MUNICIPAL STORM WATER NPDES PERMIT MI0053902
FISCAL YEAR 2022-2023 MID-YEAR REPORT
FOR
THE UNIVERSITY OF MICHIGAN

ANN ARBOR, DEARBORN & FLINT CAMPUSES
& OTHER REGULATED U-M PROPERTIES

UPDATED PER THE REQUIREMENTS OF NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT (NPDES) FOR DISCHARGE OF STORM WATER TO SURFACE WATERS FROM A MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)

PREPARED BY:

FACILITIES & OPERATIONS
ENVIRONMENT, HEALTH & SAFETY
UNIVERSITY OF MICHIGAN

Campus Safety Services Building
1239 Kipke Drive
Ann Arbor, Michigan 48109-1010

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For clarification purposes, the following acronyms/definitions are used throughout this report:

AEC	UMAA Architecture, Engineering and Construction
ARC	Alliance of Rouge Communities
BMPs	Best Management Practices
CARD	Coalition for Action on Remediation of Dioxane
CCRB	Central Campus Recreation Building located on the UMAA campus
CGS	Custodial & Grounds Services
City	The City of Ann Arbor, Dearborn or Flint, as appropriate
CPP	Central Power Plant
CSEP	Computer Science, Engineering, and Physics Department on UMF campus
CSW	Construction Storm Water Runoff Control
DPS	Department of Public Safety on the UMD and UMF campuses
DPSS	Division of Public Safety & Security on the UMAA campus
EAAMC	East Ann Arbor Medical Campus
EGLE	Michigan Department of Environment, Great Lakes, and Energy
EIC	The Environmental Interpretive Center on UMD campus
EHS-AA	Environment, Health & Safety Department – Ann Arbor
EHS-D	Environmental Health and Safety Department – Dearborn
EHS-F	Environment, Health, and Safety Department – Flint
EP3	Environmental Protection & Permitting Program within EHS-AA
F&O	Facilities and Operations
FOTR	Friends of the Rouge River
FRWC	Flint River Watershed Coalition
FUEL	Future Urban and Environmental Leaders
GIS	Geographical Information System
HAZWOPER	Hazardous Waste Operations and Emergency Response
HMM	Hazardous Materials Management within EHS-AA
HRWC	The Huron River Watershed Council
HSMS	Hospital Safety Management Services
HHW	Household Hazardous Waste
HVAC	Heating, Ventilation, and Air Conditioning
IDEP	Illicit Discharge Elimination Program
Illicit Connection	A physical connection to the drainage system that 1) primarily conveys illicit discharges into the drainage system or 2) is not authorized or permitted by the local authority (where a local authority requires such authorization or permit).
Illicit Discharge	Any discharge or seepage that is not composed entirely of storm water into the drainage system, except for discharges specified in Parts I.A.1.b. and c. of the permit. Illicit discharges include dumping of motor vehicle fluids, hazardous wastes, grass clippings, leaf litter, domestic animal wastes, litter or unauthorized discharges of sewage, industrial waste, food services wastes, or any other non-storm water waste into the drain system.
LTP	Logistics, Transportation & Parking
MGP	Manufactured Gas Plant
MHI	Middle Huron Initiative
MS4	Municipal Separate Storm Sewer System

MTESP	Michigan Turfgrass Environmental Stewardship Program
NPDES	National Pollutant Discharge Elimination System
NREPA	State of Michigan Natural Resources Environmental Protection Act, Act 451
OCS	Office of Campus Sustainability associated with UMAA
Outfall	A discharge point from an MS4 directly to surface waters of the state
P2	Pollution Prevention
P2/GH	Pollution Prevention/Good Housekeeping for Municipal Operations
PCSW	Post-Construction Storm Water Control
PEP	Public Education Program
Permit	The NPDES Storm Water Permit Number MI0053902 issued by EGLE to the U-M, effective October 1, 2001
PIP	Public Involvement and Participation
PIPP	Pollution Incident Prevention Plan
PPE	Personal Protective Equipment
PSA	Public Service Announcement
RCRA	Resources Conservation and Recovery Act
SEAS	School for Environment and Sustainability (formally School for Natural Resources and Environment (SNRE)
SEMCOG	Southeast Michigan Council of Governments
SESC	Soil Erosion and Sedimentation Control
SPCC	Spill Prevention and Countermeasure Control
SWMPP	Storm Water Management Program Plan prepared for the Permit and approved by EGLE
SWPPP	Storm Water Pollution Prevention Plan
TMDL	Total Maximum Daily Load
TSS	Total Suspended Solids
U-M	The University of Michigan, Ann Arbor, Dearborn & Flint
UMAA	The University of Michigan Ann Arbor Campus
UMD	The University of Michigan Dearborn Campus
UMF	The University of Michigan Flint Campus
UMPD	U-M Police Department, within the U-M Division of Public Safety and Security
University	The University of Michigan, Ann Arbor, Dearborn & Flint
US EPA	The United States Environmental Protection Agency

THE UNIVERSITY OF MICHIGAN
MUNICIPAL STORM WATER NPDES PERMIT MI0053902
FISCAL YEAR 2022-2023 MID-YEAR REPORT

In accordance with Part I, Section C.1.c of National Pollutant Discharge Elimination System (NPDES) Permit MI0053902, the University of Michigan (University; U-M) is required to submit a mid-year report describing the status of compliance with permit conditions associated with the storm water management program. This program is a requirement of the NPDES Permit issued by the Michigan Department of Environment, Great Lakes, and Energy (EGLE) Surface Water Quality Division on October 1, 2001. This report covers the period July 1, 2022 through December 31, 2022, and follows the format identified in the permit.

1) Compliance Assessment

a) Describe the status of compliance with permit conditions.

The U-M is in compliance with the Storm Water Management Program Plan (SWMPP) for the Ann Arbor (UMAA), Dearborn (UMD), and Flint (UMF) campuses, as revised in May 2010, and approved by EGLE on June 2, 2010. The University is also continuing to implement the EGLE approved post-construction storm water management requirements outlined in the Storm Water Management – Post-Construction Requirements Guideline (EP3-001) located on the Environment, Health & Safety Department in Ann Arbor (EHS-AA) website. On May 28, 2013, U-M submitted a Phase II permit renewal application to EGLE in accordance with the notification from EGLE dated February 5, 2013, and provided additional requested updates to EGLE on May 28, 2015. On January 12, 2021, EGLE provided comments to this information and requested additional updates which were provided to EGLE on April 12, 2021. For the purposes of this report, please note that EHS-AA is associated with UMAA, the Environmental Health and Safety Department in Dearborn (EHS-D) is associated with UMD, and the Environment, Health, and Safety Department in Flint (EHS-F) is associated with UMF.

b) Provide a report of illicit discharges and illicit connections removed.

There were zero cross connections and three illicit discharges identified during this reporting period.

Illicit Discharges:

There were three new illicit discharges identified during this reporting period:

- U-M Ann Arbor – Bonisteel Blvd - On September 13, 2022, turbid water from a water main break on Bonisteel Blvd on North Campus entered a nearby storm inlet. Turbid water then flowed to a U-M-owned constructed detention pond system adjacent to the Art and Architecture building. Upon further investigation, staff noted that turbidity from the detention pond system was visible at a U-M MS4 outfall to the Huron River. EGLE was notified via a phone call within 24hrs of the discharge, and a follow-up written report was later provided detailing the incident. Water main repairs were completed the following day. *This water main is currently being replaced to improve water service reliability on North Campus.

- U-M Ann Arbor – Cram Circle – On September 28, 2022, a water main failed within a vegetated area west of Cram Circle on North Campus. Turbid water flowed via the storm sewer to a non-U-M detention pond north of Plymouth Road and then to a wetland-like feature that may be a possible tributary to Traver Creek. EGLE was notified via a phone call within 24hrs of the discharge, and a follow-up written report was later provided detailing the incident. Repairs were completed that same day.

- U-M Ann Arbor – Pierpont Commons – On November 21, 2022, a water main break occurred at the Pierpont Commons loading dock located on U-M's North Campus. The flow entered an adjacent catch basin and then discharged to a U-M-owned constructed detention pond system adjacent to the Art and Architecture building. Further observation determined that turbid water was discharging to the Huron River from a U-M MS4 outfall near the Fuller Road Huron River Bridge. EGLE was notified via a phone call within 24hrs of the discharge, and a follow-up written report was later provided detailing the incident. Repairs were completed by the following day.

- U-M Ann Arbor - North Campus Facility Services (previously reported) – On June 25, 2018, the HRWC discovered a trickle (estimated at <3 gallons per hour) of water with elevated conductivity emanating from one of our outfalls (O-83) located on North Campus and discharging to Millers Creek. U-M began an investigation, including dye testing at adjacent buildings and televising the storm system and underdrains connected to this outfall. No illicit connections were found. We continue to monitor and investigate the possible source.
  *Please note, there are other locations within the eastern branch of Millers Creek that are also experiencing high concentrations of chloride and conductivity. Please see Page 12 of the April 2021 Michigan AIPG publication "Geologically Speaking" for additional information.
  http://mi.aipg.org/newsletters/pdf/2021%20Q2%20MI%20Newsletter.pdf

Cross-Connections:

Dye testing was completed during this reporting period.to evaluate and verify proper connections by UMAA at the following locations:

- Palmer Drive Corridor from July 1, 2022 to July 8, 2022 (The City of Ann Arbor, in partnership with U-M, completed dye testing through the Palmer Drive corridor)
- Dental School on June 30, 2022 and July 1, 2022

No cross connections were noted at the above locations.

The following potential and existing illicit connection, as listed in previous reports, are under further investigation:

- Central Campus Recreation Building (CCRB): It was determined through dye testing conducted in August 2012 that the swimming pool main drain and the pool area deck drains are connected to the storm sewer system. Filter backwash water was previously redirected to the sanitary sewer in 2012. The deck drains discharge de minimis amounts of chlorinated splash water while the pool main drain only discharges once the water has been de-chlorinated (and only once per year). Based on the characteristics of the expected discharge water and the travel distance from CCRB to the Huron River outfall at Glen Ct., it is unlikely that chlorinated water would reach the river.

  Note: The CCRB is currently undergoing demolition, and an entirely new building is being constructed. The design calls for pool filter backwash water to be discharged to the sanitary sewer system. When the pool needs to be fully drained, a valve will be switched to allow for the pool (once properly dechlorinated) to be drained to the storm sewer system. EHS will work with the project and EGLE to ensure that appropriate permits are obtained prior to the completion of the project.

c) Assess Best Management Practice Appropriateness and Progress toward Goals Identified in the SWMPP.

This section presents the progress made this reporting period toward meeting the measurable goals which were written in the SWMPP to support the program elements (e.g. Total Maximum Daily Loads, Public Education Program, Public Involvement and Participation, etc.). Each subsection below is prefaced with excerpted language from the SWMPP (*italicized*) followed by a table of measurable goals and the U-M activities, which help to meet the measurable goals. The table also indicates in which fiscal year actions were initiated to support a particular measurable goal and whether U-M is in compliance with that goal. Compliance presents in the form of a discrete set of activities that have previously been completed and reported or an on-going effort with activities that are updated in each report. Additional activities supporting a program element are also noted at the end of each subsection.

i. Total Maximum Daily Loads (TMDL)

The U-M participates in TMDL reduction efforts throughout the permit cycle for Total Phosphorus – Ford & Belleville Lakes; E.coli – Geddes Pond; Biota – Mallets Creek; E.coli – Rouge River; and Biota – Rouge River.

Table 1 presents the status of each TMDL activity, associated measurable goals as written in the SWMPP, and current or past activities supporting the measurable goals.

Table 1 Total Maximum Daily Load Activities

TMDL Activities Measurable Goals	**Initial Action Reported in:**	**Current Status**		
		In Compliance	*Completed as Previously Reported*	*Ongoing Effort (see below)*
Review existing outfalls to identify major discharge points (≥ 36-inch conveyance) discharging directly to surface waters of the state within the portion of the TMDL.	FY 2011-2012 (Annual)	✓	✓	
By April 15, 2012, U-M will take samples of at least 50% of the major discharge points within the portion of the TMDL watershed in the urbanized area. At a minimum, these samples will be analyzed for the applicable TMDL parameter (E. coli or total phosphorus). The sampling results will be retained and reported in the second progress report.	FY 2011-2012 (Annual)	✓	✓	
By October 1, 2013, sampling results and other available information will be reviewed. A plan will be developed to reduce the discharge of the applicable TMDL parameter (E. coli or total phosphorus). These prioritized actions will be reported with implementation targeted during the 5-year permit cycle that begins 2013. *Note that as of the date of this report, U-M is still operating under the 2010 SWMPP.*	FY 2012-2013 (Annual)	✓	✓	
TMDL Activities				
U-M All Campuses • U-M is aware of updated statewide TMDLs and will continue to work with local watershed groups to meet these goals as necessary.				

U-M Ann Arbor – Previously Reported

- As previously reported, outfalls have been evaluated to determine if they are "major" discharge points (greater than 36 inches in diameter). A list of major outfalls is kept on file. UMAA has identified four major discharge points within TMDL reaches. O-47R (NC_OF-005) and O-41 discharge directly into Millers Creek. O-30R (NC_OF-001) and O-88R (NC_OF-003) discharge directly to the Huron River. Outfall O-41, previously reported, is no longer assessed by U-M as it is a City-owned outfall discharging to Millers Creek. Outfall O-41 is located south of Baxter Road and northwest of the Waste Management Facility and discharges to Millers Creek.

- As previously reported, UMAA conducted sampling and analysis of O-41 and O-47R on March 30, 2012, for E. coli and total phosphorus. This represents 50% of the major discharges.

- As previously reported, based on the sampling results and an overall review of the SWMPP, the U-M has developed a plan to reduce the discharges of the applicable TMDL parameters. In an effort to maximize resources and minimize duplicate efforts, U-M is addressing TMDLs in a consistent manner as the HRWC and other area MS4s. HRWC has written a TMDL Implementation Plan for the Huron River Watershed MS4s in Washtenaw County. Aspects of that Implementation Plan are incorporated in the updated SWMPP as part of the NPDES Application for discharge of storm water to surface waters from an MS4. Management activities addressing the specific TMDLs have been identified and prioritized in Appendix I of the SWMPP.

U-M Dearborn – Previously Reported

- UMD identified three major discharge points, two of which discharge directly into the Rouge River and one that discharges into the City of Dearborn's storm line on Hubbard Drive.

- UMD conducted sampling and analysis on all identified major discharge points. Two discharge points were sampled on November 22, 2011, and the last discharge point was sampled on June 19, 2012.

U-M Flint – Previously Reported

- The Flint River is now included in the statewide *E. coli* TMDL. UMF will continue to work with local watershed groups to address these goals.

ii. Public Education Program (PEP) – Education and Outreach on Storm Water Impacts

Recognizing the need for public involvement in the effort to reduce storm water pollutants, the U-M has developed a broad and aggressive storm water education and outreach program. This multi-faceted program is closely connected to the U-M's pollution prevention (P2) program and its many initiatives. Specifically, the storm water education curriculum is designed to promote, publicize, and facilitate watershed education while encouraging the P2 practices developed under the U-M's environmental stewardship agenda. The intended audience for the program is all persons associated with the University who could potentially affect the quality of storm water discharges, including, but not limited to: campus residents; University faculty, staff, and students; visitors to the campus; contractors and vendors working on the campus; and commercial and industrial operations on campus. U-M's overall goal for the PEP is to bring awareness of storm water issues to 70% of the University community by the end of 2013. Levels of storm water awareness are anticipated to vary widely among the different community groups, with more emphasis given to key staff having greater potential to impact storm water quality during their day-to-day work activities. The remainder of the University community is targeted through other means, such as brochures, posters, websites, storm drain markers, PSAs, etc.

The following is a description of each of the public education topics identified in the permit, to be included as appropriate, based on the potential impact on the receiving waters:

- *Educate the public of hazards associated with illicit discharges and improper disposal of waste. Part of this education is to encourage public reporting of the presence of illicit discharges or improper disposal of materials into the U-M drainage system.*
- *Educate the public concerning the water body that would be potentially impacted by improper actions at or near a person's home.*
- *Educate the public on the availability, location and requirements for household hazardous waste disposal, travel trailer sanitary wastes, chemicals, grass clippings, leaf litter, animal wastes and motor vehicle fluids.*
- *Educate the public regarding acceptable application and disposal of pesticides, herbicides, and fertilizers, including the use of phosphorus-free fertilizer alternatives, as appropriate.*
- *Educate the public on preferred car cleaning agents and procedures for noncommercial car washing.*
- *Educate property owners with a septic system on proper maintenance and how to recognize system failure.*
- *Educate riparian landowners of management of lands to protect water quality.*
- *Educate the public about their responsibilities and stewardship of their watershed.*
- *Educate the public on the benefits of using native vegetation instead of non-native vegetation.*
- *Educate commercial and institutional entities likely to have significant storm water impacts. (At a minimum, commercial food services shall be educated to prevent grease and litter discharges to the MS4).*

Table 2 presents the status of each public education program activity, associated measurable goals as written in the SWMPP, and current activities supporting the measurable goals. Table 3 includes activities that go beyond the expectations of the original measurable goals.

Table 2 Public Education Program Activities

PEP-1 Storm Water Education Brochures

In cooperation with the U-M School for Environment and Sustainability (SEAS), EHS-AA developed a series of brochures to assist various members of the University community in preventing storm water pollution on campus. The brochures have been designed to meet the overall program objectives for specific audiences.

Over the years, the storm water public education program has evolved and grown. The program has largely converted the educational content from paper brochure format to digital posters in an effort to reduce paper waste and align with the University's sustainability goals. The digital posters use the messages and content from the original brochures. The target audience remains students, faculty, staff, and visitors.

PEP Activity **Measurable Goals**	**Initial Action Reported in:**	**Current Status**		
		In Compliance	*Completed as Previously Reported*	*Ongoing Effort (see below)*
A minimum of 1,800 brochures will be distributed annually during presentations, training courses and new employee orientation sessions. The quantity of brochures distributed throughout the year will be tracked.	FY 2009-2010 (annual)	✓	✓	✓
In 2010-2011, develop/add additional brochures to fill any gaps in the topics needed to meet the permit requirements. Keep a copy of newly developed/added brochures with dates finalized.	FY 2011-2012 (mid-year)	✓	✓	
In 2011-2012, create a dissemination strategy to reach the target audiences and any new audiences identified by U-M. Identify educational information available/developed for each target audience applicable at U-M and keep this information on file.	FY 2011-2012 (annual)	✓	✓	
In 2012-2013, implement the new dissemination strategy/plan for educational brochures. Tally the number of brochures distributed and provide in the annual reports.	FY 2012-2013 (annual)	✓	✓	

PEP-1 Activities

U-M Ann Arbor

- In an effort to reduce paper waste and be more sustainable, EHS-AA has moved away from paper brochures and is implementing electronic distribution of materials. EHS-AA continues to post the storm water digital display; titled "Keep our Michigan Waters BLUE!" which explains what storm water runoff is and why it can pose a threat to surface waters. The digital display was exhibited on flat screen televisions located within the Shapiro Undergraduate Library and the Hatcher Graduate Library from September 6, 2022 to September 20, 2022 and November 4, 2022 to November 18, 2022. The digital display was also posted in the lobbies of 18 residence halls and associated dining halls for the entire fall semester. The digital display is scheduled to be posted again at the libraries, residence halls, and dining halls this coming academic year.

- The storm water digital poster was aired on the EHS kiosk display between October 1, 2022 and December 31, 2022.

- EHS-AA continues to work with U-M football stadium vendors/concession stands to prevent potential discharges into the storm water system. Concession stands were posted with signage detailing procedures for proper grease and wastewater management for these operations during the 2022 football season to reinforce proper waste management for these temporary operations. Forty-five (45) signs were provided for posting.

- U-M's Graham Sustainability Institute no longer actively distributes the 2014-2015 Sustainability Guide. However, duplicative information can be found on the Planet Blue website (sustainability.umich.edu). During this reporting period, the Planet Blue homepage received approximately 5,284 unique views.

- There were 30 unique views of the online visual story of storm water management on campus during this reporting report. There have been a total of 1,322 views of the story since its posting in July 2018. The online visual story was a collaboration between UMAA's Office of Campus Sustainability (OCS), EHS-AA, and Architecture, Engineering and Construction (AEC). The visual story is located here: https://spark.adobe.com/page/WbT3dNsEUwCr4/

- As a community partner of the Huron River Watershed Council, UMAA supported the distribution of the 2023 Huron River Watershed Community Calendar. The 2023 calendar is a collaborative effort to educate communities about the importance of water stewardship and nonpoint source pollution prevention. In all, the HRWC and its partners distributed 43,400 2023 calendars to residents, staff, volunteers, constituents, and members of the watershed community. EHS-AA distributed 250 calendars to staff and campus visitors through meetings, trainings, and placement in publicly accessible locations.

- U-M social media accounts continue to be a valuable outlet for water quality education on campus. During this reporting period, four posts were displayed on the University of Michigan's Twitter account and two posts were displayed on the University of Michigan Facebook page. One Facebook post on November 28, 2022 included our storm water educational video and has received 1,300 views. Below, Figure 1 depicts a typical Twitter posting that includes moving waves in the background.

Figure 1 Twitter posting on December 21, 2022.

- On September 22, 2022, EHS-AA participated in U-M's annual Earthfest by hosting a booth on storm water management on the U-M campus. The function of pervious pavement was demonstrated at the booth along with an information display providing storm water education and copies of our Storm Water Management Summary Sheets describing best management practices installed on campus to manage storm water runoff.

  - The event is organized around the four themes of U-M's Campus Sustainability Goals: Climate Action, Waste Prevention, Healthy Environments, and Community Awareness. U-M student organizations, U-M departments, and community groups focused on sustainability promote their work on campus and in the greater university community. EarthFest is designed to engage, entertain, and educate U-M students, faculty, and staff on all aspects of sustainability.

U-M Dearborn

- EHS-D continues to pass out six different pamphlets related to storm water, a bookmark, and a storm water mouse pad at all training events, orientations, and other various campus events. This packet provides general storm water awareness to the campus with additional tips on how to handle household hazardous waste and pet waste as well as information on fertilizers, pesticides, paints, and vehicle maintenance. One of the pamphlets is passed out to contractors titled "Storm Water: A Shared Responsibility" which provides a brief overview of how storm water is discharged from campus and some best management practices for the various types of contractors (food services, custodial services, construction contractors, etc.) to use while working on campus. During this reporting period, there were three (3) new employee orientation (NEO) events.

- During this reporting period, EHS-D distributed Alliance for Rouge Communities (ARC) jar openers to campus community members. The jar opener has tips for "Healthy Habits to Protect the Rouge River Watershed" and is made out of recycled tires.

U-M Flint

- UMF held a Sustainability Week during the fall of 2022, November 7-11, 2022. It involved a number of student and faculty lead activities scheduled throughout the week. A notable centerpiece of the week was a keynote presentation titled "Conservation 2.0: Harnessing the power of digital to sustain life on Earth" by Diogo Veríssimo, a research fellow at Oxford and UM-Flint Thompson Visiting Professor.

- EHS-F maintains and updates a bulletin board in the Facilities & Operations common break area within the Hubbard Building to promote aspects of storm water management/BMPs. Additionally, a display case is located at the Harrison Parking ramp in the center of campus near a high traffic/pedestrian walkway. Storm water information is displayed in this location with an overall theme of "Healthy Planet, Healthy People."

- EHS-F posts a Storm Water Reference Sheet for Contractors on the EHS-F website as a tool to educate contractors and project managers about storm water management and the protection of drains and surface water.

- At UMF, the campus community is instructed through trainings, posters, signage, websites, display boards, flyers, and e-mail communications to contact UMF Public Safety in the event of any emergency, including those involving a potential release of pollutants to a sewer or surface water. Additionally, individuals are instructed to always attempt to protect nearby drains if a material is spilled in the area if it is safe to do so.

PEP-2 EHS/SEAS Websites

Developed in cooperation with the U-M SEAS and maintained by EHS-AA, the Storm Water Education Website builds upon the information contained in the brochures and disseminates information to the general University community and the public at large. This website is intended to help students, employees, and visitors in the U-M community understand how the University's storm water system operates, various legal requirements, and what individuals can do to reduce contamination in the storm water system from surface runoff. As viewers move through the site they learn about storm water, what they can do to help protect it, how regulations impact the University's operation, and various safe practices. The UMD and UMF websites also provide topical information for practices potentially impacting storm water.

Storm water website content is updated on a regular basis to include pertinent information related to storm water management and pollution prevention.

Current material on the websites can be viewed via the following links:
UMAA: http://ehs.umich.edu/environmental/water/stormwater/
http://ehs.umich.edu/construction-projects/environmental-considerations/storm-water-management/
http://ehs.umich.edu/environmental/water/stormwater/storm-water-control-measures/

UMD: https://umdearborn.edu/environmental-health-and-safety/environmental-protection/storm-water

UMF: https://www.umflint.edu/ehs/stormwater-management/

An additional website has been developed through the UMAA OCS and Planet Blue at http://sustainability.umich.edu/. Through Planet Blue, staff and students can become a Planet Blue Ambassador by completing modules. More information regarding the implementation of this program is outlined in the additional measures taken to achieve the PEP goals at the end of this section.

PEP Activity Measurable Goals	Initial Action Reported in:	Current Status		
		In Compliance	*Completed as Previously Reported*	*Ongoing Effort (see below)*
The number of visitors to the websites will be tracked annually for subsequent reporting. The goal is to have 2,000 website hits annually. This website is intended to help students, employees, and visitors in the U-M community understand how the University's storm water system operates, various legal requirements, and what individuals can do to reduce contamination in the storm water system from surface runoff. This website tally may also serve as an indication of the community seeking additional storm water information from the link provided in the brochures, as detailed above.	FY 2004-2005 (annual)	✓	✓	✓
Review and update existing websites and perform periodic review. Print a copy of website changes made, noting the date of revision, etc. A copy of these changes will be kept on file.	FY 2009-2010 (annual)	✓	✓	✓
In 2010-2011, create a website information dissemination and coordination strategy (all campuses) to reach the target audiences. Identify educational information available/developed for each target audience applicable at U-M. This information will be kept on file.	FY 2011-2012 (mid-year)	✓	✓	
In 2011-2012, develop/add additional topics, web links, etc. to fill any gaps in the topics needed to meet the permit requirements. Print a copy of website changes made, noting the date of revision, etc. A copy of these changes will be kept on file.	FY 2011-2012 (annual)	✓	✓	
In 2012-2013, implement the new dissemination strategy/plan for the storm water education website. The number of website hits will be tracked for reporting (above).	FY 2012-2013 (annual)	✓	✓	

PEP-2 Activities

U-M Ann Arbor

- A QR code is provided on printed materials and digital posters, which can be scanned by smart phones to direct viewers to the EHS-AA storm water website.

- The EHS-AA storm water web pages have received more than 12,000 unique hits from their inception on September 30, 2016 to December 31, 2022.

  EHS-AA Storm Water Web Pages & Views this reporting period:
  http://ehs.umich.edu/environmental/water/stormwater/ (317 unique views)
  http://ehs.umich.edu/construction-projects/environmental-considerations/storm-water-management/ (112 unique views)
  http://ehs.umich.edu/environmental/water/stormwater/storm-water-control-measures/ (514 unique views)

- The 2021-2022 annual storm water NPDES report was added to the EHS-AA website on December 20, 2022. http://ehs.umich.edu/environmental/environmental-data-and-reports/

U-M Dearborn

- The UMD storm water web pages received 1,725unique views during the reporting period. The website provides the UMD campus community with information on how the storm water system operates, what the laws require, and what can be done to reduce contamination in our storm system and ultimately, the Rouge River. The website offers links to various external organizations such as Friends of the Rouge (FOTR), Alliance of Rouge Communities (ARC), the Department of Environmental Quality (DEQ), Southeast Michigan Council of Governments (SEMCOG), and Earth 911. The storm water web page also provides links to two storm water awareness videos. https://umdearborn.edu/environmental-health-and-safety/environmental-protection/storm-water

- During the reporting period, the UMD-EHS web page was revised to include a Current Events heading. Storm water-related community events are displayed (Figure 2).

Figure 2 An image of the EHS-D Current Events page.

U-M Flint

- EHS-F maintains a storm water website which is available at the following link: https://www.umflint.edu/ehs/stormwater-management/
  The website provides a wide range of storm water educational information including UMF Program documents, defines our watershed and link to the Flint River, encourages protection of the Flint river, describes how to get involved in local initiatives, and more.

- During the July 1, 2022 – December 31, 2022 reporting period, there were approximately 152 page views of the EHS-F storm management web page.

- EHS-F and Facilities & Operations maintain a website, located at: https://www.umflint.edu/facilities/contractor-guidelines/ to help contractors and project managers quickly locate environmental health and safety information. EHS-F also maintains a separate departmental link with reference materials and environmental programs for contractors, located at: https://www.umflint.edu/ehs/project-review/

- The web links for the U-M construction safety requirements, storm water management requirements, and SESC requirements are all incorporated into contractor bid specifications and contract documents. Additionally, a fact sheet specifically for contractors working on UMF campus is available.

PEP-3 Video & Public Service Announcements

The video 'Storm Water Management at the University of Michigan' provides viewers with an overview of storm water issues as they pertain to University operations and activities. The video begins with an overview of the UMAA's storm water drainage system and it's receiving bodies followed by a synopsis of the legal requirements that mandate the NPDES permit and the development of a storm water management program. The remainder of the video focuses on how storm water can become polluted because of human activities. It proceeds to inform viewers of the University's actions to protect storm water quality in the following areas: salt use and deicing activities, waste management and spill response, campus planning and expansion, cleaning outdoor equipment and vehicles, chemical disposal practices, and food vendor training.

PEP Activity Measurable Goals	**Initial Action Reported in:**	**Current Status**		
		In Compliance	*Completed as Previously Reported*	*Ongoing Effort (see below)*
The number of offerings of storm water videos will be tracked annually for subsequent reporting in the progress reports. A listing of available storm water videos will be kept on file.	FY 2009-2010 (annual)	✓	✓	✓
Storm water, waste disposal, and recycling related Public Service Announcements will be distributed annually for use during the Football season home games. These short educational messages will provide storm water information to visitors, students, staff and contractors attending the U-M football games. The total anticipated audience for these messages is over 109,000 per game.	FY 2009-2010 (annual)	✓	✓	✓

PEP-3 Activities

Y–U-M Ann Arbor

- An online storm water educational video is available for viewing on the EHS-AA website. The video is used on an as-needed basis for inclusion in faculty and staff presentations, classes, workshops, etc. All new employees are sent a welcome email directing them to the online U-M storm water educational video as well. The video had 1,099 unique views during this reporting period and is located here: http://ehs.umich.edu/environmental/water/stormwater/storm-water-video

- A digital message was posted on the 27-ft x 48-ft football stadium marquee located outside the stadium during eight home football games from September 2022 through November 2022 (up to 20 times per game) (Figure 4). The message was also posted on the in stadium digital boards approximately one hour before the game with one accompanying public service announcement (PSA) as noted below (Figure 3). This PSA was also played at football entrance gates approximately 15 times per game. Attendance at each game is approximately 110,000 potentially reaching an audience of approximately 880,000 over the 2022 football season.

"Michigan fans help keep our Michigan waters BLUE by properly disposing of trash and recyclables! Did you know that outdoor drains found in parking lots and along roadways are directly connected to rivers, ponds, and lakes? Nothing but storm water should ever be

discharged into these storm drains. So do your part and help keep our Michigan waters BLUE!"

Figure 3 Stadium marquee message for football game days.

- Since July 1, 2018, daily, throughout the year, a digital message has been showing on the large stadium marquee. The message is shown approximately six times per hour reaching pedestrians and vehicular traffic on Stadium Blvd. In December 2022, the display design was updated and continues to be viewed on the marquee. See Figure 4 for the updated image of the display

Figure 4 Updated stadium marquee daily message display.

- Through the Planet Blue Ambassador program, students, faculty, and staff can complete the online training modules on different relevant topics (e.g., water). Individuals from every major school and unit on the Ann Arbor campuses (including most F&O units and the Health System) have participated. Approximately 8,228 students, faculty, and staff have been certified as Planet Blue

Ambassadors since the January 2013 inception of the program. Two hundred and thirteen (213) people completed the Planet Blue Ambassador program during this reporting period. For the Water module portion of the Planet Blue Ambassador Training, students and staff are encouraged to make pledges including, but not limited to:

- I will always properly dispose of extra household hazardous waste (HHW).
- I will fix any oil or other automotive fluid leaks on my vehicle immediately.
- I will wash my vehicle on a permeable surface or at a carwash that reuses water.
- I will properly dispose of my extra medications and not flush them. [ALSO PART OF PEP-4 BELOW]

The videos may be viewed on YouTube at the following link:
https://www.youtube.com/playlist?list=PLkpBjHvzRryplN_ahL0_TQ7f4E12tFixN

- UMAA implements campus-wide recycling in all buildings and encourages proper management of waste whether one is on campus or at home. UMAA promotes and provides support with various 'Zero Waste' events to further promote the proper disposal of waste.

- For the 2022 season of the Michigan football team, the Zero Waste Stadium program diverted more than 76 tons of material from the landfill at home games.

- At the September 3, 2022, U-M football game, EGLE's Recycling Raccoon Squad kicked off a promotion of proper recycling and composting best practices with educational signage in roughly 250 locations throughout the stadium and displays on 127 televisions in the concourse and premium seating areas for the entire 2022 season. The installation represents a new sports marketing partnership between U-M and EGLE.

U-M Dearborn

- EHS-D created an online storm water training course which is offered on the storm water webpage. The training consists of a video and an 8-question quiz. Contractors working on U-M projects are the primary enrollee of the course. Over the reporting period, 36contractors completed the online training course.
https://umdearborn.edu/offices/environmental-health-and-safety/environmental-protection/storm-water/storm-water-training-course
[ALSO PART OF PEP-4 BELOW]

- The exhibit area at the UM-Dearborn's Environmental Interpretive Center (EIC) is open to the public six days a week from 10 am until 5 pm. The exhibit area contains several interactive exhibits that allow the visitors to learn about various aspects of the Rouge River Watershed, water quality concerns and conservation efforts and practices. These exhibits are also used in our formal education programs and university courses. The exhibits begin with an overview of the concept of a watershed and aerial photo of the Rouge River so visitors can get a perspective of the entire area of southeastern Michigan. The multi-media videos offer three, six-minute videos about the watershed, hydrologic cycle, and the problems facing the Rouge River. The exhibit area also houses several kiosks that encourage visitors to find ways to be a part of the solution with steps you can take at home to improve water quality.

UM-Flint

- UMF implements campus wide recycling in all buildings and encourages proper management of waste whether one is on campus or at home. UMF also provides PSA's promoting community household hazardous waste collection days in the spring and fall of each year through e-mails, posts on the EHS website, and printed materials. These are sent to all faculty, staff, and students (5,000+ individuals).

- UMF maintains a bulletin board in the Facilities & Operations common break area within the Hubbard Building to promote aspects of storm water management/BMPs. Additionally, a public display case is located at the Harrison Parking ramp in the center of campus near a high traffic/pedestrian walkway. Storm water information is displayed in this location with an overall theme of "Healthy Planet, Healthy People."

PEP-4 Presentations (training sessions, workshops, etc.)

Storm water education presentations are provided to key staff having greater potential to impact storm water quality during their day-to-day work. The remainder of the University community is targeted through other means. The presentations discuss the storm water drainage system; the need for protecting the quality of storm water discharges; the NPDES permit, its legal requirements, and the storm water management program; and the most common storm water pollutants and ways to limit their effects on storm water. The presentations can also feature the storm water video.

Storm water education is provided during new employee orientation sessions (all employees at the U-M), new laboratory employee training classes and at new Facilities & Operations employee training classes. In addition, presentations including storm water topics are provided on an annual basis to UMAA Facilities & Operations staff, which includes the following sub-groups:

- *Architecture, Engineering and Construction,*
- *Custodial & Grounds Services,*
- *Environment, Health, & Safety,*
- *Logistics, Transportation & Parking,*
- *Maintenance Auxiliaries & Central Shops,*
- *Maintenance Regions,*
- *Office of Campus Sustainability,*
- *Operational Support,*
- *Real Estate Office, and*
- *Utilities*

PEP Activity Measurable Goals	Initial Action Reported in:	Current Status		
		In Compliance	*Completed as Previously Reported*	*Ongoing Effort (see below)*
Storm water topics will be included in a minimum of 50 classes, workshops, or presentations annually. The number of sessions including training on storm water issues will be tracked for subsequent reporting.	FY 2009-2010 (annual)	✓	✓	✓
A minimum of 500 laboratories will be inspected annually. The inspections will include a review of issues impacting storm water quality, chemical storage, waste management and disposal. These inspections may also serve as an indicator of the effectiveness of storm water education received, or the need for additional education. The number of inspections performed annually will be tracked for subsequent reporting.	FY 2009-2010 (annual)	✓	✓	✓
All outdoor food vendors will receive training/education including related storm water issues annually. Food establishment inspections will include items to ensure storm water BMPs are being followed. These inspections may also serve as an indicator of the effectiveness of storm water education received, or the need for additional education. The number of inspections performed will be tracked for subsequent reporting.	FY 2009-2010 (annual)	✓	✓	✓

PEP-4 Activities

U-M Ann Arbor

- Contractors are provided information on construction site storm water-related topics at kick-off meetings and then throughout the construction phase by the Part 91 SESC inspectors. The information provided covers storm water regulations and SESC procedures and practices.

- EHS-AA developed an online Storm Water Pollution Prevention Plan (SWPPP) training module for all applicable operational staff and facility managers at fleet maintenance and storage yards involved in the U-M SWPPP program. Over this reporting period, 44 U-M staff members completed the training. EHS-AA continues to use the online training module for refresher training of U-M staff members associated with SWPPP facilities.

- EHS-AA held several on-line 8-hour Emergency Response Technician Refresher training sessions in December 2022 to provide updates to applicable facility staff and on-call Environment, Health & Safety staff that participate in emergency response activities. The training includes outdoor spill response and appropriate protocol to protect waterways. In all, 92 U-M staff attended the training sessions.

- Training on environmental considerations for construction projects is offered for U-M project managers. This includes storm water management, spill prevention and response, soil erosion and sedimentation control, soil contamination, and material storage. Two individuals attended the training during this reporting period, and a total of 110 staff have attended the training since it was implemented in March 2018.

- Storm water topics were included in classes, workshops, or presentations during the reporting period. The number of classes, workshops, and presentations containing storm water topics will be reported in the annual report. Examples of classes include: Storm Water Pollution Prevention Plan (SWPPP) training, Spill Prevention Control and Countermeasure training, Storm water/SESC Awareness training, Laboratory Waste Disposal training, Housing New Employee Orientation, Grounds Annual Safety training, and Annual HAZWOPER Refresher training. Participants include staff from EHS-AA, Facilities & Operations staff, Athletics Dept., researchers, and other groups.

- The number of laboratories inspected will be reported in the annual report.

- As reported above, an online storm water educational video is available for viewing on the EHS-AA website. The video is used on an as-needed basis for inclusion in faculty and staff presentations, classes, workshops, etc.

- A total of 50 inspections were performed by EHS-AA sanitarians on temporary food establishments between July 1, 2022 and December 31, 2022. This includes inspections at the U-M stadium for each of the eight home football games. The inspections include checking that the appropriate food safety signage/poster was conspicuously displayed at each location. The posters indicate proper grease disposal and wastewater management tips. EHS-AA continues to work with U-M football stadium vendors/concession stands to prevent potential discharges into the storm water system. Concession stands were posted with signage detailing procedures for proper grease and wastewater management for these operations during the 2022 football season to reinforce proper waste management for these temporary operations. EHS-AA plans to replace any missing signs ahead of the 2023 football season.

- A lunch and learn presentation about U-M's storm water program was provided to EHS staff on September 20, 2022. The presentation included information about U-M's storm water permit requirements, storm water control measures on campus, and how staff can help protect storm water quality. Fourteen (14) individuals attended the presentation and helped install 69 storm drain markers afterwards (Figure 5).

Figure 5 EHS staff member placing a storm drain marker.

- EHS storm water staff presented at a monthly Sustainability Green Teams Coffee Chat on August 18, 2022. The presentation included information about U-M's storm water permit requirements, storm water control measures on campus, and how staff can help protect storm water quality. Five (5) people attended.

U-M Dearborn

- UMD held no in-person storm water training sessions for faculty, staff, students and contractors during this reporting period. However, 611 students, staff, and faculty participated in our online laboratory safety training, which includes storm water-specific training.

- UMD conducted a total of 10 lab inspections during this reporting period.

- In addition to the routine area inspections related to the SWPPP and SPCC programs, EHS-D conducted 54 Hazardous Waste- Central Accumulation Area (CCA) inspections during the reporting period.

- Food service establishments on campus are inspected on a weekly basis to ensure that waste management practices are being maintained and that no grease or food waste is entering or impacting storm drains.

U-M Flint

- Due to continued COVID public health measures, in-person training was again reduced during this reporting period. However, storm water and spill prevention related topics were included in many online courses and presentations during the reporting period: Twenty-three (23) individuals completed the "Storm Water Pollution Prevention" course, 34 individuals completed the "Spill

Prevention, Contingency and Countermeasures" course, 56 employees completed the Small Spill Response training,29 individuals completed Chemical Safety and Chemical Storage training, and 14 individuals completed the Hazardous Material and Hazardous Waste training in fall 2022.Additionally, storm water education, protection of surface water/watershed, and the Flint River are covered as part of classroom and Hazard Communication training, when these are offered in person. Storm water topics are also covered during an online annual health and safety training for Resident Assistants and desk staff in the Housing and Residential Life Department.

- In addition to the routine area inspections related to the SWPPP and SPCC programs, EHS-F conducted 44 hazardous waste area inspections. These inspections do not include regular lab self-audits conducted by the individual departments including, Biology, Computer Science, Engineering, and Physics (CSEP), and Chemistry/Biochemistry, etc.

- EHS-F routinely inspects loading dock areas that are used by food service vendors and their suppliers to ensure waste materials, such as grease, are being properly stored and managed.

Table 3 Additional Public Education Program Activities

Activities
All Campuses • U-M campuses continue to maintain recycling programs. The programs divert waste from entering landfills; reduce carbon dioxide emissions; and save gallons of water, energy, and trees. Proper disposal of potentially hazardous materials prevents contamination to the environment including surface waters. **U-M Ann Arbor** • A story about storm water management on campus was written by EHS staff and posted on the Facilities and Operations staff intranet page on December 15, 2022. The article highlighted how different U-M departments, such as Utilities or Athletics, collaborate to share information with EHS for annual storm water reports and to successfully complete other storm water management activities on campus. • A "success story" titled, "Solved: how parking lot snow piles disappear" was posted on the U-M Facilities and Operations website on December 20, 2022. The article detailed how snow storage locations are chosen on campus. EHS assists with location selections each year to minimize impacts to storm water infrastructure and active construction sites. The story can be read here: https://stories.fo.umich.edu/parking-snow-removal/ • A blog post about storm water management on campus was posted to the Planet Blue Ambassador blog website on August 1, 2022. The post included an interview with EHS storm water staff and discussed BMPs on campus and how the University community can help protect the Huron River. The post can be read here: https://pba.umich.edu/stormwater-management-on-campus-what-i-learned-from-u-m-stormwater-specialist-dana-wilkinson/ • The U-M Graham Sustainability Institute Water Center periodically publishes newsletters. The U-M Water Center supports and engages in research focusing on water quality, water quantity, coastal infrastructure, water policy, and more. Collaborative research teams provide users in the region, such as community leaders, legislators, resource managers, and environmental non-government organizations (NGO), with usable information and practical tools to support and enhance the protection, restoration, and management of Great Lakes and its watershed.

Activities

- The U-M has a 24-hour Emergency Response Team to quickly and efficiently respond to, and mitigate releases of, polluting materials on campus. The campus community is encouraged, through presentations, training, signage, and other educational materials, to report illicit discharges and spills to EHS-AA/EHS-D/EHS-F and to the U-M Police Department (UMPD) so appropriate measures can be taken to correct issues which may impact storm water quality. The response team is primarily comprised of U-M staff as well as 24-hour emergency response vendors to efficiently respond to and mitigate releases on campus.

- As part of the UMAA Spill Prevention Control and Countermeasure Plan (SPCC), initial and annual refresher training is provided to applicable staff. All appropriate staff are trained in the laws and regulations regarding spills, releases, and pollution control; the contents of SPCC; and the operation and maintenance of equipment to prevent discharges. During this reporting period, three (3) staff were trained.

- UMAA continues to work with the U-M Outdoor Events Coordinator to provide environmental guidelines for events that may impact storm water. As part of this effort, EHS-AA recommends storm water BMPs and provides requirements to event staff to ensure waters of the State are properly protected from potential impacts.

- On September 22, 2022, "2022 Earthfest" was held at the UMAA campus. This event promoted overall sustainability practices including waste prevention and healthy environments.

- U-M College of Pharmacy hosts biannual Safe Medication Disposal Events. These events help keep medications from reaching receiving waters. An event was held on October 4, 2022, at which 1,115 lbs. of medical waste was collected and disposed of properly. Since these events began in 2014, nearly 7,500 lbs. of waste has been collected.

U-M Dearborn

- The Dearborn campus started their single stream recycling program campus wide on July 1, 2012. The program is projected to divert 1.1 million pounds of waste from entering landfills; reduce carbon dioxide emissions by 1,750 metric tons (equivalent to taking 69 cars off of the road); save 4.1 million gallons of water, 3.3 million kWh of energy, and 9,900 trees over a 5-year period.

- EHS-D partners with several internal groups around campus to pass out storm water materials. This includes Mailing/Parking and the University Center who pass out Car Care brochures with parking passes to all faculty, staff, and students; University Police Department who pass out our storm water brochure packets during student orientation; and the campus library and bookstore who pass out bookmarks throughout the year.

- The Environmental Interpretive Center (EIC) hosts monthly Stewardship Saturdays. Volunteers are called upon to participate in the removal of invasive species and garbage from the EIC grounds near the Rouge River.

- As of 2019, the Friends of the Rouge (FOTR) has moved their offices from the UMD campus and relocated to another building in the area. They host monthly Public Involvement Task Force Meetings, Rouge Education Project Task Force meetings and board meetings. FOTR facilitates several volunteer monitoring programs including benthic macroinvertebrate monitoring, frog and toad surveying, and fish monitoring. Additionally, FOTR provides various workshops and

Activities

educational presentations as well as play active roles in restoration projects within southeastern Michigan. Reports and additional information on their services can be found on their website at http://therouge.org/.

- UMD maintains three pet waste stations along the Rouge River Gateway Greenway Trail.
- UMD Comprehensive Laboratory Safety training classes include information on our storm water program.
- All Facilities and Operations field staff receive initial and annual storm water training.
- EHS-D provides storm water management training to contractors to ensure awareness of environmental and occupational safety requirements.

U-M Flint

- Hazard Communication, Hazardous Waste, HAZWOPER, and other general safety classroom training offered by EHS-F address the difference between sanitary and storm drains, illicit discharges, reporting spills, protection of drains, and who to call if an illicit discharge or spill is observed. During Covid-19, some of these classes are offered remotely and online training modules were provided for select employees.
- UMF promotes the local Genesee County Household Hazardous Waste Collection in the spring and fall of each year to the campus community.
- SPCC/PIPP and SWPPP online training targets select employees in Facilities & Operations. Training covers BMPs, housekeeping, protection of storm drains, reporting and responding to spills, and other topics relating to SWPPP and SPCC/PIPP compliance.
- EHS-F routinely meets with contractors prior to starting jobs to go over environmental and occupational safety requirements. This includes discussion of University's construction safety requirements, protection of storm drains, soil management, etc. EHS-F staff also conducts random inspections of work sites to ensure cautionary measures are in place prior to and during contractor work.
- At UMF, the campus community is instructed through training, posters, signage, websites, display boards, bookmarks, flyers, and e-mail communications to contact UMF Public Safety in the event of any emergency, including those involving a potential release of pollutants to a sewer or surface water. Additionally, individuals are instructed to always attempt to protect nearby drains if a material is spilled in the area and if it is safe to do so.

iii. Public Involvement and Participation

The University encourages public input in all aspects of its storm water management program. In order to facilitate public participation, this plan and information related to the storm water management program are made available on the storm water web site. By viewing the Annual Reports that are placed on the web site, the general public, and members of local stream and watershed protection organizations can make themselves aware of activities the University carries out under its storm water management program. In addition, when new storm water management program plans are developed and finalized, the City, County, and interested local stream and watershed protection organizations are allowed to review and comment on them. Website feedback link(s) will be provided to facilitate feedback on the Storm Water Management Program Plan (SWMPP) from the community.

One public awareness group that UMAA works with on a regular basis is the Huron River Watershed Council (HRWC). Many of the HRWC's goals are consistent with the University's ideals for the preservation and protection of the surrounding natural water bodies. As a result, the University has established an informal partnership with the HRWC and has provided input to the HRWC on issues concerning the Total Maximum Daily Load program for water bodies that lie within the Huron River Watershed.

Table 4 presents the status of each Public Involvement and Participation activity, associated measurable goals as written in the SWMPP, and current or past activities supporting the measurable goals.

Table 4 Public Involvement and Participation Activities

PIP Activity **Measurable Goals**	**Initial Action Reported in:**	**Current Status**		
		In Compliance	*Completed as Previously Reported*	*Ongoing Effort (see below)*
The SWMPP and NPDES reports will be made available on the U-M storm water web site, http://ehs.umich.edu/environmental/environmental-data-and-reports/ The date of addition to the website will be tracked for subsequent reporting.	FY 2009-2010 (annual)	✓	✓	✓
• The annual report for FY 2021-2022 was added to the EHS-AA storm water website on December 20, 2022.				
U-M will attend a minimum of 10 meetings annually with local watershed/creekshed organizations like the HRWC, Washtenaw County Drain Commission, City of Ann Arbor, the Millers Creek Action Team (MCAT), Flint River Corridor Alliance, FOTR, or other local stream protection organizations for collaboration on storm water issues in the community. U-M's participation in meetings, community events, etc. with these groups will be tracked for subsequent reporting.	FY 2009-2010 (annual)	✓	✓	✓
U-M All Campuses • Approximately 14 local watershed/creekshed meetings were attended during the reporting period across all three campuses. Details are noted below.				

U-M Ann Arbor

- Over the reporting period, EHS-AA staff attended one Middle Huron Initiative (MHI) Watershed meeting, one Fleming Creek Action Committee (FCAC) meeting, and one Coalition for Action on Remediation of Dioxane (CARD) meetings.

U-M Dearborn

- EHS-D is an active member of the Alliance of Rouge Communities (ARC) and attended three (3) in-person meetings during this reporting period.

- At the UM-Dearborn's Environmental Interpretive Center (EIC) various off-campus community organizations were supported. The organizations are involved in a variety of initiatives to improve the surrounding watershed and educate the public about the importance of being good stewards of our water resources and surrounding land. We host events, meetings, and are involved in various water quality-related educational and outreach activities with the following organizations:
  -Friends of the Rouge
  -Friends of the Detroit River
  -Southeast Michigan Land Conservancy
  -Stewardship Network: Lakeplain Cluster
  -Sustainable Business Forum

U-M Flint

- EHS-F participates in ongoing planning efforts and discussions related to Flint River Restoration in the downtown Flint area. During this reporting period, EHS-F met with Flint River Restoration planning team four times.

- The Director of the Office of Economic Development at UMF is currently on the Board of Directors for the Flint River Watershed Coalition. They met four (4) times during this reporting period.

PIP Activity **Measurable Goals**	**Initial Action Reported in:**	**Current Status**		
		In Compliance	*Completed as Previously Reported*	*Ongoing Effort (see below)*
The City, County and interested local stream and watershed protection organizations will be notified of the online availability of the U-M SWMPP for review and comment on the same frequency the information is provided to the Department. The SWMPP will be accessible on the U-M website for review by the public. Any comments received will be reviewed by EHS-AA and evaluated for inclusion in the SWMPP. Comments submitted and any actions taken in response to comments will be documented and kept on file.	FY 2009-2010 (annual)	✓	✓	

The U-M will participate in meetings of the MHI (typically semi-annual) to address the Ford & Belleville Lake TMDL on phosphorus reduction throughout the permit cycle. Attendance at these meetings will be tracked for subsequent reporting.	FY 2009-2010 (annual)	✓	✓	✓
• U-M participated in one MHI meeting during this reporting period. The Middle Huron Partnership continues to work with the HRWC to perform monitoring of the Middle Huron tributaries.				
PIP Activity **Measurable Goals**	**Initial Action Reported in:**	**Current Status**		
		In Compliance	*Completed as Previously Reported*	*Ongoing Effort (see below)*
U-M will participate in Geddes Pond – E. coli TMDL efforts throughout the permit cycle. Management activities addressing E. coli include dry weather screening and illicit discharge elimination, semi-annual catch basin cleaning, pollution prevention, and public education. These efforts as well as attendance at meetings/events on this issue will be documented for subsequent reporting.	FY 2009-2010 (annual)	✓	✓	✓
• No meetings were held during this reporting period; however, U-M staff attend HRWC meetings and other creekshed meetings to help address regional TMDLs. The management activities are reported in other portions of this report.				
U-M will sponsor/offer a semi-annual volunteer opportunity for participants to get involved with storm water improvement and education programs. Examples of opportunities include storm drain stenciling/marking and invasive species removal projects. The number of volunteer events offered will be tracked annually for subsequent reporting. The number of participants in volunteer stewardship events will be tracked for subsequent reporting.	FY 2009-2010 (annual)	✓	✓	✓

U-M Ann Arbor

- In association with a lunch and learn event to promote storm water awareness, 14 EHS staff volunteered their lunch hour to mark 69 storm drains across south and central campus on September 20, 2022.

- On October 1, 2022, the McNeil lab once again organized a Huron River Cleanup. Eighty (80) graduate and undergraduate students in U-M's Department of Chemistry picked up thousands of pieces of trash from about 33 parks along the Huron River in Ann Arbor and Ypsilanti.

- U-M continues its Michigan Turfgrass Environmental Stewardship Program (MTESP) campus-wide. MTESP certification is designed to encourage strategies to prevent pollution and recognize environmentally sound management practices. The program includes sections dedicated to promoting fish and wildlife habitat, indigenous vegetation and water quality protection.

- The U-M was the first campus to receive a Tree Campus USA recognition in 2008 from the Tree Campus USA program, sponsored by the Arbor Day Foundation and Toyota and has continued to be part of the program annually since 2008. Some of the efforts that earned the certification include

having a tree advisory committee, maintaining a campus tree-care plan, dedicating annual funding for its campus tree program, an Arbor Day observance, and hosting student service-learning projects.
https://www.arborday.org/programs/tree-campus-higher-education/campuses.cfm

U-M Dearborn

- As of 2019, the Friends of the Rouge (FOTR) has moved their offices from the UMD campus and relocated to another building in the area. They host monthly Public Involvement Task Force Meetings, Rouge Education Project Task Force Meetings and board meetings. FOTR facilitates several volunteer monitoring programs including benthic macroinvertebrate monitoring, frog and toad surveying, and fish monitoring. Additionally, FOTR provides various workshops and educational presentations as well as play active roles in restoration projects within southeastern Michigan. Reports and additional information on their services can be found on their website at http://therouge.org/. Events are also posted on the EHS-D website.

U-M Flint

- Typically, planning efforts for the annual UMF Earth Day Celebration take place each year in December and into the following year. However, due to the Covid-19 Pandemic, available resources and staffing efforts have been reduced. Discussions among event partners (UMF, Mott Community College, Kettering University, and other community organizations) have just recently been renewed, but plans for Earth Day 2023 have not been formalized. The UM Flint Sustainability Committee is taking the lead and working with student groups on possible activities.

PIP Activity **Measurable Goals**	**Initial Action Reported in:**	**Current Status**		
		In Compliance	*Completed as Previously Reported*	*Ongoing Effort (see below)*
In 2010-2011, meet with local watershed/creek groups to identify joint activities and opportunities to meet permit requirements. Identify local creek/watershed groups, etc. timeframes, staffing and participation opportunities. This information will be kept on file.	FY 2011-2012 (mid-year)	✓	✓	
In 2011-2012, develop a participation plan for all campuses. Keep records of meetings attended, possible opportunities for coordination with local groups, etc. This information will be kept on file.	FY 2011-2012 (annual)	✓	✓	
In 2012-2013, implement the participation plan. Tally the number of meetings attended for annual reporting (as detailed in goals above).	FY 2012-2013 (annual)	✓	✓	

iv. Illicit Discharge Elimination Program (IDEP)

The removal of illicit discharges is an ongoing program being conducted by the U-M. As illicit discharges are identified, they are discontinued or otherwise corrected. The program described in this section will be used to determine the existence, location, and extent of possible illicit connections and discharges to the storm water drainage system. At a minimum, it will address the elements presented in Part I, Section B.3 of the Permit.

The UMAA has been involved in an ongoing program for identifying and controlling non-point source pollution to the Huron River. The Huron River Pollution Abatement Project was developed from a grant from the federal Clean Water Act and used by the UMAA to identify illicit connections to the storm water system. The project was completed in 1990.

The U-M will continue to encourage reporting of water quality problems and possible illicit connections and discharges to the storm water system. EHS-AA, Utilities, Maintenance – Auxiliaries & Central Shops, and/or Maintenance Regions will receive reports of water quality problems and possible illicit connections and perform follow-up investigations, leading to elimination where appropriate.

Table 5 presents the status of each Illicit Discharge Elimination Program activity, associated measurable goals as written in the SWMPP, and current or past activities supporting the measurable goals. Table 6 includes activities that go beyond the expectations of the original measurable goals.

Table 5 Illicit Discharge Elimination Program Activities

IDEP-1 Storm Sewer Map

A storm sewer system map is required in Part I.A.7.b.1 of the Permit. The map must include the location of all discharge points the permittee owns or operates, and the names and location of all surface waters of the state which receive discharges from the MS4.

IDEP Activity Measurable Goals	**Initial Action Reported in:**	**Current Status**		
		In Compliance	*Completed as Previously Reported*	*Ongoing Effort (see below)*
By February 1, 2011, the U-M will create a storm sewer system map identifying the location of all if its discharge points and the names and locations of all the surface waters that the MS4 discharges into.	FY 2010-2011 (Mid-year)	✓	✓	
The storm sewer system map will be updated periodically as discharge points are identified or added. The dates of modification of the system map will be tracked and kept on file.	FY 2010-2011 (Mid-year)	✓	✓	✓

- UMAA continues to work with F&O Geographic Information System staff to review and update the storm sewer maps as changes/updates are needed.
- UMD updates campus storm water maps as needed. Updated information is sent to a vendor to provide up-to-date master copies.
- UMF updates campus storm water maps as needed.

IDEP-2 Survey of Facility Discharge Points into the System

EHS-AA has implemented a program to identify discharge points from facilities into either the sanitary sewer or storm water systems. The first phase of this program began several years ago and resulted in the identification of facility discharge points on the Ann Arbor Campus. Information collected included water usage rates, category of activity, and categorization of water flows as domestic or non-domestic based on the activity occurring at the facility.

The second phase of the identification of facility discharge points will be implemented as part of this SWMPP. The second phase will consist of a continual observation process performed by EHS-AA, EHS-D, EHS-F, and Department of Public Safety & Security (DPSS) personnel as they perform other activities across campus facilities. The activities associated with this program are conducted as illicit discharges are identified. They are prioritized and discontinued or otherwise corrected.

IDEP Activity **Measurable Goals**	**Initial Action Reported in:**	**Current Status**		
		In Compliance	*Completed as Previously Reported*	*Ongoing Effort (see below)*
U-M will create a prioritized listing for the performance of dry-weather screening considering the criteria in Part I.A.7.b.2 of the permit. The list will be developed in 2011 to ensure the use of the most up to date storm sewer system map/information will be utilized. The list will be kept on file.	FY 2011-2012 (Mid-year)	✓	✓	

IDEP-3 Dry Weather Screening

In accordance with Part I, Section A.7.b of the permit, the purpose of dry weather field screening is to determine the existence, location, and extent of possible illicit discharges into the U-M storm water drainage system. The screening program has been designed to target discharge points within the storm water system that will help identify non-storm water flow. The current procedure used for dry weather screening is attached as Appendix E [of the SWMP]. This procedure will be updated periodically, and the most current copy of the procedure will be available for review in the EHS-AA, EHS-D, EHS-F, and DPSS offices.

For the purposes of dry weather screening, the U-M will be divided into five regions. The UMD and UMF will comprise one region for screening purposes. The remaining four regions will be comprised of UMAA areas determined from the outfall prioritization task in section 5.2 above. The regions are as follows:

- *UMD & UMF*
- *UMAA I*
- *UMAA II*
- *UMAA III*
- *UMAA IV*

IDEP Activity Measurable Goals	Initial Action Reported in:	Current Status		
		In Compliance	*Completed as Previously Reported*	*Ongoing Effort (see below)*
U-M will perform dry weather screening on each MS4 discharge point at least once every 5 years beginning on February 1, 2010, (per Part I.A.7.b.3) to determine the existence, location, and extent of possible illicit discharges into the UM storm water drainage system on all three campuses. This is typically done during four to five rounds of screening. Any issues identified for further investigation or correction will be tracked for subsequent reporting. The number of illicit discharges and connections identified and subsequently corrected or removed will be tracked for subsequent reporting.	FY 2009-2010 (annual)	✓	✓	✓

U-M Ann Arbor

- In conformance with the revised, EGLE-approved (November 4, 2013), dry weather screening program guideline, UMAA completed dry weather screening of all outfalls with a direct discharge to surface waters of the State in the summer and fall of 2019. Based on the most up-to-date UMAA GIS data, it was determined that there are 76 discharge points that meet the screening requirement criteria. Of these 76 outfalls screened, it was determined that five outfalls had flow that warranted follow-up sampling. The outfalls are located on the Medical Campus (O-24, O-26) and North Campus (O-126, O-30R, O-86). Initial visual and olfactory screening did not indicate any potential concerns from these five outfalls. Evaluation of the sampling analytical data indicates that these flows are not a significant contributor of pollution and do not pose a threat to human health or the environment, however; follow-up investigation activities will be conducted in conjunction with other construction and utility replacement projects.

U-M Dearborn

- UMD performed dry weather screening on two major outfalls (DOF-001 and DOF-006) on July 15, 2019 and no flow was observed. Over the last five years, all of the catch basins have been cleaned and inspected, and have shown no signs of illicit or unusual discharge.

U-M Flint

- UMF completed dry weather inspections on all 13 outfalls associated with the campus between the months of November and December 2019. The inspections were performed following the guidance in U-M's *2013 Dry Weather Screening Program Guideline for the University of Michigan*. Flow was observed at four of the outfalls during dry weather conditions. All four outfalls were sampled, one of which was later found to be unassociated with University property. Evaluation of the sampling analytical data indicates that these flows are not a significant contributor of pollution and do not pose a threat to human health or the environment. Findings are summarized in the 2020 SME Dry Weather Screening report.

IDEP-4 Public Reporting of Illicit Discharges

Public involvement in the reporting of illicit discharges to the storm water system is a voluntary program. Custodial & Grounds Services (CGS) and Logistics, Transportation & Parking (LTP) currently coordinate extensive recycling promotions with student housing and individual colleges on campus. These promotions include information regarding reporting of illicit discharges to EHS-AA, EHS-D, or EHS-F for follow-up. By means of its public education program, U-M advises the University community to report discharges for appropriate investigative and follow-up action.

The University maintains a 24-hour 911 emergency response system, which is coordinated and manned by DPSS on UMAA campus and DPS on UMD and UMF campuses. Any calls reporting dumping, accidental spills, etc. are dispatched from DPSS or DPS to EHS-AA, EHS-D, or EHS-F, respectively, for emergency response, containment, and control. In addition, calls can be made to EHS-AA, EHS-D, or EHS-F directly reporting such incidents for emergency response.

IDEP Activity **Measurable Goals**	**Initial Action Reported in:**	**Current Status**		
		In Compliance	*Completed as Previously Reported*	*Ongoing Effort (see below)*
The emergency response system on campus will be maintained by the University of Michigan Division of Public Safety & Security (DPSS) (24/7) for use by the public to report illegal dumping, spills or suspicious discharges at the University throughout the permit term. The number of calls received by the DPSS/EHS emergency response call system on potential discharges to the storm water system will be tracked for subsequent reporting. The number of incidents remedied as a result of these calls will also be tracked and reported annually.	FY 2009-2010 (annual)	✓	✓	✓

All Campuses

- A total of 20 calls of outdoor incidents were reported via the UMPD/EHS-AA/EHS-D/EHS-F emergency response systems over the reporting period. Typically, the spilled materials were contained utilizing spill kits, cleaned up using absorbent materials, and removed for appropriate disposal by U-M's on-call Incident Response Team. Most response activities involved leaks and spills of automotive fluids (gasoline, hydraulic oil, transmission fluid, diesel, power steering fluid, brake fluid, antifreeze, and motor oil).

U-M Ann Arbor

- During this reporting period, UMAA personnel responded to approximately 77 indoor and outdoor incidents, including indoor flooding, vehicle leaks, small fires, blood, and other minor spills and leaks of materials. Most of the spills were small, ranging from a few milliliters to a few gallons. Three (3) of the 20 outdoor incidents resulted in turbid water entering waters of the state as described in Section 1).b). These incidents were reported to EGLE as required and resolved appropriately.

U-M Dearborn

- UMD had no reportable illicit discharges or spills requiring response from EHS or DPSS during the reporting period.

U-M Flint

- UMF had no reportable illicit discharges or spills requiring response from EHS or DPS during the reporting period.

Table 6 Additional Illicit Discharge Elimination Program Activities

Activities
All Campuses • Recycling Efforts – The U-M promotes environmental awareness by sponsoring recycling programs on campus. Educational materials have been developed that address student contributions to the U-M recycling effort, educate students on the types of recyclables and where they may be taken for recycling, and educate students on the impact that recycling has on the environment. • The University continues to review owned facilities in an effort to identify discharges into the storm and sanitary systems. As part of this survey, any areas that contain suspect flows are noted for potential dye testing. • Erosion Control – Part 91 of the Natural Resources Environmental Protection Act (NREPA) provides for a statewide soil erosion and sedimentation control program. This program outlines the proper provisions for water disposal and the protection of soil surfaces during and after construction and is adhered to by the U-M. • Employee Training and Education – U-M personnel involved in the application of herbicides, pesticides, and fertilizers have been trained and are certified applicators through the State of Michigan Integrated Pest Management program. In addition to the courses taken through the Michigan Department of Agriculture, U-M trains all of its Grounds employees. Training programs will also be conducted to address the purpose and operation of BMP activities under this SWMPP. In addition, staff in various departments have received, or are in training to receive certification from EGLE in Storm Water Management – Construction Site, Storm Water Management – Industrial Site or Soil Erosion & Sedimentation Control. • Hazardous Materials Response – EHS-AA, EHS-F & EHS-D are instrumental in maintaining a safe and healthy environment for faculty, staff, students, and visitors. Routine training is provided to new faculty, staff, and students regarding hazardous materials and conditions at U-M facilities. The University also maintains spill response teams (U-M staff and contracted vendors) for each campus that can quickly and efficiently respond to and mitigate releases of polluting materials. • Hazardous Waste and Liquid Industrial Byproduct Disposal – EHS-AA is responsible for the appropriate collection and disposal of hazardous waste and hazardous materials used and generated by the Ann Arbor campus and other off-site U-M units. The program ensures tracking of the materials from point of generation through collection and ultimate disposal. Personnel are properly trained and appropriately licensed to handle the material and transport the waste on campus. Qualified contractors are used for ultimate transport and disposal off site. The EHS-D and EHS-F oversee the disposal of hazardous wastes on their respective campuses. EHS-D, EHS-AA, and EHS-F personnel are properly trained in the Resources Conservation and Recovery Act (RCRA) and the University utilizes qualified contractors for transport and proper disposal of waste off site.

Activities

- Plan Review – EHS-AA, EHS-D, and EHS-F review plans for the renovation of existing structures and the construction of new facilities. The plans are reviewed to identify potential environmental concerns and to evaluate that projects are meeting applicable environment, health, and safety requirements including the protection of storm water quality and the storm water drainage system.

- Storm Water Basins – Storm water management basins are used to reduce the impact of storm water discharges from campus locations. The basins are designed to manage peak flows and remove sediment which can significantly reduce pollutant loads in receiving waters.

U-M Ann Arbor

- EHS-AA continues to work with U-M football stadium vendors/concession stands to prevent potential discharges into the storm water system. Concession stands were posted with signage detailing procedures for proper grease and wastewater management for these operations during the 2022 football season to reinforce proper waste management for these temporary operations. Signs will again be provided to vendors/concession stands ahead of the 2023 football season.

- EHS-AA requires that new building construction and building renovation projects resulting in new and/or modified internal piping be dye tested to confirm proper connection to the sanitary system. This requirement is in place for projects where more than 10 fixtures are impacted.

- EHS-AA conducts quarterly SWPPP inspections at seven maintenance facilities. EHS-AA has also developed an online Storm Water Pollution Prevention Plan (SWPPP) training module for all applicable operational staff and facility managers at fleet maintenance and storage yards involved in the U-M SWPPP program. Forty-four (44) staff completed the online training between July 1, 2022 and December 31, 2022. EHS-AA continues to use the online training module for refresher training of U-M staff members.

- During this reporting period, four (4) UMAA Utilities staff completed the SEMCOG IDEP Alert Observer Training and SEMCOG IDEP Investigator Training.

U-M Dearborn

- EHS-D oversees the disposal of hazardous waste. EHS-D personnel are properly trained in RCRA and the University utilizes qualified contractors for transport and disposal off site.

- EHS-D applied for and was approved for a Notice of Intent to use Rule 97 tracer dye when necessary.

U-M Flint

- EHS-F oversees the disposal of hazardous waste. EHS-F routinely walks the campus and inspects loading dock areas, dumpsters, facilities operations and vehicle maintenance/storage areas, refueling operations, and construction activities to ensure that materials continue to be stored properly, secondary containment is functioning, and any outdoor storage containers remain in good condition.

v. Post-Construction Storm Water Control for New Development and Redevelopment Projects

The U-M has a program to address storm water runoff from new development and redevelopment projects. As part of this program, the U-M manages, reviews, and continually updates campus-wide planning to address storm water runoff from each new regulated development and redevelopment project. This program helps to ensure that controls are in place that will minimize and, in some cases, prevent impacts on water quality from new development and redevelopment projects that disturb areas greater than one acre or disturb areas less than one acre but which are part of a larger common plan of development.

Table 7 presents the status of each Post-Construction Storm Water Control activity, associated measurable goals as written in the SWMPP, and current or past activities supporting the measurable goals. Table 8 includes activities that go beyond the expectations of the original measurable goals.

Table 7 Post-Construction Storm Water Control Activities

PCSW-1 Post-Construction Storm Water Runoff

The University continues to review options for regional storm water management systems at locations where current or future construction is anticipated. This regional detention would include storage for construction or renovation projects that have limited space for on-site systems. The goal of the University is to protect receiving water quality and limit the rate at which surface water runoff discharges from any specific site during and following development or redevelopment to not exceed the pre-development hydrologic regime.

On previous projects where detention on site is not feasible the University has required a minimum of structural BMPs to improve the water quality leaving the site (sedimentation traps, etc.) and proposed regional containment within the runoff basin as the quantity control.

PCSW Activity Measurable Goals	**Initial Action Reported in:**	**Current Status**		
		In Compliance	*Completed as Previously Reported*	*Ongoing Effort (see below)*
By August 1, 2009, the Post-Construction Storm Water Requirements guideline which details the minimum treatment volume standard and the channel protection criteria was issued by U-M. The guideline is available on the EHS-AA website and in Appendix G of the SWMPP.	FY 2010-2011 (Mid-year)	✓	✓	

PCSW-2 Non-structural & Structural Best Management Practices

To meet the objectives, UM may implement various non-structural and structural BMPs where appropriate. Non-structural BMPs are preventative actions that involve management and source controls. Examples of issues that are covered in non-structural BMPs used on campus include but are not limited to the following:

- *Buffers along sensitive water bodies*
- *Education programs for developers and the public about project designs that minimize water quality and quantity impacts*
- *Minimum disturbance of soils and vegetation;*

- *Restrictions on directly connected impervious areas;*
- *Preservation of the natural environment;*
- *Minimization of impervious surfaces; and*
- *Use of vegetated swales and natural storage.*

Structural BMPs are physical controls, including storage practices, which improve water quality. Examples of issues covered in structural BMPs used on campus include but are not limited to the following:

- *Wet ponds and extended detention outlet structures;*
- *Filtration practices such as grassed swales, sand filters, and filter strips; and*
- *Infiltration practices such as infiltration basins and infiltration trenches.*

PCSW Activity **Measurable Goals**	**Initial Action Reported in:**	**Current Status**		
		In Compliance	*Completed as Previously Reported*	*Ongoing Effort (see below)*
EHS-AA and/or AEC will review all construction and renovation plans for use of structural and non-structural BMPs to prevent receiving water quality from the impacts of development and limit the rate at which surface water runoff discharges from any specific site to not exceed the pre-development hydrologic regime. The number of sites implementing various non-structural and structural BMPs will be tracked annually for subsequent reporting.	FY 2008-2009 (annual)	✓	✓	✓

- No updates during this reporting period. This information will be provided in the annual report.

PCSW-3 Operation & Maintenance of Best Management Practices

Any non-structural BMPs that are implemented at a facility are incorporated into day-to-day activities for the operation of the facility or into maintenance schedules. Structural BMPs related to storm water detention and retention basins are subject to scheduled maintenance inspections. Non-scheduled activities are completed as they arise.

Storm water management basins on campus will be inspected annually, at a minimum. The number and frequency of inspections of storm water basins will be tracked for subsequent reporting. Maintenance issues identified during these inspections will be tracked until corrected.	FY 2008-2009 (annual)	✓	✓	✓

U-M Ann Arbor

- Annual inspections for above ground basins are scheduled for spring 2023.

U-M Dearborn

- UMD does not have any aboveground storm water management basins.

U-M Flint

- UMF does not have any aboveground storm water management basins.

PCSW-4 Site Plan Review

The U-M has established programs to control the quality of storm water runoff from development or redevelopment activities through the review of site plans. This program is the same as that used for controlling storm water runoff on construction sites.

PCSW Activity Measurable Goals	**Initial Action Reported in:**	**Current Status**		
		In Compliance	*Completed as Previously Reported*	*Ongoing Effort (see below)*
EHS-AA and/or AEC review all plans to ensure projects have adequate post-construction storm water management controls. The number of plan reviews will be tracked for subsequent reporting.	FY 2008-2009 (annual)	✓	✓	✓

U-M Ann Arbor

- Sixty-seven (67) plan reviews were performed between July 1, 2022 and December 31, 2022, with five (5) requiring a separate SESC Plan review and approval. One (1) project needed an EGLE Notice of Coverage. All projects with earth disturbances are required to implement SESC BMPs, and sites with greater than one acre of earth disturbance and/or within 500ft of a water of the State are required to have an approved SESC plan to meet the PCSW control requirement.

U-M Dearborn

- UMD had no construction projects that required SESC review during this reporting period.

U-M Flint

- UMF had one construction project that required a SESC plan review during this reporting period.

Table 8 Additional Post-Construction Storm Water Control Activities

Activities
All Campuses • Construction sites are stabilized with the addition of permanent controls and vegetation to reduce the amount of sedimentation that could impact receiving waters. • EHS-AA, EHS-D, and EHS-F work with Construction Management to implement standard protocols to dye test the internal piping in new building construction and building renovation projects to confirm proper connection to the sanitary sewer system. A program for confirmation of taps to exterior pipes is already in place.

vi. Construction Storm Water Runoff Control

In 1982, the U-M received approval from the Michigan Department of Natural Resources to operate as an Authorized Public Agency (APA) under the authority of Part 91, Soil Erosion and Sedimentation Control (SESC) of the Natural Resource & Environmental Protection Act, 1994 PA 451, as amended (Part 91). Reauthorization of U-M's APA status was received in 2004 from the Michigan Department of Environmental Quality. APA status allows the U-M to establish and manage the Soil Erosion and Sedimentation Control procedures on its properties. Construction activity at U-M may involve contractor or in-house construction activities performed by Facilities & Operations.

The overall CSW program accomplishes the following goal:

Provide and implement controls to minimize or prevent impacts on water quality from construction activity.

Table 9 presents the status of each Construction Storm Water Runoff Control activity, associated measurable goals as written in the SWMPP, and current or past activities supporting the measurable goals. Table 10 includes activities that go beyond the expectations of the original measurable goals.

Table 9 Construction Storm Water Runoff Control Activities

CSW-1 Site Plan Reviews

The U-M has established programs to control the quality of storm water runoff from development or redevelopment activities. Plans for new development are subjected to a U-M internal review process to ensure that storm water quality is adequately controlled during construction and after completion of the new development. Efforts are underway to insert storm water management controls into the front end of all projects. Examples of efforts on projects include control of sedimentation using silt screens or other measures, controlling sediment tracking from construction areas through increased street sweeping, and using hydroseeding to control runoff once construction efforts are completed. Reviews of all projects are performed by EHS-AA, EHS-D, or EHS-F.

CSW Activity Measurable Goals	**Initial Action Reported in:**	**Current Status**		
		In Compliance	*Completed as Previously Reported*	*Ongoing Effort (see below)*
Formal SESC plans are required for sites with earth disturbance (greater than 24 hours) of 1 acre or greater and projects (of any size) within 500 feet of "Waters of the State." The number of SESC site plan reviews will be tracked annually for subsequent reporting. This review process allows EHS-AA, EHS-D, or EHS-F to require projects to insert storm water management controls into the front end of all projects.	FY 2008-2009 (Annual)	✓	✓	✓

U-M Ann Arbor

- During this reporting period, five (5) projects required a separate SESC Plan review and approval. One (1) project required an EGLE Notice of Coverage.

U-M Dearborn

- UMD had no construction projects that required SESC review over this reporting period.

U-M Flint

- UMF had one construction project that required SESC plan review over this reporting period.

CSW-2 Best Management Practices (for SESC on construction sites)

Best Management Practices are used for construction projects to prevent soil erosion and sedimentation from leaving the property. The following list represents examples of erosion and sedimentation controls for which specific BMPs have been developed: (Copies of the BMPs can be found in the Manual and are used, as appropriate, based on the specific needs for a construction site. Note that not all sites will need to use all of these practices.)

- *Access Roads*
- *Construction Barriers*
- *Tree Protection*
- *Buffer and Filter Strips*
- *Filter Fencing*
- *Storm Drain Inlet Filter Fabric*
- *Street Sweeping*

CSW Activity Measurable Goals	**Initial Action Reported in:**	**Current Status**		
		In Compliance	*Completed as Previously Reported*	*Ongoing Effort (see below)*
The use of BMPs is required on all projects under the approved SESC Procedures for the University. The number of projects using the BMPs identified above for SESC will be tracked annually for subsequent reporting. BMPs will be selected as appropriate for site conditions.	FY 2008-2009 (annual)	✓	✓	✓

U-M Ann Arbor

- Twenty-six (26) UMAA projects during this reporting period used a variety of SESC BMPs on their sites. Examples of BMPs included, but are not limited to, the use of vegetation, silt fences, catch basin inlet filters, check dams, street sweeping, dewatering filter bags, erosion eels, anti-trackout pads (aggregate), temporary seeding, turf reinforcement mats, and rip-rap.

U-M Dearborn

- UMD had one construction project requiring SESC BMPs during this reporting period.

U-M Flint

- UMF had no construction projects requiring SESC BMPs during this reporting period.

CSW-3 SESC Inspections

Inspections of work sites are essential to controlling erosion and sedimentation concerns. Personnel from several departments have received SESC training from the EGLE. This provides a strong base of personnel to draw upon to regularly review maintenance, renovation, and construction sites. The inspections focus on requirements of site-specific erosion and sedimentation control plans for the project. Conditions can change at maintenance, renovation, and construction sites and the inspectors should make adjustments to the erosion and sedimentation control measures, as needed.

EHS-AA, EHS-D, EHS-F or their designee, who have received an EGLE SESC certificate of training, will inspect sites weekly during maintenance, renovation, and construction activities and following significant rain events to ensure compliance with the U-M SESC procedures and Part 91. Sites one acre and above will be inspected within 24 hours of the rain event to comply with National Pollution Discharge Elimination System (NPDES) inspection requirements.

Issues and concerns will be referred to the project/construction manager or designee for correction. The contractor will make any necessary repairs or corrections to the control measures within 24 hours, if waters of the state are being impacted. Other corrections, not impacting waters of the state will be made within 5 days. The project/construction manager will report any issues that cannot be corrected within 5 days to EHS-AA, EHS-D, or EHS-F. Additional detail as to why the correction cannot be made in that time frame will be required.

CSW Activity Measurable Goals	Initial Action Reported in:	Current Status		
		In Compliance	*Completed as Previously Reported*	*Ongoing Effort (see below)*
Sites will be inspected weekly and after significant rain events until final stabilization of the project site. The number of SESC inspections performed annually on U-M sites will be tracked for subsequent reporting.	FY 2008-2009 (annual)	✓	✓	✓
U-M Ann Arbor • Approximately 583 weekly and after storm SESC inspections were performed between July 1, 2022 and December 31, 2022. **U-M Dearborn** • UMD had one construction project that required SESC inspections over this reporting period. Four (4) weekly and after storm inspections were completed. **U-M Flint** • UMF had no construction projects that required SESC inspections over this reporting period.				
Select staff from EHS-AA, EHS-D, EHS-F, and AEC will be SESC trained by EGLE. The number of U-M staff who have received EGLE SESC training will be tracked annually for subsequent reporting.	FY 2008-2009 (annual)	✓	✓	✓
• Five (5) U-M staff are certified for comprehensive SESC training from EGLE during this reporting period.				
Select U-M staff from EHS-AA, EHS-D, EHS-F and AEC will be certified in Storm Water Management for Construction Sites. The number of U-M staff who have received EGLE certification will be tracked annually for subsequent reporting.	FY 2008-2009 (annual)	✓	✓	✓
• Ten(10) U-M staff are Certified Storm Water Operators in the State of Michigan for Construction sites during this reporting period. • Five (5) U-M staff are Certified Storm Water Operators in the State of Michigan for Industrial sites during this reporting period.				

CSW-4 Sedimentation Control During Maintenance Activities

Some maintenance activities do not typically have a formal design or specification prepared. They are performed on a work order or emergency basis by Facilities & Operations or other U-M departments such as Michigan Medicine or Athletics. The supervisor overseeing the maintenance activity will be responsible for ensuring appropriate sedimentation control measures are implemented during field work. These procedures will be used for routine operations; however, in emergency situations human life and the safety and operation of the facilities and infrastructure are of overall importance. In those cases, work will be performed to minimize any immediate danger and stabilize the situation, and sedimentation control actions will follow. This chain of actions may require the use of an outside contractor to clean the storm water drainage system following the maintenance activities to prevent or minimize sediment transport to the Huron River. In addition to the BMPs listed above, the following BMPs will be used by the maintenance supervisor during activities that disturb soil to the degree where sediment transport could occur.

CSW Activity **Measurable Goals**	**Initial Action Reported in:**	**Current Status**		
		In Compliance	*Completed as Previously Reported*	*Ongoing Effort (see below)*
The use of SESC controls is required for all maintenance projects involving earthwork. The number of SESC inspections performed annually on U-M sites will be tracked for subsequent reporting.	FY 2010-2011 (annual)	✓	✓	✓

- During this reporting period, U-M staff performed SESC inspections, as described above in CSW-3.

Table 10 Additional Construction Storm Water Runoff Control Activities

Activities
All Campuses • Contractors at U-M are required to clean/sweep construction areas and adjacent areas to prevent track-out from a work site. • The web links for the U-M construction safety requirements, storm water management requirements, and SESC requirements are all incorporated into contractor bid specifications and contract documents during the reporting year. This ensures that contractors are made aware of university policies and requirements to protect surface water while working on university property. • A street sweeper is recommended by U-M for contractor usage at construction sites to reduce the amount of sediment that could potentially reach receiving waters. • Cleaning of the storm water drainage system is on a preventative maintenance schedule to remove sediment buildup within the system and to lessen potential sediment impacts to receiving waters.

Activities
• The post-construction storm water guidelines and soil erosion and sedimentation control requirements for construction projects are incorporated into the project specifications and bid documents. • The U-M “no smoking” policy has significantly reduced cigarette debris from campus grounds. • EHS personnel from all campuses are circulating around campus daily to address reported issues as well as checking on various project areas (e.g. covering a dumpster, debris/litter, inappropriate outdoor storage by contractors, etc.). • Street sweeping of roads and parking lots/structures is implemented regularly on all campuses at least twice per year and on an as-needed basis. At UMF, the street sweepers are used in high priority areas more frequently such as at loading docks, near compost areas, and the Hubbard Parking area. • U-M personnel pick up litter and debris on a regular basis ranging from weekly to daily throughout the year.

vii. Pollution Prevention/Good Housekeeping for Municipal Operations

The University's storm water pollution prevention and good housekeeping initiatives include, but are not limited to the following six areas:

- *Structural Controls*
- *Roadways*
- *Fleet Maintenance*
- *Storm Sewer Labeling*
- *Flood Control Projects*
- *Pesticides and Fertilizers*

Each area has operation and maintenance Best Management Practices with the ultimate goal of reducing and in some cases preventing pollutant runoff from University operations to the maximum extent practicable. The overall P2/GH program accomplishes the following goal:

Develop and implement a program of operational and maintenance Best Management Practices to prevent or reduce pollutant runoff from University operations.

Table 11 presents the status of the activities supporting Pollution Prevention/Good Housekeeping for Municipal Operations, associated measurable goals as written in the SWMPP, and current or past activities supporting the measurable goals. Table 12 includes activities that go beyond the expectations of the original measurable goals.

Table 11 Pollution Prevention/Good Housekeeping for Municipal Operations

P2/GH-1 Structural Controls

Structural controls are permanent physical features that control and prevent storm water pollution. Each structural control has routine scheduled maintenance and long-term inspection procedures to ensure that they remove storm water pollutants to the maximum extent practicable.

Several retention and detention basins have been identified as part of the U-M storm water system. These structures receive direct run-off from the U-M storm water system and are defined in Appendix F [of the SWMPP]. *The U-M has provided a spreadsheet identifying additional structural controls with inspection and maintenance schedules in Appendix K* [of the SWMPP].

P2/GH Activity Measurable Goals	**Initial Action Reported in:**	**Current Status**		
		In Compliance	*Completed as Previously Reported*	*Ongoing Effort (see below)*
Storm water management basins will be inspected annually during the permit term. The number and frequency of inspections on the U-M retention and detention basins will be tracked for subsequent reporting.	FY 2008-2009 (annual)	✓	✓	✓
• Annual inspections of the storm water management basins on campus are completed each spring by U-M personnel. The number of inspections completed will be provided in the annual report.				

Maintenance cleaning of the catch basins and storm sewer system piping will be performed periodically, with higher traffic areas and those identified via service requests receiving more attention. The goal will be to clean all catch basins in the system at least once per 5-year cycle. The number of catch basins maintained will be tracked for subsequent reporting.	FY 2008-2009 (annual)	✓	✓	✓

U-M Ann Arbor

- Catch basins across the UMAA campus are cleaned and the sewer lines water-jetted. Liquid waste is decanted and drained to approved sanitary locations and the remaining non-hazardous sediment and debris is transported off-site for disposal at an approved facility. To more effectively handle the storm and sanitary cleaning solids, UMAA constructed a covered storage pad for drying the solids. The solids are then loaded onto a dump truck or a roll-off container and transported to a sanitary landfill for proper disposal as non-hazardous, non-regulated waste.

- The number of catch basins cleaned and an estimate of the quantity of debris removed is quantified annually and will be provided in the annual report.

- No underground storm water structural controls (e.g. hydrodynamic separators, underground detention chambers, baffle-type separators, etc.) were inspected or maintained during this reporting period. However, 65 structures were inspected earlier in 2022 and it is anticipated that additional devices will be inspected and maintained in the coming months. The schedule for inspection of underground structures is currently being entered into a preventative maintenance scheduling program targeting annual inspections. All sediment removed from the cleaning activities is properly managed and disposed.

U-M Dearborn

- The catch basin cleaning effort, including an estimate of the quantity of debris removed, will be provided in the annual report.

U-M Flint

- The catch basin cleaning effort, including an estimate of the quantity of debris removed, will be provided in the annual report.

P2/GH Activity Measurable Goals	**Initial Action Reported in:**	**Current Status**		
		In Compliance	*Completed as Previously Reported*	*Ongoing Effort (see below)*
By October 1, 2011, a list of municipal properties and structural storm water controls owned or operated by U-M will be created, which includes the type and number of properties and structural controls. This list will be kept on file.	FY 2011-2012 (mid-year)	✓	✓	✓

P2/GH-2 Roadways and Parking Structures

The University maintains numerous parking structures and surface parking lots throughout its campuses. Maintenance of the UM roadways and parking structures incorporates sediment control activities. Street sweeping removes potential storm water pollutants before they are carried into receiving waters in runoff from a storm event. Street sweeping and leaf and litter collection is performed by the University in an effort to prevent large debris from entering the storm water system. Litter is disposed as normal municipal waste and leaves are composted in two locations that are well away from system catch basins or inlet structures. Maintenance activities on these structures and surfaces include street sweeping, leaf pick-up, litter and pollution controls, snow and ice removal, and roadside vegetative maintenance. These activities are discussed in greater detail below.

Street sweeping, leaf and litter collection will be performed periodically throughout the permit term. The cost for disposal and estimated quantity of debris, trash, dirt, etc. disposed from the maintenance and cleaning/sweeping of numerous parking structures, surface lots and roadways throughout the University will be tracked for subsequent reporting.	FY 2008-2009 (annual)	✓	✓	✓
• Waste removal from roadway and parking lot cleaning and maintenance is quantified annually and will be provided in the annual report.				
A strategy to reduce the runoff of TSS from paved surfaces to the maximum extent practicable, with a goal of reducing the annual TSS loading by 25% as compared to annual loading with no suspended solids controls will be developed (2010-2012) and implemented (2013) at the University. An estimate of the TSS loading reduction achieved through this strategy will be documented.	FY 2012-2013 (annual)	✓	✓	
P2/GH Activity Measurable Goals	**Initial Action Reported in:**	**Current Status**		
		In Compliance	*Completed as Previously Reported*	*Ongoing Effort (see below)*
Develop BMPs to control dust and suspended solids in runoff from unpaved roads and parking lots. A list of unpaved roads and parking lots will be created (2010-2011).	FY 2011-2012 (mid-year)	✓	✓	
The use of coal tar emulsions to seal asphalt surfaces will be prohibited, as required in the permit. Plan reviews for construction and renovation projects involving asphalt will include comments from EHS-AA prohibiting the use of coal tar emulsions for U-M projects. Comments on construction and renovation projects are kept on file at the EHS-AA office.	FY 2009-2010 (annual)	✓	✓	

Incremental annual reduction in the use of salt for de-icing to reach 50% reduction based on an average annual use of 2600 tons per year at UMAA from 1989 to 1999. The quantity of salt used for deicing will be tracked on an annual basis.	FY 2008-2009 (annual)	✓	✓	✓
• Salt usage is quantified annually and will be provided in the annual report.				
Increase the use of alternative de-icers annually to replace/supplement salt use. The quantity of alternative de-icers will be tracked on an annual basis.	FY 2008-2009 (annual)	✓	✓	✓
• The usage of alternative de-icers is quantified annually and will be provided in the annual report.				
All applicators (technicians) will be trained in pesticide and fertilizer use. The number of pesticide and fertilizer technicians will be tracked on an annual basis.	FY 2008-2009 (annual)	✓	✓	✓
• Applicable staff are certified Pesticide Applicators and routinely attend State of Michigan training to maintain their certification. There are approximately 76 staff currently certified as Pesticide Applicators. There are also six staff certified in Integrated Pest Management.				
Eliminate the need for vegetative replacement due to salt damage to the maximum extent practicable. The need for replacement vegetation will be tracked for subsequent reporting.	FY 2008-2009 (annual)	✓	✓	✓
• Vegetation replacement due to salt damage is quantified annually and will be provided in the annual report.				

P2/GH-3 Fleet Maintenance

The U-M owns and operates a large fleet of vehicles, including buses and cars, that is maintained by Logistics, Transportation & Parking. The U-M also owns and operates a fleet of equipment, including lawn mowers and rototillers that is maintained by Custodial & Grounds Services. All vehicles and equipment are regularly maintained to ensure proper and effective operation as well as prevent impacts on storm water quality.

P2/GH Activity Measurable Goals	**Initial Action Reported in:**	**Current Status**		
		In Compliance	*Completed as Previously Reported*	*Ongoing Effort (see below)*
In 2010-2012, Develop SWPPPs for all fleet maintenance and storage yards/facilities at U-M.	FY 2012-2013 (mid-year)	✓	✓	
In 2013, implement all SWPPP for fleet maintenance & storage yards at U-M.	FY 2013-2014 (mid-year)	✓	✓	✓
• On-going quarterly inspections are conducted at fleet maintenance and storage yards/facilities on all campuses. An annual review and update of each SWPPP is also conducted. Documentation is kept on file for a minimum of three years.				

P2/GH-4 Storm Sewer Labeling

As of March 10, 2004, any outfall structure that the UM constructs or installs that discharges storm water directly to waters of the State will provide permanent identification (e.g. label, color coding, or other identifying characteristic).

The storm drains placed on campus come with the message "Dump No Waste - Drains to Waterways" engraved on it. Storm drain grates already in place will be marked with a curb marker with the message "Keep our Michigan Waters Blue: Dump No Waste - Flows to River" or similar.

All U-M storm drains will be marked with the message "Dump No Waste - Drains to Waterways", "Keep our Michigan Waters Blue: Dump No Waste - Flows to River" (or similar message) during the permit cycle. The number of storm drains marked will be tracked annually for subsequent reporting.	FY 2008-2009 (annual)	✓	✓	✓

UM-Ann Arbor

- Sixty-nine (69) storm drain markers were installed on catch basins, storm drain inlets, and trench drains throughout campus. Special attention was given to areas near the Football Stadium and associated parking, as well as higher use walkways on Central Campus (the Diag, North University Avenue, South University Avenue, and CC Little). Existing storm drain markers are replaced, as needed, due to general wear and fading or loss.

UM-Dearborn

- UMD did not install/replace labels during this reporting period.

UM-Flint

- UMF utilizes EHS-F staff and students to label the catch basins and drain inlets on the Flint Campus as stencils need refreshing. No labels were installed during this reporting period, but it is anticipated that this effort will be revisited as a community project with students in the coming months.

P2/GH-5 Pesticides and Fertilizers

The application of pesticides and fertilizers is controlled by several departments including Custodial & Grounds Services, Facilities Maintenance, Athletics, Matthaei Botanical Gardens, Radrick Farms and Nichols Arboretum, depending on the location. The University employs Integrated Pest Management (IPM) methodology, an ecological approach to pest management, in University buildings. All available techniques are used to reduce pest populations to acceptable levels while minimizing the potential impact of pesticides upon humans and the environment.

P2/GH Activity Measurable Goals	Initial Action Reported in:	Current Status		
		In Compliance	*Completed as Previously Reported*	*Ongoing Effort (see below)*
In 2010-2011, develop an education program for U-M staff involved in fertilization of turfgrass at U-M. Also include a strategy to disseminate the requirements to contractors at U-M.	FY 2011-2012 (mid-year)	✓	✓	
In 2011-2012, implement a turfgrass fertilization education program for appropriate U-M staff and contractors. Identify educational information available/developed for each target audience applicable at U-M.	FY 2011-2012 (mid-year)	✓	✓	✓

All Campuses

- U-M provides on-going training to applicable staff about the NPDES permit restrictions on the use of fertilizer containing phosphorus. Applicable staff also stay current on new information/technologies as it relates to turf and landscape management.
- Applicable staff are certified Pesticide Applicators and attend State of Michigan training routinely to maintain their certification. There are approximately 76 staff currently certified as Pesticide Applicators. There are also six staff certified in Integrated Pest Management.
- UMAA has a campus-wide certification from the Michigan Turfgrass Environmental Stewardship Program (MTESP). MTESP certification is designed to encourage strategies to prevent pollution and recognize environmentally sound management practices. The program includes sections dedicated to promoting fish and wildlife habitat, indigenous vegetation and water quality protection.

Table 12 Additional Activities for Pollution Prevention/Good Housekeeping for Municipal Operations

Activities
U-M Ann Arbor
• In October 2018, former U-M President Schlissel announced that U-M will pursue a path toward carbon neutrality. A President's Commission on Carbon Neutrality was appointed and met in Fall/Winter 2019 to develop strategies and a timeline to achieve carbon neutrality in a fiscally responsible manner. A final report of recommendations was released by the commission in March 2021. https://planetblue.umich.edu/campus/goals/carbonneutrality/

Activities

- The Radrick Farms and U-M Golf courses have extensive green certifications for their responsible land management practices, including the Washtenaw County Community Partners for Clean Streams, which specifically targets water quality. They also utilize expertise from the Michigan Turfgrass Environmental Stewardship Program (MTESP), the Michigan Clean Corporate Citizens Program, the ePar environmental management system and the Audubon Cooperative Sanctuary Program.

- The UMAA Radrick Farms Golf Course and University of Michigan Golf Course were awarded the Clean Corporate Citizen (C3) designation from the EGLE in 2014 and 2015, respectively. According to Jim Sygo, formerly of EGLE, "Michigan's C3 program is one of the most rigorous and long-standing environmental stewardship programs in the nation, requiring facilities to have an active Environmental Management System; a strong environmental compliance history; and pollution prevention goals and measures in place." While the Radrick Farms Golf Course is outside of the urban area boundary, U-M still considered this prestigious award worth mentioning.

- In 2017, U-M expanded its MTESP to be the first Division 1 School to receive campus-wide certification. MTESP certification is designed to encourage strategies to prevent pollution and recognize environmentally sound management practices. The program includes sections dedicated to promoting fish and wildlife habitat, indigenous vegetation and water quality protection.

- UMAA updated the snow storage guidance document in December 2022 to meet current campus needs. In an effort to reduce negative impacts associated with snow storage on UMAA campus, EHS-AA developed improved general requirements for all approved snow storage sites on campus and also developed new site-specific requirements. In addition, EHS-AA met with appropriate parties (e.g., Athletics, Parking & Transportation) to review inspections of snow storage locations and discuss findings, if any.

- In September of 2011, U-M President Mary Sue Coleman revealed several sustainability goals for the entire University. As efforts toward university-wide carbon neutrality progress, U-M continues to work toward its campus sustainability goals. One such goal is to reduce synthetic land management chemicals by 40% by the year 2025, as compared to a 2006 baseline measurement. These sustainability metrics are tracked on a calendar-year basis. For the 2022 calendar year, the use of synthetic land management chemicals has been reduced by 46%, as compared to the 2006 values.

- In October 2015, U-M President Mark Schlissel reiterated the importance of the sustainability goals and especially the need for education and community awareness programs. U-M continues to make progress towards its 2025 sustainability goals. These are tracked on the Planet Blue and OCS web pages:
  Planet Blue: http://sustainability.umich.edu/
  OCS: http://ocs.umich.edu

U-M Dearborn

- The two rain gardens on the UMD campus are located at the Environmental Interpretive Center and they demonstrate methods of keeping storm water on site. A collaboration of various organizations including Wayne County Master Gardeners, the Student Environmental Association, and individuals from the surrounding communities has helped these gardens grow. They are maintained

Activities
by student interns and many volunteers who have put in approximately 150 hours maintaining the rain gardens and the Community Organic Garden. **U-M Flint** • The UM Flint Sustainability Committee was established by the Chancellor to lead and coordinate the work of making progress toward carbon neutrality on the Flint campus. This standing committee, through the Chancellor's Office, is co-chaired by Heather Dawson, Professor of Biology, and Richard Hamilton, Instrument and Control Specialist Designee for Facilities and Operations. This committee will discuss and work on implementing strategies resulting from work done by UM President's Commission on Carbon Neutrality (PCCN). • The UM Flint Sustainability Committee was active in planning and initiating the Fall 2022 Sustainability Week in November 2022. Highlights from the UMF Sustainability Week can be found here: https://pba.umich.edu/highlights-from-flint-sustainability-week/