

**DRAFT**

**2021 ANNUAL REPORT**

***General Permit for the Discharge of Stormwater from  
Small Municipal Separate Storm Sewer Systems (MS4)***

***Registration No. GSM000114***

*for*

*City of Derby, CT  
1 Elizabeth Street  
Derby, Connecticut*



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**MS4 General Permit  
City of Derby 2021 Annual Report  
Existing MS4 Permittee  
Permit Number GSM000114  
January 1, 2021 – December 31, 2021**

**Primary MS4 Contact: Edward Armeno; Director of Public Works; (203) 736-1468; Derbypw@derbyct.gov**

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This report documents the City of Derby's efforts to comply with the conditions of the MS4 General Permit to the maximum extent practicable (MEP) from January 1, 2021 to December 31, 2021.

**Executive Summary**

Submission of this report by the City of Derby maintains compliance with the reporting requirements and registration (no. GSM000114) under the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4), submitted to the State of Connecticut Department of Energy and Environmental Protection ('CT DEEP') Commissioner for activities located within the City of Derby. The City of Derby certifies by this report that the terms and conditions of the General Permit are being met to the maximum extent practicable (MEP).

Starting in 2017, the City of Derby contracted with a consulting firm, Barton & Loguidice, LLC (B&L), who has completed much of the dry weather screening and sampling of the City's existing and newly identified outfalls (138 municipally-owned). Through the efforts of B&L, the City continues working toward the completion of all dry weather outfall Illicit Discharge Detection and Elimination (IDDE) screening and sampling, and wet weather impaired outfall sampling efforts for all of the municipally-owned outfalls identified in the City to the MEP.

In 2021, with the assistance from B&L, the City completed a significant amount of updates to their MS4 system mapping. The main focus for the updates in 2021 were to verify municipal outfalls, catch basins, manholes, drainage lines, and interconnections, as well as, update mapping that was noted as incorrect during field inspections, and map drop-down catch basins (catch basins that discharge directly into a waterway with no other piping connected to the system).

Through the field investigation process, some new outfalls in the MS4 system that were previously mapped were identified as incorrect and needed to be updated based on actual field conditions. Large incomplete areas of the City's MS4 system mapping were able to be resolved, missing structures added, and piping corrected to match the true conditions. B&L's efforts assisted in reducing the burden on the City for mapping locations that could be resolved in the field allowing the City to focus on other aspects of the MS4 permit. By performing this action, in 2021 B&L was able to map seven new outfalls, 46 new catch basins, 72 new manholes and approximately 10.5 miles of drainage piping.

## **Outfall Monitoring Status**

During the reporting period (January 1 through December 31, 2021), work was completed on dry weather screening and sampling efforts. Wet weather screening and sampling efforts were not conducted during this reporting period due to focused efforts on updating the MS4 system mapping and dry weather screening.

In 2021, 53 outfalls were dry weather screened and 13 samples were collected. The 2021 dry weather screening and sampling data identified the presence of one new suspected illicit discharge requiring an investigation, which was added to the list of High Priority Outfalls. To date, dry weather screening and sampling efforts were completed at 111 of 138 municipal outfalls, including 27 samples collected during those dry weather events. Three of the samples collected during dry weather events were identified with suspected illicit discharge, which were ranked at the top of the high priority category for further investigations.

In 2021, no additional wet weather sampling was completed. To date, 28 of 73 impaired outfalls have been sampled during wet weather events and 14 of those outfalls were identified with suspected illicit discharge and were ranked at the top of the high priority category for further investigations. Additionally, 18 wet weather samples were collected to date at outfalls that are not discharging to impaired waters. Of these samples collected, two were identified for further investigations with suspected illicit discharges and were ranked at the top of the high priority category.

With the assistance from B&L, the City has initiated investigations on seven catchment areas and have collected samples at 29 key system junctions within these catchment areas that were ranked at the top of the high priority category. Because of the complexity of the City's MS4 system and the need to further update the system mapping, the City has not been able to complete any of the investigations that have been started.

The City of Derby will continue to conduct dry weather and wet weather outfall screening and sampling efforts and catchment investigations throughout the next reporting period (January 1 through December 31, 2022). This effort will be conducted simultaneously with the City's MS4 mapping for stormwater outfalls.

## 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	A link was created for access to the City's Stormwater Management program. Links were added to the Stormwater website that discuss Stormwater and Water Quality; Pet Waste; Impervious Cover; Fertilizers, Pesticides & Herbicides; Illicit Discharges; and Bacteria.	CT DEEP, River Smart, UConn NEMO, NH DES, Clemons Coop Ext, Minnesota PCA,	Town Webpage: <a href="http://www.derbyct.gov/stormwater-management">www.derbyct.gov/stormwater-management</a>	General Public	Link to educational resources on City website. Develop and Distribute Material to Public Annually.	Public Works	
1-2 Address education/ outreach for pollutants of concern*	A weblink for "Help Keep Our Waterways Clean" and additional links regarding bacteria were added to the Stormwater website (see BMP 1-1).	CT DEEP (Under "Additional Recourses")	Town Webpage: <a href="http://www.derbyct.gov/help-keep-our-waterways-clean">www.derbyct.gov/help-keep-our-waterways-clean</a>	General Public	Develop and Distribute Information on Bacteria Pollution	Public Works	

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

- Continue to provide current, relevant educational materials on the City's stormwater webpage.

### 2. PUBLIC INVOLVEMENT/PARTICIPATION (Section 6(a)(2) / page 21)

#### 2.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department/ Person Responsible	Date completed/ projected	Location Posted	Additional details
2-1 Final Stormwater Management Plan publicly available	Complete	The SMP is accessible on the City's Stormwater Management website.	Provide public access to the Stormwater Management Plan.	Public Works	April 2017 On-going	Connecticut Post, City Hall, the library and <a href="http://www.derbyct.gov/Stormwater-Management">http://www.derbyct.gov/Stormwater-Management</a>	

BMP	Status	Activities in current reporting period	Measurable goal	Department/ Person Responsible	Date completed/ projected	Location Posted	Additional details
2-2 Comply with public notice requirements for Annual Reports (annually by 2/15)	Complete	Notice of the draft Annual Report was posted in the Connecticut Post. The draft Annual Report was also accessible in City Hall, the library and uploaded to the City's Stormwater Management website.	Notify public of published Annual Report and document comments received.	Public Works	Notice Posted: 5/21/2021 Report Posted: 5/20/2021 On-going	Connecticut Post, City Hall, the library and <a href="http://www.derbyct.gov/Stormwater-Management">http://www.derbyct.gov/Stormwater-Management</a>	The 2022 notice was posted on 1/31/2022

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

- Continue to provide notice of updated SMPs and draft Annual Reports in the Connecticut Post, City Hall, the public library and the Stormwater Management 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	Department/ Person Responsible	Date completed/ projected	Additional details
3-1 Develop written IDDE program (Due 7/1/19)	In Progress	Due to the COVID-19 pandemic, the City was not able to make progress towards finalizing the IDDE Plan. The City has a draft plan in place and anticipates reviewing and finalizing the IDDE Plan in 2022.	Develop Written Plan	Public Works	Jul 1, 2022	
3-2 Develop list and maps of all MS4 stormwater outfalls in priority areas (Due 7/1/20)	Substantially Complete	Extensive efforts were conducted in 2019, 2020 and 2021 to locate and identify new outfalls that were not previously mapped and update the system mapping.	Update Existing Outfall Map	Public Works	Dec 31, 2021 On-going	In 2022, the City will continue to update its system mapping, as necessary.
3-3 Implement citizen reporting program (On-going)	Complete	Email address and telephone number have been added to the Public Works website for issuing complaints.	Develop Program	Public Works	May 1, 2019	
3-4 Establish legal authority to prohibit illicit discharges (Due 7/1/19)	Complete	An Illicit Discharge and Connection Stormwater Ordinance was passed and adopted on 5/10/2018.	Update City Ordinance	Zoning Department	May 10, 2018	

BMP	Status	Activities in current reporting period	Measurable goal	Department/ Person Responsible	Date completed/pr ojected	Additional details
3-5 Develop record keeping system for IDDE tracking (Due 7/1/17)	Complete	The City uses excel and access spreadsheets, along with GIS, for IDDE tracking.	Develop SOP	Public Works	Jul 1, 2017 On-going	
3-6 Address IDDE in areas with pollutants of concern	In Progress	In 2021, the City continued screening and sampling outfalls throughout the City. Several outfalls were identified that will require further investigation. Two IDDE investigations for outfalls discharge to impaired waters have been initiated. It is anticipated that these investigations will continue to be investigate in 2022 to the maximum extent practicable.	Identify IDDEs	Public Works	On-going	
3-7 Map MS4 System in Priority Areas	In Progress	The City continued significant effort in mapping outfalls, catch basins, manholes and piping in priority areas.	Map Priority Areas	Public Works	On-going	In 2022, the City will continue to update its system mapping, as necessary.

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

- Finalize written IDDE Program
- Post IDDE Program to the Stormwater Management webpage and include link in next year's Annual Report
- Continue updating the MS4 outfall and system mapping
- Continue to maintain master IDDE records tracking
- Investigate illicit discharges in areas with pollutants of concern

**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)
287 Sentinel Hill Rd, Derby	8/5/2017 0 hrs	N/A	Unknown	Sentinel Hill was jet rodded on 08/04/2017 and caused sewage to come out in basement of 287 Sentinel Hill Rd	Servepro was called in to clean basement 287 Sentinel Hill Rd was added to Maintenance "caution" list to prevent future bypass	N/A

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)
1 Caroline Street, Derby	10/24/17 9 hrs	Grassed area at plant	5,001-20,000 gallons	Flash flooding / WPCA	Hosed down area. No action planned as Plant exceeded capacity during storm event	N/A
Burtville Ave, Derby / 41.31, -72.87	11/15/17 24 hrs	Housatonic River	1,001 - 5,000 gallons	Broken pipe Cause unknown	Area hosed down and disinfected Pipe repaired	N/A
Roosevelt Drive	2/7/19 1 hrs	Housatonic River	10-20 gal	Power failure at pump station. Contractor issues.	Area cleaned & contractor issues resolved 2/7/2019	N/A
222 Derby Ave unit 304	7/18/19 3 hrs	No	51-500 gal	Contractor excavating	Private property 7/18/2019	N/A
Ferrara CT/Indian Ave	9/8/19 3 hrs	No	1-50 gal	Sewer line blockage	Sewer line Jetted and cleaned 9/8/2019	N/A
North Ave/ RT 34	10/1/19 4 hrs	Housatonic River	5,000-20,000 gal	Pump station/Clogged pumps	Pumps cleaned and cleared, area cleaned 10/1/2019	N/A
Caroline St/WPCA Plant	10/16/19 2 hrs	No	20,000 - 50,000 gal	Excessive flows from severe rain event	Areas cleaned 10/16/2019	N/A
Caroline St/WPCA Plant	10/28/19 1 hrs	No	1-50 gal	Excessive flows from severe rain event	Areas cleaned 10/28/2019	N/A
Caroline St/WPCA Plant	12/14/19 4 hrs	Housatonic River	20,000-50,000 gal	Raw sewage pump discharge line broke	By-pass pumps set up areas cleaned 12/20/2019	N/A
Mt. Pleasant Street	2/2/20 8 Days	Naugatuck River	1-50 gal	Private common lateral	No action was taken by the residents until the city stepped in and hired a contractor to fix the private lateral. Area cleaned 2/10/2020	N/A
Caroline St/WPCA Plant	7/3/20 2 hrs	No	501-1,000 gal	Excessive flows from severe rain event	Areas cleaned 7/3/2020	N/A
Caroline St/WPCA Plant	9/10/20 2 hrs	No	1,000-5,000 gal	Excessive flows from severe rain event	Areas cleaned 9/10/2020	N/A
Emmit Ave/Derby Ave	9/13/20 2 hrs	No	1-50 gal	Sewer line blockage	Sewer line Jetted and cleaned 9/13/2020	N/A
109 Hawkins St/8 <sup>th</sup> St	3/11/21 Unknown	No	1-50 gal	Root intrusion and wipes blockage in private lateral	Homeowner had the sewer lateral cleaned 3/12/2021	N/A
Caroline St/WPCA Plant	7/9/21 6 hrs	Yes, Housatonic River	Undetermined	Excessive flows due to rain event (3"-4" per hour) caused overflow	Areas cleaned 7/9/21	N/A
Caroline St/WPCA Plant	8/23/21 2 hrs	No	1,001-5,000 gal	Excessive flows due to rain event (2"-3" per hour) caused overflow	Areas cleaned 8/23/21	N/A

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)
Caroline St/WPCA Plant	9/2/21 2 hrs	No	5,001-20,000 gal	Excessive flows due to rain event (2"-3" per hour), along with Stevenson dam releasing 2,500 CFS, caused overflow	Areas cleaned 9/2/21	N/A
19 Cherry St	10/10/21 2 hrs	Yes, Housatonic River	1-50 gal	Private sewer lateral leak	Lateral was inspected and determined to be in good condition	N/A

**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
FileMaker Pro and Hard Copy Filing System	Hawthorne Avenue – Septic system was failing.	Septic tank and leaching field were repaired.	None	Naugatuck Valley Health District
FileMaker Pro and Hard Copy Filing System	Laurel Place – Septic system was failing.	Septic tank and leaching field were repaired.	None	Naugatuck Valley Health District
FileMaker Pro and Hard Copy Filing System	Cullen’s Hill Road – Septic system was failing.	Septic tank and leaching field were repaired.	None	Naugatuck Valley Health District
FileMaker Pro and Hard Copy Filing System	Hawkins Street – Septic tank was leaking.	Septic tank was repaired.	None	Naugatuck Valley Health District

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

- The City will continue tracking illicit discharges using an excel table. DPW is responsible for tracking the information.



### 3.6 IDDE reporting metrics

Metrics	
Estimated or actual number of MS4 outfalls	138
Estimated or actual number of interconnections	~40
Outfall mapping complete	90%
Interconnection mapping complete	25%
System-wide mapping complete (detailed MS4 infrastructure)	35%
Outfall assessment and priority ranking	75%
Dry weather screening of all High and Low priority outfalls complete	111
Catchment investigations complete	2 in progress
Estimated percentage of MS4 catchment area investigated	5%

### 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 is it given (minimum once per year).

- An MS4 and IDDE training program was developed and implemented for presentation to all City personnel that may come into contact with stormwater or that may review applications and plans that impact stormwater quality. This training is conducted on an annual basis, or as needed when new employees are added. The last training program was conducted at the Public Works Department on 9/23/21.

## 4. CONSTRUCTION SITE RUNOFF CONTROL (Section 6(a)(4) / page 25)

### 4.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department/ Person Responsible	Date completed/ projected	Additional details
4-1 Implement, upgrade, and enforce land use regulations or other legal authority to meet requirements of MS4 general permit (Due 7/1/20)	In Progress	Due to the COVID-19 pandemic, the City was not able to make progress towards revising land use regulations in 2021 to improve compliance with the MS4 General Permit.	Review and update regulations	Zoning Department	Dec 31, 2022	The City anticipates making progress towards updating their land use regulations in 2022.

BMP	Status	Activities in current reporting period	Measurable goal	Department/ Person Responsible	Date completed/ projected	Additional details
4-2 Develop/Implement plan for interdepartmental coordination in site plan review and approval (On-going)	Complete	The City has an established plan for site review and approval and depending on the proposed project, the following boards and commissions review the development plans: Planning and Zoning Commission, Inland Wetlands Commission and the Board of Alderman.	Document Current Procedure	City Engineer	Jul 1, 2018 On-going	
4-3 Review site plans for stormwater quality concerns (On-going)	Complete	The City conducted the necessary site plan reviews during the reporting period.	Document Plans Reviewed	City Engineer	Jul 1, 2017 On-going	
4-4 Conduct site inspections (On-going)	Complete	The City conducted the necessary site inspections during the reporting period.	Document Inspections Performed	City Engineer	Jul 1, 2017 On-going	
4-5 Implement procedure to allow public comment on site development (On-going)	Complete	Public comment is allowed during public hearings that accompany the multiple boards and commissions review/approval of development plans. These hearings are publicly noticed. The public can also utilize the City's Citizen Resource Center for submitting comments.	Document Public Comments	Zoning Department	Jul 1, 2017 On-going	
4-6 Implement procedure to notify developers about DEEP construction stormwater permit (On-going)	In Progress	Currently, the City verbally notifies developers and contractors of their potential obligations to the Construction Stormwater Permit.	Add standard note on all qualifying plans	City Engineer	Jul 1, 2020	In 2022, the City will review current procedures and improve compliance with MS4 general permit

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

- The City will work towards updating the City ordinances to include being able to enforce land use regulations.
- Continue to review all design plans for regulation consistency.
- Continue the site inspection and checklist program.
- Continue to follow all State public notice and hearing requirements and follow up on all comments and complaints received.
- Add Construction Stormwater GP requirements to the stormwater website.

## 5. POST-CONSTRUCTION STORMWATER MANAGEMENT (Section 6(a)(5) / page 27)

### 5.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Date completed/ projected	Additional details
5-1 Establish and/or update legal authority and guidelines regarding LID and runoff reduction in site development planning (Due 7/1/22)	In Progress	Due to the COVID-19 pandemic, the City was unable to complete any progress towards this requirement. If restrictions allow, it is the City's intention to perform efforts towards completing this requirement in 2022.	Update City Ordinance	Zoning Department	Dec 31, 2022	
5-2 Enforce LID/runoff reduction requirements for development and redevelopment projects (Due 7/1/22)	In Progress	Due to the COVID-19 pandemic, the City was unable to complete any progress towards this requirement. If restrictions allow, it is the City's intention to perform efforts towards completing this requirement in 2022.	Document Facilities Specified	City Engineer	Dec 31, 2022	
5-3 Identify retention and detention ponds in priority areas (Due 7/1/20)	In Progress	No ponds that are the responsibility of the City have been identified at this time.	Inventory City Facilities	Public Works/ City Engineer	Jul 1, 2020 On-going	
5-4 Implement long-term maintenance plan for stormwater basins and treatment structures (On-going)	To be evaluated/ prepared	The City is in the process of drafting a plan for long-term maintenance plan for stormwater basins and treatment structures.	Development Maintenance Plan	Public Works/ City Engineer	Jul 1, 2022	
5-5 DCIA mapping (Due 7/1/20)	Substantially Completed	The DCIA for the priority areas have been calculated using the available impervious cover layers.	Calculate DCIA	Public Works	Feb 18, 2020	The DCIA mapping will be updated, as necessary, to include retrofit, development and development projects.
5-6 Address post-construction issues in areas with pollutants of concern	To be started	None	Document issues identified and addressed	City Engineer	On-going	

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

- Complete review of current regulations including site planning requirements, zoning regulations, street design regulations and infrastructure specifications to identify/ reduce/ eliminate existing regulatory barriers to implementation of LID and runoff reduction practices.
- Identify and map City retention and detention ponds in priority areas.
- Finalize and start implementing a long-term maintenance plan for ponds and structures including inspecting municipal ponds/structures annually and removing sediment in excess of 50% design capacity.
- Continue updating the DCIA mapping, as necessary.

**5.3 Post-Construction Stormwater Management reporting metrics**

Metrics		
Baseline (2012) Directly Connected Impervious Area (DCIA)	252	acres
DCIA disconnected (redevelopment plus retrofits)	Unknown	acres this year / acres total
Retrofits completed	Unknown	#
DCIA disconnected	TBD	% this year / % total since 2012
Estimated cost of retrofits	Unknown	\$
Detention or retention ponds identified	Unknown	# this year /# total

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

- To calculate the baseline DCIA for the City of Derby, Barton & Loguidice used the process found on the CT NEMO website. CT NEMO developed 5 formulas to calculate the DCIA and Impervious Cover (IC) independently for each basin in the City using the percent DCIA for the basin with the state DCIA removed from the equation. Barton & Loguidice took the formulas and created a bell curve to input the calculated percent of DCIA for each basin and calculate the total DCIA and IC amounts for the City. Each basin value was added together to create the baseline for the DCIA and IC for the City.

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

### 6.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Date completed/ projected	Additional details
6-1 Develop/implement formal employee training program (On-going)	On-Going	Completed annual training with Public Works on 9/23/21. Public Works & Water Pollution Control Staff also receive annual SWPPP training, which covers some areas of the MS4.	Track employee participation	Public Works	On-going	Additional training for other City staff will be conducted in the future.
6-2 Implement MS4 property and operations maintenance (On-going)	Complete	Salt piles are stored under cover and on impervious surfaces. City industrial stormwater discharges are monitored. Vehicle maintenance is performed undercover. Completed annual leaf collection program.	Develop written SOP's for operations	Public Works, Parks & Rec, Building Dept.	Jul 1, 2018 On-going	The City is reviewing current practices and looking for areas for optimization.
6-3 Implement coordination with interconnected MS4s	In Progress	Through the outfall identification process and system mapping, the City continues to identified several interconnections with the neighboring towns/cities.	Identify interconnections	Public Works	On-going	
6-4 Develop/ implement program to control other sources of pollutants to the MS4	In Progress	The City has obtained a list of all industrial facilities not currently registered under the DEEP's Industrial Stormwater General Permit and is planning on sending out notices. Progress has been made towards preparing brochures notifying industrial facilities of their requirements to register under the Industrial Stormwater GP.	Identify Sources	Public Works		
6-5 Evaluate additional measures for discharges to impaired waters*	To be Started	None	Identify potential project locations	Public Works		
6-6 Track projects that disconnect DCIA (On-going)	In Progress	The City has set up a table for tracking disconnected DCIA. Due to the COVID-19 pandemic, the City was unable to complete any progress towards this requirement in 2021.	Develop tracking procedure and data base	City Engineer	Jul 1, 2022 On-going	If restrictions allow, it is the City's intention to perform efforts towards completing this requirement in 2022.

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Date completed/ projected	Additional details
6-7 Implement infrastructure repair/rehab program (Due 7/1/21)	In Progress	Through the outfall screening process, the City has identified several outfalls requiring maintenance. The City is addressing these issues to the maximum extent practicable.	Document existing repair projects	Public Works	Jul 1, 2021 On-going	The Town will review current practices and look for areas for optimization.
6-8 Develop/implement plan to identify/ prioritize retrofit projects (Due 7/1/20)	In Progress	Due to the COVID-19 pandemic, the City was unable to complete any progress towards this requirement. If restrictions allow, it is the City's intention to perform efforts towards completing this requirement in 2022.	Identify potential retrofit projects	Public Works	Dec 31, 2022	
6-9 Implement retrofit projects to disconnect 2% of DCIA (Due 7/1/22)	In Progress	In 2022, the City will be working with its consultant to identify and prioritize potential projects for the Retrofit Program to the maximum extent practicable.	Implement retrofit projects	City Engineer	Dec 31, 2022	
6-10 Develop/ implement street sweeping program (On-going)	Complete/ Ongoing	City streets are swept annually, concentrating on high priority areas.	Document materials removed annually	Public Works	Jul 1, 2017 On-going	The City is reviewing current practices and looking for areas for optimization.
6-11 Develop/ implement catch basin cleaning program (On-going)	Complete/ Ongoing	Several catch basins were inspected and cleaned out in 2021 as part of continued road repair activities.	Document materials removed annually	Public Works	Jul 1, 2020 On-going	The City is reviewing current practices and looking for areas for optimization.
6-12 Develop/ implement snow management practices (Due 7/1/18)	Complete/ On-going	Streets & municipal lots were plowed as necessary. Roads were treated salt (no sand), as necessary.	Develop written SOP	Public Works	Jul 1, 2018 On-going	The City is reviewing current practices and looking for areas for optimization.

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

- Continue to conduct annual MS4 training programs.
- Review current MS4 property and operations maintenance practices and look for areas for optimization.
- Track projects that disconnect DCIA.
- Review current practices street sweeping practices and look for areas for optimization.
- Review current snow management practices and look for areas for optimization.
- Identify areas where pet waste receptacles maybe installed.
- Review current leaf management practices and look for areas for optimization.

### 6.3 Pollution Prevention/ Good Housekeeping reporting metrics

Metrics	
Employee training provided for key staff	Yes – 9/23/21
Street sweeping	
Curb miles swept	90 miles
Volume (or mass) of material collected	550 cy
Catch basin cleaning	
Total catch basins in priority areas	TBD
Total catch basins in MS4	TBD
Catch basins inspected	130
Catch basins cleaned	22
Volume (or mass) of material removed from all catch basins	100 cy
Volume removed from catch basins to impaired waters (if known)	UNK
Snow management	
Type(s) of deicing material used	Salt
Total amount of each deicing material applied	50 tons
Type(s) of deicing equipment used	Trucks
Lane-miles treated	90 miles
Snow disposal location	N/A
Staff training provided on application methods & equipment	Yes – as necessary
Municipal turf management program actions (for permittee properties in basins with N/P impairments)	
Reduction in application of fertilizers (since start of permit)	UNK
Reduction in turf area (since start of permit)	UNK
Lands with high potential to contribute bacteria (dog parks, parks with open water, & sites with failing septic systems)	
Cost of mitigation actions/retrofits	UNK

### 6.4 Catch basin cleaning program

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

Catch basins will all be inspected, cleaned out and the sumps will be measured. A second round of inspections and cleaning will be conducted and the amount of material removed will be recorded. A list will be generated and the catch basins with the most material present will be put on a more frequent cleaning schedule to ensure that the 50% design capacity for the sump is not exceeded.

### 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 7/1/20)**

Due to the COVID-19 pandemic, the City was unable to complete any progress towards this requirement in 2021. It is the City's intention to perform efforts towards completing this requirement in 2022. In 2022, the City anticipates working with its consultant to identify and prioritize potential projects for the Retrofit Program to the maximum extent practicable.

**Describe plans for continuing the Retrofit program and how to achieve a goal of 1% DCIA disconnection annually in future years. (Due 7/1/22)**

In 2022, the City will be working with its consultant to identify and prioritize potential projects for the Retrofit Program to the maximum extent practicable.

## Part II: Impaired waters investigation and monitoring

### 1. Impaired waters investigation and monitoring program

**1.1 Indicate which stormwater pollutant(s) of concern occur(s) in your municipality or institution.** This data is available on the MS4 map viewer: <http://s.uconn.edu/ctms4map>.

Nitrogen/ Phosphorus  Bacteria  Mercury  Other Pollutant of Concern

### 1.2 Describe program status.

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

1. Due to focused efforts on system mapping updates, IDDE investigations and dry weather outfall screening, no wet weather samples were collected from outfalls discharging to impaired waters in 2021. To date, the City has collected samples from 28 of 73 outfalls that discharge to impaired waters.
2. Fourteen of the impaired outfalls sampled so far had elevated levels of bacteria present. Four of the outfalls sampled had elevated levels of turbidity discharging from the outfall when compared to the receiving waterbody turbidity level.
3. The City has ranked the outfalls with elevated sampling results and started conducting further investigations, as necessary, to attempt to eliminate the source of pollutants discharging to the impaired waters.

The City will continue to attempt to collect wet weather samples from the impaired outfalls until all known locations are sampled. Once the remaining impaired wet weather samples are collected, efforts will be focused on the 6 annual priority wet weather samples and the wet weather investigation samples. Coordination with qualifying rain events will continue to be conducted for future monitoring events. Weather conditions and efforts being focused in other areas during 2021 did not allow the City to gain progress towards the wet weather sampling requirements; however, other local efforts resulted in the refinement of the Town's list of outfalls to impaired waters. No additional changes have been made to the Stormwater Management Plan at this time.



## 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.

#### Wet Weather Impaired Outfall Sampling Results

Outfall ID	Latitude	Longitude	Sampled Date	ΔTurbidity NTU	E. Coli (100col/L)	Nitrogen (mg/L)	Phosphorous (mg/L)	Lab	Investigation Required
DSN-009	41.30464202	-73.07259	4/16/18	N/A	20	N/A	N/A	Phoenix	No
DSN-010	41.30464202	-73.07259	4/16/18	N/A	10	N/A	N/A	Phoenix	No
DSN-011	41.30464202	-73.07259	4/16/18	N/A	10	N/A	N/A	Phoenix	No
DSN-012	41.30464202	-73.07259	4/16/18	N/A	10	N/A	N/A	Phoenix	No
DSN-013	41.30464202	-73.07259	4/16/18	N/A	10	N/A	N/A	Phoenix	No
DSN-014	41.30464202	-73.07259	4/16/18	N/A	10	N/A	N/A	Phoenix	No
DSN-022	41.33063309	-73.0789982	4/16/18	3.93	1270	N/A	N/A	Phoenix	Yes
DSN-023	41.31472222	-73.0805556	4/16/18	-0.28	2010	N/A	N/A	Phoenix	Yes
DSN-024	41.31661552	-73.0811531	9/25/18	11.75	2760	N/A	N/A	Phoenix	Yes
DSN-025	41.31681736	-73.0811299	4/25/18	7.76	2140	N/A	N/A	Phoenix	Yes
DSN-026	41.31638889	-73.0811111	4/25/18	3.6	10	N/A	N/A	Phoenix	No
DSN-027	41.31799129	-73.0812381	6/18/19	9.82	3450	N/A	N/A	Phoenix	Yes
DSN-028	41.32888889	-73.0808333	6/18/19	1.71	8660	N/A	N/A	Phoenix	Yes
DSN-031	41.3178418	-73.0812182	4/16/18	-20.15	20	N/A	N/A	Phoenix	No
DSN-034	41.31832547	-73.08133427	4/16/18	24.67	10	N/A	N/A	Phoenix	Yes
DSN-035	41.32388889	-73.0819444	9/25/18	2.2	11200	N/A	N/A	Phoenix	Yes
DSN-036	41.32805556	-73.0819444	4/25/18	0.71	20	N/A	N/A	Phoenix	No
DSN-037	41.31666667	-73.0877778	4/25/18	N/A	8160	N/A	N/A	Phoenix	Yes
DSN-039	41.31930793	-73.0904697	4/25/18	N/A	683	N/A	N/A	Phoenix	Yes
DSN-040	41.32263	-73.095231	4/25/18	N/A	161	N/A	N/A	Phoenix	No
DSN-041	41.32305556	-73.0958333	4/25/18	N/A	10	N/A	N/A	Phoenix	No
DSN-043	41.325649	-73.100455	4/25/18	N/A	63	N/A	N/A	Phoenix	No
DSN-044	41.32567598	-73.100383	4/25/18	N/A	63	N/A	N/A	Phoenix	No
DSN-060	41.31312766	-73.0564258	6/13/19	N/A	4610	N/A	N/A	Phoenix	Yes

Outfall ID	Latitude	Longitude	Sampled Date	ΔTurbidity NTU	E. Coli (100col/L)	Nitrogen (mg/L)	Phosphorous (mg/L)	Lab	Investigation Required
DSN-063	41.31304404	-73.056493	6/13/19	N/A	75	N/A	N/A	Phoenix	No
DSN-065	41.3127415	-73.0575903	6/13/19	N/A	712	N/A	N/A	Phoenix	Yes
DSN-066	41.31285516	-73.0572504	6/13/19	N/A	9210	N/A	N/A	Phoenix	Yes
DSN-071	41.3048815	-73.0654685	6/13/19	N/A	231	N/A	N/A	Phoenix	No
DSN-076	41.32972908	-73.1077658	6/18/19	N/A	12000	1.79	0.216	Phoenix	Yes

## 2.2 Credit for screening data collected under 2004 permit

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

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

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

Provide the following information for outfalls exceeding the pollutant threshold.

Outfall	Status of drainage area investigation	Control measure implementation to address impairment
DSN-021	Investigation initiated in the drainage area, see Part III, Section 3.2 for key manhole/catch basin screening/sampling data. Additional MS4 system mapping being completed for this drainage area in conjunction with sampling.	
DSN-070	Investigation initiated in the drainage area, see Part III, Section 3.2 for key manhole/catch basin screening/sampling data. Additional MS4 system mapping being completed for this drainage area in conjunction with sampling.	

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

Outfall	Latitude	Longitude	Sample Date	Parameter(s)	Results	Name of Laboratory (if used)
In 2021, the City focused efforts on updating system mapping and completing dry weather screening and sampling. In 2022, the City will continue to attempt to collect wet weather samples from the impaired outfalls until all known locations are sampled. Once the remaining impaired wet weather samples are collected, efforts will be focused on the 6 annual priority wet weather samples.						

## 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).

See attachment provided with this report

### 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.

Table 2.1.a – Non-Impaired Waterbody Outfalls

Outfall ID	Latitude	Longitude	Sample Date	Temp (oC)	Conductivity (uohms)	Salinity (g/kg)	Ammonia (mg/L)	Chlorine (mg/L)	MBA's (mg/L)	E. Coli (100col/L)	Lab	Investigation Required
DSN-006	41.31237499	-73.05859102	8/14/17	21.17	826	0.41	0.25	0.07	0	206	Phoenix	NO
DSN-047	41.31239402	-73.05857903	6/13/18	17.76	1293	0.65	0.25	0.06	0.25	<10	Phoenix	NO
DSN-056	41.32188996	-73.05615197	8/17/17	16.64	213	0.12	0	0.03	0.25	10	Phoenix	NO
DSN-067	41.31061869	-73.07102476	8/17/17	22.44	258	0.12	0.25	0.11	0.25	1660	Phoenix	NO
DSN-073	41.318007	-73.049241	8/14/17	21.17	826	0.41	0.25	0.07	0	206	Phoenix	NO
DSN-078	41.33060059	-73.1019416	11/1/17	12.65	455	0.22	0.25	0	0.25	52	Phoenix	NO
DSN-144	41.33782931	-73.11168308	3/16/21	7.9	267	0.129	0	0.18	0.04	10	Phoenix	NO
DSN-145	41.3404961	-73.11015421	3/16/21	7.8	179	0.0859	0	0	0.04	10	Phoenix	NO
DSN-146	41.34340059	-73.11244034	3/17/21	5.7	120	0.058	0	0.01	0.07	10	Phoenix	NO
DSN-156	41.31378	-73.070145	3/23/21	19.5	251	0.103	0	0.02	0.07	31	Phoenix	NO
DSN-157	41.31323	-73.069685	3/30/21	10.9	258	0.123	0	0	0.07	10	Phoenix	NO
DSN-159	41.321543	-73.066807	4/6/21	12	220	0.104	0	0.01	0.14	31	Phoenix	NO
DSN-160	41.324611	-73.064447	4/6/21	15.2	274	0.13	0	0.01	0.11	1440	Phoenix	NO
DSN-162	41.321087	-73.054664	4/7/21	15.2	260	0.124	0	0.13	0.11	3870	Phoenix	NO

Table 2.1b – Impaired Waterbody Outfalls

Outfall ID	Latitude	Longitude	Sampled Date	ΔTurbidity NTU	E. Coli (100col/L)	Lab	Investigation Required
DSN-009	41.304642	-73.07259	8/22/17	n/a	<10	Phoenix	No
DSN-010	41.30464202	-73.07259	8/22/17	n/a	20	Phoenix	No
DSN-021	41.31333333	-73.07888889	8/22/17	6.1		Phoenix	Yes
DSN-040	41.32263	-73.095231	8/14/17	n/a	161	Phoenix	No
DSN-044	41.325676	-73.100383	8/22/17	n/a	31	Phoenix	No
DSN-045	41.32785908	-73.10433884	8/14/17	n/a	262	Phoenix	No
DSN-070	41.30683003	-73.07550796	8/17/17	n/a	31	Phoenix	No
DSN-071	41.304882	-73.065469	3/10/21	n/a	<10	Phoenix	No
DSN-076	41.329729	-73.107766	3/10/21	n/a	183	Phoenix	No
DSN-091	41.30368654	-73.06613004	3/10/21	-0.49	<10	Phoenix	No
DSN-092	41.30365561	-73.06613694	3/10/21	14.96	<10	Phoenix	Yes
DSN-112	41.32485798	-73.080946	11/22/19	1.04	73	Phoenix	No
DSN-140	41.31948099	-73.09039628	2/19/20	-39.94	>24200	Phoenix	Yes

## 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.

Per a Request for Information from the EPA, the City of Derby is also required to conduct wet weather sampling at outfalls that are not discharging to impaired waters, which did not have discharges during dry weather screening. The sampling results for these outfalls are provided below.

### Wet Weather Non-Impaired Outfall Sampling Results

Outfall ID	Latitude	Longitude	Sampled Date	Temp (oC)	Conductivity (uohms)	Salinity (g/kg)	Ammonia (mg/L)	Chlorine (mg/L)	MBAs (mg/L)	E. Coli (100col/L)	Lab	Investigation Required
DSN-001	41.32082202	-73.047184	9/25/18	17.32	117	0.1	0.5	0.13	1	24200	Phoenix	Yes
DSN-002A	41.31285622	-73.04815455	9/25/18	17.92	26	0.01	1	0.02	0.5	2140	Phoenix	Yes
DSN-003	41.31722222	-73.05416667	6/13/19	19.3	44.7	0.0204	0.25	0.05	0.25	14100	Phoenix	No
DSN-004	41.31722222	-73.05416667	6/13/19	20.8	22.8	0.0104	0.25	0.06	0.5	836	Phoenix	No
DSN-005	41.31419202	-73.05501496	6/13/19	23.7	21.5	0.0098	0.25	0.04	0.5	2720	Phoenix	No
DSN-007	41.318591	-73.07128022	6/13/19	17.2	16	0.01	0.25	0	0.25	4110	Phoenix	No
DSN-015	41.32597896	-73.07382812	6/13/19	17.33	13	0.01	0	0	0.25	1440	Phoenix	No
DSN-019	41.31946171	-73.07470352	6/13/19	17.12	28	0.01	0.25	0.03	0.5	1850	Phoenix	No
DSN-046	41.30480999	-73.07167802	6/13/19	17.43	8	0	0	0.01	0.25	1110	Phoenix	No
DSN-051	41.32163966	-73.04912189	9/25/18	16.68	15	8.91	0.25	0.07	0.25	5170	Phoenix	No
DSN-055	41.31572197	-73.04623098	9/25/18	17.33	93	0.05	0.25	0	1	24200	Phoenix	No

Outfall ID	Latitude	Longitude	Sampled Date	Temp (oC)	Conductivity (uohms)	Salinity (g/kg)	Ammonia (mg/L)	Chlorine (mg/L)	MBAs (mg/L)	E. Coli (100col/L)	Lab	Investigation Required
DSN-057	41.32128202	-73.05622598	6/13/19	16.92	43	0.02	0	0	0.25	6870	Phoenix	No
DSN-058	41.32053374	-73.05568003	6/13/19	17.1	21	0.01	0.25	0	0.25	1310	Phoenix	No
DSN-059	41.32204	-73.055942	6/13/19	16.98	38	0.02	0.25	0.03	0.25	169	Phoenix	No
DSN-068	41.31383101	-73.06421	6/13/19	17.44	13	0.01	0	0.02	0.5	563	Phoenix	No
DSN-069	41.31153303	-73.06816097	6/13/19	17.54	26	0.01	0	0.02	0.25	24200	Phoenix	No
DSN-073	41.31800696	-73.04924101	9/25/18	17.3	24	0.01	0	0.01	0.25	7700	Phoenix	No
DSN-075	41.33952	-73.11187	6/13/19	17.59	63	0.03	0.25	0.02	0.5	14100	Phoenix	No
DSN-077	41.34248497	-73.11479302	6/13/19	17.67	111	0.06	0.25	0	0.25	20	Phoenix	No
DSN-079	41.33330896	-73.10798901	6/13/19	17.44	35	0.02	0.25	0	0.25	17300	Phoenix	No
DSN-080	41.33339232	-73.10804102	6/13/19	17.54	42	0.02	0.25	0.06	0.25	19900	Phoenix	No

### 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.

Outfall ID	Receiving Water	System Vulnerability Factors
DSN-001	Unnamed Waterbodies	Sanitary and Storm Drain Infrastructure >40 years Old
DSN-002A	CT6900-00_01, Naugatuck River	Sanitary and Storm Drain Infrastructure >40 years Old
DSN-021	CT6000-00_01, Housatonic River	Sanitary and Storm Drain Infrastructure >40 years Old
DSN-027	CT6900-00_01, Naugatuck River	Sanitary and Storm Drain Infrastructure >40 years Old
DSN-001	Unnamed Waterbodies	Sanitary and Storm Drain Infrastructure >40 years Old
DSN-002A	CT6900-00_01, Naugatuck River	Sanitary and Storm Drain Infrastructure >40 years Old
DSN-021	CT6000-00_01, Housatonic River	Sanitary and Storm Drain Infrastructure >40 years Old
DSN-027	CT6900-00_01, Naugatuck River	Sanitary and Storm Drain Infrastructure >40 years Old
DSN-001	Unnamed Waterbodies	Sanitary and Storm Drain Infrastructure >40 years Old
DSN-002A	CT6900-00_01, Naugatuck River	Sanitary and Storm Drain Infrastructure >40 years Old
DSN-003	Unnamed Waterbodies	Sanitary and Storm Drain Infrastructure >40 years Old
DSN-004	Unnamed Waterbodies	Sanitary and Storm Drain Infrastructure >40 years Old
DSN-005	Twomile Brook	Sanitary and Storm Drain Infrastructure >40 years Old
DSN-007	Ansonia Reservoir	Sanitary and Storm Drain Infrastructure >40 years Old
DSN-015	Ansonia Reservoir	Sanitary and Storm Drain Infrastructure >40 years Old

Outfall ID	Receiving Water	System Vulnerability Factors
DSN-019	Unnamed Waterbodies	Sanitary and Storm Drain Infrastructure >40 years Old
DSN-022	CT6900-00_01, Naugatuck River	Sanitary and Storm Drain Infrastructure >40 years Old
DSN-023	CT6900-00_01, Naugatuck River	Sanitary and Storm Drain Infrastructure >40 years Old
DSN-024	CT6900-00_01, Naugatuck River	Sanitary and Storm Drain Infrastructure >40 years Old
DSN-025	CT6900-00_01, Naugatuck River	Sanitary and Storm Drain Infrastructure >40 years Old
DSN-027	CT6900-00_01, Naugatuck River	Sanitary and Storm Drain Infrastructure >40 years Old
DSN-028	CT6900-00_01, Naugatuck River	Sanitary and Storm Drain Infrastructure >40 years Old
DSN-035	CT6900-00_01, Naugatuck River	Sanitary and Storm Drain Infrastructure >40 years Old
DSN-037	CT6000-00_02, Housatonic River	Sanitary and Storm Drain Infrastructure >40 years Old
DSN-039	CT6000-00_02, Housatonic River	Sanitary and Storm Drain Infrastructure >40 years Old
DSN-046	Unnamed Waterbodies	Sanitary and Storm Drain Infrastructure >40 years Old
DSN-055	Unnamed Waterbodies	
DSN-057	Unnamed Waterbodies	
DSN-058	Unnamed Waterbodies	
DSN-060	Unnamed Waterbodies	Sanitary and Storm Drain Infrastructure >40 years Old
DSN-067	Unnamed Waterbodies	
DSN-068	Unnamed Waterbodies	
DSN-069	Unnamed Waterbodies	Sanitary and Storm Drain Infrastructure >40 years Old
DSN-072	Unnamed Waterbodies	Sanitary and Storm Drain Infrastructure >40 years Old
DSN-073	Unnamed Waterbodies	Sanitary and Storm Drain Infrastructure >40 years Old
DSN-075	Unnamed Waterbodies	Sanitary and Storm Drain Infrastructure >40 years Old
DSN-076	CT6000-00-5+L4_01, Housatonic River	Sanitary and Storm Drain Infrastructure >40 years Old
DSN-079	Unnamed Waterbodies	Sanitary and Storm Drain Infrastructure >40 years Old
DSN-080	Unnamed Waterbodies	Sanitary and Storm Drain Infrastructure >40 years Old
DSN-010	CT6000-00_01, Housatonic River	Sanitary and Storm Drain Infrastructure >40 years Old
DSN-011	CT6000-00_01, Housatonic River	Sanitary and Storm Drain Infrastructure >40 years Old
DSN-012	CT6000-00_01, Housatonic River	Sanitary and Storm Drain Infrastructure >40 years Old
DSN-013	CT6000-00_01, Housatonic River	Sanitary and Storm Drain Infrastructure >40 years Old
DSN-021	CT6000-00_01, Housatonic River	Sanitary and Storm Drain Infrastructure >40 years Old
DSN-037	CT6000-00_02, Housatonic River	Sanitary and Storm Drain Infrastructure >40 years Old
DSN-039	CT6000-00_02, Housatonic River	Sanitary and Storm Drain Infrastructure >40 years Old
DSN-040	CT6000-00_02, Housatonic River	Sanitary and Storm Drain Infrastructure >40 years Old

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 dry weather screening and sampling data

Outfall ID	Key Junction ID	Sample Date	Ammonia	Chlorine	Surfactants	E. Coli	Enterococcus	Fecal Coliform
DSN-070	P-In/CB-3	8/2/2019				160	148	158
DSN-021	P-MH-100/MH-104	8/2/2019	0.25	0.08	0	>24200		
DSN-021	P-CB-119/CB-111	10/4/2019				175		
DSN-021	P-MH-119B/CB-119	11/7/2019				171		
DSN-021	P-CB-934/MH-933B	11/7/2019				20		
DSN-021	P-MH-104/CB-104A	8/2/2019	0.25	0.08	0	906	6130	1110
DSN-021	P-CB-110A/MH-100	8/2/2019	0.25	0.08	0	>24200		
DSN-021	P-MH-100/MH-100A	8/2/2019	0.25	0.08	0			
DSN-021	P-MH-930A/MH-115A	11/7/2019				813		
DSN-021	P-IN/MH-119A	10/4/2019				173		
DSN-021	P-MH-941A/MH-938A	11/7/2019				<10		
DSN-021	P-MH-938A/MH-935A	11/7/2019				<10		
DSN-021	P-MH-955A/MH-933A	11/7/2019				<10		
DSN-021	P-MH-933A/MH-933B	11/7/2019				<10		
DSN-021	P-MH-933A/MH-931A	11/7/2019				20		
DSN-021	P-MH-931A/MH-930A	11/7/2019				246		
DSN-072	P-CB-150/CB-153	11/7/2019				<10		
DSN-072	P-CB-155/CB-157	11/7/2019				<10		

Outfall ID	Key Junction ID	Sample Date	Ammonia	Chlorine	Surfactants	E. Coli	Enterococcus	Fecal Coliform
DSN-072	P-CB-157/CB-988	11/7/2019				31		
DSN-072	P-CB-989/CB-987	11/7/2019				10		
DSN-072	P-CB-987/CB-988	11/7/2019				10		
DSN-072	P-CB-989A/CB-989	11/7/2019				<10		
DSN-072	P-IN/CB-989	11/7/2019				20		
DSN-072	P-CB-150A/CB-150	11/7/2019				<10		
DSN-103E	P-CB-93A/DSN-103E	8/6/2019	0.25	0.06	0.25			
DSN-103W	P-CB-93A/DSN-103W	8/6/2019	0.25	0.17	0.25			
DSN-106	P-IN/DSN-106	8/6/2019	0.25	0.04	0.25			
UNKNOWN	P-IN/CB-99	9/17/2019				<10		
UNKNOWN	P-CB-99/CB-100	9/17/2019				305		

### 3.3 Wet weather investigation outfall sampling data

Outfall ID	Sample date	Ammonia	Chlorine	Surfactants
See Part III, Section 2.2				

### 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
DSN-021	TBD	Investigation initiated in the drainage area, see Part III, Section 3.2 for key manhole/catch basin screening/sampling data. Additional MS4 system mapping being completed for this drainage area in conjunction with sampling.	Outfall sampling	8/22/17	TBD	TBD	TBD
DSN-070	TBD	Investigation initiated in the drainage area, see Part III, Section 3.2 for key manhole/catch basin screening/sampling data. Additional MS4 system mapping being completed for this drainage area in conjunction with sampling.	Outfall sampling	8/17/17	TBD	TBD	TBD



Discharge Location	Source Location	Discharge description	Method of discovery	Date of discovery	Date of elimination	Mitigation or enforcement action	Estimated volume of flow removed
DSN-072	TBD	Investigation initiated in the drainage area, see Part III, Section 3.2 for key manhole/catch basin screening/sampling data. Additional MS4 system mapping being completed for this drainage area in conjunction with sampling.	Outfall sampling	8/17/17	TBD	Outfall identified as an outlet after further mapping updates were completed. Investigation will continue, as necessary.	TBD
DSN-103E	TBD	Investigation initiated in the drainage area, see Part III, Section 3.2 for key manhole/catch basin screening/sampling data. Additional MS4 system mapping being completed for this drainage area in conjunction with sampling.	Outfall sampling	3/10/21	TBD	Outfall identified as an outlet after further mapping updates were completed. Investigation will continue, as necessary.	TBD
DSN-103W	TBD	Investigation initiated in the drainage area, see Part III, Section 3.2 for key manhole/catch basin screening/sampling data. Additional MS4 system mapping being completed for this drainage area in conjunction with sampling.	Outfall sampling	3/10/21	TBD	Outfall identified as an outlet after further mapping updates were completed. Investigation will continue, as necessary.	TBD
DSN-106	TBD	Investigation initiated in the drainage area, see Part III, Section 3.2 for key manhole/catch basin screening/sampling data. Additional MS4 system mapping being completed for this drainage area in conjunction with sampling.	Outfall sampling	3/11/21	TBD	Outfall identified as an outlet after further mapping updates were completed. Investigation will continue, as necessary.	TBD

## Part IV: Certification

<p>"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."</p>	
Chief Elected Official or Principal Executive Officer	Document Prepared by
Print name: <b>Walt Mayhew, Chief of Staff City of Derby</b>	Print name: <b>T.J. Therriault, EIT, CDT Barton &amp; Loguidice, LLC</b>
Signature/Date:  <b>DRAFT</b>	Signature / Date:  <b>DRAFT</b>
Email: <b>wmayhew@derbyct.gov</b>	Email: <b>tjt@bartonandloguidice.com</b>

DRAFT



Catchment ID	Receiving Water	Dry Weather Sampling Results Indicate Likely Illicit Discharge? <sup>1</sup>	Wet Weather Sampling Results indicated Likely Illicit Discharge? <sup>1a</sup>	Discharging to Area of Concern to Public Health? <sup>2</sup>	Frequency of Past Discharge Complaints	Receiving Water Quality <sup>3</sup>	Density of Generating Sites <sup>4</sup>	Age of Development/ Infrastructure <sup>5</sup>	Historic Combined Sewers or Septic? <sup>6</sup>	Aging Septic? <sup>7</sup>	Culverted Streams? <sup>8</sup>	Additional Characteristics	Sampling Score	Score	Priority Ranking	Priority Ranking Number
Information Source		Catchment Inspections and Sample Results	Catchment Inspections and Sample Results	GIS Maps	Municipal Staff	Impaired Waters List	Land Use/GIS Maps, Aerial Photography	Land Use Information, Visual Observation	Municipal Staff, GIS Maps	Land Use, Municipal Staff	GIS and Stormwater system Maps	Other				
Scoring Criteria (Yes = Problem)		Score is determined using an extrapolated formula based on the results		Yes = 3 No = 0	Frequent = 3 Occasional = 2 None = 0	Poor = 3 Fair = 2 Good = 0	High = 3 Medium = 2 Low = 1	High = 3 Medium = 2 Low = 1	Yes = 3 No = 0	Yes = 3 No = 0	Yes = 3 No = 0	TBD				
DSN-150				0		0	3	1			0		0	4	Low	121
DSN-151				0		0	3	1			0		0	4	Low	122
DSN-152				0		0	3	1			0		0	4	Low	123
DSN-154				0		0	3	1			0		0	4	Low	124
DSN-155				0		0	3	1			0		0	4	Low	125
DSN-156				0		0	3	2			0		0	5	Low	103
DSN-157				0		0	3	2			0		0	5	Low	104
DSN-18A	Ansonia Reservoir			0		0	1	3			0		0	4	Low	126
DSN-19A	Ansonia Reservoir			0		0	1	3			0		0	4	Low	127

**Scoring Criteria:**

If there's no waterbody feature identified the receiving body source will be the name of the subregional basin the outfall resides in

<sup>1</sup> Previous dry weather screening results indicate likely sewer input if any of the following are true:

- Olfactory or visual evidence of sewage,
- Ammonia  $\geq 0.5$  mg/L, surfactants  $\geq 0.25$  mg/L, and bacteria levels greater than the water quality criteria applicable to the receiving water, or
- Ammonia  $\geq 0.5$  mg/L, surfactants  $\geq 0.25$  mg/L, and detectable levels of chlorine

<sup>1a</sup> Previous wet weather screening results indicate impacts to impaired waters including:

- Total Nitrogen  $>2.5$  mg/L, Total Phosphorous  $>0.3$  mg/L,
- E. Coli  $>235$ col/100 ml for swimming areas and  $>410$  col/100 ml for all others or,
- Total Coliform  $>500$  col/100 ml, or Fecal coliform  $>31$  col/100ml for Class SA and  $>260$  Col/100ml for Class SB, or
- Enterococci  $>104$  col/100ml for swimming areas and  $>500$  col/100ml for all others.

<sup>2</sup> Catchments that discharge to or in the vicinity of any of the following areas: public beaches, recreational areas, drinking water supplies, or shellfish beds

<sup>3</sup> Receiving water quality based on latest version of State of Connecticut Integrated Water Quality Report.

Poor = Waters with approved TMDLs (Category 4a Waters) where illicit discharges have the potential to contain the pollutant identified as the cause of the impairment

Fair = Water quality limited waterbodies that receive a discharge from the MS4 (Category 5 Waters)

Good = No water quality impairments

<sup>4</sup> Generating sites are institutional, municipal, commercial, or industrial sites with a potential to contribute to illicit discharges (e.g., car dealers, car washes, gas stations, garden centers, industrial manufacturing, etc.)

<sup>5</sup> Age of development and infrastructure:

- High = Industrial areas greater than 40 years old and areas where the sanitary sewer system is more than 40 years old
- Medium = Developments 20-40 years old
- Low = Developments less than 20 years old

<sup>6</sup> Areas once served by combined sewers and but have been separated, or areas once served by septic systems but have been converted to sanitary sewers.

<sup>7</sup> Aging septic systems are septic systems 30 years or older in residential areas.

<sup>8</sup> Any river or stream that is culverted for distance greater than a simple roadway crossing.