

MS4 General Permit
Town of Cromwell 2020 Annual Report
 Existing MS4 Permittee
 Permit Number GSM 000061
 January 1, 2020 – December 31, 2020

This report documents Cromwell's efforts to comply with the conditions of the MS4 General Permit to the maximum extent practicable (MEP) from January 1, 2020 to December 31, 2020.

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	Ongoing	- Made a variety of pamphlets available to the Public at Town Hall covering a range of Stormwater topics - Provided a number of clickable links on the Engineering Department web page covering stormwater topics	15 brochures made available 10 web links made available	Engineering	Jul 1, 2018	Plan was implemented under previous general permit, and continues today	
1-2 Address education/ outreach for pollutants of concern*	Ongoing	Obtaining pamphlets covering pollutant of concern information	3 brochures – one for each concern	Engineering	Jul 1, 2018	Implemented during summer 2018 inside Town Hall	

1-3 Available at Public information meetings	Ongoing	Town Engineer attends/participates at P&Z and Inland Wetlands meetings to educate on the MS4 requirements and stormwater quality issues	Monthly attendance ongoing	Engineering	Jul 1, 2017	Plan was implemented under previous general permit, and continues today
1-4 Continued Storm Drain Marking/Stenciling	On hold this period	Town relies on Boy Scouts or other service organizations to implement this activity	25 stencils	Engineering Boy Scouts	Jul 1, 2017	Stencils were completed as a part of youth community service work requirement
1-5 Continued Watercourse Signage	Ongoing	Replace watercourse signage at street crossings	NA	Highway	July 1, 2017	All named water bodies have signage Replacement will be an ongoing effort and will occur as needed

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

The plan is to continue and to expand upon the work started. Due to COVID virus, the Cromwell Town Hall was closed for extended periods of time. As a result few brochures or pamphlets were picked up this year. Plan to learn from the CTDEEP, other communities and groups about what additional public education resources are available, and implement them if possible.

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.
Clickable links on Engineering Department web site	General Public (web traffic is not recorded)	Impact of impervious cover, stormwater infiltration	Bacteria, nitrogen and phosphorus	Engineering
Brochures distributed at Town Hall (2 nd floor – Public Works, Engineering, Zoning, Wetlands, Building Dept. etc)	Developers, home owners (< 50)	Impact of impervious cover, Septic systems & Fertilizer use	Bacteria, nitrogen and phosphorus	Engineering
Town Engineer available at Planning & Zoning, Inland Wetlands and Town Council Meetings	General Public (broadcast on the web), commissions, etc.	Commented on applications and Town projects in regards to stormwater	Varied	Engineering

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	Complete	Posted the Plan in Town Hall and on Town web site, and notice in Hartford Courant	One Time	Engineering	Completed		No public comments were received, no requests to view in person were made
2-2 Comply with public notice requirements for Annual Reports	Ongoing	The Plan shall be noticed on the Town's website annually	One Time	Engineering	Jan 31, 2020	Jan 31, 2021	
2-3 Present to Town Council, BOF& Public Works	Complete	Presentation of New Plan to stake holders	One Time	Engineering	Completed		
2-4 Participate in Household Hazardous Waste and Solid Waste Recycling	Ongoing	Transfer Station available to all residents, two hazardous waste collection days provided annually	Annually	Solid Waste Public Works	July 1, 2018	Quarterly collection events.	174 vehicle trips = 3,600+ pounds of household hazardous waste collected
2-5 CT River Conservancy – Cleanup	Annual event	CT River Cleanup Event	Annually	Volunteer Group	NA	September, 2020	
2-6 Mattabassett River Cleanup	Annual?	Mattabassett River Cleanup Event	Annually	Volunteers	NA	September 26, 2020	

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

Participate in regional Household Hazardous Waste collection events organized by RiverCOG.

2.3 Public Involvement/Participation reporting metrics

Metrics	Implemented	Date	Posted
Availability of the Stormwater Management Plan to public	Y	All year	www.cromwellct.com
Availability of Annual Report announced to public	Y	February 24, 2020	www.cromwellct.com
Household Hazardous Waste Collection Day(s)	Y	April, May, July and October	www.cromwellct.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	Complete	Written IDDE program using the CT IDDE program template was completed	Written plan of IDDE program was developed	Engineering	Jul 1, 2018	Completed May of 2018	
3-2 Develop list and maps of all MS4 stormwater outfalls in priority areas	Complete	The MS4 system is 100% mapped, updates are done as new infrastructure is acquired	Develop map and list	Engineering	Jul 1, 2019	Completed prior to July 1, 2017. As new subdivisions are built, new info is added to the map	100% of the Town is currently mapped. Roads not yet accepted by Town may not be included.
3-3 Implement citizen reporting program	Complete	Citizen reporting went online prior to July 1, 2017.	Receive citizen complaints	Engineering M. Shewokis	Jul 1, 2018	July 1, 2017	One complaint received, forwarded to CTDOT District 1. Not within Town's MS4 system.
3-4 Establish legal authority to prohibit illicit discharges	Ongoing	Ordinance created, approved by Town Council and Public Hearing	Establish Legal Authority	Engineering J. Harriman	Jul 1, 2018	Adopted May 9, 2018 – Published August 1, 2018	
3-5 Develop record keeping system for IDDE tracking	Ongoing	Spreadsheet will be developed when first IDDE is reported	Create spreadsheet	Engineering J. Harriman	Jul 1, 2017	TBD	Town staff are not aware of any illicit discharges. Cromwell sewers are separate from storm sewers. When/if IDDE sampling shows signs of

3-6 Address IDDE in areas with pollutants of concern	Ongoing	Engineering department began IDDE sampling	Sampling continued this year	Engineering M. Shewokis J. Harriman	Not specified	Sampling has begun, will continue in future permit years	connection or discharge this will be completed.
3-7 Detailed MS4 infrastructure mapping	Complete	The MS4 system is 100% mapped, updates are done as new infrastructure is acquired	Develop map and list	Engineering	Jul 1, 2020	Completed prior to July 1, 2017. As new subdivisions are built, new info is added to the map	100% of the Town is currently mapped. Roads not yet accepted by Town may not be included.
3-8 Complete list and maps of all MS4 outfalls throughout municipality (>10")	Complete	The MS4 system is 100% mapped, updates are done as new infrastructure is acquired	Develop map and list	Engineering	Jul 1, 2022	Completed prior to July 1, 2017. As new subdivisions are built, new info is added to the map	100% of the Town is currently mapped. Roads not yet accepted by Town may not be included.

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

The written program is posted to the Dept of Public works webpage and a link listed in next year's Annual Report; will update the written IDDE program as needed throughout the permit term.
Maintain master IDDE tracking spreadsheet and ensure all employees involved in IDDE program understand the logging process
IDDE Sampling program will continue as weather permits.

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

Date of Report	Location / suspected source	Response taken
None Received	McDonald's Parkign lot – grease dumping into catch basin	Referred to CTDOT District 1. This private stormwater collection system ties into the DOT system in Route 372.

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)
None						

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

A review of the records from Cromwell WPCA indicate there have been no SSOs to the MS4 from July 2012 to the present. The following departments have no knowledge of illicit discharges to the MS4 (Engineering, Zoning, Health, Public Works, Building).

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
Residential home on Nooks Hill Road	Ongoing – will most likely not be addressed until house goes through probate process.	No direct impact – inland wetlands are 500 feet away This is the only septic system failure of record at this time

3.7 IDDE reporting metrics

Metrics	
Estimated or actual number of MS4 outfalls	207
Estimated or actual number of interconnections	Est. 17
Outfall mapping complete	100 %
Interconnection mapping complete	100%
System-wide mapping complete (detailed MS4 infrastructure)	100 %
Outfall assessment and priority ranking	0 %
Dry weather screening of all High and Low priority outfalls complete	20 this year 163 total

Catchment investigations complete	0
Estimated percentage of MS4 catchment area investigated	0%

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 Town combines IDDE training with general MS4 and Industrial stormwater permit training session on an annual basis. Training in 2020 was delayed due to COVID restrictions and the inability to conduct training remotely for all staff members.

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	Complete	Town Staff (Town Planner and Town Engineer) have met to discuss permit requirements	Upgrade regulations	Town Planner Town Engineer	Jul 1, 2019	August 8, 2015	Section 5.5 – Erosion & Sediment Control – section of the zoning regulations is attached
4-2 Develop/implement plan for interdepartmental coordination in site plan review and approval	Ongoing	Town Planner forwards applications to various department heads for review	Review applications	Town Planner Zoning Officer Fire Chief Police Chief	Jul 1, 2017	This has been in place since before 2012	This has been Town policy for many years.
4-3 Review site plans for stormwater quality concerns	Ongoing	Site plan applications reviewed by Town Engineer, Zoning Officer & Town Planner	32 applications reviewed	Town Planner Zoning Officer Town Engineer	Jul 1, 2017	20 P&Z applications 12 IW applications reviewed	
4-4 Conduct site inspections	Ongoing	Conduct frequent inspections (ZEO, Engineering)	18 sites inspected in 2019	Engineering ZEO	Jul 1, 2017	Ongoing	
4-5 Implement procedure to allow public comment on site development	Ongoing	Allow Public Comment on Site Development projects	Public comment was allowed at all P&Z & Wetlands meetings. 36 meetings in total	Town Planner ZEO	Jul 1, 2017	Public Comment is on every IWC & P&Z agenda. Public Hearings also allow	Very little, if any, public comment is received. Meeting minutes are available for review, and

5-4 Implement long-term maintenance plan for stormwater basins and treatment structures	In Progress	A binder of above ground and underground structures was created	Maintain infrastructure annually	Highway Division	Completed January of 2019	Binder includes the maintenance requirement for each facility. Maintenance has begun
5-5 DCIA mapping	Baseline completed	A contracted services budget request has been submitted for approval FY2020.	Map DCIA	Engineering	Completed June 2020	

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

1. Maintain the new list of retention/detention ponds in Town that are the Town's responsibility to maintain. Utilize new system of record keeping of the maintenance of these facilities.
2. Obtain a template or sample LID legal authority to update the Town Zoning Regulations.

5.3 Post-Construction Stormwater Management reporting metrics

Metrics	
Baseline (2012) Directly Connected Impervious Area (DCIA)	319 acres DCIA = 12.5%
DCIA disconnected (redevelopment plus retrofits)	15.6 acres = 4.9%
Retrofits completed	1
DCIA disconnected	15.6 acres
Estimated cost of retrofits	\$4.12M total project cost
Detention or retention ponds identified	19 (includes underground structures)

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

The Town used it's GIS consultant, AppGEO, to perform this task using GIS analysis and DEEP guidance.

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	Ongoing	Staff were trained in December of 2018	Train once annually	Public Works Engineering	Jul 1, 2017	12/28/2018	Training is combined with Industrial Storm water permit
6-2 Implement MS4 property and operations maintenance	In Progress	A binder with all treatment and detention structures with maintenance was created	SOP created	Public Works	Jul 1, 2018	January 2019	Highway superintendent has a copy of the binder with a way to record the maintenance activity
6-3 Implement coordination with interconnected MS4s	Not started				Not specified	Ongoing – as needed	Have worked together on discharge complaints. Have coordinated GIS data with DOT District 1. Added State's GIS information to Town's data set/map.
6-4 Develop/implement program to control other sources of pollutants to the MS4	Not started				Not specified		
6-5 Evaluate additional measures for discharges to impaired waters*	Not started				Not specified		

6-6 Track projects that disconnect DCIA	Ongoing	DCIA baseline calculation completed	Maintain a list to track progress	Engineering	Jul 1, 2017	DCIA calculation completed June, 2020.
6-7 Implement infrastructure repair/rehab program	In Progress	I/I repair project first phases completed in 2018/2019. 2020 consisted of I/I studies	Reduce I/I in the sanitary sewer system	Cromwell WPCA	Jul 1, 2021	Future phases pending funding allocation and completion of current I/I studies
6-8 Develop/implement plan to identify/prioritize retrofit projects	In progress	Plan is to implement retrofits into capital projects as they arise.	Disconnect impervious surfaces	Engineering	Jul 1, 2020	Raymond Place (lookback) project exceeds the 2% goal. Future disconnection projects will be worked into infrastructure projects when feasible.
6-9 Implement retrofit projects to disconnect 2% of DCIA	In progress	Completing analysis if lookback projects. Planning to disconnect a Town parking lot underway.	Disconnect 2% of DCIA	Public Works Engineering	Jul 1, 2022	Raymond place project completed in 2016 exceeds 2% disconnection goal.
6-10 Develop/implement street sweeping program	Complete	The Town sweeps twice per year. In spring after snow, and in fall during leaf collection. Every mile is swept 2x	Sweep twice annually	Highway Department	Jul 1, 2017	This has become SOP for the highway department
6-11 Develop/implement catch basin cleaning program	Complete	The Town cleans at least 1/3 of the basins annually on a rotating schedule	830 basins cleaned this year	Highway Department	Jul 1, 2020	This has become SOP for the highway department
6-12 Develop/implement snow management practices	In progress	Implemented a salt brine pre-treatment system in problem areas (hills, curves, bridges)	Reduce salt use with brine solution	Highway Department	Jul 1, 2018	This has become SOP for the highway department

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

The Town will continue to implement SOP activities – street sweeping twice per year, catch basin cleaning and stormwater treatment infrastructure maintenance.

6.3 Pollution Prevention/ Good Housekeeping reporting metrics

Metrics		
Employee training provided for key staff		
Street sweeping		
Curb miles swept	234.6 miles (2x both sides of road)	
Volume (or mass) of material collected	40 yards (mostly leaves)	
Catch basin cleaning		
Total catch basins in priority areas	788	
Total catch basins in MS4	1937	
Catch basins inspected	830	
Catch basins cleaned	830	
Volume (or mass) of material removed from all catch basins	<5 yards	
Volume removed from catch basins to impaired waters (if known)	unknown	
Snow management		
Type(s) of deicing material used	Treated salt	
Total amount of each deicing material applied	1350 tons average	
Type(s) of deicing equipment used	Plow truck sander, salt brine truck	
Lane-miles treated	117.3	
Snow disposal location	Park parking lots	
Staff training provided on application methods & equipment	Y – ongoing	
Municipal turf management program actions (for permittee properties in basins with N/P impairments)		
Reduction in application of fertilizers (since start of permit)	No reduction	
Reduction in turf area (since start of permit)	No reduction	
Lands with high potential to contribute bacteria (dog parks, parks with open water, & sites with failing septic systems)		
Cost of mitigation actions/retrofits	NA	
Provide any updates or modifications to your catch basin cleaning program		6.4 Catch basin cleaning program

The Town is divided into three regions; east of Main Street (Route 99), between Main Street and Shunpike Road (Route 3) and west of Shunpike Road. Each section is cleaned every three years on a rotating schedule. The town hasn't used sand for snow operations in many years and streets are swept twice annually. It is our experience that this schedule ensures that there is not a significant buildup in the sumps that would lead to a discharge at an outfall. Catch basins near construction sites are monitored by engineering and zoning department staff, and any sediment buildup requiring removal is completed by the offending development/developer through Notice of Violation.

6.5 Retrofit program

Briefly describe the Retrofit Program identification and prioritization process, the projects selected for implementation, the rationale for the selection of those projects and the total DCIA to be disconnected upon completion of each project. [\[Provide information if available in 2018 report. Section to be completed for the 2019 Annual Report.\]](#)

The Town completed a large roadway/drainage reconstruction project in 2016. This project encompassed a densely populated neighborhood of nine streets referred to as the Raymond Place project. The area was/is 25% DCIA. The project consisted of a new drainage system that ran the drainage to a new storm water pond constructed in the northern end of Watrous Park. The project effectively disconnected 15.6 acres of DCIA. The 2% goal was reached with the first look back project – the DCIA reduction is 4.9%.

Describe plans for continuing the Retrofit program and how to achieve a goal of 1% DCIA disconnection in future years. [\[Provide information if available in 2018 report. Section to be completed for the 2019 Annual Report.\]](#)

The Town is developing plans to disconnect the impervious surface associated with a downtown parking lot. Roughly 50% of the parking lot impervious surface will be diverted to a swale/rain garden/infiltration system.

Describe plans for continuing the Retrofit program beyond this permit term with the goal to disconnect 1% DCIA annually over the next 5 years. [\[Provide information if available in 2018 report. Section to be completed for the 2019 Annual Report.\]](#)

Future infrastructure projects will implement DCIA disconnection where appropriate. The discussion begins during the planning stages so that additional project costs can be evaluated.

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

1. Impaired waters investigation and monitoring program

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

Impaired water samples were collected on April 9, 2020. E.Coli levels improved in wet weather screenings. Outfall WI-0029 was unsafe, aggressive dog not on leash, no sign of owner.

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

2.1 Screening data

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?
WI-0002	6/13/19	Nitrogen, Phosphorous & Bacteria	- E. coli = 1733 col/100ml - P= 0.08 - Total N = 2.83	EML	Yes
WI-0003	6/13/19	Nitrogen, Phosphorous & Bacteria	- E. coli = 1986 col/100ml - P= 0.1 - Total N = 1.79	EML	Yes
WI-0029	6/13/19	Nitrogen, Phosphorous & Bacteria	- E. coli = 2420 col/100ml - P= ND - Total N = 1.64	EML	Yes
CO-0016	4/9/20	Nitrogen, Bacteria	- E. coli = 76 col/100ml - Total N = 0.88	EML	No

CO-0020	4/9/20	Bacteria	- E. coli = 345 col/100ml	EML	No
CR-0006	4/9/20	Nitrogen, Bacteria	- E. coli = 727 col/100ml - Total N = 0.66	EML	Yes
MR-0028	4/9/20	Bacteria	- E. coli = 75 col/100ml	EML	No
WI-0007	4/9/20	Turbidity, Bacteria	- E. coli = 75 col/100ml - Turbidity = 19	EML	No
WI-0008	4/9/20	Bacteria	- E. coli = 2420 col/100ml	EML	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?
CC-0025	7/29/16	Nitrogen, Phosphorous & Bacteria	- E. coli = "present" - P= 0.18 - Total N = 1.14	EML	Yes

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
CO-0020	Not completed	Increase street sweeping
CR-0006	Not completed	Increase street sweeping
MR-0028	Not completed	Increase street sweeping
WI-0007	Not completed	Increase street sweeping
WI-0008	Not completed	Increase street sweeping

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)
CO-0020	4/9/20	Bacteria	- E. coli = 345 col/100ml	EML
CR-0006	4/9/20	Nitrogen, Bacteria	- E. coli = 727 col/100ml - Total N = 0.66	EML

MR-0028	4/9/20	Bacteria	- E. coli = 75 col/100ml	EML
WI-0007	4/9/20	Turbidity, Bacteria	- E. coli = 75 col/100ml - Turbidity = 19	EML
WI-0008	4/9/20	Bacteria	- E. coli = 2420 col/100ml	EML
WI-0029	4/9/20	Turbidity, Bacteria	Sample no aquired	Unsafe – unleashed dog

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

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

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

1. Catchment ID (DEEP Basin ID)	2. Category	3. Rank
4000-00-6+R18	Low Priority	4
4000-32-1	Low Priority	1
4000-36-1	Low Priority	2
4600-17-1	Low Priority	3
4000-00-6+R19	Low Priority	5
4000-00-6+R20	Low Priority	6
4000-00-6+R21	Low Priority	7
4000-00-6+R22	High Priority	10
4600-00-3-R7	Low Priority	8
4000-00-6+R23	High Priority	11
4600-00-3-R15	Low Priority	9
4000-31-1-L1	High Priority	12
4000-32-1-L1	High Priority	13
4000-36-1-L3	High Priority	14
4600-31-1	High Priority	15
4600-18-1-L1	High Priority	16

4600-23-1	High Priority	17
4600-00-3-R16	High Priority	18
4600-22-1	High Priority	19
4600-27-1	High Priority	20
4600-22-2-R1	High Priority	21
4600-00-3-R8	High Priority	22
4600-00-3-R9	High Priority	23
4600-00-3-R10	High Priority	24
4600-00-3-R11	High Priority	25
4600-00-3-R13	High Priority	26
4600-00-3-R14	High Priority	27
4600-00-3-R16	High Priority	28

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

2.1 Dry weather screening and sampling data from outfalls and interconnections

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

Outfall / Interconnection ID	Screening / sample date	Ammonia	Chlorine	Conductivity	Salinity	E. coli or enterococcus	Surfactants	Water Temp	Pollutant of concern	If required, follow-up actions taken
CC-OF-0006	5/27/20	0.10mg/L	22.49 mg/L	882 umhos	ND	6 MPN/100ML	ND	55.6 F	bacteria	N/A
PA-OF-0004	5/27/20	ND	25.69 mg/L	491 umhos	ND	2 MPN/100ML	ND	53.5 F		N/A

CH-OF-0013	5/26/20	ND	80.04 mg/L	363 umhos	ND	62 MPN/100ML	ND	56.5 F	N/A
SH-OF-0006	5/26/20	ND	93.87 mg/L	451 umhos	ND	1 MPN/100ML	ND	55.3 F	N/A
SH-OF-0015	5/26/20	ND	81.26 mg/L	489 umhos	ND	1 MPN/100ML	ND	59.7 F	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 mg/L	Conductivity	Salinity	E. coli or Enterococcus	Surfactants	Water Temp	Pollutant of concern
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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
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Where SVFs are:

1. History of SSOs, including, but not limited to, those resulting from wet weather, high water table, or fat/oil/grease blockages.
2. Sewer pump/lift stations, siphons, or known sanitary sewer restrictions where power/equipment failures or blockages could readily result in SSOs.
3. Inadequate sanitary sewer level of service (LOS) resulting in regular surcharging, customer back-ups, or frequent customer complaints.
4. Common or twin-invert manholes serving storm and sanitary sewer alignments.

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

3.2 Key junction manhole dry weather screening and sampling data

Key Junction Manhole ID	Screening / Sample date	Visual/ olfactory evidence of illicit discharge	Ammonia	Chlorine	Surfactants
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3.3 Wet weather investigation outfall sampling data

Outfall ID	Sample date	Ammonia	Chlorine	Surfactants
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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
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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: Anthony Salvatore – Town Manager

Print name: Jon Harriman – Town Engineer

Signature / Date:

Signature / Date:

 3/30/2021

 3/30/2021

5.4.B Shared Stormwater Management Facilities.

When the Commission determines that engineering, aesthetics, and economic factors make combined retention or other drainage facilities more practical, the Commission may permit several developers to construct joint facilities, provided that a perpetual maintenance agreement is reviewed and approved by the Town Attorney and filed on the land records for each property involved. The Commission will require bonding and may require the creation of a maintenance fund for combined retention areas.

5.4.C Maintenance.

1. All on-site facilities shall be properly maintained by the owner of such, so that they do not become nuisances. The owner shall submit a yearly record to the Commission of all maintenance activities in compliance with the maintenance plan.
2. All stormwater control structures located on private property, whether dedicated to the Town or not, shall be accessible at all times for Town inspection. Where runoff control structures are to be accepted by the Town for maintenance, access easements shall be provided, and subject to the review and approval of the Town Attorney.
3. All projects shall have a Stormwater Management/Best Management Practice (BMP) Maintenance Agreement with the Town of Cromwell, subject to the review and approval of the Town Attorney. This agreement shall be recorded in the Land Records of the Town of Cromwell.

5.4.D Other Permit Requirements.

Permits for Stormwater Management Systems may also be required from the Town of Cromwell Inland Wetlands and Watercourses Agency where such systems may have an impact on inland-wetlands and watercourses, and from the Connecticut Department of Energy and Environmental Protection, where a dam is to be constructed or water diverted, see Connecticut General Statutes Section 22a-365 et seq. and Section 22R-409.

5.5 EROSION AND SEDIMENT CONTROL

5.5.A Purpose.

This Section is intended to provide standards for earth-disturbing activities in order to minimize accelerated erosion and sedimentation and to avoid unnecessary damage to land features, bodies of water and public works, both on-site and offsite.

5.5.B Overall Requirements.

1. Any earth-disturbing activity, including grading and grubbing, shall consider the potential problem of accelerated erosion and sedimentation and shall address such potential problem in accordance with the standards outlined in a publication prepared and distributed by the Connecticut Department of Environmental Protection (DEEP) entitled "Guidelines for Soil Erosion and Sediment Control (2002)," as may be amended from time to time, available for inspection at the Planning and Zoning Department.
2. Any development activity which will result in a cumulative disturbed area of more than one-half (½) acre, or in other cases as determined by Planning and Zoning Department according to topographical conditions of the property, shall prepare and submit a soil erosion and sediment control plan.

5.5.C Plan Requirements.

1. When required, a soil erosion and sediment control plan shall consist of a map, a narrative, and such other materials as may be necessary to fully describe the techniques which will be utilized to minimize soil erosion and sedimentation resulting from development and earth-disturbing activities.
2. Such soil erosion and sediment control plan shall contain proper provisions to adequately control accelerated erosion and sediment and reduce the danger from storm water runoff on the proposed site based on the best available technology and the guidelines specified in the "Guidelines for Soil Erosion and Sediment Control (2002)," as amended.
3. Alternative design criteria, principles, methods and practices, such as Low Impact Design, may be used with the approval of the Commission or its designated agent. LID

5.5.D Plan Review and Approval.

1. Any soil erosion and sediment control plan submitted pursuant to this Section may be reviewed by a technical expert retained by the Commission at the expense of the applicant.
2. The Commission or its designated agent may refer the plan to any other local, State or Federal agency for their findings and recommendations.
3. Nothing in this Section shall be construed as extending the time limits for actions on any application under Chapter 124 or 126 of the Connecticut General Statutes.
4. Prior to the issuance of a Zoning Signoff, the applicant shall post a performance guarantee in accordance with Section 9.3.C.1 At a minimum the performance guarantee shall cover the costs of installation and maintenance of all erosion and sediment control elements. The performance guarantee shall be paid in cash.

5.5.E Implementation.

1. It shall be the responsibility of the developer to:
 - (1) Implement the approved plan or any revision thereto,
 - (2) Install the erosion and sediment control measures and facilities as scheduled and as shown on the approved plan, prior to the commencement of any site development activity except as may be required to implement the plan; and
 - (3) Maintain the plan measures and facilities in effective condition to ensure compliance with the approved plan.
2. The Zoning Enforcement Officer may require the permittee to:
 - (1) verify through progress reports and "as-built" surveys that soil erosion and sediment control measures and facilities have been performed or installed according to the approved plan and are being operated and properly maintained, or
 - (2) retain an inspector who is a Certified Professional in Erosion and Sediment Control (CPESC) or other qualified professional to inspect the development activity and to file periodic reports.
3. The Zoning Enforcement Officer is hereby authorized to withhold the issuance of Zoning Signoffs or the issuance of zoning certificates of compliance unless, in its judgment, accelerated erosion and sedimentation control measures have been complied with.

4. Inspections shall be made by the Zoning Enforcement Officer during development to ensure compliance with the approved plan and that control measures and facilities are properly performed or installed and maintained.

5.6 OUTDOOR LIGHTING

5.6.A Purpose.

These Regulations are intended to provide standards with regard to exterior lighting in order to maximize the effectiveness of site lighting, to enhance public safety and welfare, to raise public awareness of energy conservation, to discourage the installation of lighting fixtures that emit objectionable illumination, to avoid unnecessary upward illumination and illumination of adjacent properties, and to reduce glare.

5.6.B Applicability.

The standards herein shall apply to all exterior lighting where Site Plan Application or Special Permit is required, except for single-family dwellings. The Town Planner may refer any Site Plan to the Commission for a determination of acceptable lighting fixtures.

5.6.C Standards.

1. All exterior lights and sign illumination shall be designed, located, installed and directed in such a manner as to:
 - (1) prevent direct glare or light trespass,
 - (2) employ soft, transitional light levels which are consistent from area to area,
 - (3) minimize contrast between light sources, lit areas and dark surroundings, and
 - (4) be confined within the target area.
2. For commercial uses, for multi-family developments, for institutional uses or other non-residential uses in residential districts:
 - (1) no externally-mounted, direct light source directed towards the lot line shall be visible at the lot line at ground level or above, and
 - (2) lighting fixtures for all vehicular areas and pedestrian areas shall be full cut-off type fixtures or IESNA cut-off fixtures as approved by the Commission, or shall be fully shielded/recessed fixtures where the lens is recessed or flush with the bottom surface.
3. Lighting fixtures for building security or aesthetics and any display purposes shall, unless otherwise approved by the Commission or these regulations, be:
 - (1) top downward (not upward or sideways), and
 - (2) full cut off, or IESNA cut-off fixtures as approved by the Commission, or fully shielded/recessed. Any application for use of IESNA fixtures shall include "cut-sheets" with specifications and details of the proposed fixture and pole.
4. Where outdoor playing fields or other special outdoor activity areas are to be illuminated, lighting fixtures shall be specified, mounted and aimed so that:
 - (1) their beams fall within the primary playing area and immediate surroundings, and
 - (2) no light trespass is directed off the site.