



Town of Durham, Connecticut

2021 Annual Report

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

Permit Number GSM000076

MS4 General Permit
 Town of Durham 2021 Annual Report
 Permit Number GSM 000076
 January 01, 2021 - December 31, 2021

Primary MS4 Contact: Wade M. Thomas, Nathan L. Jacobson & Associates, Inc., wthomas@nlja.com, 860.526.9591

This report documents Town of Durham’s efforts to comply with the conditions of the MS4 General Permit to the maximum extent practicable (MEP) from January 01, 2021 to December 31, 2021.

Robin Newton replaced Geoffrey Colegrove as the Town Planner in December 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	Activities in current reporting period	Sources Used (if applicable)	Method of Distribution	Audience (and number of people reached)	Measurable Goal	Department / Person Responsible	Additional details
1-1 Implement public education and outreach	2017 through 2021 - None Before July 01, 2022 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.	NEMO Fact Sheets	Town Website: https://www.townofdurhamct.org	Anticipated to be 100s	Improving	Nathan L. Jacobson & Associates, Inc. and Jaclyn Lehet, First Selectwoman Executive Assistant	Additional resources will be posted as they are developed.

	<p>2017-2021 In 2012 the Connecticut River Coastal Conservation District developed the Coginchaug River Watershed Water Quality Story Map which can be accessed at http://acrq.is/1p88qpA The site consists of water quality sampling results of the Coginchaug River and tributary brooks.</p>	CRCCD Resources	Connecticut River Coastal Conservation District website	Anticipated to be 100s	Public Awareness	Connecticut River Coastal Conservation District	
1-2 Address education/ outreach for pollutants of concern	<p>2017 through 2021- None</p> <p>The Coginchaug River is an impaired water body due to bacteria in the 2018, 2020 and 2022 Integrated Water Quality Report prepared by the CT DEEP.</p> <p>Educational resources with the goal of reducing bacteria loads to town waters will be developed.</p>		<p>When developed the resources will be posted on the town website at:</p> <p>https://www.townofdurhamct.org</p>			<p>Nathan L. Jacobson & Associates, Inc. and Jaclyn Lehet, First Selectwoman Executive Assistant</p>	

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

See 1-1 and 1-2 above.

2022 - It is anticipated that the town website will provide a link to the Connecticut River Coastal Conservation District, Inc. Connecticut River Watch Program Coginchaug River Watershed Water Quality Study Results.

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

2.1 BMP Summary

BMP	Status (Complete, Ongoing, In Progress, or Not started)	Activities in current reporting period	Measurable Goal	Department / Person Responsible	Date completed or projected completion date (include the start date for anything that is 'in progress')	Location Posted	Additional details
2-1 Final Stormwater Management Plan publicly available	Complete	2017 A hard copy of the Draft 2017 Stormwater Management Plan (SMP) was made available to the public for review and comment on the town website.	The 2017 SMP was available to the public for review and comment.	Laura Francis, First Selectwoman, Board of Selectmen	April 20, 2017	http://www.townofdurhamct.org/	No public comments were received by the Office of the First Selectwoman
2-2 Comply with public notice requirements for Annual Reports (Annually by 02/15)	Complete	2018 The Draft 2017 MS4 Annual Report was made available for public review and comment on the town website.	The 2017 MS4 Annual Report was made available to the public for review and comment.	Laura Francis, First Selectwoman, Board of Selectmen	February 21, 2018	http://www.townofdurhamct.org/	No public comments were received by the Office of the First Selectwoman
	Complete	2019 The Draft 2018 MS4 Annual Report was made available for public review and comment on the town website.	The 2018 MS4 Annual Report was made available to the public for review and comment.	Laura Francis, First Selectwoman, Board of Selectmen	March 06, 2019	http://www.townofdurhamct.org/	No public comments were received by the Office of the First Selectwoman
	Complete	2020 The Draft 2019 MS4 Annual Report was made available for public review and comment on the town website.	The 2019 MS4 Annual Report was made available to the public for review and comment.	Jaclyn Lehet, First Selectwoman Executive Assistant	June 02, 2020	http://www.townofdurhamct.org/	No public comments were received by the Office of the First Selectwoman

	Complete	2021 The Draft 2020 MS4 Annual Report was made available for public review and comment on the town website..	The 2020 MS4 Annual Report was made available to the public for review and comment.	Jaclyn Lehet, First Selectwoman Executive Assistant	February 25, 2021	http://www.townofdurhamct.org/	No public comments were received by Wade Thomas, Nathan L. Jacobson & Associates, Inc.
	In Progress	2022 The Draft 2021 MS4 Annual Report was made available for public review and comment on the town website..	The 2021 MS4 Annual Report was made available to the public for review and comment.	Jaclyn Lehet, First Selectwoman Executive Assistant	March 28, 2022	http://www.townofdurhamct.org/	No public comments were received by Wade Thomas, Nathan L. Jacobson & Associates, Inc.
2-3 Public Participation	Complete	The Connecticut River Coastal Conservation District, Inc. has developed the Connecticut River Watch Program which includes the Coginchaug River Watershed Water Quality Testing.	Assess watershed water quality.	The Connecticut River Coastal Conservation District, Inc	July 01, 2017	http://acrg.is/1p88qpA	
	2012	The Connecticut River Coastal Conservation District, Inc. recruited and trained fifteen volunteers from the community to collect biweekly water samples for bacteria testing from June 13 th through October 17 th (ten sample days) for twenty-one sample sites in the Coginchaug River Watershed.	Assess watershed water quality. Samples were obtained from ten sample sites located in Durham: Coginchaug River CoR055 Allyn Brook AIB029 Chalker Brook ChB005 Creampot Brook CrB030 Fowler Brook FoB020	The Connecticut River Coastal Conservation District, Inc	October 17, 2012	http://acrg.is/1p88qpA	

			<p>FoB015 Hersig Brook HeB005 Parmalee Brook PaB050 Sawmill Brook SaB110 Unnamed Tributary Mica Hill Area UMH010</p>				
	2013	<p>The Connecticut River Coastal Conservation District, Inc. recruited and trained five volunteers from the community to collect weekly water samples for bacteria testing from July 17th to September 11th (nine sample days) for eleven sample sites in the upper part of the Coginchaug River Watershed.</p>	<p>Assess watershed water quality.</p> <p>Samples were obtained from five sample sites located in Durham:</p> <p>Coginchaug River CoR060 CoR055 Fowler Brook FoB020 FoB015 Sawmill Brook SaB110</p>	<p>The Connecticut River Coastal Conservation District, Inc</p>	<p>September 11, 2013</p>	<p>http://acrg.is/1p88qpA</p>	
	2014	<p>The Connecticut River Coastal Conservation District, Inc. recruited and trained volunteers from the community to collect weekly water samples for bacteria testing from June 25th to August 20th (nine sample days) for twenty-four sample sites in the</p>	<p>Assess watershed water quality.</p> <p>Samples were obtained from eight sample sites located in Durham:</p> <p>Coginchaug River CoR060 CoR055 CoR050 Birch Mill Brook BMB010 Fowler Brook</p>	<p>The Connecticut River Coastal Conservation District, Inc</p>	<p>August 20, 2014</p>	<p>http://acrg.is/1p88qpA</p>	

		upper part of the Coginchaug River Watershed.	FoB020 FoB015 Sawmill Brook SaB110 Unnamed Tributary-GF UGF001				
	2015	The Connecticut River Coastal Conservation District, Inc. recruited and trained volunteers from the community to collect weekly water samples for bacteria testing from June 17 th to August 12 th (nine sample days) for twelve sample sites in the upper part of the Coginchaug River Watershed.	Assess watershed water quality. Samples were obtained from six sample sites located in Durham: Coginchaug River CoR060 CoR055 CoR050 Birch Mill Brook BMB010 Fowler Brook FoB020 FoB015	The Connecticut River Coastal Conservation District, Inc	August 12, 2015	http://acrg.is/1p88qpA	
	2016	The Connecticut River Coastal Conservation District, Inc. recruited and trained volunteers from the community to collect weekly water samples for bacteria testing from July 20 th to September 14 th (nine sample days) for seven sample sites in the upper part of the Coginchaug River Watershed.	Assess watershed water quality. Samples were obtained from four sample sites located in Durham: Coginchaug River CoR060 CoR055 CoR050 Fowler Brook FoB015	The Connecticut River Coastal Conservation District, Inc	September 14, 2016	http://acrg.is/1p88qpA	

	2017	The Connecticut River Coastal Conservation District, Inc. recruited and trained volunteers from the community to collect weekly water samples for bacteria testing from July 12 th to September 06 th (nine sample days) for seven sample sites in the upper part of the Coginchaug River Watershed.	Assess watershed water quality. Samples were obtained from four sample sites located in Durham: Coginchaug River CoR060 CoR055 CoR050 Fowler Brook FoB015	The Connecticut River Coastal Conservation District, Inc	September 06, 2017	http://acrq.is/1p88qpA	
	2018	The Connecticut River Coastal Conservation District, Inc. recruited and trained volunteers from the community to collect weekly water samples for bacteria testing from July 11 th to September 05 th (nine sample days) for seven sample sites in the upper part of the Coginchaug River Watershed.	Assess watershed water quality. Samples were obtained from four sample sites located in Durham: Coginchaug River CoR060 CoR055 CoR050 Fowler Brook FoB015	The Connecticut River Coastal Conservation District, Inc	September 05, 2018	http://acrq.is/1p88qpA	
	2019	The Connecticut River Coastal Conservation District, Inc. recruited and trained volunteers	Assess watershed water quality. Samples were obtained from five sample sites	The Connecticut River Coastal Conservation District, Inc	September 04, 2019	http://acrq.is/1p88qpA	

		from the community to collect weekly water samples for bacteria testing from July 10 th to September 04 th (nine sample days) for five sample sites in the upper part of the Coginchaug River Watershed.	located in Durham: Coginchaug River CoR060 CoR055 CoR050 Fowler Brook FoB015 FoB017				
	2020	The Connecticut River Coastal Conservation District, Inc. recruited and trained volunteers from the community to collect weekly water samples for bacteria testing from July 8 th to September 02 nd (eight sample dates) for nine sample sites in the upper part of the Coginchaug River Watershed.	Samples were obtained from nine sample sites located in Durham: Coginchaug River CoR060 CoR055 CoR050 Fowler Brook FoB023 FoB020 FoB017 FoB015 Birch Mill Brook BMB012 BMB010		September 02, 2020	http://acrg.is/1p88qpA	
	2021	The Connecticut River Coastal Conservation District, Inc. recruited and trained volunteers from the community to collect weekly water samples for bacteria testing.				http://acrg.is/1p88qpA	

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

2022 - It is anticipated that the Connecticut River Coastal Conservation District, Inc. will continue to recruit and train volunteers from the community to collect weekly water samples of the Coginchaug watershed for bacteria testing when the COVID-19 pandemic allows.

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

3.1 BMP Summary

BMP	Status (Complete, Ongoing, In Progress, or Not started)	Activities in current reporting period	Measurable Goal	Department / Person Responsible	Date completed or projected completion date (include the start date for anything that is 'in progress')	Additional details
3-1 Develop written IDDE program (Due 07/01/19)	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	Anticipate completing by July 01, 2021.	Bill Milardo, Assistant Health Director and Sanitarian, Health Department will be the listed contact.
3-2 Develop list and maps of all MS4 stormwater outfalls in priority areas (Due 07/01/20)	In Progress	<p>MS4 stormwater outfall mapping was conducted in January 2016. The stormwater outfall mapping was compiled on a ESRI GIS layer.</p> <p>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 2020 Integrated Water Quality Report. The stormwater outfalls in the impaired waters will be identified.</p>	Development of an ESRI GIS map layer with MS4 stormwater outfalls.	Board of Selectmen and Nathan L. Jacobson & Associates, Inc., Town Engineer	Anticipate completing by July 01, 2021.	
3-3 Implement citizen reporting program (Ongoing)	In Place	<p>A program to allow the general public to report suspected illicit discharges is in place on the town website main page Requests for Citizen Service at http://www.townofdurhamct.org/</p>	Request for Citizen Service Reporting Form	Laura Francis, First Selectwoman, Board of Selectmen	July 01, 2017.	All public health related inquiries are followed up by Bill Milardo, Assistant Health Director and Sanitarian, Health Department.

3-4 Establish legal authority to prohibit illicit discharges (Due 07/01/19)	Completed	An Illicit Discharge Detection and Elimination Ordinance and Citation Hearing Procedure was enacted at a Town Meeting on October 04, 2010.	IDDE Ordinance and Citation Hearing Procedure Enacted	Laura Francis, First Selectwoman, Board of Selectmen	October 04, 2010	
3-5 Develop record keeping system for IDDE tracking (Due 07/01/17)	Completed	A program to allow the general public to report suspected illicit discharges is in place on the town website main page Requests for Citizen Service at http://www.townofdurhamct.org/	In Place	Bill Milardo, Assistant Health Director, and Sanitarian, Health Department	July 01, 2017	All public health related inquiries are followed up by Bill Milardo, Assistant Health Director and Sanitarian, Health Department and summarized in an annual report.
3-6 Address IDDE in areas with pollutants of concern	Completed	Suspected illicit discharges are followed up by Bill Milardo, Assistant Health Director and Sanitarian.	In Place	Bill Milardo, Assistant Health Director and Sanitarian, Health Department and Nathan L. Jacobson & Associates, Inc., Town Engineer	July 01, 2017	

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

The written IDDE Program will be developed and 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.

Bill Milardo, Assistant Health Director and Sanitarian of the Health Department will maintain the master IDDE tracking spreadsheet.

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

Illicit discharges are any unpermitted discharge to waters of the state that do not consist entirely of stormwater or uncontaminated groundwater except those discharges identified in Section 3(a)(2) of the MS4 general permit when such non-stormwater discharges are not significant contributors of pollution to a discharge from an identified MS4.

Location (Lat long/ 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)

2017 through 2021 - No suspected illicit discharges to the Town of Durham MS4 were reported according to Bill Milardo, Assistant Health Director and Sanitarian.

3.4 Provide a summary of actions taken to address septic failures using the table below.

Method used to track illicit discharge reports	Location and nature of structure with failing septic systems	Actions taken to respond to and address the failures	Impacted waterbody or watershed, if known	Dept. / Person responsible
Homeowner or citizen reporting	2017 No subsurface sewage disposal systems were a source of illicit discharges to the Town of Durham MS4 according to Bill Milardo, Assistant Health Director and Sanitarian.	None required	None	Bill Milardo, Assistant Health Director and Sanitarian.
Homeowner or citizen reporting	2018 No subsurface sewage disposal systems were a source of illicit discharges to the Town of Durham MS4 according to Bill Milardo, Assistant Health Director and Sanitarian.	None required	None	Bill Milardo, Assistant Health Director and Sanitarian.
Homeowner or citizen reporting	2019 349 Main Street Commercial Property.	The subsurface sewage disposal system was repaired and is now code compliant.	4607-00-3-R1	Bill Milardo, Assistant Health Director and Sanitarian.
Homeowner or citizen reporting	2020 67 Side Hill Drive Residential Property	The subsurface sewage disposal system was repaired and is now code compliant.	4606-00-1	Bill Milardo, Assistant Health Director and Sanitarian.
Homeowner or citizen reporting	2021 25 Side Hill Drive, 67 Side Hill Drive,	Replacement of the Entire SSDS Additional Repair Work Conducted	4606-00-1 4606-00-1	Bill Milardo, Assistant Health

21 Clark Road 12 Edwards Road 280 Maple Avenue 14 Clementel Drive 29 Edwards Road 207 Higganum Road 154 Creamery Road 149 Royal Oak Drive 44 South End Avenue 77R Haddam Quarter Road 30R New Haven Road 22 Little Falls Way 33 Summit Drive 188 Main Street 190 Parmelee Hill Road 31R Mauro Drive 78 James Road 19 Cherry Lane 19 Edwards Road 230 Skeet Club Road 119 Main Street 11 Clem Court 120 Old Blue Hills Road 185 Maiden Lane 310 Madison Road 1276 Arbutus Street 11 Banta Lane 36 Bailey Road 67 Side Hill Drive 28 Dunn Hill Road 16 Dunn Hill Road 127 Main Street 115 Oak Terrace 5 Center Street 180 Haddam Quarter Road 148 Creamery Road 56 Dinatale Drive	Replacement of the Entire SSDS Replacement of the Entire SSDS Replacement of the Entire SSDS Replacement of the Entire SSDS Replacement of the Entire SSDS Septic Tank Replaced Septic Tank Replaced Replacement of the Entire SSDS Sewer, Septic Tank and Piping Replaced Leaching System Expanded Sewer, Septic Tank and Piping Replaced Septic Tank Replaced D-Box and Distribution Piping Replaced Replacement of the Entire SSDS Piping Replaced Septic Tank Replaced Piping Replaced Replacement of the Entire SSDS D-Box Replaced Septic Tank Replaced Replacement of the Entire SSDS Septic Tank, D-Box and Piping Replaced Septic Tank, D-Box and Piping Replaced Septic Tank, D-Box and Piping Replaced Sewer, Septic Tank and Piping Replaced Septic Tank, D-Box and Piping Replaced Sewer, Septic Tank and Piping Replaced Septic Tank, D-Box and Piping Replaced Septic Tank and D-Box Replaced Septic Tank, D-Boxes (2) and Piping Replaced Septic Tank, D-Box and Piping Replaced Septic Tank Replaced Sewer, Septic Tank, D-Box and Piping Replaced Piping Replaced Septic Tank Replace Septic Tank and D-Box Replaced	4607-05-1 4605-04-1 4606-00-3-R1 4607-05-1 4605-04-1 4605-05-1-D1 4607-05-1 4605-04-1 4607-06-1 4605-04-1 4607-06-1 4607-03-1 4607-04-1 4605-00-2-R1 4607-05-1 4606-00-1 4607-05-1 4605-05-1 4605-04-1 4606-00-2-R2 4605-00-2-L1 4607-05-1 4605-05-1-D1 4605-04-1 4607-06-1 4605-04-1 4607-02-1 4606-01-1 4606-00-1 4607-04-1 4607-04-1 4605-00-2-L1 4607-13-1-L1 4607-05-1 4605-04-1 4607-00-2-R2 4607-00-2-R3	Director and Sanitarian.

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

A program to allow the general public to report suspected illicit discharges is in place on the town website main page Requests for Citizen Service. Bill Milardo, Assistant Health Director and Sanitarian, Health Department follows up on all Citizen Service Requests relating to public health and responds accordingly as required by the Connecticut Public Health Code.

3.6 IDDE reporting metrics

Metrics	
Estimated or actual number of MS4 outfalls	235 Field Located
Estimated or actual number of interconnections	To Be Determined
Outfall mapping complete	100%
Interconnection mapping complete	0%
System-wide mapping complete (detailed MS4 infrastructure)	100%
Outfall assessment and priority ranking	50%
Dry weather screening of all High and Low priority outfalls complete	2017 through 2021 - 0% 2022 - It is anticipated that dry weather screening for all MS4 stormwater outfalls will occur.
Catchment investigations complete	10%
Estimated percentage of MS4 catchment area investigated	50%

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

The Highway Department will be provided with a copy of the publication entitled *Illicit Discharge Detection and Elimination Manual, A Handbook for Municipalities*, Published January 2003 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 (Complete, Ongoing, In Progress, or Not started)	Activities in current reporting period	Measurable Goal	Department / Person Responsible	Date completed or projected completion date (include the start date for anything that is 'in progress')	Additional details
4-1 Implement, upgrade, and enforce land use regulations or other legal authority to meet requirements of MS4 general permit (Due 07/01/20)	To be Initiated in 2020	Not Applicable	The requirements contained in Minimum Control Measure No. 4 - Construction Site Runoff Control will be forwarded to will be forwarded to Robin Newton, Town Planner and Zoning Enforcement Officer.	Planning and Zoning Commission and Geoffrey L. Colegrove/Robin Newton, Town Planner and Zoning Enforcement Officer	July 01, 2020	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)	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	Planning and Zoning Commission and Geoffrey L. Colegrove/Robin Newton, Town Planner and Zoning Enforcement Officer	July 01, 2017	
4-3 Review site plans for stormwater quality concerns (Ongoing)	Ongoing	Nathan L. Jacobson & Associates, Inc., Town Engineer, encourages the use of LID BMPs as contained in the 2004 Connecticut Stormwater Quality Manual.	Compliance	Brian C. Curtis, P.E., Town Engineer, Nathan L. Jacobson & Associates, Inc.	July 01, 2017	
4-4 Conduct site inspections (Ongoing)	Ongoing	The town conducts construction site inspections for proper implementation and maintenance of soil erosion	Compliance with Approved Plans	Brian C. Curtis, P.E., Town Engineer, Nathan	July 01, 2017	

		and sediment control measures.		L. Jacobson & Associates, Inc.		
4-5 Implement procedure to allow public comment on site development (Ongoing)	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	Geoffrey L. Colegrove/Robin Newton, Town Planner and Zoning Enforcement Officer and Planning and Zoning Commission	July 01, 2017	
4-6 Implement procedure to notify developers about DEEP construction stormwater permit (Ongoing)	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	Brian C. Curtis, P.E., Town Engineer, Nathan L. Jacobson & Associates, Inc.	July 01, 2017	

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

There have been no significant land development projects that disturbed greater than five acres in several years. Any land development projects are monitored closely to ensure that the soil and erosion control measures are appropriate, properly sized and located and properly maintained throughout the construction process.

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

5.1 BMP Summary

BMP	Status (Complete, Ongoing, In Progress, or Not started)	Activities in current reporting period	Measurable Goal	Department / Person Responsible	Date completed or projected completion date (include the start date for anything that is 'in progress')	Additional details
5-1 Establish and/or update legal authority and guidelines regarding LID and runoff reduction in site development planning (Due 07/01/22)	Under Development	The land use regulations will be revised to incorporate the requirements contained in Minimum Control Measure No. - Post-Construction Runoff Control.	The requirements contained in Minimum Control Measure No. 5 - Post-Construction Runoff Control will be forwarded to Robin Newton, Town Planner and Zoning Enforcement Officer.	Robin Newton, Town Planner and Zoning Enforcement Officer and Planning and Zoning Commission	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 (Due 07/01/22)	Ongoing	Brian C. Curtis, P.E. requires utilization of LID/Runoff Reduction measures in all new development.	Compliance	Brian C. Curtis, P.E., Town Engineer, Nathan L. Jacobson & Associates, Inc.	July 01, 2017	
5-3 Identify retention and detention ponds in priority areas (Due 07/01/20)	Ongoing	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 be facility maintenance requirements.		John Jenkins, Road Foreman, Highway Department and Brian C. Curtis, P.E., Town	July 01, 2017	

				Engineer, Nathan L. Jacobson & Associates, Inc.		
5-4 Implement long-term maintenance plan for stormwater basins and treatment structures (Ongoing)	In Progress	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 measures contained in the plan will begin implementation in 2020.	2020 - April The detention basin located proximal to 20 Cream Pot Road was cleaned in 2020.	John Jenkins, Road Foreman, Highway Department and Brian C. Curtis, P.E., Town Engineer, Nathan L. Jacobson & Associates, Inc.	July 01, 2020	
5-5 DCIA mapping (Due 07/01/20)	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 2016 Integrated Water Quality Report and in watersheds with a DCIA of greater than 11 percent will start in 2018.	Nathan L. Jacobson & Associates, Inc., Town Engineer	February 2019	
5-6 Address post-construction issues in areas with pollutants of concern	To Be Developed	2017 through 2021 - None	Stormwater outfalls discharging to waters identified as impaired in the 2016	Nathan L. Jacobson & Associates, Inc., Town Engineer		

			Integrated Water Quality Report and in watersheds with a DCIA of greater than 11 percent will be subject to enhanced water quality treatment.			

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 continue to be implemented in 2021.

5.3 Post-Construction Stormwater Management Reporting Metrics

For details on this requirement, visit <https://nemo.uconn.edu/ms4/tasks/post-construction.htm>. Scroll down to the DCIA section.

Metrics	
Baseline (2012) Directly Connected Impervious Area (DCIA)	8.29 acres
DCIA disconnected (redevelopment plus retrofits)	2012 to 2016 - To Be Determined 2017 through 2021 - 0 Acres Total - To Be Determined
Retrofit projects completed	2012 through 2016 - To Be Determined 2017 through 2021 - 0 Acres Total - To Be Determined
DCIA disconnected	2012 through 2016 - To Be Determined 2017 through 2021 - 0% Total - To Be Determined
Estimated cost of retrofits	To Be Determined
Detention or retention ponds identified	0 this year / 0 total 2022 - An inventory of all Detention Basins, Water Quality Bains, Retention Basins and Hydrodynamic Separators will be developed.

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

Based on information contained in the Factsheet: *Town of Durham Water Quality and Stormwater Summary*, prepared by the CT DEEP, 898.33 acres of the town has an impervious area exceeding 12% which is approximately 5.90% of the town. 361.20 acres have an impervious cover of ranging from 12% to 25%, 388.82 acres have an impervious cover ranging from 26% to 50%, 101.01 acres have an impervious cover ranging from 51% to 75% and 47.30 acres have an impervious cover ranging from 76% to 100%.

Based on information contained in the MS4 mapping tab of Connecticut Environmental Conditions Online The impervious surface area consists of 196.77 acres of buildings, 255.69 acres of roads and 387.09 acres of other impervious surfaces for a total impervious surface area of 839.55 acres. The impervious road area of 255.69 acres consists of 193.80 acres of Town roads and 61.89 acres of State roads. The State road area constitutes approximately 24.2% 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 reports entitled *2016 Integrated Water Quality Report*, dated April 2017 and *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 (Complete, Ongoing, In Progress, or Not started)	Activities in current reporting period	Measurable Goal	Department / Person Responsible	Date completed or projected completion date (include the start date for anything that is 'in progress')	Additional details
6-1 Develop/implement formal employee training program (Ongoing)	Ongoing	2017 - None 2018 - DPW snow plow drivers attended the Snow Plow Safety Program offered by the Connecticut Interlocal Risk Management Agency (CIRMA). 2019 through 2021 - None	Compliance	John Jenkins, Road Foreman, Highway Department and Nathan L. Jacobson & Associates, Inc., Town Engineer	July 01, 2018	
6-2 Implement MS4 property and operations maintenance (Ongoing)	Ongoing	Continuing	Compliance	John Jenkins, Road Foreman, Highway Department	July 01, 2017	
6-3 Implement coordination with interconnected MS4s	Ongoing	The Town of Durham continued to coordinate MS4 responsibilities with the Towns of Middlefield, Middletown, Haddam, Killingworth, Madison, Guilford, North Branford and Wallingford as well as Conn DOT.	Compliance	John Jenkins, Road Foreman, Highway Department	July 01, 2017	
6-4 Develop/implement program to control other sources of pollutants to the MS4	Not Started	2017 through 2021 - None		Brian C. Curtis, P.E., Town Engineer, Nathan L. Jacobson & Associates, Inc.	Anticipate developing and implementing by July 01, 2022.	

6-5 Evaluate additional measures for discharges to impaired waters*	Not Started	2017 through 2021 - None		Brian C. Curtis, P.E., Town Engineer, Nathan L. Jacobson & Associates, Inc.	Anticipate developing and implementing by July 01, 2022.	
6-6 Track projects that disconnect DCIA (Ongoing)	Ongoing	2017 through 2021 - None	Compliance	Nathan L. Jacobson & Associates, Inc., Town Engineer		No significant projects that resulted in DCIA reduction have been constructed.
6-7 Implement infrastructure repair/rehab program (Due 07/01/21)	Not Started	2017 through 2021 - None		John Jenkins, Road Foreman, Highway Department, and Nathan L. Jacobson & Associates, Inc., Town Engineer	Anticipate developing and implementing by July 01, 2021.	
6-8 Develop/implement plan to identify/prioritize retrofit projects (Due 07/01/20)	Not Started	2017 through 2021 - None		John Jenkins, Road Foreman, Highway Department and Nathan L. Jacobson & Associates, Inc., Town Engineer	Anticipate developing and implementing by July 01, 2021.	
6-9 Implement retrofit projects to disconnect 2% of DCIA (Due 07/01/22)	Not Started	2017 through 2021 - None		John Jenkins, Road Foreman, Highway Department		No significant projects that resulted in DCIA reduction have been constructed.
6-10 Develop/implement street sweeping program (Ongoing)	Ongoing	The Town of Durham currently implements a road sweeping program whereby all town roads are swept at least one time per year.	Compliance	John Jenkins, Road Foreman, Highway Department	July 01, 2017	

6-11 Develop/implement catch basin cleaning program (Ongoing)	Ongoing	The Town of Durham currently implements a catch basin cleaning program whereby all 1,328 catch basins are cleaned every year.	Compliance	John Jenkins, Road Foreman, Highway Department	July 01, 2017	
6-12 Develop/implement snow management practices (Due 07/01/18)	Ongoing	2017 - None 2018 - DPW snow plow drivers attended the Snow Plow Safety Program offered by the Connecticut Interlocal Risk Management Agency (CIRMA). 2019 - None 2020 - None	DPW employees are encouraged to continue attending education on snow plow methods.	John Jenkins, Road Foreman, Highway Department	July 01, 2017	
6-13 Map & Inventory highly erosive areas in town road right-of-ways	Not Started	Collect information on eroding areas in town road right-of-ways from highway maintenance personnel over course of normal operations	Identify and locate areas contributing large volume of sediment to town watercourses or waterbodies	John Jenkins, Road Foreman, Highway Department	December 31, 2022	Reduce sedimentation of waterways near town road right-of-ways

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

All Pollution Prevention/Good Housekeeping activities will continue through 2020.

6.3 Pollution Prevention/ Good Housekeeping reporting metrics

Metrics	
Employee training provided for key staff	DPW employees are encouraged to attend training offered by the Connecticut Technology Transfer Center and Connecticut Interlocal Risk Management Agency (CIRMA). 2017 - None 2018 - Connecticut Interlocal Risk Management Agency (CIRMA) Snow Plow Safety Training. 2019 - None 2020 through 2021 - None due to the COVID-19 pandemic It is anticipated that staff training will be conducted in 2021 if the COVID-19 pandemic allows.
Street sweeping	
Curb miles swept	2017 through 2021 120.92 (60.46 Road Miles)

	A used Elgin road sweeper was purchased by the town in 2018 as the road sweeping loads are low due to the use of treated salt road deicing mix.
Volume (or mass) of material collected	2017 - Not Determined 2018 - 50± C.Y. to 100± C.Y. 2019 - 50± C.Y. to 100± C.Y. 2020 - 40± C.Y. 2021 - 40± C.Y. Due to the fact that no sand is used in the road deicing mix the road sweepings volume is minimal.
Catch basin cleaning	
Total catch basins in priority areas (value will be less than or equal to total catch basins town or institution-wide)	To be Determined
Total catch basins town- (or institution-) wide	1,328
Catch basins inspected	2017 through 2021 - 1,328
Catch basins cleaned	2017 through 2021 - 1,328
Volume (or mass) of material removed from all catch basins	Due to the fact that no sand is used in the road deicing mix the catch basin cleanings volume is minimal. 2017 - 100± C.Y. to 150± C.Y. 2018 - 140± C.Y. 2019 - 120± C.Y. 2020 - 150± C.Y. 2021 - 150± C.Y.
Volume removed from catch basins to impaired waters (if known)	Due to the fact that no sand is used in deicing the catch basin cleaning volume is minimal. 2017 - Not Estimated 2018 - Not Estimated 2019 - Not Estimated 2020 - 50± C.Y. 2021 - 50± C.Y.
Snow management	
Type(s) of deicing material used	Deicing Mix Cargill ClearLane® Enhanced Deicer
Total amount of each deicing material applied	Winter 2017 to 2018 - 1,500± Tons Winter 2018 to 2019 - 1,400± Tons Winter 2019 to 2020 - 1,000± Tons Winter 2020 to 2021 - 1,000± Tons Winter 2021 to 2021 - 1,000± Tons Winter 2021 to 2022 - 1,000± Tons (Estimated)
Type(s) of deicing equipment used	Seven 40,000 Pound, three 15,000 Pound, one 12,000 Pound and one 10,000 Pound GVW Snow Plows/Spreaders. Six of the 40,000 Pound GVW spreaders are ground speed controlled with an application rate ranging from 100 pounds per

	lane mile to 900 pounds per lane mile with an average application rate of 250 pounds per lane mile. If application of deicing material is done in one pass the application rate is increased to 350 pounds per road mile.
Lane-miles treated (A lane-mile is a mile of roadway in a single driving lane)	120.92 (60.46 Road Miles)
Snow disposal location	Along road shoulders. Allyn Park and White's Farm Open Space Property during extremely rare snow events.
Staff training provided on application methods & equipment	2017 - None 2018 - Connecticut Interlocal Risk Management Agency (CIRMA) Snow Plow Safety Training. 2019 - None 2020 through 2021 - None due to the COVID-19 pandemic 2022 - It is anticipated that staff training will be conducted if the COVID-19 pandemic allows.
Municipal turf management program actions (for permittee properties in basins with N/P impairments)	
Reduction in application of fertilizers (since start of permit)	2017 through 2020 - 90 % No fertilizers or weed killers are used on town property with the exception of the Town Green where an organic based fertilizer is used.
Reduction in turf area (since start of permit)	2017 through 2021 - 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

Provide any updates or modifications to your catch basin cleaning program.

There are 1,328 catch basins in the Town of Durham.
2017 through 2021 - All catch basins were cleaned.
As all catch basins are cleaned annually, no optimization methods are required.

6.5 Retrofit Program

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

(Due 07/01/20)

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 annually in future years.

(Due 07/01/22)

Redevelopment projects in town will be required to implement LID practices whenever possible to meet or exceed the CT DEEP DCIA disconnection goal.

Part II: Impaired Waters Investigation and Monitoring

1. Impaired Waters Investigation and Monitoring Program

For details on this requirement, visit <https://nemo.uconn.edu/ms4/tasks/monitoring.htm>. Refer to the yellow column of the Monitoring comparison chart and the Impaired waters monitoring flowchart.

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

The Coginchaug River is the only impaired water in the Town of Durham due to excessive E coli.

1.2 Describe Program Status

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

The Connecticut River Watch Program of the Connecticut River Coastal Conservation District, Inc. conducted the Coginchaug River Watershed Water Quality Testing from 2012 to 2021.

2017 through 2021 - No stormwater sampling to impaired waters was conducted by the town.

2017

The Connecticut River Coastal Conservation District conducted sampling at three Coginchaug River sites, CoR060, Creamery Road crossing, CoR055, Meeting House Road crossing and CoR050, Route 68/Wallingford Road crossing. Samples were obtained on nine sample dates from July 12, 2017 to September 06, 2017.

2018

The Connecticut River Coastal Conservation District conducted sampling at three Coginchaug River sites, CoR060, Creamery Road crossing, CoR055, Meeting House Road crossing and CoR050, Route 68/Wallingford Road crossing. Samples were obtained on nine sample dates from July 11, 2018 to September 05, 2018.

2019

The Connecticut River Coastal Conservation District conducted sampling at three Coginchaug River sites, CoR060, Creamery Road crossing, CoR055, Meeting House Road crossing and CoR050, Route 68/Wallingford Road crossing. Samples were obtained on nine sample dates from July 10, 2019 to September 04, 2019.

2020

The Connecticut River Coastal Conservation District conducted sampling at three Coginchaug River sites, CoR060, Creamery Road crossing, CoR055, Meeting House Road crossing and CoR050, Route 68/Wallingford Road crossing. Samples were obtained on eight sample dates from July 08, 2020 to September 02, 2020.

2021

The Connecticut River Coastal Conservation District conducted sampling at three Coginchaug River sites, CoR060, Creamery Road crossing, CoR055, Meeting House Road crossing and CoR050, Route 68/Wallingford Road crossing. Samples were obtained on nine sample dates from July 08, 202X to September 02, 202X.

2022 - It is anticipated that dry weather screening and stormwater sampling of all of the stormwater outfalls which discharge directly to impaired waters (Coginchaug River) will be completed in the late Spring and early Summer.

2. Screening Data for Outfalls to Impaired Waterbodies (Section 6(i)(1) / page 41)

2.1 Screening Data

Complete the table below to report data for any wet weather sampling completed for MS4 outfalls that discharge directly to a stormwater impaired waterbody during the reporting period. For details on this requirement, visit www.nemo.uconn.edu/ms4/tasks/monitoring.htm. Refer to the yellow column of the Monitoring comparison chart and the Impaired waters monitoring flowchart.

Each Annual Report will add on to the previous year’s data showing a cumulative list of sampling data.

Outfall ID	Latitude / Longitude	Sample date	Parameter (Nitrogen, Phosphorus, Bacteria, or Other pollutant of concern)	Results	Name of Laboratory (if used)	Follow-up required? *

2017 through 2021 - No screening or sampling of outfalls which discharge to impaired waters was conducted.
 2022 - it is anticipated that all outfalls which discharge to the Coginchaug River will be screened and sampled.

Follow-up investigation required (last column) if the following pollutant thresholds are exceeded:

Pollutant of concern	Pollutant threshold
Nitrogen	Total N > 2.5 mg/l
Phosphorus	Total P > 0.3 mg/l
Bacteria (fresh waterbody)	<ul style="list-style-type: none"> E. coli > 235 col/100ml for swimming areas or 410 col/100ml for all others Total Coliform > 500 col/100ml
Bacteria (salt waterbody)	<ul style="list-style-type: none"> Fecal Coliform > 31 col/100ml for Class SA and > 260 col/100ml for Class SB Enterococci > 104 col/100ml for swimming areas or 500 col/100 for all others
Other pollutants of concern	Sample turbidity is 5 NTU > in-stream sample

2022 - it is anticipated that all outfalls which discharge to the Coginchaug River will be screened and sampled.

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

Provide the following information for outfalls exceeding the pollutant threshold.

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

2022 - it is anticipated that all outfalls which discharge to the Coginchaug River and exceed pollutant thresholds will be screened and sampled.

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

Once outfall sampling has been completed for at least 50% of outfalls to impaired waters, identify 6 of the highest contributors of any pollutants of concern.

Begin monitoring these outfalls on an annual basis by July 01, 2021.

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

2022 - it is anticipated that all outfalls which discharge to the Coginchaug River and exceed pollutant thresholds will be prioritized based upon screening and sampling results.

Part III: Additional IDDE Program Data

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

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

1. Catchment ID (DEEP Basin ID)	2. Category	3. Rank
4605-05 Fowler Brook	Bacteria	1
4605-01-2-R3 15.49% Impervious	Bacteria	2
4606-00-2-R2 13.80% Impervious	Bacteria	3

The Connecticut River Watch Program of the Connecticut River Coastal Conservation District, Inc. has conducted Coginchaug River Watershed Water Quality Testing from 2012 to 2021.

Year	Geometric Mean E. coli (colonies per 100ml)									
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
No. of Sample Days	10	9	9	9	8	9	9	9	8	
No. of Wet Sample Days	5	3	2	7	4	3	2	3	1	
Coginchaug River - 4607										
CoR060	NS	279	403	172	142	210	284	422	336	
CoR055	722	352	666	342	445	534	507	528	462	
CoR050	NS	NS	397	2,662	543	570	438	167	160	
Allyn Brook - 4605-00										
AIB020	584	NS	NS	NS	NS	NS	NS	NS	NS	
Birch Mill Brook										
BMB012	NS	NS	NS	NS	NS	NS	NS	NS	51	
BMB010	NS	NS	235	245	NS	NS	NS	NS	NS	
Chalker Brook - 4607-03										
ChB005	49	NS	NS	NS	NS	NS	NS	NS	NS	
Creampot Brook - 4607-06										
CrB030	58	NS	NS	NS	NS	NS	NS	NS	NS	
Fowler Brook - 4605-05										
FoB023	NS	NS	NS	NS	NS	NS	NS	NS	101	
FoB020	1,356	648	452	685	NS	NS	NS	NS	776	
FoB017	NS	NS	NS	NS	NS	NS	NS	570	517	
FoB015	1,360	569	1,019	694	643	1,139	718	631	401	
Hersig Brook - 4605-01										
HeB005	289	NS	NS	NS	NS	NS	NS	NS	NS	
Parmalee Brook - 4607-05										
PaB050	577	NS	NS	NS	NS	NS	NS	NS	NS	
Sawmill Brook - 4607-00										
SaB110	696	438	320	NS	NS	NS	NS	NS	NS	

Note: Bold E.coli concentrations indicate exceedance of Water Quality Standards criteria for a Geometric Mean exceeds 126 colonies/100 mL

Based on the results of the Coginchaug River and brook sampling, bacteria sources investigations should be a priority in Fowler Brook

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

For details on this requirement, visit <https://nemo.uconn.edu/ms4/tasks/monitoring.htm>. Refer to the blue column of the Monitoring comparison chart and the IDDE baseline monitoring flowchart.

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	Latitude / Longitude	Screening / sample date	Ammonia	Chlorine	Conductivity	Salinity	E. coli or enterococcus	Surfactants	Water Temp	Pollutant of concern	If required, follow-up actions taken

2017 through 2021 - No Dry Weather Screening or sampling was conducted.

2022 - It is anticipated that dry weather screening and dry weather sampling of outfalls, where appropriate, will be conducted in late Spring and early Summer.

2.2 Wet Weather Sample and Inspection Data

For details on this requirement, visit <https://nemo.uconn.edu/ms4/tasks/monitoring.htm>. Refer to the green column of the Monitoring comparison chart and the IDDE catchment investigation flowchart.

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

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

2017 through 2021 - No wet weather sampling or inspections were conducted.

2022 - It is anticipated that wet weather screening and wet weather sampling of outfalls, where appropriate, will be conducted in late Spring and early Summer.

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

For details on this requirement, visit www.nemo.uconn.edu/ms4/tasks/monitoring.htm. Refer to the green column of the Monitoring comparison chart and the IDDE catchment investigation flowchart.

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 than poor owner maintenance).
12. History of multiple local health department or sanitarian actions addressing widespread septic system failures (indicative of inadequate soils, water table separation, or other physical constraints of the area rather than poor owner maintenance).

3.2 Key Junction Manhole Dry Weather Screening and Sampling Data

Key Junction Manhole ID	Latitude & Longitude	Screening or Sample Date	Visual/Olfactory Evidence of Illicit Discharge	Ammonia	Chlorine	Surfactants

2017 through 2021 - No junction manhole dry weatherscreening or dry weather sampling was conducted.
 2022 - It is anticipated that junction manhole dry weather screening and dry weather sampling, where appropriate, will be conducted in late Fall.

3.3 Wet Weather Investigation Outfall Sampling Data

Outfall ID	Latitude & Longitude	Sample date	Ammonia	Chlorine	Surfactants

2017 through 2021 - No wet weather sampling or inspections were conducted.
 2022 - It is anticipated that wet weather screening and wet weather sampling of outfalls, where appropriate, will be conducted in late Spring and early Summer.

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

2017 through 2021 - No sampling or inspections were conducted.
 2022 - It is anticipated that dry and wet weather screening and dry and wet weather sampling of outfalls, where appropriate, will be conducted in late Spring and early Summer.

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: Laura L. Francis, First Selectwoman	Print Name: Wade M. Thomas, CPMSM
Signature: Date: May , 2022	Signature: Date: May , 2022
Email: Lfrancis@townofdurhamct.org	Email: wthomas@nlja.com