

**MS4 General Permit**  
**University of Connecticut 2023 Annual Report**  
**Main Campus, Storrs**  
**Permit Number: GSM 201703415**  
**January 1, 2023 – December 31, 2023**

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This report documents the University of Connecticut's (UConn) efforts to comply with the conditions of the MS4 General Permit to the maximum extent practicable (MEP) from January 1, 2023 to December 31, 2023.

**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	On – going/complete	UConn Environmental Programs' website ( <a href="https://ehs.uconn.edu/environmental-programs-home/">https://ehs.uconn.edu/environmental-programs-home/</a> ) includes a stormwater page with references to EPA and DEEP educational information. UConn installed low impact development (LID) signage with information and links to dedicated web pages for each type of LID practice. UConn also provided stormwater MS4 training for UConn staff.	Educate staff and personnel on common stormwater topics	Environmental Health and Safety (Environmental Programs team)	July 1, 2019	July 2019	Training of UConn staff and personnel is done on an annual basis.
1-2 Address education/ outreach for pollutants of concern*	Same as above						

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

UConn will continue to keep the stormwater website updated with relevant information and provide annual stormwater training to staff.

**1.3 Details of activities implemented to educate the community on stormwater**

<b>Program Element/Activity</b>	<b>Audience (and number of people reached)</b>	<b>Topic(s) covered</b>	<b>Pollutant of Concern addressed (if applicable)</b>	<b>Responsible dept. or partner org.</b>
Educational stormwater sign installed at LID locations throughout campus	Students, staff and/or faculty (approx. 30,000)	Impact of impervious cover, stormwater infiltration		NEMO/CLEAR
Stormwater Introduction Training	Staff/Faculty from the following departments: Facilities Operations and Building Services, Environmental Health & Safety, Office of Sustainability, Farm Services, and Dining Services	General stormwater general permit information		EHS

## 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 to the EHS stormwater website (see 2.2, below)	EHS	Apr 3, 2017	April 2017	<a href="https://ehs.uconn.edu/environmental-programs-home/">https://ehs.uconn.edu/environmental-programs-home/</a>
2-2 Comply with public notice requirements for Annual Reports	Complete		Posted to the EHS stormwater website	EHS	February 15 annually	annually	<a href="https://ehs.uconn.edu/environmental-programs-home/">https://ehs.uconn.edu/environmental-programs-home/</a>

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

Note that in 2018 Office of Sustainability and EHS Environmental Programs (compliance) replaced the Office of Environmental Policy. Stormwater information is now posted on the UConn EHS - Environmental Programs web pages.

### 2.3 Public Involvement/Participation reporting metrics

Metrics	Implemented	Date	Posted
Availability of the Stormwater Management Plan announced to public	Yes	April 3, 2017	Environmental Health and Safety, Environmental Programs, Storrs, CT 06269 <a href="https://ehs.uconn.edu/environmental-programs-home/">https://ehs.uconn.edu/environmental-programs-home/</a>
Availability of Annual Report announced to public	Yes	February 15, 2024	<a href="https://ehs.uconn.edu/environmental-programs-home/">https://ehs.uconn.edu/environmental-programs-home/</a>

### 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 available on the EHS/Enviro programs website.	Written IDDE plan	EHS-Enviro/NEMO/CLEAR	Jul 1, 2019	Completed February 2020	Posted to EHS-Enviro stormwater website
3-2 Develop list and maps of all MS4 stormwater outfalls in priority areas	Complete	Develop a list and map of stormwater outfalls for priority areas on campus.	Develop a list and map	EHS-Enviro /NEMO/CLEAR	Jul 1, 2020	November 2017	
3-3 Implement citizen reporting program	Complete	Contact information for citizen reporting can be found on the EHS Enviro. stormwater website.	EHS Enviro Stormwater website	EHS-Enviro /NEMO/CLEAR	Jul 1, 2017	July 2017	
3-4 Establish legal authority to prohibit illicit discharges	N/A	N/A	N/A	N/A	Jul 1, 2019	N/A	
3-5 Develop record keeping system for IDDE tracking	Complete	IDDE monitoring results have been summarized in an Excel spreadsheet	Spreadsheet or form	EHS-Enviro /NEMO/CLEAR	Jul 1, 2017	July 2017	
3-6 Address IDDE in areas with pollutants of concern	Complete (began in 2017)	UConn developed a written IDDE program which addresses any areas with pollutants of concern.	Written IDDE plan	EHS-Enviro /NEMO/CLEAR	Not specified	Completed February 2020	

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

UConn will continue to develop the list of maps for MS4 stormwater outfalls and will further identify interconnections with the Town of Mansfield and CT Department of Transportation. UConn will also use its existing real-time monitoring network (<http://clear.uconn.edu/projects/eagleville>) and observations to monitor for potential illicit discharges.

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

Date of Report	Location / suspected source	Response taken
n/a	n/a	n/a

### 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)

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

Any IDDE reports and responses to those reports will be tracked by EHS Environmental Programs and/or NEMO/CLEAR. Contact information for reporting illicit discharges can be found on the EHS Environmental Programs stormwater website.

### 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
Not applicable.		

### 3.7 IDDE reporting metrics

Metrics	
Estimated or actual number of MS4 outfalls	13
Estimated or actual number of interconnections	2
Outfall mapping complete	100 %
Interconnection mapping complete	100%
System-wide mapping complete (detailed MS4 infrastructure)	100%
Outfall assessment and priority ranking	100 %
Dry weather screening of all High and Low priority outfalls complete	13 (100%)
Catchment investigations complete	0
Estimated percentage of MS4 catchment area investigated	100%

### 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).

EHS with assistance from NEMO/CLEAR will be responsible for IDDE tasks. Any relevant information regarding IDDE will be provided during annual stormwater training to additional UConn staff/personnel.

## 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	Included in the University Contractor EHS Manual, University Division One Contract and University Design Guidelines and Performance Standards, project permitting requirements and UConn Policy (LEED Gold/SITES)	Included in University documents.	University Planning, Design & Construction (UPDC)/ Environmental Health & Safety (EHS)	Jul 1, 2020	February 2017; September 2016	
4-2 Develop/Implement plan for interdepartmental coordination in site plan review and approval	Complete	Included in the University Contractor EHS Manual, University Division One Contract and University Design Guidelines and Performance Standard document.	Included in University documents.	University Planning, Design & Construction (UPDC)/ Environmental Health & Safety (EHS)	Jul 1, 2017	February 2017; September 2016	
4-3 Review site plans for stormwater quality concerns	Complete	Included in the University Contractor EHS Manual, University Division One Contract and University Design Guidelines and Performance Standard document.	Included in University documents.	University Planning, Design & Construction (UPDC)/ Environmental Health & Safety (EHS)	Jul 1, 2017	February 2017; September 2016	
4-4 Conduct site inspections	Complete	Included in the University Contractor EHS Manual, University Division One Contract and University Design Guidelines and Performance Standard document.	Included in University documents.	UConn personnel and/or designee	Jul 1, 2017	February 2017; September 2016	
4-5 Implement procedure to allow public comment on site development	Complete	EHS- Enviro team stormwater website page with contact information for the public to comment on site development.	Website	EHS-Enviro	Jul 1, 2017	July 2017	
4-6 Implement procedure to notify developers about DEEP construction stormwater permit	Complete	Included in the University Contractor EHS Manual, University Division One Contract and University Design Standard document.	Included in University documents.	University Planning, Design & Construction (UPDC)/ Environmental Health & Safety (EHS-Enviro)	Jul 1, 2017	February 2017; September 2016	

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

UConn will continue to implement procedures noted above related to construction site runoff, on a project-by-project basis.

## 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	Complete	Included in the University LEED Gold Policy, TMDL and the DEEP/UConn MOU	Included in University documents.	EHS-Enviro /UPDC/Facilities Operations (FO)/NEMO/CLEAR	Jul 1, 2022	June 2016; December 2014	
5-2 Enforce LID/runoff reduction requirements for development and redevelopment projects	Complete	Included in the University LEED Gold Policy, TMDL and the DEEP/UConn MOU	Included in University documents.	EHS-Enviro /UPDC/FO/NEMO/CLEAR	Jul 1, 2022	June 2016; December 2014	
5-3 Identify retention and detention ponds in priority areas	Complete	Mirror Lake and Swan Lake have been identified as stormwater detention ponds. Both drain to Roberts Brook (although Swan Lake will also overflow to Eagleville Brook under flood conditions)		EHS-Enviro /FO/NEMO/CLEAR	Jul 1, 2020	July 2019	
5-4 Implement long-term maintenance plan for stormwater basins and treatment structures	Complete/Ongoing	All stormwater detention structures on campus have dams, and are therefore subject to dam safety regulations, including inspection and maintenance		EHS-Enviro / FO/NEMO/CLEAR	Jul 1, 2020	Complete/ongoing	



5-5 DCIA mapping	Complete	UConn CLEAR has tracked annual changes in DCIA for the Eagleville Brook (part of TMDL requirements) and Roberts Brook watersheds.			Jul 1, 2019	July 2018	
5-6 Address post-construction issues in areas with pollutants of concern					Not specified		

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

UConn will continue the DCIA mapping with assistance from NEMO/CLEAR.

## 5.3 Post-Construction Stormwater Management reporting metrics

Metrics	
Baseline (2012) Directly Connected Impervious Area (DCIA)	278 acres
DCIA disconnected (redevelopment plus retrofits)	(0.91) acres this year / 7.4 acres total
Retrofits completed	29
DCIA disconnected	0% this year / 2.7% total since 2012
Estimated cost of retrofits	\$ unknown
Detention or retention ponds identified	Mirror Lake, Swan Lake

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

High resolution IC data (March 2012 baseline) from CLEAR were used to determine total IC in each watershed. Known disconnections identified during watershed survey were removed from the total. In 2019, the new student recreation facility was completed. This resulted in an additional 7,293 square feet of DCIA in the Roberts Brook watershed (3207-12-1-L1). The baseline DCIA was updated from 61.0 to 61.2 acres. In September 2022 the Supplemental Utility Plant was completed, adding 0.31 acres of impervious cover to the Eagleville Brook watershed. The Baseline DCIA was changed from 158.2 to 165.3 ac.

Since there are three different watersheds, the data are summarized in the following table, with supporting details for each watershed:

	Eagleville	Roberts	Roberts
	3100-19-1	3207-12-1-L1	3207-12-1
Watershed area (ac)	900.0	152.1	539.9
Baseline (2012) Directly Connected Impervious Area (DCIA), <i>acres</i>	165.3	61.2	51.6
DCIA disconnected (redevelopment plus retrofits), <i>acres this year/acres total</i>	(0.91) ac / 6.19 ac	0 ac / 0.9 ac	0 ac / 0.28 ac
Retrofits completed (#)	18	5	6
DCIA disconnected, % <i>this year/ % total since 2012</i>	(0.6%) / 3.9%	0% / 1.5%	0% / 0.5%
Estimated cost of retrofits, \$			
Detention or retention ponds identified	none	Mirror Lake	Swan Lake

# Impervious Cover Tracking Spreadsheet



Watershed: **Eagleville Brook (3100-19-1)**  
Watershed area (ac): **900**

PROJECT INFORMATION				NEW DEVELOPMENT		REDEVELOPMENT		RETROFITS	CHANGE			CUMULATIVE TOTALS				NOTES & REFERENCES
1	2	3	4	5	6	7	8	9	10	11		12	13	14	15	16
date	pract ice #	project	practice	Total IC added (ac)	Connected IC added (ac)	Total IC added or subtracted (ac)	Connected IC added or subtracted (ac)	IC disconnected (ac)	Change in Total IC (ac)	Change in Connected IC (ac)	Net change (ac)	WATERSHED TOTAL IC (ac)	WATERSHED TOTAL IC (%)	WATERSHED CONNECTED IC (ac)	WATERSHED CONNECTED IC (%)	Notes & References
1-Jun-12		<b>WATERSHED BASELINE</b>										<b>209.2</b>	<b>23.2%</b>	<b>158.2</b>	<b>17.58%</b>	from baseline report, MS4 map, and cell D4
7/1/2012		Water reclamation facility	bioretention			0.85	(0.85)		0.85	(0.85)	0.00	210.1	<b>23.3%</b>	158.2	<b>17.58%</b>	
7/1/2012		Water reclamation facility	water harvesting			0.31	(0.31)		0.31	(0.31)	0.00	210.4	<b>23.4%</b>	158.2	<b>17.58%</b>	Water harvesting from roof of building
8/1/2012		Hillside Rd. snow shelf - SE	PICP			0.14	(0.22)		0.14	(0.22)	(0.07)	210.5	<b>23.4%</b>	158.1	<b>17.57%</b>	replaced eroded soil/turf with PICPs
8/1/2012		Oak Hall	PICP			0.07	(0.07)		0.07	(0.07)	0.00	210.6	<b>23.4%</b>	158.1	<b>17.57%</b>	
10/12/2012		Hillside Rd. snow shelf - N	PICP			0.15	(0.29)		0.15	(0.29)	(0.14)	210.7	<b>23.4%</b>	158.0	<b>17.55%</b>	replaced eroded soil/turf with PICPs
5/1/2013		Sundial	PICP			0.03	0.03		0.03	0.03	0.07	210.8	<b>23.4%</b>	158.1	<b>17.56%</b>	
6/9/2014		D-lot	Tree box filters					(0.31)	0.00	(0.31)	(0.31)	210.8	<b>23.4%</b>	157.7	<b>17.53%</b>	
6/16/2014		Hilltop apartment	Tree box filters					(0.24)	0.00	(0.24)	(0.24)	210.8	<b>23.4%</b>	157.5	<b>17.50%</b>	
8/1/2014		Basketball practice	PICP	0.06	(0.06)				0.06	(0.06)	0.00	210.8	<b>23.4%</b>	157.5	<b>17.50%</b>	
8/1/2014		Basketball practice	bioretention	0.39	(0.95)				0.39	(0.95)	(0.56)	211.2	<b>23.5%</b>	156.9	<b>17.44%</b>	
8/15/2016		NextGen residence hall	Green roof	0.63	(0.82)				0.63	(0.82)	(0.19)	211.8	<b>23.5%</b>	156.8	<b>17.42%</b>	
8/15/2016		NextGen residence hall	bioretention	0.67	(0.03)				0.67	(0.03)	0.64	212.5	<b>23.6%</b>	157.4	<b>17.49%</b>	
8/1/2017		Engineering and Science	Green roof				(0.16)		0.00	(0.16)	(0.16)	212.5	<b>23.6%</b>	157.2	<b>17.47%</b>	
8/15/2017		N. campus dorms	PICP					(0.54)	0.00	(0.54)	(0.54)	212.5	<b>23.6%</b>	156.7	<b>17.41%</b>	
9/15/2017		Engineering and Science	PICP				(0.19)		0.00	(0.19)	(0.19)	212.5	<b>23.6%</b>	156.5	<b>17.39%</b>	
9/15/2018		N. Eagleville Rd. renovation	PICP					(0.91)	0.00	(0.91)	(0.91)	212.5	<b>23.6%</b>	155.6	<b>17.29%</b>	
9/15/2018		N. Eagleville Rd. renovation	Tree box filters					(1.96)	0.00	(1.96)	(1.96)	212.5	<b>23.6%</b>	153.6	<b>17.07%</b>	
9/15/2018		Jorgensen/MSB utility redo	bioretention					(0.05)	0.00	(0.05)	(0.05)	212.5	<b>23.6%</b>	153.6	<b>17.06%</b>	
9/1/2021		NW Science Quad	bioretention/per vious paving			(0.51)	(2.28)		(0.51)	(2.28)	(2.79)	212.0	<b>23.6%</b>	150.8	<b>16.75%</b>	
9/1/2022		Supplemental Utility Plant	Renovation				0.31		0.00	0.31	0.31	212.0	<b>23.6%</b>	151.1	<b>16.79%</b>	
4/1/2023		N. Eagleville Rd. PICP				0.91			0.91	0.00	0.91		<b>0.0%</b>	152.0	<b>16.89%</b>	Failed PICPs paved over with asphalt
									<b>NET CHANGE</b>	<b>(6.19)</b>	<b>ac disconnected</b>					<b>NEMO Project</b>
									<b>%</b>	<b>-3.91</b>	<b>% disconnected</b>					<b>Center for Land Use Education and Research (CLEAR)</b>





## 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	Complete/ongoing	Initial general awareness stormwater training conducted this year.	Initial training	EHS	Jul 1, 2019	July 2019	Annual training is captured in EHS Spill Prevention, Control, and Counter-Measures (SPCC) training
6-2 Implement MS4 property and operations maintenance	Complete/ongoing			EHS/FOBS/NEMO/CLEAR	Jul 1, 2018	July 2020	<p><i>Parks and open space:</i> Integrated pest management (IPM) approach is used for management of all turf on campus.</p> <p><i>Pet waste management:</i> Pet walking is not widely practiced on the UConn campus.</p> <p><i>Waterfowl management:</i> UConn has installed Canada goose deterrent wires on Mirror Lake, which discharges to Roberts Brook. Since installation, no geese have been residing at the lake.</p> <p><i>Buildings and facilities:</i> Storage of petroleum and other products is covered as part of annual facilities staff training.</p> <p><i>Vehicles and equipment:</i> Storage of vehicles with leaks, and washing of vehicles: Motor Pool + Public Safety are the two locations that maintain a DEEP MIU General Permit</p>

							<p>(GP drains connected to WPCF). Campus wide we prohibit vehicle washing per our Stormwater Plan. Motor Pool addresses leaking vehicles that are owned by the University and repair as necessary and/or vehicles/equipment is serviced by an outside contractor.</p> <p><i>Leaf management:</i> Prevent deposition of leaves in catch basins etc. Leaves are currently collected in the fall, temporarily stored on the Depot Campus, and then hauled off-site by Willimantic Waste.</p>
6-3 Implement coordination with interconnected MS4s	Complete	Contact has been made with the Town of Mansfield engineers to discuss how interconnections will be handled	Not applicable	EHS-Enviro	Not specified	July 2017	
6-4 Develop/implement program to control other sources of pollutants to the MS4	n/a			EHS/FOBS/NEMO/CLEAR	Not specified		Given the nature of the campus and the MS4 system, it is not expected that there will be any other significant sources of pollutants to the MS4
6-5 Evaluate additional measures for discharges to impaired waters*	n/a			EHS/FOBS/NEMO/CLEAR	Not specified		The UConn campus has a separate sanitary and stormwater system, so no other discharges to impaired waters are expected.
6-6 Track projects that disconnect DCIA	Complete	NEMO/CLEAR has tracked projects that disconnect DCIA	Spreadsheet	NEMO/CLEAR	Jul 1, 2017	July 2017	

6-7 Implement infrastructure repair/rehab program	Complete/ongoing			EHS-Enviro /FOBS/UPDC/NEMO/CLEAR	Jul 1, 2021	July 2021	Damaged catch basins and/or stormwater pipes are inspected and repaired on an as-needed basis, when a request is received through the AIM workflow system.
6-8 Develop/implement plan to identify/prioritize retrofit projects	Complete	EHS-Enviro/FOBS has provided input on how to reduce IC for upcoming reconstruction/new construction projects.		EHS-Enviro /FOBS/NEMO/CLEAR	Jul 1, 2020	June 2020	See section 6.5 below.
6-9 Implement retrofit projects to disconnect 2% of DCIA	In progress	NEMO/CLEAR has tracked projects that disconnect DCIA	Spreadsheet	NEMO/CLEAR	Jul 1, 2022	July 2018	<i>See section 5.4 above.</i>
6-10 Develop/implement street sweeping program	Complete	A new sweeper was purchased in 2018, and a street sweeping program has been implemented.	Log and AIM	EHS-Enviro /FOBS/NEMO/CLEAR	Jul 1, 2018	New sweeper purchased August 2018	We continue to develop this program. In addition to the AIM system, a log has been created for tracking dates, miles swept and amount of debris that will be kept in the sweeper unit.
6-11 Develop/implement catch basin cleaning program	Complete	UConn has a campus wide catch basin map and will prioritize and start implementing cleanings.	Map and spreadsheet for tracking progress. Also AIM is used for tracking.	EHS-Enviro /FOBS/NEMO/CLEAR	Jul 1, 2020	July 2020	UConn has been tracking catch basin cleanings/pump outs in AIM and a spreadsheet.
6-12 Develop/implement snow management practices	Complete	The UConn Landscape Department received training regarding snow management practices in December 2017 and 2019	Training	EHS-Enviro /FOBS/NEMO/CLEAR	Jul 1, 2018	Training implemented-12/2017. 2019 focused on minimizing deicing materials and creating a SOP.	



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

None other than standard procedures in place.

## 6.3 Pollution Prevention/ Good Housekeeping reporting metrics

Metrics	
Employee training provided for key staff	Yes / November 2020. Landscape managers also attended Green Snow Pro training in November 2020.
Street sweeping	
Curb miles swept	~23 miles (entire campus)
Volume (or mass) of material collected	~95 yards
Catch basin cleaning	
Total catch basins in priority areas	76
Total catch basins in MS4	679
Catch basins inspected	150
Catch basins cleaned	131
Volume (or mass) of material removed from all catch basins	unknown
Volume removed from catch basins to impaired waters (if known)	unknown
Snow management	
Type(s) of deicing material used	Sodium chloride treated with 5% Calcium chloride/lignin (organic tree extract)
Total amount of each deicing material applied	1,400 tons
Type(s) of deicing equipment used	Snow plows
Lane-miles treated	Entire campus including parking lots, sidewalks and streets.
Snow disposal location	*if snow staging is needed, the Depot campus or W-lot is used. W-Lot snow storage area drains to Eagleville Brook.
Staff training provided on application methods & equipment	Yes / Staff trained December 2019 and management trained November 2020.
Municipal turf management program actions (for permittee properties in basins with N/P impairments)	
Reduction in application of fertilizers (since start of permit)	9,600 lbs and 6.8 gallons applied in 2023
Reduction in turf area (since start of permit)	acres
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.**

An inventory and map of all catch basins was completed to further evaluate priority areas and optimize the catch basin inspection and cleaning schedule.

## **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.**

Every new or redevelopment project on campus will be reviewed by EHS staff to determine what opportunities exist for disconnecting additional impervious cover. Overall, for the three watersheds identified in our watershed management plan, **UConn has exceeded the 2% disconnection goal as of January 2021.** Eagleville Brook has been impaired for many years and has a total maximum daily load (TMDL) for impervious cover; retrofit efforts over the last ten years have been heavily focused on this watershed. Roberts Brook was listed as impaired in 2018, therefore UConn will increase efforts to reduce DCIA in this watershed in upcoming years.

**Describe plans for continuing the Retrofit program and how to achieve a goal of 1% DCIA disconnection in future years.**

See response to previous question.

**Describe plans for continuing the Retrofit program beyond this permit term with the goal to disconnect 1% DCIA annually over the next 5 years**

See response to previous question.

## 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.** These data are 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.

Impervious cover and bacteria are listed as the pollutants of concern for Eagleville Brook. No pollutant is specified for the Roberts Brook impairment, although stormwater is listed as a suspected cause. Monitoring of outfalls to Eagleville and Roberts Brooks began in October 2017. Samples were analyzed for E. coli and turbidity. Generally, concentrations of E. coli were low or non-detect for most samples, and turbidity was also low (<9 NTU) for all samples. Only one outfall was found to exceed monitoring criteria for E. coli (72,420 MPN/100 mL); this waterbody does not have bacteria listed as a pollutant of concern; however an outfall investigation of this catchment was performed. Two follow-up samples indicated E. coli counts <1, and no dry weather flow was observed at the site. No potential sources of contamination were identified in junction manholes for the catchment. The suspected cause of this one high E. coli count was pet waste washing into a catch basin in the catchment.

### 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?
GVL-1	10/26/17	Turbidity	0.95 NTU	UConn Water Quality Lab (same for all)	No
GVL-2	10/26/17	Turbidity	1.25 NTU		No
GVL-3	10/26/17	Turbidity	4.37 NTU		No
F-LOT-1	10/26/17	Bacteria, turbidity	<1 MPN/100mL, 8.63 NTU		No
F-LOT-2	10/26/17	Bacteria, turbidity	<1 MPN/100mL, 1.62 NTU		No
MLK	10/26/17	Turbidity	0.89 NTU		No
RB1	10/26/17	Turbidity	1.55 NTU		No

W-LOT-1	10/26/17	Bacteria, turbidity	<1 MPN/100mL, 1.72 NTU		No
W-LOT-2	10/26/17	Bacteria, turbidity	<1 MPN/100 mL, 2.15 NTU		No
W-LOT-3	10/26/17	Bacteria, turbidity	<1 MPN/100 mL, 2.35 NTU		No
EB-2	10/26/17	Bacteria, turbidity	<1 MPN/100 mL, 3.95 NTU		No
EB-3	10/26/17	Bacteria, turbidity	<1 MPN/100 mL, 3.86 NTU		No
HBH	10/26/17	Turbidity	72,420 MPN/100 mL, 4.65 NTU		No

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

Provide the following information for outfalls exceeding the pollutant threshold.

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

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

Once outfall screening has been completed for at least 50% of outfalls to impaired waters, identify 6 of the highest contributors of any pollutants of concern. Begin monitoring these outfalls on an annual basis by July 1, 2021.

Outfall	Sample Date	Parameter(s)	Results	Name of Laboratory (if used)
MLK	10/28/20	Bacteria, turbidity	3 MPN/100 mL, 0.7 NTU	UConn Water Quality Lab (all)
GVL-1	10/28/20	Bacteria, turbidity	649 MPN/100mL, 9.3 NTU	
GVL-2	10/28/20	Bacteria, turbidity	>2420 MPN/100mL, 3.6 NTU	
GVL-3	10/28/20	Bacteria, turbidity	1300 MPN/100mL, 3.4 NTU	
EB-1	10/28/20	Bacteria, turbidity	120 MPN/100mL, 8.4 NTU	
EB-2	10/28/20	Bacteria, turbidity	866 MPN/100mL, 7.3 NTU	
EB-3	10/28/20	Bacteria, turbidity	579 MPN/100mL, 2.8 NTU	
HBH	10/28/20	Bacteria, turbidity	1300 MPN/100mL, 2.7 NTU	
W-LOT-2	10/28/20	Bacteria, turbidity	1203 MPN/100mL, 0.9 NTU	
MLK	9/16/21	Bacteria, turbidity	579 MPN/100mL, 2.3 NTU	
GVL-1	9/16/21	Bacteria, turbidity	2,420 MPN/100mL, 2.6 NTU	
GVL-2	9/16/21	Bacteria, turbidity	816 MPN/100mL, 2.3 NTU	
GVL-3	9/16/21	Bacteria, turbidity	613 MPN/100mL, 7 NTU	
EB-1	9/16/21	Bacteria, turbidity	>2,420 MPN/100mL, 12.6 NTU	
EB-2	9/16/21	Bacteria, turbidity	>2,420 MPN/100mL, 2.9 NTU	
EB-3	9/16/21	Bacteria, turbidity	>2,420 MPN/100mL, 12.4 NTU	
W-LOT-2	9/16/21	Bacteria, turbidity	291 MPN/100mL, 0.6 NTU	
MLK	10/14/22	Bacteria, turbidity	166 MPN/100mL, 5.2 NTU	
GVL-1	10/14/22	Bacteria, turbidity	>2420 MPN/100mL, 6.5 NTU	
GVL-2	10/14/22	Bacteria, turbidity	>2420 MPN/100mL, 9.0 NTU	
GVL-3	10/14/22	Bacteria, turbidity	248 MPN/100mL, 15.2 NTU	
EB-1	10/14/22	Bacteria, turbidity	115 MPN/100mL, 3.3 NTU	
EB-2	10/14/22	Bacteria, turbidity	2420 MPN/100mL, 3.5 NTU	
W-LOT-2	10/14/22	Bacteria, turbidity	1733 MPN/100mL, 3.1 NTU	
MLK	9/25/23	Bacteria, turbidity	172 MPN/100mL, 3.2 NTU	
GVL-1	9/25/23	Bacteria, turbidity	>2420 MPN/100mL, 9.3 NTU	
GVL-2	9/25/23	Bacteria, turbidity	387 MPN/100mL, 6.6 NTU	
EB-1	9/25/23	Bacteria, turbidity	>2420 MPN/100mL, 17.1 NTU	
EB-2	9/25/23	Bacteria, turbidity	1986 MPN/100mL, 17.9 NTU	
EB-3	9/25/23	Bacteria, turbidity	>2420 MPN/100mL, 10.0 NTU	
W-LOT-2	9/25/23	Bacteria, turbidity	1733 MPN/100mL, 3.1 NTU	

Due to several high bacteria counts noted in 2021, additional sampling was performed in June 2022 to determine if high bacteria counts were persisting in other seasons. Similar high bacteria counts were found in June as well. The highest counts came from outfalls with small drainage areas comprised entirely of roadway, indicating that bacteria is washing off of road surfaces. This is not uncommon in urban runoff. Sources of bacteria include wild animals and domestic pet waste.

Follow-up annual sampling was conducted in October 2022. Several high E. coli counts were noted for outfalls to Eagleville Brook: EB-1, EB-3, and GVL-1. The cause for these high bacteria counts is not clear, however concentrations such as these are not uncommon for wet weather stormwater flows from heavily developed areas. Additional water quality analyses were performed (e.g. ammonia-nitrogen, nitrate-nitrogen, chlorine, surfactants). Concentrations of all parameters were either non-detect or below MS4 thresholds, indicating that illicit sewer discharges were NOT causing the high bacteria concentrations.

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## 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	Ammonia	Chlorine	Conductivity	Salinity	E. coli or enterococcus	Surfactants	Water Temp	Pollutant of concern	If required, follow-up actions taken
GVL-1	10/6/17	0.5 mg/L	0.01 mg/L	2207 $\mu$ S/cm	1.1 ppt	28	ND	17.6	n/a	None required
GVL-2	10/6/17	0.3 mg/L	0.01 mg/L	4175 $\mu$ S/cm	2.2 ppt	<1	ND	18.6	n/a	None required
F-LOT-CB2-NW	10/6/17	ND	0.01 mg/L	150 $\mu$ S/cm	0.9 ppt	71	ND	18.0	Bacteria	None required
F-LOT-CB2-NE	10/6/17	ND	0.02 mg/L	150 $\mu$ S/cm	0.9 ppt	<1	ND	18.0	Bacteria	None required
MLK	10/6/17	0.3 mg/L	0.05 mg/L	2266 $\mu$ S/cm	1.2 ppt	3	ND	21.0	n/a	None required
RB1	10/6/17	ND	0.01 mg/L	15.5 $\mu$ S/cm	0.0 ppt	6	ND	17.2	n/a	None required
W-LOT-2	10/6/17	0.5 mg/L	0.02 mg/L	2875 $\mu$ S/cm	1.5 ppt	<1	ND	14.2	Bacteria	None required
EB-2	10/6/17	1.0 mg/L	0.02 mg/L	3471 $\mu$ S/cm	1.8 ppt	166	ND	19.3	Bacteria	None required

EB-3	10/6/17	1.0 ,g/L	0.01 mg/L	4820 µS/cm	2.6 ppt	23	ND	16.9	Bacteria	None required
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## 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
W-LOT-1	10/26/17	0.25	0.01	180	0.1	<1	ND	13.6	Bacteria
W-LOT-2	10/26/17	0.25	0.01	576	0.3	<1	ND	14.8	Bacteria
W-LOT-3	10/26/17	0.25	0.01	377	0.1	<1	ND	14.5	Bacteria
GVL-1	10/26/17	0.25	0.01	348	0.2	<1	ND	13.7	n/a
GVL-2	10/26/17	0.25	0.01	848	0.4	<1	ND	15.4	n/a
GVL-3	10/26/17	0.25	0.01	1238	0.6	<1	ND	15.9	n/a
HBH	10/26/17	0.25	0.01	472	0.2	72,420	ND	15.5	n/a
F-LOT-1	10/26/17	0.25	0.01	717	0.9	<1	ND	17	Bacteria
F-LOT-2	10/26/17	0.25	0.01	610	0.3	<1	ND	14.9	Bacteria
EB-2	10/26/17	0.25	0.01	866	0.4	<1	ND	16.2	Bacteria
EB-3	10/26/17	0.25	0.01	980	*	<1	ND	*	Bacteria
RB-1	10/26/17	0.25	0.01	762	0.4	<1	ND	15.7	n/a
MLK	10/26/17	0.25	0.01	364	0.2	<1	ND	14.9	n/a

\*Recording error- data lost



### 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
HBH	Roberts Brook	10

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

### 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

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Signature / Date: 4/1/24

