	Trash to be eliminated from stormwater runoff.	Trash	DPW
Town Hall Display on stormwater.	Residents that do business at Town Hall.	Various stormwater topics – general information.	General information only	DPW
Stormwater activity books to schools.	Elementary Schools in Wallingford.	General pollution problems.	General information only	DPW
Library Series stormwater & water quality topics.	People who attend series.	Stormwater quality and water quality.	Topics vary	Town Library
"Stormwater and You" Booth.	Residents, families/children.	General information.	General information	DPW and Town Program Planning
Town website with Stormwater Management Plan and other links to stormwater information.	Residents and others who visit the website.	Various topics, Stormwater Management Plan, Annual Report(s).	General information	Engineering
Household Hazardous Waste Collection Point for residents – at Regional Water Authority in New Haven.	Residents that attend collection point.	Eliminate hazardous waste from stormwater.	Hazardous waste and hazardous materials	Regional Water Authority
Town Department brochures and pamphlets on pollutants of concern.	Residents that do business in these departments.	Bacteria, nitrogen and phosphorus.	Bacteria, nitrogen and phosphorus	Water Pollution Control Authority and Aquifer Protection Agency

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	Posted	Stormwater Management Plan (SWMP) posted to the town website and information about the SWMP at the Town Library, Town Clerk, in the local newspaper and at the Town Hall Display as of April 1, 2017.	Provide forum to coordinate SWMP implementation across depts. and commissions.	Engineering	Apr 3, 2017	Completed April 1, 2017	Stormwater Management Plan previously completed on time as per Permit requirements.
2-2 Comply with public notice requirements for Annual Reports	In Progress	2018 Annual Report previously posted.	Provides access for residents to understand what is being accomplished in the town for stormwater management.	Law Department, Engineering and DPW	Feb 15, 2020	2017 Annual Report posted April 1, 2018. 2018 Annual Report posted June 14, 2019. 2019 Annual Report posted February 18, 2020.	2018 Annual Report delay due to Town of Wallingford re-bidding MS4 Permit Compliance with a consultant and having funds available for this service.
2-3 Household Hazardous Waste Collection Point for residents – at Regional Water Authority in New Haven	Completed	Done throughout the year - involve public in proper disposal of waste streams to eliminate sources to stormwater.	Public can properly dispose of household hazardous waste.	Regional Water Authority	-	Done throughout the year	Information on town website and Town of Wallingford hosts twice a year.
2-4 Compost Center	Completed	Provided to town residents for leaves and other organic debris (yard debris).	Eliminate leaves and other compost into the storm sewers.	DPW	-	Available to town residents	Compost Center located at 157 John Street, Wallingford, CT
2-5 Recycling Center	Completed	Provided town residents for solid waste to be recycled – wood, metal, mattresses, light bulbs and ballasts.	Eliminate large solid waste streams into storm sewers not handled by	DPW	-	Available to town residents	Recycling Center located at 25 Pent Road, Wallingford, CT

2-6 Community Clean-ups	Completed	Twice per year – various locations.	curb-side pick-up. Opportunity to clean-up wastes from getting into the storm sewers.	DPW	-	Town residents, community groups and businesses	Quinnipiac River Watershed clean-up. Tyler Mill Preserve Conservation Commission clean-up. Mini-Grant provided by town for groups to initiate their own clean-up.
2-7 Adopt-a-Road Program	Completed	Done since initiation of this Permit.	Town has Adopt-a-Road Program to eliminate sections of trash along roadways.	DPW	-	Town residents, community groups and businesses	
2-8 Marker Kits	Completed	Done since initiation of this Permit.	Town and High School students have placed on stormwater catch basins warning discharge to rivers and waterbodies.	DPW	-	DPW and school students	6,500 catch basins completed to date.
2-9 Citizen Reporting	Completed	*Complaint form available on town website.	For residents to report illicit discharges to storm sewers.	Engineering	April 1, 2017	April 1, 2017 Completed as per Permit requirements	

*Town website for stormwater: http://www.town.wallingford.ct.us/Content/Stormwater_and_You.asp

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

2019 Annual Report to be posted by February 18, 2020.

2.3 Public Involvement/Participation reporting metrics

Metrics	Implemented	Date	Posted
Availability of the Stormwater Management Plan announced to public	Yes – previously submitted	April 1, 2017	Town website *see below
Availability of Annual Report announced to public	In progress	2017 Annual Report posted April 1, 2018. 2018 Annual Report posted June 14, 2019. 2019 Annual Report posted February 18, 2020.	Town website *see below

* http://www.town.wallingford.ct.us/Content/Stormwater_and_You.asp

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	In progress	Town is in process of completing written IDDE program using the CT IDDE program template.	Develop written plan of IDDE program.	Law Department, DPW and Engineering	Jul 1, 2018	September 2019	Town developed IDDE Program in early 2019, and finalized thereafter.
3-2 Develop list and maps of all MS4 stormwater outfalls in priority areas	Completed	A way for the Town to track/reference all the outfalls and interconnections for the MS4.	Develop the lists/mapping for the outfalls of the MS4.	Engineering Department	Jul 1, 2019	Completed May 1, 2019	Changes/Updates incorporated when discovered

3-3 Implement citizen reporting program	Completed	Implemented an Illicit Discharge Reporting Form available on the town website.	Citizen reporting system.	Engineering Department	Jul 1, 2017	Previously completed April 1, 2017	
3-4 Establish legal authority to prohibit illicit discharges	Completed	New (approved on 3/14/18) Stormwater Management Ordinance.	Regulate, prohibit, establish legal authority and ensure compliance with MS4.	Town Law Department and Engineering	Jul 1, 2018	Previously completed 3/14/18	Town of Wallingford, CT Ordinance No. 621
3-5 Develop record keeping system for IDDE tracking	Completed	Follow-up of citizen reporting to confirm an illicit discharge and document.	Documents illicit discharge reports by citizens.	Engineering Department	Jul 1, 2017	Completed previously - April 1, 2017	
3-6 Address IDDE in areas with pollutants of concern	In progress	Follow-up investigation of confirmed Illicit discharge.	Find and stop source(s) of the illicit discharge.	Engineering Department	Not specified	Dry weather screening for IDDE complete by May 20, 2019	Follow up investigation by Engineering Department with possible sampling by others (consultant)

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

Additional IDDE dry weather screening to be completed throughout 2020 in areas identified with potential concerns based on previously completed wet and dry weather screening results.

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

Date of Report	Location / suspected source	Response taken
None to date as of the writing of this Annual Report.		

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)
7 Old Gate Road, Wallingford, CT 06492	January 16, 2019	Storm drain of MS4	Unknown	Homeowner	Health Department – Town of Wallingford discovered a 4" PVC line illegally discharging into the MS4 storm water system. In March 2019, the Town of Wallingford proceeded to inspect and cap the illegal sewage discharge pipe to prevent future effluent from entering the storm water system.	Discharge water samples collected from the PVC line were reported above applicable criteria for E.coli and ammonia.

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

The Town of Wallingford has a form on their website http://www.town.wallingford.ct.us/Content/Stormwater_and_You.asp that the person making the complaint can complete and then submit to the Town Engineering Department. The Engineering Department will then investigate the complaint to confirm an actual illicit discharge has occurred. The tracking will be done by the Engineering Department.

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**
Suspected septic failures or discharges of sewage to the MS4 are tracked by the Town Health Department (one documented sewage discharge to the MS4 in 2019)	If determined to be a sewage discharge to the MS4, the homeowner/business owner was contacted by the Health Department.	Unknown

3.7 IDDE reporting metrics

Metrics	
Estimated or actual number of MS4 outfalls	650
Estimated or actual number of interconnections	6,500
Outfall mapping complete	100%
Interconnection mapping complete	100%
System-wide mapping complete (detailed MS4 infrastructure)	100%
Outfall assessment and priority ranking	75%
Dry weather screening of all High and Low priority outfalls complete	44 outfalls completed
Catchment investigations complete	18 +\-
Estimated percentage of MS4 catchment area investigated	20% +\-

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).

Annual training is provided to all DPW staff to recognize and report back for illicit discharges. The next annual IDDE training event will be completed in the spring of 2020.

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	Specific zoning and wetlands regulations in place for stormwater management for Construction.	Control sediment/runoff from Construction activities.	Planning and Zoning (P & Z) and Wetlands	Jul 1, 2019	Previously completed on July 1, 2017	Update regulations when approved by each department
4-2 Develop/Implement plan for interdepartmental coordination in site plan review and approval	Completed	Site plan reviews completed by applicable departments.	Ascertain all applicable departments have required site plans for impacts on stormwater.	P & Z. Wetlands if wetlands may be affected	Jul 1, 2017	Previously completed on June 30, 2018	Integrated compliance checklist.
4-3 Review site plans for stormwater quality concerns	Completed	As part of site plan reviews and required in the Contractor's Stormwater Management Plan.	Provides for proper procedures for sediment and erosion control.	P & Z. Wetlands if wetlands may be affected	Jul 1, 2017	Previously completed on July 1, 2017	
4-4 Conduct site inspections	Completed	Site inspections done on an as needed basis. General written procedures for P & Z for enforcement.	Ensures compliance with regulations of each department.	P & Z and Wetlands	Jul 1, 2017	Completed in 2017-2019	Wetlands enforcement on application and in regulations.
4-5 Implement procedure to allow public comment on site development	Completed	P & Z and Wetlands allow for public comment.	Allows public to consider impact of Construction Projects.	P & Z and Wetlands	Jul 1, 2017	Completed in 2017-2019	

4-6 Implement procedure to notify developers about DEEP construction stormwater permit	Completed	Posted in specific departments as to the requirements.	Provides awareness to all developers about permit.	P & Z and Wetlands	Jul 1, 2017	Previously completed on July 1, 2017	Add in the future to applications for P & Z and Wetlands departments.
4-7 Require Waste Control On-Site	In progress	Verbal warning if department becomes aware.	Controls waste/debris from getting in stormwater discharge.	P & Z and Wetlands	--	July 31, 2019	

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

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	Regulations currently exist and are enforced for runoff reduction.	Requires site developments to be low impact and reduce run-off.	P & Z and Wetlands if impacted	Jul 1, 2021	July 1, 2020	Town Engineering working on strengthening regulations.
5-2 Enforce LID/runoff reduction requirements for development and redevelopment projects	In progress	Stormwater Maintenance Plan required for > or = 1 acre disturbance.	Long term, quarterly and after every storm event developer inspects.	P & Z	Jul 1, 2019	July 1, 2019	P&Z approval requirements meet requirements of permit.
5-3 Identify retention and detention ponds in priority areas	In development	Inspections done for sediment in excess of 50% design capacity.	Allows for ponds to operate properly.	Engineering	Jul 1, 2019	Jul 1, 2019	Identified retention basins in priority areas. Majority of town basins are privately owned.

5-4 Implement long-term maintenance plan for stormwater basins and treatment structures	In development	In areas of the Urbanized Area and DCIA > 11% to Impaired Waters	Allows for reduction of pollutants to MS4.	Engineering	Jul 1, 2019	Jul 1, 2019	Long-Term Maintenance Program outlined in Long-Term Post Construction Stormwater Management Maintenance Plan developed for town in 2019.
5-5 DCIA mapping	In development	Calculate DCIA at each MS4 outfall.	Provides understanding of overall DCIA in the MS4.	Engineering with other Town designated departments	Jul 1, 2020	In development	Draft DCIA mapping completed and provided to the Town by a consultant. Finalization by 7/1/2020.
5-6 Address post-construction issues in areas with pollutants of concern	In development	For specific pollutants of concern identify and address on case by case basis.	Reduce/Eliminate pollutants of concern.	Engineering with other Town designated departments	Not specified	Jul 1, 2020	Retrofit Program (in progress) will identify target areas for potential post-construction issues.

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

Town Engineering working on strengthening regulations. Long-Term Post Construction Stormwater Management Maintenance Plan developed for the town in 2019 will serve as platform for complying with MS4 permit requirements. Draft DCIA mapping completed in 2019 will be used to target priority areas for construction guidelines.

5.3 Post-Construction Stormwater Management reporting metrics

Metrics	
Baseline (2012) Directly Connected Impervious Area (DCIA)	575.19 acres
DCIA disconnected (redevelopment plus retrofits)	(TBD) acres this year / acres total

Retrofits completed	(TBD)
DCIA disconnected	(TBD)
Estimated cost of retrofits	(TBD) $
Detention or retention ponds identified	(5) 5 this year / 5 total (town owned only)

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

For the above baseline DCIA metrics, DCIA acreage is based on initial calculation / evaluation. The method used for calculations includes the following: Based on information contained in the CT DEEP Factsheet entitled *Town of Wallingford Water Quality and Stormwater Summary,* prepared by the CT DEEP, 9,423.13 acres of the town has an impervious area exceeding 12% which is approximately 36.49% of the town. 2,507.95 acres have an impervious cover of ranging from 12% to 25%, 3,734.37 acres have an impervious cover ranging from 26% to 50%, 2,239.48 acres have an impervious cover ranging from 51% to 75% and 941.33 acres have an impervious cover ranging from 76% to 100%.

Based on information contained in the MS4 mapping tab of Connecticut Environmental Conditions Online (CT ECO) The impervious surface area consists of 1,088.52 acres of buildings, 1,040.91 acres of roads (768.32 acres of Non-State Roads and 272.59 acres of State Roads) and 1,938.86 acres of other impervious surfaces for a total impervious surface area of 4,068.29 acres.

The DCIA Mapping was conducted in substantial accordance with the methodologies presented in the October 25, 2017 UConn CLEAR Webinar entitled *CT MS4 Mapping Details, Clarifications and Tools,* the October 19, 2018 UConn CLEAR Workshop entitled *CT MS4 Mapping Workshop* as well as information contained in the EPA reference entitled *Estimating Change in Impervious Area (IA) and Directly Connected Impervious Area (DCIA) for Massachusetts Small MS4 Permit utilizing Sutherland equations*.

The DCIA computations were prepared utilizing Connecticut Environmental Conditions Online MS4 base mapping prepared by UConn CLEAR.

Impaired waters were determined from the report entitled *2018 Integrated Water Quality Report*, dated August 01, 2019, prepared by the State of Connecticut Department of Energy and Environmental protection.

The method to determine the 2012 baseline DCIA was to first compile the CT DEEP drainage basin characteristics in a Microsoft Excel spreadsheet. Information on the Connecticut Environmental Conditions Online MS4 Mapping was used to determine the impervious area breakdown as Buildings, Roads and Other. For CT DEEP drainage basins that fell in two or more municipalities the advanced mapping tab of Connecticut Environmental Conditions Online was used to delineate and determine the applicable town CT DEEP basin area. It was assumed that the entire drainage basin characteristics were directly proportional to the applicable town CT DEEP drainage basin area.

In that ConnDOT has a MS4 Stormwater Program which applies to state owned roads and facilities which the town has no control over, it was decided that the impervious state road area would be determined and deducted from the total impervious road area for each CT DEEP drainage basin as the impervious road areas associated with state highways and facilities constitutes a considerable portion of the total town impervious road area.

The ConnDOT state highway, parking lot and facility impervious road areas were then determined for each CT DEEP drainage basin.

The ConnDOT state highway, parking lot and facility impervious road areas were then deducted from the total town impervious road area to determine a town owned impervious road area for each CT DEEP drainage basin.

Subsequent to the above deduction, the total impervious area in acres and percentage was then recomputed for each CT DEEP drainage basin.

The DCIA formula for each of four development types was then utilized to compute the DCIA. The impervious area in acres was assigned to each of the four Sutherland equations which were modified for the northeastern United State. The Sutherland equation to be utilized was determined using the following methodology:

For impervious percentage less than 6%:

100% of the impervious area was assigned to the slight connectivity Sutherland Equation where $DCIA\% = 0.01*(IA\%)^{2.0}$

For an impervious area between 6% and 12 %:

50% of the area was assigned to the partial connectivity Sutherland Equation where $DCIA\% = 0.04*(IA\%)^{1.7}$
and
50% was assigned to the average connectivity Sutherland Equation where $DCIA\% = 0.10*(IA\%)^{1.5}$

For an impervious area between 12% and 18 %:

50% of the area was assigned to the average connectivity Sutherland Equation where $DCIA\% = 0.10*(IA\%)^{1.5}$
and
50% was assigned to the high connectivity Sutherland Equation where $DCIA\% = 0.40*(IA\%)^{1.2}$

For an impervious area of greater than 18 %:

100% of the area was assigned to the high connectivity Sutherland Equation where $DCIA\% = 0.40*(IA\%)^{1.2}$

The DCIA for each CT DEEP drainage basin was then summed to determine the entire town DCIA.

Subsequent to completion of 2012 Baseline DCIA computations, UConn CLEAR Mapping available on Connecticut Environmental Conditions Online (CT ECO) was revised to separate road impervious area into State Road Impervious Area (Acres) and Town Road Impervious Area (Acres).

The original 2012 Baseline DCIA computations were revised utilizing the UConn CLEAR State Road Impervious Area (Acres) and Town Road Impervious Area (Acres). No major 2012 Baseline DCIA computation discrepancies were noted.

Land use files will be reviewed to determine disconnection of DCIA since July 01, 2012 for utilization in reaching the CT DEEP goal of 2% disconnection of DCIA by June 30, 2022.

The town is in the process of further evaluating each catchment area and refining the total DCIA based on specific stormwater flow and retention areas within each catchment area.

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 Annually	Trained all DPW personnel on proper stormwater management procedures and spill control.	Eliminate non-stormwater discharges into the storm sewers.	DPW	Jul 1, 2017	12/31/2020	Continue annual training
6-2 Implement MS4 property and operations maintenance	Completed	Spill Response Team through fire department is spill occurs. SPCC Plan in place for DPW facility.	Eliminates/minimizes spills/releases to the environment and waterways.	DPW and local fire department	Jul 1, 2019	12/31/19	Continue these activities
6-3 Implement coordination with interconnected MS4s	Completed	Work with Engineering on list and mapping of all outfalls and interconnections if updates are needed.	To have a current list and mapping of the outfalls and interconnections.	Engineering and DPW	Not specified	Previously completed on 12/31/18	
6-4 Develop/implement program to control other sources of pollutants to the MS4	In development	Work with other town departments on control of other pollutants to the MS4	Reducing other possible pollutants to the MS4.	Engineering and DPW, and potentially other departments	Not specified	In progress	Continued meetings with DPW, P&Z, Engineering and outside consultation for additional pollutant reductions.
6-5 Evaluate additional measures for discharges to impaired waters*	In development	Work with other town departments on control of other pollutants to the MS4	Reducing other possible pollutant to impaired waters.	Engineering and DPW, and potentially other departments	Not specified	In progress	Continued meetings with DPW, P&Z, Engineering and outside consultation for additional pollutant reductions.

6-6 Track projects that disconnect DCIA	Tracking	Engineering is currently tracking projects that disconnect DCIA.	Reducing runoff to storm sewers.	Engineering Department	Jul 1, 2017	12/31/2020	Continue to track disconnected DCIA
6-7 Implement infrastructure repair/rehab program	In development	When stormwater structures require repair or rehabilitation	Reduce/Eliminate potential pollutants from a faulty stormwater structure(s).	DPW and Engineering Department	Jul 1, 2021	July 1, 2021	
6-8 Develop/implement plan to identify/prioritize retrofit projects	In development	Planning and Zoning to develop a list of approved retrofits/redevelopments for the past 5 years.	Utilize LID and other run-off reduction measures to improve stormwater quality.	P & Z and Engineering Department	Jul 1, 2020	July 1, 2020	Track previous – past 5 years. Begin to track additional retrofits/redevelopments as they are completed
6-9 Implement retrofit projects to disconnect 2% of DCIA	In development	Attempt to meet the 1% per year DCIA disconnections.	Reduction of pollutants to the MS4.	P & Z and Engineering Department	Jul 1, 2022	July 1, 2022	
6-10 Develop/implement street sweeping program	Completed	All streets are swept at least once per year to remove sand and other debris.	Reduce particulates and other debris from entering the MS4.	DPW	Jul 1, 2017	July 1, 2017	Street sweeping program of all town-owned roads annually.
6-11 Develop/implement catch basin cleaning program	Completed	Inspection of at least 1,000 catch basins per year; clean if sediment loaded 50% or greater.	Reduce particulates and other debris from entering the MS4.	DPW	Jul 1, 2020	July 1, 2020	Currently catch-basins in problem areas are cleaned on an as-needed basis.
6-12 Develop/implement snow management practices	Completed	Excess snow is transported and disposed of at the Town's Pent Road facility	Excess snow with particulates and other debris does not attribute to polluting the MS4.	DPW	Jul 1, 2018	July 1, 2018	DPW staff are aware of risks associated with snow distribution and potential effects of runoff.

Example additional BMP: 6-13	Completed	New Road Construction Projects – implementation of sheet flow drainage to eliminate use of catch basins.	Reduces pollutants to the MS4 where this BMP is used.	DPW	-		

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

The DPW will continue to assess catch-basins and address those as-needed.

6.3 Pollution Prevention/Good Housekeeping reporting metrics

Metrics	
Employee training provided for key staff	Yes / February 2018 (scheduled for March/April 2020)
Street sweeping	
Curb miles swept	231 miles
Volume (or mass) of material collected	409 tons
Catch basin cleaning	
Total catch basins in priority areas	6,500
Total catch basins in MS4	6,500
Catch basins inspected	1,000 + per year
Catch basins cleaned (based on historical data of problem catch basins)	100
Volume (or mass) of material removed from all catch basins	150 tons
Volume removed from catch basins to impaired waters (if known)	Not known
Snow management	
Type(s) of deicing material used	<98% NaCl <0.5% Molasses <0.5% $MgCl_2$ <0.01% Yellow Prussiate Soda

Total amount of each deicing material applied	An average of 400 tons per storm event
Type(s) of deicing equipment used	Various trucks
Lane-miles treated	231 miles each event
Snow disposal location	25 Pent Road, Wallingford
Staff training provided on application methods & equipment	Yes/When hired
Municipal turf management program actions (for permittee properties in basins with N/P impairments)	
Reduction in application of fertilizers (since start of permit)	Subcontractor does application as per manufacturer's specifications.
Reduction in turf area (since start of permit)	Same as above previous reduction method.
Lands with high potential to contribute bacteria (dog parks, parks with open water, & sites with failing septic systems)	
Cost of mitigation actions/retrofits	TBD

6.4 Catch basin cleaning program

Briefly describe the method used to optimize your catch basin inspection and cleaning schedule. [Complete this section for the 2017 Annual Report only]
Inspect at least 1,000 catch basins each year. When a catch basin is sediment loaded 50% or greater, the catch basin gets cleaned. All catch basins are cleaned after a road paving parking is completed.

On an annual basis over 1,000 catch basins are inspected by the DPW, any the catch basins inspected that are over 50% sediment loaded, then these are cleaned by DPW. Focus on known problem catch basins (historic data for DPW). Limited staff and equipment to perform this task.

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. [Provide information if available in 2018 report. Section to be completed for the 2020 Annual Report.]

The Retrofit Program is currently in development by the Town and ATC. The Program is being designed by using the initial DCIA calculations in combination with a refined calculation per catchment area. The results of this evaluation will be used in the context of the areas adjacent to impaired water bodies, urbanized areas and areas with DCIA greater than 11%. The final Retrofit Program will be discussed in the 2020 Annual Report.

Describe plans for continuing the Retrofit program and how to achieve a goal of 1% DCIA disconnection in future years. [Provide information if available in 2018 report. Section to be completed for the 2020 Annual Report.]

The Retrofit Program will target specific high-priority areas and focus on future redevelopment of in those areas to disconnect areas with DCIA. Additional details to be provided in the 2020 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. [Provide information if available in 2018 report. Section to be completed for the 2020 Annual Report.]

The Retrofit Program will target specific high-priority areas and focus on future redevelopment of in those areas to disconnect areas with DCIA. Additional details to be provided in the 2020 Annual Report.

Part II: Impaired waters investigation and monitoring [This section required beginning with 2018 Annual Report].

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.
Outfall dry weather inspections and wet weather sampling completed at 31 outfalls to date. To date, 31 of outfalls that discharge to an impaired waterbody have been sampled and 44 have been inspected during dry weather conditions. Stormwater discharge analytical results have indicated generally elevated concentrations of bacteria at outfalls sampled. Additional sampling and dry weather screening for the remaining outfalls will be completed in early 2020, to properly develop long-term stormwater sampling program.

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

2.1 Screening data collected under 2018 permit – to be performed in 2019

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?**
QR-11	06/10/2019	Bacteria, Other	E.coli: 6,490 (MPN/100mls) Total Coliform: >24,200 (MPN/100mls) TDS: 110 (mg/l) TSS: 26 (mg/l)	Phoenix Laboratory	Yes
QR-12	06/10/2019	Bacteria, Other	E.coli: 520 (MPN/100mls) Total Coliform: >24,200 (MPN/100mls) TDS: 1,000 (mg/l) TSS: 9.0 (mg/l)	Phoenix Laboratory	Yes
QR-13	06/25/2019	Bacteria, Other	E.coli: 743 (MPN/100mls)	Phoenix Laboratory	Yes

			Total Coliform: >24,200 (MPN/100mls) TDS: 310 (mg/l) TSS: 5.0 (mg/l)		
QR-15	06/25/2019	Bacteria, Other	E.coli: >24,200 (MPN/100mls) Total Coliform: >24,200 (MPN/100mls) TDS: 300 (mg/l) TSS: <5.0 (mg/l)	Phoenix Laboratory	Yes
QR-16	06/25/2019	Bacteria, Other	E.coli: >24,200 (MPN/100mls) Total Coliform: >24,200 (MPN/100mls) TDS: 250 (mg/l) TSS: 25 (mg/l)	Phoenix Laboratory	Yes
QR-17	06/25/2019	Bacteria, Other	E.coli: 1,020 (MPN/100mls) Total Coliform: >24,200 (MPN/100mls) TDS: 55 (mg/l) TSS: 8.0 (mg/l)	Phoenix Laboratory	Yes
QR-23	06/25/2019	Bacteria, Other	E.coli: >24,200 (MPN/100mls) Total Coliform: >24,200 (MPN/100mls) TDS: 280 (mg/l) TSS: 13 (mg/l)	Phoenix Laboratory	Yes
WB-11	06/25/2019	Other	TDS: 230 (mg/l) TSS: 20 (mg/l)	Phoenix Laboratory	No
WB-17	06/25/2019	Other	TDS: 230 (mg/l) TSS: 5.0 (mg/l)	Phoenix Laboratory	No
WB-18	06/25/2019	Other	TDS: 240 (mg/l) TSS: <5.0 (mg/l)	Phoenix Laboratory	No
WB-20	06/25/2019	Other	TDS: 240 (mg/l) TSS: 11 (mg/l)	Phoenix Laboratory	No
WB-21	06/25/2019	Other	TDS: 230 (mg/l) TSS: 8.0 (mg/l)	Phoenix Laboratory	No
WB-22	06/25/2019	Other	TDS: 220 (mg/l) TSS: 60 (mg/l)	Phoenix Laboratory	No
WB-23	06/25/2019	Other	TDS: 590 (mg/l) TSS: 8.0 (mg/l)	Phoenix Laboratory	No
WB-28	06/10/2019	Other	TDS: 220 (mg/l) TSS: 18 (mg/l)	Phoenix Laboratory	No
WB-29	06/10/2019	Other	TDS: 320 (mg/l) TSS: 34 (mg/l)	Phoenix Laboratory	No
WB-30	06/10/2019	Other	TDS: 230 (mg/l) TSS: 10 (mg/l)	Phoenix Laboratory	No
WB-31	06/10/2019	Other	TDS: 65 (mg/l) TSS: 180 (mg/l)	Phoenix Laboratory	No
WB-33	06/10/2019	Other	TDS: 36 (mg/l) TSS: 14 (mg/l)	Phoenix Laboratory	No

WB-34	06/25/2019	Other	TDS: 200 (mg/l) TSS: <5.0 (mg/l)	Phoenix Laboratory	No
WB-35	06/25/2019	Other	TDS: 90 (mg/l) TSS: 140 (mg/l)	Phoenix Laboratory	No
WB-48	06/10/2019	Other	TDS: 310 (mg/l) TSS: <5.0 (mg/l)	Phoenix Laboratory	No
LH-2	06/10/2019	Other	TDS: 340 (mg/l) TSS: <5.0 (mg/l)	Phoenix Laboratory	No
LH-3	06/10/2019	Other	TDS: 53 (mg/l) TSS: 18 (mg/l)	Phoenix Laboratory	No
LH-6	06/10/2019	Other	TDS: 13 (mg/l) TSS: 28 (mg/l)	Phoenix Laboratory	No
LH-7	06/10/2019	Other	TDS: 78 (mg/l) TSS: <5.0 (mg/l)	Phoenix Laboratory	No
LH-8	06/10/2019	Other	TDS: 80 (mg/l) TSS: 33 (mg/l)	Phoenix Laboratory	No
LH-9	06/10/2019	Other	TDS: 34 (mg/l) TSS: 7.0 (mg/l)	Phoenix Laboratory	No
LH-12	06/25/2019	Other	TDS: 240 (mg/l) TSS: 13 (mg/l)	Phoenix Laboratory	No
MR-2	06/10/2019	Bacteria, Other	E.coli: <10 (MPN/100mls) Total Coliform: 1,080 (MPN/100mls) TDS: 380 (mg/l) TSS: <5.0 (mg/l)	Phoenix Laboratory	Yes
MR-3	06/10/2019	Bacteria, Other	E.coli: <10 (MPN/100mls) Total Coliform: 1,440 (MPN/100mls) TDS: 380 (mg/l) TSS: <5.0 (mg/l)	Phoenix Laboratory	Yes

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?**

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

Provide the following information for outfalls exceeding the pollutant threshold. To be completed 2020 where applicable.

Outfall	Status of drainage area investigation	Control measure implementation to address impairment
QR-3	Outfall is silted-in	This outfall was cleaned on 6/10/19. Sample in 2020
QR-4	Outfall is silted-in	This outfall was cleaned on 6/10/19. Sample in 2020
QR-11	Discharge sample contained elevated E.coli and total coliform	Re-sample in 2020
QR-12	Discharge sample contained elevated E.coli and total coliform	Re-sample in 2020
QR-13	Discharge sample contained elevated E.coli and total coliform	Re-sample in 2020
QR-15	Discharge sample contained elevated E.coli and total coliform	Re-sample in 2020
QR-16	Discharge sample contained elevated E.coli and total coliform	Re-sample in 2020
QR-17	Discharge sample contained elevated E.coli and total coliform	Re-sample in 2020
QR-23	Discharge sample contained elevated E.coli and total coliform	Re-sample in 2020
MR-2	Discharge sample contained elevated E.coli and total coliform	Re-sample in 2020
MR-3	Discharge sample contained elevated E.coli and total coliform	Re-sample in 2020

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].

Town did not have a consultant under contract from June 30, 2018 to January 1, 2019 to perform these services. Consultants and funds to be awarded by March 1, 2019 for assessment and priority ranking of catchments.

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
5200	High Priority	TBD based on the % of impervious area
5208	Low Priority	TBD based on the % of impervious area

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. To be completed in May of 2019.

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
QR-11	05/17/2019	1.47 (mg/l)	<0.02 (mg/l)	90 (umhos/cm)	<0.5 (ppt)	6,490 (MPN/100mls)	0.44 (mg/l)	63 degrees F	Bacteria, Other	Follow-up investigation required
QR-2	05/15/2019	--	--	--	--	--	--	--	--	No flow; sampling not completed during dry weather inspection
QR-3	05/15/2019	--	--	--	--	--	--	--	--	No flow; sampling not completed during dry weather inspection
QR-4	05/15/2019	--	--	--	--	--	--	--	--	No flow; sampling not completed during dry weather inspection
QR-9	05/17/2019	--	--	--	--	--	--	--	--	No flow; sampling not completed during dry weather inspection
QR-10	05/17/2019	--	--	--	--	--	--	--	--	No flow; sampling not completed during dry weather inspection
QR-12	05/17/2019	--	--	--	--	--	--	--	--	No flow; sampling not completed during dry weather inspection
QR-13	06/25/2019	--	--	--	--	--	--	--	--	No flow; sampling not completed during dry weather inspection
QR-15	06/25/2019	--	--	--	--	--	--	--	--	No flow; sampling not completed during dry weather inspection
QR-16	05/15/2019	--	--	--	--	--	--	--	--	No flow; sampling not completed during dry weather inspection

QR-17	05/15/2019	--	--	--	--	--	--	--	--	No flow; sampling not completed during dry weather inspection
LH-2	05/15/2019	--	--	--	--	--	--	--	--	No flow; sampling not completed during dry weather inspection
LH-3	05/15/2019	--	--	--	--	--	--	--	--	No flow; sampling not completed during dry weather inspection
LH-6	05/15/2019	--	--	--	--	--	--	--	--	No flow; sampling not completed during dry weather inspection
LH-7	05/15/2019	--	--	--	--	--	--	--	--	No flow; sampling not completed during dry weather inspection
LH-8	05/15/2019	--	--	--	--	--	--	--	--	No flow; sampling not completed during dry weather inspection
LH-9	05/15/2019	--	--	--	--	--	--	--	--	No flow; sampling not completed during dry weather inspection
LH-12	05/15/2019	--	--	--	--	--	--	--	--	No flow; sampling not completed during dry weather inspection
LH-15	05/15/2019	--	--	--	--	--	--	--	--	No flow; sampling not completed during dry weather inspection
LH-16	05/15/2019	--	--	--	--	--	--	--	--	No flow; sampling not completed during dry weather inspection
MR-2	05/17/2019	--	--	--	--	--	--	--	--	No flow; sampling not completed during dry weather inspection
MR-3	05/17/2019	--	--	--	--	--	--	--	--	No flow; sampling not completed during dry weather inspection
WB-9	05/15/2019	--	--	--	--	--	--	--	--	No flow; sampling not completed during dry weather inspection
WB-10	05/15/2019	--	--	--	--	--	--	--	--	No flow; sampling not completed during dry weather inspection

WB-11	05/15/2019	--	--	--	--	--	--	--	--	No flow; sampling not completed during dry weather inspection
WB-17	05/15/2019	--	--	--	--	--	--	--	--	No flow; sampling not completed during dry weather inspection
WB-18	05/15/2019	--	--	--	--	--	--	--	--	No flow; sampling not completed during dry weather inspection
WB-20	05/15/2019	--	--	--	--	--	--	--	--	No flow; sampling not completed during dry weather inspection
WB-21	05/15/2019	--	--	--	--	--	--	--	--	No flow; sampling not completed during dry weather inspection
WB-22	05/15/2019	--	--	--	--	--	--	--	--	No flow; sampling not completed during dry weather inspection
WB-23	05/15/2019	--	--	--	--	--	--	--	--	No flow; sampling not completed during dry weather inspection
WB-25	05/17/2019	--	--	--	--	--	--	--	--	No flow; sampling not completed during dry weather inspection
WB-26	05/17/2019	--	--	--	--	--	--	--	--	No flow; sampling not completed during dry weather inspection
WB-27	05/17/2019	--	--	--	--	--	--	--	--	No flow; sampling not completed during dry weather inspection
WB-28	05/17/2019	--	--	--	--	--	--	--	--	No flow; sampling not completed during dry weather inspection
WB-29	05/17/2019	--	--	--	--	--	--	--	--	No flow; sampling not completed during dry weather inspection
WB-30	05/17/2019	--	--	--	--	--	--	--	--	No flow; sampling not completed during dry weather inspection
WB-31	05/17/2019	--	--	--	--	--	--	--	--	No flow; sampling not completed during dry weather inspection

WB-33	05/17/2019	--	--	--	--	--	--	--	--	No flow; sampling not completed during dry weather inspection
WB-34	05/17/2019	--	--	--	--	--	--	--	--	No flow; sampling not completed during dry weather inspection
WB-35	05/17/2019	--	--	--	--	--	--	--	--	No flow; sampling not completed during dry weather inspection
WB-43	05/15/2019	--	--	--	--	--	--	--	--	No flow; sampling not completed during dry weather inspection
WB-44	05/15/2019	--	--	--	--	--	--	--	--	No flow; sampling not completed during dry weather inspection

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. To be completed in June and July 2019.

Outfall / Interconnection ID	Sample date	Ammonia	Chlorine	Conductivity	Salinity	E. coli or Enterococcus	Surfactants	Water Temp	Pollutant of concern

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

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

3.3 Wet weather investigation outfall sampling data

Outfall ID	Sample date	Ammonia	Chlorine	Surfactants

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
QR-11	Senior Center	Murky and iridescent	Dry weather screening	05/17/2019	--	--	--

Part IV: Certification

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that a false statement made in this document or its attachments may be punishable as a criminal offense, in accordance with Section 22a-6 of the Connecticut General Statutes, pursuant to Section 53a-157b of the Connecticut General Statutes, and in accordance with any other applicable statute."	
Chief Elected Official or Principal Executive Officer	Document Prepared by
Print name: Robert V. Battranaitis	Print name: Molly McCorcle ATC Group Services LLC
Signature / Date:	Signature: Date: 2/17/20