How to complete the MS4 Annual Report template

General Instructions

- Text highlighted yellow represents generic text to be updated.
- Example responses are provided in red text.
- Blue text specifies if a section is only required in certain reporting years.

Completing Part I: Summary of Minimum Control Measure (MCM) Activities

- Best Management Practice (BMP) Summary tables: Each MCM section starts with a BMP Summary table. A description of what to include in each column is below.

BMP: Self-explanatory.
Status: Provide status of BMP implementation (not started, ongoing/in progress, complete).
Activities in current reporting period: Describe ongoing and completed BMP activities and their status (Not started, ongoing, or completed). Briefly explain if you're on schedule to meet the deadline or not. If not, explain why you don't expect to meet the deadline.
Measurable Goal: Provide a measurable goal for the BMP.
Dept/Person Responsible: Identify the lead department and responsible person for that BMP. Note if it changed from the previous year. Third parties may be listed here if they are implementing the BMP but the permittee retains responsibility for tracking the BMP.
Due: BMP deadline from permit.
Date completed / projected completion date: Actual BMP completion date or when it's scheduled to be completed.
Additional details: Add any additional details including reasons for overdue BMPs, specific location of BMP is applicable, reason for adding an additional BMP.

- Other Tables: Each MCM has specific data reporting requirements. Brief descriptions and/or example responses are provided for each requirement.

Completing Part II: Impaired waters investigation and monitoring [This section required beginning in 2018]

- Brief instructions are provided for each reporting requirement throughout Part III.

- For Section 2.1 and 2.2, 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)	• E. coli > 235 col/100ml for swimming areas or 410 col/100ml for all others • Total Coliform > 500 col/100ml
Bacteria (salt waterbody)	• 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

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

- Brief instructions are provided for each reporting requirement throughout Part IV.

Completing Part IV: Certification - Self-explanatory

MS4 General Permit
City of West Haven 2017 Annual Report
Existing MS4 Permittee
Permit Number GSM 000002
January 1, 2017 – December 31, 2017

This report documents City's efforts to comply with the conditions of the MS4 General Permit to the maximum extent practicable (MEP) from January 1, 2017 to December 31, 2017.

Part I: Summary of Minimum Control Measure Activities

1. Public Education and Outreach (Section 6 (a)(1) / page 19)

1.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
1-1 Implement public education and outreach	In Progress	Coordination with the City's website developer to develop a Stormwater page under the DPW page. Educational outreach with the Audubon at Sandy Point. In addition to developing educational materials the City also works with the Audubon to coordinate clean ups at Sandy Point.	Develop public education program; Implement public education program and summarize data	Public Works and Engineering	Jul 1, 2018	Anticipate completing by July 1, 2018.	
1-2 Address education/ outreach for pollutants of concern*	In Progress	Coordination with the City's website developer to develop a Stormwater page under the DPW page.	Identify pollutants of concern and incorporate into	Public Works and Engineering	Jul 1, 2018	Anticipate completing by July 1, 2018.	

			materials under BMP-1				

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

BMP 1-1 – Implement public education program and summarize data. The City plans on setting up a stormwater page on their webpage that will include educational material on stormwater pollution prevention.
BMP 1-2 – The City will print brochures addressing pollutants of concern. The brochures will be made available in the City's IWWA office.

1.3 Details of activities implemented to educate the community on stormwater

Program Element/Activity	Audience (and number of people reached)	Topic(s) covered	Pollutant of Concern addressed (if applicable)	Responsible dept. or partner org.
Brochures distributed at IWWA desk	Developers, home owners (TBD)	Impact of fertilizer use and feeding waterfowl	Bacteria and phosphorus	Public Works & IWWA
Development of Stormwater page on City's Website	DPW	Impact of fertilizer use and feeding waterfowl, other	Bacteria and phosphorus	Public Works

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

2.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
2-1 Comply with public notice requirements for the Stormwater Management Plan	Completed	The City posted the draft SMP on their website for public review and comment.	Make SMP available for public review and soliciting comments	Public Works and Engineering	Apr 3, 2017	April 1, 2017	No comments as of December 31, 2017.
2-2 Comply with public notice requirements for Annual Reports	In Progress	The City will make the Annual Report available on their website for public review and comment.	Make Annual Report available for public review and soliciting comments	Public Works and Engineering	Feb 15, 2018	Anticipate completing by the deadline of February 19, 2018	

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

BMP 2-2 Distribute notice for public review and soliciting comments by January 31st, 2019.

2.3 Public Involvement/Participation reporting metrics

Metrics	Implemented	Date	Posted
Availability of the Stormwater Management Plan announced to public	Y	4/1/2017	www.cityof westhaven.com
Availability of Annual Report announced to public	Y	2/15/2018	www.cityof westhaven.com

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

3.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
3-1 Develop written IDDE program	In Progress	The City developed a written Draft IDDE Program.	Develop written plan of IDDE program	Public works and Engineering	Jul 1, 2018	Anticipate completing by the deadline of July 1, 2018.	The Draft IDDE Program was submitted to EPA for review on October 1, 2017.
3-2 Develop list and maps of all MS4 stormwater outfalls in priority areas	In Progress	The City has mapped all outfalls and is in the progress of mapping structures, piping, and other conveyances. All mapping is done through a Geo-spatial database to include drainage system parameters.	Develop stormwater drainage map and database	Public Works and Engineering	Jul 1, 2019	Anticipate completing by the deadline of July 1, 2019.	
3-3 Implement citizen reporting program	In Progress	The City's current citizen reporting program includes calling the DPW and documenting the report.	Develop citizen reporting program	Public Works and Engineering	Jul 1, 2017	Anticipate completing by July 1, 2018	The City plans to include a hotline link for citizen reporting on their stormwater page which currently is in development.
3-4 Establish legal authority to prohibit illicit discharges	Completed	The City developed and approved legal authority to eliminate illicit discharges through an Illicit Discharge Ordinance	Establish legal authority	City Council	Jul 1, 2018	Completed on February 13, 2017	The Illicit Discharge Ordinance was approved by City Council on February 13, 2017
3-5 Develop record keeping system for IDDE tracking	In Progress	The City developed a Geo-spatial database system to record and report IDDE complaints, investigations, and remedial measures	Develop IDDE tracking system	Engineering	Jul 1, 2017	Anticipate completing in accordance with deadlines set by EPA following the review process	The IDDE tracking system was submitted to EPA for review on October 1, 2017.

3-6 Address IDDE in areas with pollutants of concern	In Progress	The City has reviewed impaired water guidance and TMDLs. Outfalls in areas with POCs will be prioritized for IDDE investigations.	Review impaired water guidance and TMDLs	Engineering	Not specified		
3-7 Outfall and interconnection dry weather screening and sampling	In Progress	The City developed an outfall screening procedure as part of the IDDE Program	Develop outfall screening procedure	Engineering	Jul 1, 2018	Anticipate completing by the deadline of July 1, 2018.	A copy of the draft outfall screening procedures was submitted to EPA for review on October 1, 2017.
3-8 Sanitary Sewer Overflows (SSOs) Inventory	Completed/Ongoing	The City developed an existing SSO inventory. The City continues to notify CT DEEP of new SSO occurrences in accordance with the MS4 Permit guidelines.	Develop existing SSO inventory and notify CT DEEP after each SSO	Engineering	SSO inventory within 120-day period/ New SSOs within 5 days of occurrence	October 29, 2017/Ongoing	

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

BMP 3-1 Finalize IDDE Program
BMP 3-2 Continue stormwater drainage mapping
BMP 3-3 Include a hotline link on the stormwater page for citizen reporting. Investigate Citizen Reports
BMP 3-4 Enforce legal authority to eliminate illicit discharges
BMP 3-5 Finalize the IDDE tracking system
BMP 3-6 Evaluate/track progress of BMPs for impaired waters.
BMP 3-7 Finalize dry weather screening procedures.
BMP 3-8 Continue to notify CT DEEP after each SSO.

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

Date of Report	Location / suspected source	Response taken
July 2017	Peabody St. / Sewer Discharge	Removed sewer discharge to Cove River.

March 2017	Honey Pot Rd. / Sidewalk Discoloration	Investigated source of discoloration. Determined to be ferrous bacteria.
August 2017	Fresh Meadow Rd. / Tires dumped in wooded area behind vacant property.	The City has plans to remove the tires dependent on gaining ownership of the property.
February 2017	Callegari Dr. / Water Discolaration in Oyster River	Investigated source of discoloration. Determined to be food dye.

3.4 Provide a record of illicit discharges occurring during the reporting period and SSOs occurring July 2012 through end of reporting period using the following table.

Location (Lat long/ street crossing /address and receiving water)	**Date and duration of occurrence**	**Discharge to MS4 or surface water**	**Estimated volume discharged**	**Known or suspected cause / Responsible party**	**Corrective measures planned and completed** (include dates)	**Sampling data** (if applicable)
A record of SSOs occurring July 2012 through December 2017 is included as part of Attachment A.						

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

The Engineering Department is responsible for tracking illicit discharges. The City has developed a Geo-spatial database system to record and report IDDE complaints, investigations, and remedial measures. This application is based on Esri's ArcGIS Online technology using Esri's "Collector" product. All data collected in the field is instantaneously stored in a cloud-based database that allows users to view and access data as it is being collected. Additionally, a dashboard application allows the City to visualize and report on progress.

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

Location and nature of structure with failing septic systems	**Actions taken to respond to and address the failures**	**Impacted waterbody or watershed, if known**
No septic failures to report on.		

3.7 IDDE reporting metrics

Metrics	
Estimated or actual number of MS4 outfalls	≈ 330
Estimated or actual number of interconnections	≈ 10

Outfall mapping complete	95%
Interconnection mapping complete	90%
System-wide mapping complete (detailed MS4 infrastructure)	50%
Outfall assessment and priority ranking	78%
Dry weather screening of all High and Low priority outfalls complete	≈ 257
Catchment investigations complete	0
Estimated percentage of MS4 catchment area investigated	10%

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

The City included information on the IDDE Program as part of their pollution prevention training for employees. The training was provided to employees this past October 2017 and will be provided annually.

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

4.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
4-1 Implement, upgrade, and enforce land use regulations or other legal authority to meet requirements of MS4 general permit	In Progress	The City has reviewed their current Construction Runoff Program. They have updated and approved a stronger set of regulations for enforcement.	Establish legal authority	Planning & Zoning and Engineering	Jul 1, 2019	Completed Fall 2017	
4-2 Develop/Implement plan for interdepartmental coordination in site plan review and approval	Completed	Developed and implemented interdepartmental coordination plan	Develop and implement interdepartmental coordination plan	Planning & Zoning and Engineering	Jul 1, 2017	July 1, 2017	The City has developed a flowchart to clearly layout the interdepartmental coordination in site plan review and approval.

4-3 Review site plans for stormwater quality concerns	Completed	Engineering reviewed all development and redevelopment projects with greater than one acre of soil disturbance for stormwater quality concerns	Perform site plan reviews	Engineering	Jul 1, 2017	July 1, 2017	≈ 15 Site plans reviewed
4-4 Conduct site inspections	Completed	The City conducted site inspections to enforce the requirements determined during site plan reviews.	Perform site inspections	Building and Engineering	Jul 1, 2017	July 1, 2017	≈ 15 Site inspections completed
4-5 Implement procedure to allow public comment on site development	Completed	The City allows for public comment on site development during public meetings.	Implement procedure to receive public comments on site development	Planning & Zoning	Jul 1, 2017	July 1, 2017	The City plans to include a list on the City's webpage of site developments accepted by the City for review.
4-6 Implement procedure to notify developers about DEEP construction stormwater permit	In Progress	The City plans on including information on their website regarding requirements of the construction general permit.	Implement procedure to notify developers of DEEP construction stormwater permit	Planning & Zoning	Jul 1, 2017	Anticipate Completing by July 1, 2018	

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

BMP 4-1 Establish Legal Authority
BMP 4-2 Implement interdepartmental coordination plan
BMP 4-3 Perform sit plan reviews
BMP 4-4 Perform site inspections
BMP 4-5 Update City website to include list of site developments accepted by the City for review; Allow public comment at public meetings
BMP 4-6 Update City website to include requirements of the construction general permit

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

5.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details

5-1 Establish and/or update legal authority and guidelines regarding LID and runoff reduction in site development planning	In Progress	The City has reviewed their current Post-Construction Stormwater Management Program. They have updated and approved stronger regulations for enforcement.	Evaluate current regulations to identify status of legal authority and which regulations require revisions.	Planning & Zoning	Jul 1, 2021	Completed Fall 2017	
5-2 Enforce LID/runoff reduction requirements for development and redevelopment projects	In Progress	The City enforces the new Post-Construction Stormwater Management regulations.	Enforce regulations; Issue notice to inform developers of regulation changes	Planning & Zoning	Jul 1, 2019	Fall 2017	
5-3 Implement long-term maintenance plan for stormwater basins and treatment structures	In Progress	The City is in the process of determining ownership of stormwater basins and treatment structures within the City.	Develop and implement long term maintenance plan	Public Works	Jul 1, 2019	Anticipate completing by the deadline of July 1, 2019.	
5-4 DCIA mapping	In Progress	The City has begun to brainstorm how they plan to calculate DCIA.	Develop methodology for DCIA calculation	Engineering	Jul 1, 2020	Anticipate completing by the deadline of July 1, 2020.	
5-5 Address post-construction issues in areas with pollutants of concern	In Progress	The City did not identify any projects in catchments that discharge to impaired waters.	Identify projects in catchments that discharge to impaired waters.	Engineering	Not specified	Ongoing	

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

BMP 5-1 Finalize regulations for legal authority and adopt regulations
BMP 5-2 Enforce new regulations
BMP 5-3 Develop long-term maintenance plan
BMP 5-4 Develop methodology for DCIA calculation and begin calculating DCIA of each catchment
BMP 5-5 Identify projects in catchments that discharge to impaired waters.

5.3 Post-Construction Stormwater Management reporting metrics

Metrics	
Baseline (2012) Directly Connected Impervious Area (DCIA)	N/A
DCIA disconnected (redevelopment plus retrofits)	N/A
Retrofits completed	N/A
DCIA disconnected	N/A
Estimated cost of retrofits	N/A
Detention or retention ponds identified	N/A (The City does not own any detention or retention ponds.)

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

The City plans to use guidelines provided by the NEMO MS4 support program. The IC number supplied by NEMO will be used with no modification. The City has developed a spreadsheet to track DCIA disconnection and has been tracking disconnections the past 6 months.

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

6.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
6-1 Develop/implement formal employee training program	Completed	The City developed a pollution prevention PowerPoint presentation for employee training. An employee training was held on October 18, 2017 for applicable City personnel.	Perform annual training	Public Works and Engineering	Jul 1, 2017	October 18, 2017	
6-2 Implement MS4 property and operations maintenance	In Progress	The City is in the process of determining if they own any MS4 property that would require maintenance.	Evaluate and implement maintenance procedures for City owned properties and equipment.	Public Works	Jul 1, 2018	Anticipate completing by the deadline of July 1, 2018.	
6-3 Implement coordination with interconnected MS4s	In Progress	The City is in the process of establishing point of contacts for interconnections with the City of New Haven, the City of Milford, the Town of Orange, CT DOT, Yale New Haven (West Campus), UNH, and VA CT West Haven.	Identify all interconnected MS4s and coordinate with interconnected MS4s.	Engineering	Not specified	Anticipate completing by July 1, 2018.	
6-4 Develop/implement program to control other sources of pollutants to the MS4	Not Started	The City has not completed any activities in the current reporting period.	Develop and implement pollutant source control program	Engineering	Not specified	Anticipate completing by July 1, 2019.	
6-5 Evaluate additional measures for discharges to impaired waters*	In Progress	The City is in the process of developing procedures for reducing discharges to impaired waters.	Develop and implement procedures for reducing discharges to impaired	Public Works and Engineering	Not specified	Anticipate completing by July 1, 2018.	

			waters.				
6-6 Track projects that disconnect DCIA	In Progress	The City developed a spreadsheet to track DCIA disconnections.	Track DCIA percentage.	Engineering	Jul 1, 2017	Anticipate completing by July 1, 2018	
6-7 Implement infrastructure repair/rehab program	Not Started	The City did not complete any activities during the current reporting period.	Evaluate MS4 infrastructure and develop a repair/rehab program and repair and rehabilitate MS4 infrastructure.	Public Works and Engineering	Jul 1, 2021	Anticipate completing by July 2, 2021	
6-8 Develop/implement plan to identify/prioritize retrofit projects	Completed	The City developed a plan for identifying/prioritizing retrofit projects. The plan is included as part of the Construction Stormwater Management Program.	Develop and implement a retrofit plan to include tracking of DCIA.	Public Works and Engineering	Jul 1, 2020		
6-9 Implement retrofit projects to disconnect 2% of DCIA	In Progress	The City did not complete any activities during the current reporting period.	Removal of 1% of DCIA annually in Years 4 and 5	Public Works and Engineering	Jul 1, 2022	Anticipate completing by the deadline of July 1, 2022.	
6-10 Develop/implement street sweeping program	Completed	The City has developed a street sweeping program in compliance with Section 6(a)(6)(D) of the MS4 Permit.	Implement, document and track street sweeping.	Public Works	Jul 1, 2017	October 1, 2017	The City will implement the record keeping procedures a part of the street sweeping program upon approval of the program by EPA.
6-11 Develop/implement catch basin cleaning program	Completed	The City has developed a catch basin cleaning program in compliance with Section 6(a)(6)(D) of the MS4 Permit.	Implement, document and track catch basin cleaning.	Public Works	Jul 1, 2020	October 1, 2017	The City will implement the record keeping procedures a part of the catch basin cleaning program upon approval

							of the program by EPA.
6-12 Develop/implement snow management practices	Completed	The City has written procedures in place for snow management.	Develop, update and implement snow management measures and practices.	Public Works	Jul 1, 2018	2004	Staff is trained at the beginning of each winter in snow management.

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

BMP 6-1 Perform employee training
BMP 6-2 Develop/update maintenance procedures for City owned properties and equipment
BMP 6-3 Coordinate with interconnected MS4s
BMP 6-4 Finalize and implement pollutant source control program
BMP 6-5 Finalize and implement procedures for reducing discharges to impaired waters
BMP 6-6 Track DCIA percentage
BMP 6-7 Repair and rehabilitate MS4 infrastructure
BMP 6-8 Implement plan to identify/prioritize retrofit projects
BMP 6-10 Continue annual street sweeping and implement new tracking system
BMP 6-11 Continue annual catch basin cleaning and implement new tracking system
BMP 6-12 Implement snow management practices

6.3 Pollution Prevention/ Good Housekeeping reporting metrics

Metrics	
Employee training provided for key staff	Y / 10/18/17
Street sweeping	178 Streets
Curb miles swept	90.1 miles
Volume (or mass) of material collected	N/A
Catch basin cleaning	
Total catch basins in priority areas	~ 3,500
Total catch basins in MS4	≈ 3,500 (The City is currently updating their mapping. This

	number is an approximate based on the percentage of mapping completed.
Catch basins inspected	181
Catch basins cleaned	181
Volume (or mass) of material removed from all catch basins	190 cy
Volume removed from catch basins to impaired waters (if known)	190 cy
Snow management	
Type(s) of deicing material used	Potassium chloride
Total amount of each deicing material applied	TBD
Type(s) of deicing equipment used	Sander
Lane-miles treated	TBD
Snow disposal location	N/A
Staff training provided on application methods & equipment	Y / 10/18/17
Municipal turf management program actions (for permittee properties in basins with N/P impairments)	
Reduction in application of fertilizers (since start of permit)	N/A
Reduction in turf area (since start of permit)	N/A
Lands with high potential to contribute bacteria (dog parks, parks with open water, & sites with failing septic systems)	
Cost of mitigation actions/retrofits	N/A

6.4 Catch basin cleaning program

Briefly describe the method used to optimize your catch basin inspection and cleaning schedule. [Complete this section for the 2017 Annual Report only]
The City has developed Standard Operating Procedures (SOPs) for Catch Basin Inspection and Cleaning. This SOP includes prioritization of catch basins based on proximity to impaired waters and the requirement to track sediment volume within catch basins to ensure that no catch basin shall at any time by more than 50% full. Once the City completes their MS4 mapping, the catch basin cleaning activities will be tied to the GIS database to better track catch basin cleaning activities.

6.5 Retrofit program

Briefly describe the Retrofit Program identification and prioritization process, the projects selected for implementation, the rationale for the selection of those projects and the total DCIA to be disconnected upon completion of each project. [Provide information if available in 2017 report. Section to be completed for the 2019 Annual Report.]
The City has not yet initiated a retrofit program.

Describe plans for continuing the Retrofit program and how to achieve a goal of 1% DCIA disconnection in future years. [Provide information if available in 2017 report. Section to be completed for the 2019 Annual Report.]
The City has not yet initiated a retrofit program.

Describe plans for continuing the Retrofit program beyond this permit term with the goal to disconnect 1% DCIA annually over the next 5 years. [Provide information if available in 2017 report. Section to be completed for the 2019 Annual Report.]
The City has not yet initiated a retrofit program.

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.
The City has completed dry weather outfall screening of the City's MS4 outfalls. Of the City's 310 MS4 outfalls, 5 outfalls were eliminated from the City's outfall investigations based on ownership, 169 outfalls were dry, 40 outfalls had dry weather flow, and 96 outfalls could not be accessed or found. The City has developed and began implementation of a plan to access and locate the 96 outfalls that still need to be dry weather screened. Only one of the outfalls with dry weather flow discharged to an approved TMDL and two of the outfalls with flow discharged to an impaired waterbody. All three outfalls exceeded one or more of the water quality thresholds sampled for. No changes have been made to the Stormwater Management Plan. The City has prioritized

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

2.1 Screening data collected under 2017 permit

Complete the table below for any outfalls screened during the reporting period. Each Annual Report will add on to the previous year's screening data showing a cumulative list of outfall screening data.

Outfall ID	**Sample date**	**Parameter** (Nitrogen, Phosphorus, Bacteria, or Other pollutant of concern)	**Results**	**Name of Laboratory (if used)**	**Follow-up required?**
NHH 2	8/11/17	Bacteria Oil and Grease PCBs	- Enterococcus 90.7 cfu/100 mL - Oil and Grease N/A - PCBs <0.00022 mg/L	RWA	Yes (The sample came back with high results for Ammonia and Surfactants.)
WS 3	7/31/17	Bacteria Oil and Grease PCBs	- Enterococcus 680 cfu/100 mL - Fecal Coliform 680 cfu/100 mL - Oil and Grease <4.0 mg/L - PCBs <0.00022 mg/L	RWA	Yes
WR 34	8/3/17	Bacteria Oil and Grease PCBs	- Enterococcus 1466 cfu/100 mL - Fecal Coliform 1360 cfu/100 mL	RWA	Yes

			- Oil and Grease <4.0 mg/L - PCBs <0.00022 mg/L		

2.2 Credit for screening data collected under 2004 permit

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

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

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

Provide the following information for outfalls exceeding the pollutant threshold.

Outfall	**Status of drainage area investigation**	**Control measure implementation to address impairment**
NHH 2	IDDE Investigations will begin upon completion of MS4 mapping.	NA
WS 8	IDDE Investigations will begin upon completion of MS4 mapping.	NA
CR 6	IDDE Investigations will begin upon completion of MS4 mapping.	NA
CR 5	IDDE Investigations will begin upon completion of MS4 mapping.	NA
WR 4	IDDE Investigations will begin upon completion of MS4 mapping.	NA
WR 45	IDDE Investigations will begin upon completion of MS4 mapping.	NA
WS 9	IDDE Investigations will begin upon completion of MS4 mapping.	NA
CR 24	IDDE Investigations will begin upon completion of MS4 mapping.	NA
RB 1	IDDE Investigations will begin upon completion of MS4 mapping.	NA
OR 83	IDDE Investigations will begin upon completion of MS4 mapping.	NA
OR 20	IDDE Investigations will begin upon completion of MS4 mapping.	NA
OR 53	IDDE Investigations will begin upon completion of MS4 mapping.	NA
CR 63	IDDE Investigations will begin upon completion of MS4 mapping.	NA

CR 7	IDDE Investigations will begin upon completion of MS4 mapping.	NA
WR 23	IDDE Investigations will begin upon completion of MS4 mapping.	NA
WS 3	IDDE Investigations will begin upon completion of MS4 mapping.	NA
WR 56	IDDE Investigations will begin upon completion of MS4 mapping.	NA
WR 34	IDDE Investigations will begin upon completion of MS4 mapping.	NA
CR 64	IDDE Investigations will begin upon completion of MS4 mapping.	NA

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

Once outfall screening has been completed for at least 50% of outfalls to impaired waters, identify 6 of the highest contributors of any pollutants of concern. Begin monitoring these outfalls on an annual basis by July 1, 2020.

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

Part III: Additional IDDE Program Data

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

2. Outfall and Interconnection Screening and Sampling data (Appendix B (A)(7)(d) / page 7)

2.1 Dry weather screening and sampling data from outfalls and interconnections

Provide sample data for outfalls where flow is observed. Only include Pollutant of concern data for outfalls that discharge into stormwater impaired waterbodies.

Outfall / Interconnection ID	Screening / sample date	Water Temp (deg C)	Conductivity (uS/cm)	Salinity (ppt)	Chlorine (mg/L)	Ammonia (mg/L)	Surfactants (mg/L)	E. Coli (cfu/100mL)	Enterococcus (cfu/100mL)	Pollutant of concern	If required, follow-up actions taken
CR 24	8/2/17	24.2	304	0.44	0.00	0.10	0.10	410.6	-	n/a	
CR 25	8/2/17	25.8	916	0.44	0.00	0.10	0.10	21.1	-	n/a	
CR 5	8/3/17	24.3	860	0.42	0.00	0.40	0.10	>2419.6	-	n/a	
CR 6	8/3/17	24.8	935	0.56	0.00	0.10	0.10	>2419.6	-	n/a	
CR 63	8/3/17	23.7	1263	0.61	0.00	0.60	0.10	387.3	-	n/a	
CR 64	8/2/17	24.1	958	0.49	0.00	0.00	0.10	>2419.6	-	n/a	
CR 7	8/2/17	26.4	870	0.43	0.00	0.10	0.10	727	-	n/a	
CR 70	8/2/17	26	1402	0.68	0.00	0.20	0.10	10.8	-	n/a	
CR 76	8/11/17	23.9	809	0.4	0.00	0.00	0.10	187.2	-	n/a	

CR 80	8/2/17	26.2	829	0.4	0.00	0.00	0.10	87.8	-	n/a	
NHH 2	8/11/17	24.7	NA	NA	0.00	0.70	1.50	-	90.7	PCBs, Oil & Grease	- Oil and Grease N/A - PCBs <0.00022 mg/L
OR 20	8/1/17	31.6	640	0.6	0.00	0.10	0.10	275.5	-	n/a	
OR 24	8/1/17	24	4.2	0	0.00	0.30	0.00	2	-	n/a	
OR 26	8/1/17	27.6	330	0.2	0.00	0.10	0.00	224.7	-	n/a	
OR 3	8/1/17	24.3	875	0.49	0.00	0.00	0.10	76.3	-	n/a	
OR 33	8/2/17	22.3	442	0.36	0.00	0.00	0.10	18.1	-	n/a	
OR 49	8/2/17	25	978	0.49	0.00	0.00	0.10	24.6	-	n/a	
OR 53	8/11/17	25.6	457	0.22	0.00	0.00	0.10	275.5	-	n/a	
OR 7	8/1/17	23	440	-	0.00	0.00	0.10	28.6	-	n/a	
OR 83	8/1/17	22.8	750	-	0.10	0.00	0.10	23.8	-	n/a	
ORB 1	8/1/17	24.2	1280	0.66	0.00	0.05	0.10	-	40	n/a	
RB 1	7/31/17	25.1	847	0.39	0.00	0.10	1.50	-	270	n/a	
RB 2	7/31/17	23	694	0.34	0.00	0.10	0.10	-	62	n/a	
WR 23	8/3/17	25.7	893	0.54	0.00	0.00	0.10	1986.3	-	n/a	
WR 34	8/3/17	22.6	443	0.21	0.00	0.00	0.10	-	1466	PCBs, Oil & Grease	- Oil and Grease <4.0 mg/L - PCBs <0.00022 mg/L
WR 4	8/3/17	26.2	497	0.1	0.00	0.00	0.00	579.4	-	n/a	
WR 45	8/3/17	26.3	350	0.36	0.00	0.10	0.00	686.7	-	n/a	
WR 48	8/11/17	21.8	333	0.17	0.00	0.20	0.10	30.5	-	n/a	
WR 50	8/11/17	22.8	233	0.1	0.00	0.00	0.10	52.9	-	n/a	
WR 56	8/3/17	26.6	339	0.16	0.00	0.00	0.00	648.8	-	n/a	
WS 10E	7/31/17	24.1	648	0.54	0.00	0.00	0.10	186	-	n/a	
WS 10W	7/31/17	23.8	788	0.39	0.00	0.00	0.10	10.9	-	n/a	
WS 3	7/31/17	22.5	700	0.34	0.00	0.20	0.10	-	680	PCBs, Oil & Grease	- Oil and Grease <4.0 mg/L - PCBs <0.00022 mg/L
WS 8	7/31/17	25.4	1183	0.62	0.00	0.50	0.15	>48392	-	n/a	

WS 9	8/1/17	24	943	0.4	0.00	0.00	0.10	648.8	-	n/a	
CR 65	11/28/17	9.89	1163	0.43	0.00	0.50	0.10	1	-	n/a	
ORB 3	11/29/17	14.4	422	0.28	0.00	0.00	0.00	1	-	n/a	
OR 14	11/29/17	16	600	0.3	0.00	0.10	0.00	3	-	n/a	
WR 58	11/29/17	15.6	448	0.22	0.00	0.00	0.05	21.6	-	n/a	
WR 54	11/29/17	12.8	232	0.11	0.00	0.10	0.00	7.5	-	n/a	

2.2 Wet weather sample and inspection data

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

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

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

3.1 System Vulnerability Factor Summary

For those catchments being investigated for illicit discharges (i.e. categorized as high priority, low priority, or problem) document the presence or absence of System Vulnerability Factors (SVF). If present, report which SVF's were identified. An example is provided below.

Outfall ID	Receiving Water	System Vulnerability Factors

Where SVFs are:

1. History of SSOs, including, but not limited to, those resulting from wet weather, high water table, or fat/oil/grease blockages.
2. Sewer pump/lift stations, siphons, or known sanitary sewer restrictions where power/equipment failures or blockages could readily result in SSOs.

3. Inadequate sanitary sewer level of service (LOS) resulting in regular surcharging, customer back-ups, or frequent customer complaints.
4. Common or twin-invert manholes serving storm and sanitary sewer alignments.
5. Common trench construction serving both storm and sanitary sewer alignments.
6. Crossings of storm and sanitary sewer alignments.
7. Sanitary sewer alignments known or suspected to have been constructed with an underdrain system;
8. Sanitary sewer infrastructure defects such as leaking service laterals, cracked, broken, or offset sanitary infrastructure, directly piped connections between storm drain and sanitary sewer infrastructure, or other vulnerability factors identified through Inflow/Infiltration Analyses, Sanitary Sewer Evaluation Surveys, or other infrastructure investigations.
9. Areas formerly served by combined sewer systems.
10. Any sanitary sewer and storm drain infrastructure greater than 40 years old in medium and densely developed areas.
11. Widespread code-required septic system upgrades required at property transfers (indicative of inadequate soils, water table separation, or other physical constraints of the area rather that poor owner maintenance).
12. History of multiple local health department or sanitarian actions addressing widespread septic system failures (indicative of inadequate soils, water table separation, or other physical constraints of the area rather that poor owner maintenance).

3.2 Key junction manhole dry weather screening and sampling data

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

3.3 Wet weather investigation outfall sampling data

Outfall ID	Sample date	Ammonia	Chlorine	Surfactants

3.4 Data for each illicit discharge source confirmed through the catchment investigation procedure

Discharge location	Source location	Discharge description	Method of discovery	Date of discovery	Date of elimination	Mitigation or enforcement action	Estimated volume of flow removed

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:	Print name:
Signature / Date:	Signature / Date: