Town of Deep River, Connecticut

2019 Annual Report

General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems

Permit Number GSM000075

MS4 General Permit
Town of Deep River 2019 Annual Report
Existing MS4 Permittee
Permit Number GSM 000075
January 01, 2019 - December 31, 2019

This report documents the Town of Deep River's efforts to comply with the conditions of the MS4 General Permit to the maximum extent practicable (MEP) from January 01, 2019 to December 31, 2019.

Jullie Pudem replaced Cathie Jefferson, Zoning Enforcement Officer in October 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	Responsible Person and Department	Due	Date completed or projected completion date	Additional details
1-1 Implement Public Education and Outreach	To be Developed in early 2020	None in 2017 Before July 01, 2019 Clean Waters Starting in Your Home and Yard Fact Sheets prepared by a collaborative effort between the Connecticut Sea Grant Extension Program and the University of Connecticut Cooperative Extension System NEMO Program will be made available to the public on the town website at: http://deepriverct.us/	Improving	Angus L. McDonald, Jr., First Selectman, Board of Selectmen	July 01, 2018	Before July 01, 2020	

1-2 Address Public Education and Outreach for Pollutants of Concern*	To Be Developed in 2020	None		Angus L. McDonald, Jr., First Selectman, Board of Selectmen And Nathan L. Jacobson & Associates, Inc.	July 1, 2018	Before July 01, 2020	

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

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.

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

2.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Responsible Person and Department	Due	Date completed or projected completion date	Additional details
2-1 Comply with public notice requirements for the Stormwater Management Plan	Completed	A hard copy of the Draft 2017 Stormwater Management Plan (SMP) was made available to the public for review and comment. A pdf copy was also posted on the town website at: http://deepriverct.us/	Complied with requirements	Angus L. McDonald, Jr., First Selectman, Board of Selectmen	April 03, 2017	The 2017 SMP was available to the public on April 20, 2017.	No public comments were received by the Office of the First Selectman
2-2 Comply with public notice requirements for Annual Reports	Completed	The Draft 2017 MS4 Annual Report was made available for public review and comment on the town website at: http://deepriverct.us/	The Draft 2017 MS4 Annual Report was made available to the public for review and comment.	Angus L. McDonald, Jr., First Selectman, Board of Selectmen	Feb. 15, 2018	February 22, 2018	No public comments were received by the Office of the First Selectman
	Completed	The Draft 2018 MS4 Annual Report was made available for public review and comment on the town website at: http://deepriverct.us/	The Draft 2018 MS4 Annual Report was made available to the public for review and comment.	Angus L. McDonald, Jr., First Selectman, Board of Selectmen	Feb. 15, 2019	March 05, 2019	No public comments were received by the Office of the First Selectman
	Will Be Completed	The Draft 2019 MS4 Annual Report was made available for public review and comment on the town website at: http://deepriverct.us/	The Draft 2019 MS4 Annual Report was made available to the public for review and comment.	Angus L. McDonald, Jr., First Selectman, Board of Selectmen	Feb. 15, 2020	February 25, 2020	Comments from the general public will be received by the Office of the First Selectman.

2-3 Divers annually remove trash and debris approximately 300 yards north and south of Deep River Landing on the Connecticut River	Conducted Annually	2017 2018 2019	Completed	Dive Club			

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

Continue the annual removal of submerged trash and debris from the Connecticut River at Deep River Landing.

2.3 Public Involvement/Participation reporting metrics

Metrics	Implemented	Date	Posted
Availability of the 2017 Stormwater Management Plan to the public	Yes	03/28/2017	Town Website
Availability of Draft 2017 Annual Report to the public	Yes	02/22/2018	Town Website
Availability of Draft 2018 Annual Report to the public	Yes	03/05/2019	Town Website
Availability of Draft 2019 Annual Report to the public	Yes	02/25/2020	Town Website

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	Responsible Person and Department	Due	Date completed or projected completion date	Additional details
3-1 Develop written IDDE program	In Progress	A written IDDE program using the IDDE program template available from the CT DEEP is being developed.	Develop written plan of IDDE program	Board of Selectmen and Nathan L. Jacobson & Associates, Inc., Town Engineer	July 01, 2018	Anticipate completing by July 01, 2020.	The Highway Department will most likely be the listed contact.
3-2 Develop list and maps of all MS4 stormwater outfalls in priority areas	In Progress	MS4 stormwater outfall mapping was conducted from July to November 2007. 288 MS4 stormwater outfalls were located with a handheld GPS unit. The stormwater outfall mapping was compiled on a ESRI GIS layer. The MS4 stormwater outfall mapping will be updated to include impaired waters as contained in the State of Connecticut, Department of Energy and Environmental Protection 2018 Integrated Water Quality Report.	Development of an ESRI GIS map layer with MS4 stormwater outfalls.	Board of Selectmen and Nathan L. Jacobson & Associates, Inc., Town Engineer	July 01, 2019	completed prior to the deadline of July 01, 2019.	

		The stormwater outfalls in the impaired waters will be identified.					
3-3 Implement citizen reporting program	In Progress	None A program to allow the general public to report suspected illicit discharges is in the process of being set up.	Implement citizen illicit discharge reporting program	Board of Selectmen and Nathan L. Jacobson & Associates, Inc., Town Engineer	July 01, 2017	Anticipate completing by July 01, 2020.	It is anticipated that the Highway Department will be the contact to accept citizen reporting of suspected illicit discharges.
3-4 Establish legal authority to prohibit illicit discharges	In Progress	An Illicit Discharge Detection and Elimination Ordinance and Citation Hearing Procedure was enacted at a Town Meeting on December 14, 2010.	Enact IDDE Ordinance and Citation Hearing Procedure	Angus L. McDonald, Jr., First Selectman, Board of Selectmen	July 01, 2018	December 14, 2010	
3-5 Develop record keeping system for IDDE tracking	To Be Developed	None		Angus L. McDonald, Jr., First Selectman, Board of Selectmen	July 01, 2018	Anticipate completing by July 01, 2020.	It is anticipated that Eric Waltke, Foreman of the Highway Department will be the individual responsible for tracking citizen reporting of suspected illicit discharges.
3-6 Address IDDE in areas with pollutants of concern	To Be Developed	None Program will be developed with particular emphasis on areas exceeding 11% impervious area.		Board of Selectmen and Nathan L. Jacobson & Associates, Inc., Town Engineer	July 01, 2018		

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

The written IDDE Program will be posted on the town website and a link listed in each Annual Report. The town will update the written IDDE program as needed throughout the permit term.

Eric Waltke, Highway Department Foreman will maintain the 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**
2017 - No citizen reports of suspected illicit discharges were received by the town.	Not Applicable	None Required
2018 - No citizen reports of suspected illicit discharges were received by the town.	Not Applicable	None Required
2019 - No citizen reports of suspected illicit discharges were received by the town.	Not Applicable	None Required

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. The Town of Deep River has no SSOs

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)

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

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
2017 - Scott Martinson, Chief Sanitarian of the Connecticut River Area Health District reported that failing subsurface sewage disposal systems were not a source of illicit discharges to town storm drainage systems in Deep River.	None Required	Not Applicable
2018 - Scott Martinson, Chief Sanitarian of the Connecticut River Area Health District reported that failing subsurface sewage disposal systems were not a source of illicit discharges to town storm drainage systems in Deep River.	None Required	Not Applicable
2019 - Scott Martinson, Chief Sanitarian of the Connecticut River Area Health District reported that failing subsurface sewage disposal systems were not a source of illicit discharges to town storm drainage systems in Deep River.	None Required	Not Applicable

3.7 IDDE reporting metrics

Metrics	
Estimated or actual number of MS4 outfalls	288
Estimated or actual number of interconnections	To be Determined
Outfall mapping complete	90%
Interconnection mapping complete	50%
System-wide mapping complete (detailed MS4 infrastructure)	40%
Outfall assessment and priority ranking	0%

Dry weather screening of all High and Low priority outfalls complete	0%
Catchment investigations complete	0%
Estimated percentage of MS4 catchment area investigated	90%

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 Highway Department was provided with a copy of the publication entitled *Illicit Discharge Detection and Elimination Manual, A Handbook for Municipalities*, January 2003, Published by the New England Interstate Water Pollution Control Commission.

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

4.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Responsible Person and Department	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	To be Initiated in 2019	None	Not Applicable	Cathie Jefferson, Zoning Enforcement Officer, Land Use Department/	July 01, 2019	Ongoing	It is anticipated that UConn CLEAR and/or a Regional Planning Agency will provide a Construction Site Runoff Control template for use by all MS4 Towns.
4-2 Develop/Implement plan for interdepartmental coordination in site plan review and approval	Ongoing	Nathan L. Jacobson & Associates, Inc., Town Engineer, prepares land use review letters for most applications for the Inland Wetlands Commission, Planning Commission and Zoning Commission.	Interdepartmental Coordination	Cathie Jefferson, Zoning Enforcement Officer, Land Use Department/	July 01, 2017	Ongoing	2017 through 2019 No significant land use applications were received.
4-3 Review site plans for stormwater quality concerns	Ongoing	Nathan L. Jacobson & Associates, Inc., Town Engineer, encourages the use of LID BMPs as contained in the 2004 Connecticut Stormwater Quality Manual.	Compliance	Joseph M. Dillon, P.E., Town Engineer, Nathan L. Jacobson & Associates, Inc.	July 01, 2017	Ongoing	2017 through 2019 No significant land use applications were received.
4-4 Conduct site inspections	Ongoing	The town conducts construction site inspections for proper implementation and maintenance of soil erosion and sediment control measures.	Compliance with Approved Plans	Joseph M. Dillon, P.E., Town Engineer, Nathan L. Jacobson & Associates, Inc.	July 01, 2017	Ongoing	2017 through 2019 No significant land use applications were received.

4-5 Implement procedure to allow public comment on site development	Ongoing	The land use application process allows for public comment on land use applications which are submitted to the Inland Wetlands Agency and the Planning & Zoning Commission during the Public Hearing Process when applicable.	Compliance	Cathie Jefferson, Zoning Enforcement Officer, Land Use Department	July 01, 2017	Ongoing	2017 through 2019 No significant land use applications requiring a Public Hearing were received.
4-6 Implement procedure to notify developers about the CT DEEP Construction Stormwater General Permit	Ongoing	Since the inception of the MS4 program Nathan L. Jacobson & Associates, Inc., Town Engineer, has made developer's engineers aware of the need to register for the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities in engineering review letters which are typically prepared as part of the land use application process.	Awareness of the need to register for the General permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities	Joseph M. Dillon, P.E., Town Engineer, Nathan L. Jacobson & Associates, Inc.	July 01, 2017	Ongoing	2017 through 2019 No significant land use applications requiring the permit were received.

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	Responsible Person and Department	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	Under Development	2017 - None 2018 - None 2019 - None	The requirements contained in Minimum Control Measure No. 5 - Post-Construction Runoff Control were provided to Cathie Jefferson.	Jullie Pudem, Zoning Enforcement Officer, Land Use Department	July 01, 2021	Prior to July 01, 2021	It is anticipated that UConn CLEAR and/or a Regional Planning Agency will provide a Post-construction Stormwater Management template for use by all MS4 Towns.
5-2 Enforce LID/runoff reduction requirements for development and redevelopment projects	Continuing	Ongoing	Compliance	Joseph M. Dillon, P.E., Town Engineer, Nathan L. Jacobson & Associates, Inc.	July 01, 2019	July 01, 2017	2017 through 2019 No significant land developments were constructyed.
5-3 Identify retention and detention ponds in priority areas	Completed	2017 - None 2018 - None 2019 - Completed	Retention Ponds, Detention Ponds and Hydrodynamic Separators will be inventoried. A GIS Map Layer will be created after the inventory. Part of the inventory process will	Eric Waltke, Road Foreman, Highway Department and Joseph M. Dillon, P.E., Town Engineer, Nathan L. Jacobson & Associates, Inc.	July 01, 2019		

			be a condition assessment and development of facility operation and maintenance requirements.				
5-4 Implement long-term maintenance plan for stormwater basins and treatment structures	A Post-Construction Stormwater Management Facility Operation and Maintenance Plan Manual with an Effective Date of July 01, 2019 was developed. It is anticipated that the plan will begin implementation in 2020.	2017 - None 2018 - None 2019 - A Post-Construction Stormwater Management Facility Operation and Maintenance Plan Manual was developed.	Development of a Post-Construction Stormwater Management Facility Operation and Maintenance Plan Manual.	Eric Waltke, Road Foreman, Highway Department	July 01, 2019	Prior to July 01, 2020	
5-5 DCIA mapping	Completed	Completed the process of DCIA Mapping from base mapping prepared by UConn CLEAR.	The DCIA to MS4 stormwater outfalls discharging to waters identified as impaired in the 2018 Integrated Water Quality Report and in watersheds with a DCIA of greater than 11 percent will start in 2018.	Board of Selectmen and Nathan L. Jacobson & Associates, Inc., Town Engineer	July 01, 2020	February 2019	

5-6 Address post-construction issues in areas with pollutants of concern	To Be Developed	None	Stormwater outfalls discharging to waters identified as impaired in the 2018 Integrated Water Quality Report and in watersheds with a DCIA of greater than 11 percent will be subject to enhanced water quality treatment.	Board of Selectmen and Nathan L. Jacobson & Associates, Inc., Town Engineer	Not specified		

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

Procedures outlined in the Post-Construction Stormwater Management Facility Operation & Maintenance Plan Manual will be implemented in 2020.

5.3 Post-Construction Stormwater Management reporting metrics

Metrics	
Baseline (2012) Directly Connected Impervious Area (DCIA)	9.09 Acres
DCIA disconnected (redevelopment plus retrofits)	2012 to 2016 - To Be Determined 2017 - 0 acres 2018 - 0 acres 2019 - 0 acres
Retrofits completed	2012 to 2016 - To Be Determined 2017 - 0 2018 - 0 2018 - 0
DCIA disconnected	2012 to 2016 - To Be Determined 2017 - 0% 2018 - 0%

	2019 - 0% Total - To Be Determined
Estimated cost of retrofits	$0
Detention or retention ponds identified	0 this year / 0 total

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

Based on information contained in the Factsheet: Town of Deep River Water Quality and Stormwater Summary, prepared by the CT DEEP, 610.32 acres of the town has an impervious area exceeding 12% which is approximately 6.75% of the town. 199.24 acres have an impervious cover of ranging from 12% to 25%, 273.97 acres have an impervious cover ranging from 26% to 50%, 98.05 acres have an impervious cover ranging from 51% to 75% and 39.06 acres have an impervious cover ranging from 76% to 100%.

Based on information contained in the MS4 mapping tab of Connecticut Environmental Conditions Online (CTECO) the impervious surface area consists of 114.13 acres of buildings, 172.70 acres of roads and 233.52 acres of other impervious surfaces for a total impervious surface area of 520.35 acres. The impervious road area of 172.70 acres consists of 101.53 acres of Town roads and 71.17 acres of State roads. The State road area constitutes approximately 41.2% of the total road area.

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.

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

6.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Responsible Person and Department	Due	Date completed or projected completion date	Additional details
6-1 Develop/implement formal employee training program	To Be Developed	2017 - None 2018 - None 2019 - None It is anticipated that formal employee training will be conducted in 2020.	Developing	Eric Waltke, Road Foreman, Highway Department and Nathan L. Jacobson & Associates, Inc., Town Engineer	July 01, 2017	July 01, 2020	
6-2 Implement MS4 property and operations maintenance	Ongoing	Continuing	Continuing	Eric Waltke, Road Foreman, Highway Department	July 01, 2018	July 01, 2017	
6-3 Implement coordination with interconnected MS4s	Ongoing	The Town of Deep River continued to coordinate MS4 responsibilities with the Town of Essex, Town of Westbrook, Town of Killingworth and the Town of Chester	Continuing	Eric Waltke, Road Foreman, Highway Department	July 01, 2017	July 01, 2017	
6-4 Develop/implement program to control other sources of pollutants to the MS4	To Be Developed	2017 - None 2018 - None 2019 - None	Under Development	Joseph M. Dillon, P.E., Town Engineer, Nathan L. Jacobson & Associates, Inc.	July 01, 2017	July 01, 2020	
6-5 Evaluate additional measures for discharges to impaired waters*	Not Applicable	2017 - None 2018 - None 2019 - None	Under Development		July 01, 2017	July 01, 2020	

6-6 Track projects that disconnect DCIA	To Be Developed	2012-2016 DCIA disconnection area to be determined. 2017 through 2019 No projects that disconnected DCIA were constructed.	2012 Baseline DCIA area was computed	Board of Selectmen and Nathan L. Jacobson & Associates, Inc., Town Engineer	Jul 01, 2017	July 02, 2020	
6-7 Implement infrastructure repair/rehab program	To Be Developed	2017 through 2018 None 2019 A Post-Construction Stormwater Management Facility Operation and Maintenance Plan Manual was developed.	It is anticipated that measures contained in the Post-Construction Stormwater Management Facility Operation and Maintenance Plan Manual will begin implementation in 2020. It is anticipated that infrastructure repair/rehabilitation projects will be identified during inspection.	Eric Waltke, Road Foreman, Highway Department and Nathan L. Jacobson & Associates, Inc., Town Engineer	July 01, 2021	Anticipate implementation by July 01, 2021	
6-8 Develop/implement plan to identify/prioritize retrofit projects	To Be Developed	2017 - None 2018 - None 2019 - None	It is anticipated that measures contained in the Post-Construction Stormwater Management Facility Operation and Maintenance Plan Manual will begin implementation in 2020. It is anticipated that infrastructure repair/rehabilitation	Eric Waltke, Road Foreman, Highway Department/ and Nathan L. Jacobson & Associates, Inc., Town Engineer	July 01, 2020	Anticipate implementation by July 01, 2020	

			projects will be identified during inspection.				
6-9 Implement retrofit projects to disconnect 2% of DCIA	To be Developed	2017 - None 2018 - None 2019 - None	To Be Developed	Eric Waltke, Road Foreman, Highway Department	July 01, 2022	Anticipate implementation by July 01, 2022	
6-10 Develop/implement street sweeping program	Ongoing	The Town of Deep River currently implements a road sweeping program whereby all town roads are swept at least one time per year. The downtown area is swept every month from April to October.	Continuing	Eric Waltke, Road Foreman, Highway Department	July 01, 2017	July 01, 2017	
6-11 Develop/implement catch basin cleaning program	Ongoing	The Town of Deep River currently implements a catch basin cleaning program whereby approximately 225 of the 600-700 catch basins were cleaned.	Continuing	Eric Waltke, Road Foreman, Highway Department	July 01, 2020	July 01, 2017	
6-12 Develop/implement snow management practices	To be implemented	None	Continuing The CT DEEP Best Management Practices for Disposal of Snow Accumulations from Roadways and Parking Lots will be provided to Eric Waltke in 2020.	Eric Waltke, Road Foreman, Highway Department	July 01, 2018	July 01, 2017	

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

Continue the existing program and develop a DPW crew training program.

6.3 Pollution Prevention / Good Housekeeping reporting metrics

Metrics	
Employee training provided for key staff	2017 - None 2018 - All DPW employees attended a Snow Plow Safety Training Program provided by the Connecticut Interlocal Risk Management Agency (CIRMA). Topics covered included Spreading Operations, New Anti-Icing Techniques and Cleanup. 2019 - None
Street sweeping	
Lane miles swept	2017 through 2019 65.8 The downtown area was also swept before Memorial Day, 4th of July, Deep River Muster and Labor Day.
Volume (or mass) of material collected	2017 - 75± CY 2018 - 75± CY 2019 - ***75***± CY
Catch basin cleaning	
Total catch basins in priority areas	TBD
Total catch basins in MS4	600-700
Catch basins inspected	2017 - 225 2018 - 250 2019 - ***250***
Catch basins cleaned	2017 - 225 2018 - 250 2019 - ***250***
Volume (or mass) of material removed from all catch basins	2017 - 125± CY 2018 - 125± CY 2019 - ***125***± CY

Volume removed from catch basins to impaired waters (if known)	2017 - Not Known 2018 - Not Known 2019 - Not Known
Snow management	
Type(s) of deicing material used	Deicing Mix 7 Parts Sand to 1 Part NaCl Salt
Total amount of each deicing material applied	Winter 2016 to 2017 - 700 Tons of Sand and 100 Tons of Salt Winter 2017 to 2018 - 700 Tons of Sand and 100 Tons of Salt Winter 2018 to 2019 - ***700*** Tons of Sand and ***100*** Tons of Salt
Type(s) of deicing equipment used	Four Large Snow Plows/Spreaders. All Spreaders are manually controlled at an estimated application rate of 200-300 pounds per lane mile
Lane-miles treated	65.8
Snow disposal location	DPW Facility
Staff training provided on application methods & equipment	2017 - None 2018 - All DPW employees attended a Snow Plow Safety Training Program provided by the Connecticut Interlocal Risk Management Agency (CIRMA). Topics covered included Spreading Operations, New Anti-Icing Techniques and Cleanup. 2019 - ***Training?***
Municipal turf management program actions (for permittee properties in basins with N/P impairments)	
Reduction in application of fertilizers (since start of permit)	0 %
Reduction in turf area (since start of permit)	0 acres
Lands with high potential to contribute bacteria (dog parks, parks with open water, & sites with failing septic systems)	
Cost of mitigation actions/retrofits	$0

6.4 Catch Basin Cleaning Program

Briefly describe the method used to optimize your catch basin inspection and cleaning schedule.
It is estimated that there are approximately 600-700 catch basins in town. 2017 - 225± catch basins were cleaned. 2018 - 250± catch basins were cleaned.

2019 - ***250***± catch basins were cleaned.
The currently optimization method is that catch basins located in curbed sag points, or problem catch basins, are cleaned every year.

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.
Storm Drainage Retrofit prioritization will be given to stormwater outfalls that are known to result in soil erosion and sedimentation. Prioritization will be given to the outfalls within the impaired water drainage basins with particular emphasis placed on stormwater outfalls which are located on fine grained glacial till soils. The retrofit program will be prioritized based on setback distance from watercourse and/or waterbodies.

Describe plans for continuing the Retrofit program and how to achieve a goal of 1% DCIA disconnection in future years.
Based on the 2012 Baseline DCIA of 9.09 acres, 0.18 acres of DCIA will need to be disconnected by July 01, 2012 to meet the CT DEEP goal of a 2% disconnection. It is anticipated that the DCIA disconnection goal will be met with a combination of municipal and private commercial redevelopment. 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 July 01, 2022.

Describe plans for continuing the Retrofit program beyond this permit term with the goal to disconnect 1% DCIA annually over the next 5 years.
All significant redevelopment projects will be designed to incorporate a reduction in DCIA wherever feasible.

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

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:

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.

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**	**Name of Laboratory (if used)**	**Follow-up required?**

No dry weather screening was conducted in 2018.

Dry weather was scheduled for the Fall 2018 but the unseasonably wet weather and associated high groundwater conditions precluded dry weather screening.

It is anticipated that dry weather screening will be conducted in Fall 2019.

No dry weather screening was conducted in 2019.

Dry weather was scheduled for the Fall 2019 but the unseasonably wet weather and associated high groundwater conditions precluded dry weather screening.

It is anticipated that dry weather screening will be conducted in 2020.

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.

Outfall	Status of drainage area investigation	Control measure implementation to address impairment

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 01, 2020.

Outfall	Sample Date	Parameter(s)	Results	Name of Laboratory (if used)

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

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

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

1. Catchment ID (DEEP Basin ID)	2. Category	3. Rank
4018-00-2-L8 19.29% Impervious	Impervious Cover	1
4018-00-2-L7 12.90% Impervious	Impervious Cover	2
4018-00-2-R1 12.43% Impervious	Impervious Cover	3
4018-00-2-L5 11.82% Impervious	Impervious Cover	4

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

No dry weather screening was conducted in 2018.

Dry weather was scheduled for the Fall 2018 but the unseasonably wet weather and associated high groundwater conditions precluded dry weather screening.

It is anticipated that dry weather screening will be conducted in Fall 2019.

No dry weather screening was conducted in 2019.

Dry weather was scheduled for the Fall 2019 but the unseasonably wet weather and associated high groundwater conditions precluded dry weather screening.

It is anticipated that dry weather screening will be conducted in 2020.

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

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

No dry weather screening was conducted in 2018.

Dry weather was scheduled for the Fall 2018 but the unseasonably wet weather and associated high groundwater conditions precluded dry weather screening.

It is anticipated that dry weather screening will be conducted in Fall 2019.

No dry weather screening was conducted in 2019.

Dry weather was scheduled for the Fall 2019 but the unseasonably wet weather and associated high groundwater conditions precluded dry weather screening.

It is anticipated that dry weather screening will be conducted in 2020.

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

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: Angus L. McDonald, Jr., First Selectman	Print Name: Wade M. Thomas
Signature / Date: April *XX*, 2020	Signature / Date: April *XX*, 2020