
**MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)
STORM WATER MANAGEMENT PROGRAM**

**KENT STATE UNIVERSITY
KENT, STARK, AND TRUMBULL CAMPUSES**

Prepared for:



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CONTENTS

<u>Section</u>	<u>Page</u>
1. MS4 OVERVIEW AT KENT STATE	1
1.1 Storm Water Management and Kent State	1
1.2 Responsible Parties	1
1.3 Site Description.....	2
1.3.1 University Facilities Management	3
1.3.2 Storm Water Infrastructure Inventory.....	4
2. REGULATORY BACKGROUND	5
3. PROGRAM OVERVIEW AND EVALUATION.....	7
4. MINIMUM CONTROL MEASURE 1: PUBLIC EDUCATION AND OUTREACH	8
4.1 BMP: Articles in Campus Publications	9
4.2 BMP: Updates to Kent State University’s Website	10
4.3 BMP: Incorporate Storm Water Education in Green Building Tours at Stark Campus.....	11
4.4 BMP: Develop Partnerships throughout Campus to Gain Interest and Support in Storm Water Education and Public Involvement/Participation.....	12
4.5 BMP: Employee Training on Storm Water Pollution and Illicit Discharge Detection and Elimination.....	13
4.6 BMP: Implement Additional BMPs Based on Available Funding and Resources.....	13
5. MINIMUM CONTROL MEASURE 2: PUBLIC INVOLVEMENT AND PARTICIPATION	15
5.1 BMP: Storm Water Outfall Dry Weather Screening	15
5.2 BMP: Storm Water Screening for the Summit Street Improvement Project	16
5.3 BMP: Incorporate Storm Water Themes into Educational Outreach Sessions.....	16
5.4 BMP: Include Storm Water Events in Kent State’s Earth Month	17
5.5 BMP: Encourage Participation in Kent State Stark’s Arbor Day Celebration.....	18
5.6 Additional BMPs Based on Time and Resources	18
6. MINIMUM CONTROL MEASURE 3: ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDDE).....	20
6.1 BMP: Comprehensive Storm Sewer System Map.....	21
6.2 BMP: Storm Water Outfall Dry Weather Screening	22
6.3 BMP: Spill Prevention, Control, and Countermeasure (SPCC) Plan	23
6.4 BMP: Illicit Discharge Detection & Elimination (IDDE) Education	24
6.5 BMP: Notification of Downstream MS4 Interconnections	24

6.6	BMP: Identification of Home Sewage Treatment System (HSTS) Connections	25
6.7	BMP: Illicit Discharge Detection & Elimination (IDDE) Training.....	26
7.	MINIMUM CONTROL MEASURE 4: CONSTRUCTION SITE STORM WATER RUNOFF CONTROL.....	27
7.1	BMP: University Design and Engineering Guidelines	27
7.2	BMP: Storm Water Management Protocol.....	28
7.3	BMP: Requirements for Construction Storm Water Pollution Prevention Plan and Review	28
7.4	BMP: Construction Contract Language.....	30
7.5	BMP: Requirement for Construction Site Inspections.....	31
7.6	BMP: Pollution Reporting	32
8.	MINIMUM CONTROL MEASURE 5: POST-CONSTRUCTION STORM WATER MANAGEMENT FOR NEW DEVELOPMENT AND REDEVELOPMENT.....	34
8.1	BMP: Requirement for Storm Water Pollution Prevention Plan Review	34
8.2	BMP: Storm Water Management Facilities Protocol for Post Construction Runoff	35
8.3	BMP: Map Structural BMPs.....	36
8.4	BMP: Green Infrastructure Education	37
8.5	BMP: Green Infrastructure TMDL Performance Standard	38
9.	MINIMUM CONTROL MEASURE 6: POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS	39
9.1	BMP: Hazardous Materials and Chemical Storage	39
9.2	BMP: Oil & Antifreeze Recycling.....	40
9.3	BMP: Salt Storage, Application, and Snow Removal	41
9.4	BMP: Vehicle and Equipment Washing.....	42
9.5	BMP: Employee Training.....	42
9.6	BMP: Parking Lot and Street Sweeping Program	43
9.7	BMP: Storm Water Structure Maintenance and Cleaning.....	44
9.8	BMP: Outdoor Trash, Ground Litter, and Landscaping Debris Collection.....	44
9.9	BMP: SWPPPs for High-Priority Facilities.....	45
10.	REPORTING PROCESS.....	47

APPENDICES

- Appendix A Kent State at Kent Campus Maps
- Appendix B Kent State Stark Campus Maps
- Appendix C Kent State Trumbull Campus Maps
- Appendix D Copy of Permit
- Appendix E Construction SWPPP Review Checklist (Ohio EPA form)
- Appendix F Dry Weather Inspection Summary

TABLES

<u>No.</u>	<u>Page</u>
Table 1. MS4 Storm Water Management Team Members and Roles	2
Table 2. Allowable Non-Storm Water Discharges	20

LIST OF ABBREVIATIONS

BMPs	Best Management Practices
CWA	Clean Water Act
ESC	Erosion & Sedimentation Controls
HSTS	Home Sewage Treatment Systems
IECA	International Erosion Control Association
IDDE	Illicit Discharge Detection & Elimination
MCM	Minimum Control Measure
MSGP	Multi-Sector General Permit
MS4s	Municipal Separate Storm Sewer Systems
NAICS	North American Industry Classification System
NPDES	National Pollutant Discharge Elimination System
O&M	Operation and Maintenance
SIC	Standard Industrial Classification Code
SPCC	Spill Prevention, Control, and Countermeasure
SWMP	Storm Water Management Program
SWPPP	Storm Water Pollution Prevention Plan
TMDL	Total Maximum Daily Load
UFM	University Facilities Management
USEPA	United States Environmental Protection Agency
FWPCA	Federal Water Pollution Control Act

1. MS4 OVERVIEW AT KENT STATE

This Municipal Separate Storm Sewer System (MS4) Storm Water Management Program (SWMP) covers three Kent State University campuses (Kent Campus, Stark Campus, and Trumbull Campus), collectively referred to in this document as “Kent State University.” The SWMP has been developed in accordance with the Ohio Environmental Protection Agency’s (Ohio EPA) Storm Water Phase II Final Rule, as a Small MS4 discharge permit (permit) under the National Pollutant Discharge Elimination System (NPDES).

1.1 Storm Water Management and Kent State

Kent State University, through its Phase II, MS4 SWMP, promotes environmental compliance and stewardship of surface water resources including lakes, creeks, and rivers in and around the three University campuses. Kent State University manages its storm water program to reduce and/or mitigate potential environmental impacts and works to maintain regulatory compliance with applicable federal, state, and local storm water regulations. This SWMP addresses how Kent State University complies with the six minimum control measures (MCMs) required by the permit. The university performs routine storm water monitoring, inspects construction sites for Best Management Practices (BMPs), and utilizes university facilities to confirm and enforce compliance with Storm Water Pollution Prevention Plans (SWPPPs). The MS4 public outreach program promotes storm water pollution prevention and natural resource stewardship by providing educational materials, resources, and information on storm water pollution prevention events and activities to students, faculty, staff, and the broader surrounding communities. These combined efforts demonstrate Kent State University’s commitment to protecting the state of Ohio’s water resources.

1.2 Responsible Parties

The permit requires a designated primary contact to implement, coordinate, and oversee all aspects of the SWMP, including the six MCMs. The designated primary contact is presented

in Table 1. The primary contact is supported by a cross-functional team representing various Directorates and Offices. The Director of Environmental Health & Safety (EHS) is responsible for coordinating Kent State University’s Storm Water MS4 Phase II permit and for implementing the majority of the permit requirements. Additional information is gathered from several other departments, including Office of the University Architect (OUA); University Facilities Management (UFM) at Kent Campus; facilities maintenance departments at the Trumbull and Stark Campuses; and the Office of Sustainability.

Table 1 identifies members and respective roles of the Storm Water Management Team that are established to implement Kent State University’s program. Additional information regarding individual team member roles is detailed in each MCM and associated BMPs.

Table 1. MS4 Storm Water Management Team Members and Roles

Team Member	Position Title	SWMP Role	Contact Information
Dennis Baden	Director of Environmental Health & Safety	Main point of contact for SWMP; oversees implementation of SWMP	330-672-1950 dbaden@kent.edu
Joseph Graham	Executive Director of Facility, Planning, and Design	Point of contact for new construction activities	330-672-9617 jagraham@kent.edu
Dr. Douglas Pearson	Associate Vice President, Facilities Planning and Operations, University Facilities Management	Oversees BMPs related to storage and maintenance facilities and associated activities	330-672-3880 dpearso9@kent.edu
Brian Gardner	Facilities Manager, Stark Campus	Oversees BMPs specifically related to Stark Campus	330-244-3270 bgardne4@kent.edu
Melanie Knowles	Manager of Sustainability	Assist in implementation of BMPs in public education, outreach, and involvement	330-672-8039 mknowle1@kent.edu
Kenneth McElravy	Senior Facilities Manager, Trumbull Campus	Oversee BMPs specifically related to Trumbull Campus	330-675-8824 kmcelrav@kent.edu

1.3 Site Description

Kent State University at Kent is located in the City of Kent, Portage County, Ohio at 800 Summit Street. Kent State University at Stark is located at 6000 Frank Avenue NW in North Canton, Ohio, and Kent State University at Trumbull is located in Champion Township at 4314 Mahoning Avenue NW in Warren, Ohio. Site Location Maps (U.S. Geological Survey

quadrangle maps) for the three Kent State University campuses are presented as Appendix A-1, Kent Campus Site Location Map; Appendix B-1, Stark Campus Site Location Map; and Appendix C-1, Trumbull Campus Site Location Map.

1.3.1 University Facilities Management

The Ohio EPA requires that a small MS4 permit holder, such as Kent State University, comply with Part III.B.6(c) of Permit OHQ000004, which pertains to municipal facilities that conduct activities described in 40 CFR 122.26(b) (14). These facilities are characterized as “vehicle maintenance facilities, bus terminals, composting facilities, impoundment lots and waste transfer stations” and are not required to obtain industrial storm water general permit coverage, but must develop a SWPPP in accordance with the requirements of Ohio EPA’s Industrial Multi-Sector General Permit (MSGP) OHR000006.

Kent State University has maintenance facilities at each campus location. University maintenance facilities are primarily engaged in vehicle maintenance, composting, and landscaping services. University Maintenance facilities are classified under the 1987 Standard Industrial Classification Codes (SIC) 0782 and 8221. Facilities classified under these SIC Codes are considered Lawn and Garden Services and Colleges and Universities, respectively. University Maintenance facilities are classified under the 2012 North American Industry Classification System (NAICS) 561730 and 611310.

The UFM building at the Kent Campus contains offices, a paint shop, service shop, an indoor wash pad, and the HVAC shop. Other buildings include a truck storage barn, grounds storage building, maintenance garage, vehicle storage building, maintenance storage building, maintenance building, and a warehouse. All drains located inside of the buildings are connected to the sanitary sewer system. However, the drains in the maintenance storage building are connected to the storm sewer system, and are plugged to prevent materials from being discharged to the storm sewer system.

The Kent State University at Stark maintenance facility is located on the southeast corner of the campus. The facility occupies approximately one acre and includes one building with a loading dock, garage bays, and outside storage.

The Kent State University at Trumbull maintenance facility is located on the south side of the campus, by Lake Ann. The facility includes a maintenance/storage building with garage doors and two other garages attached to a classroom building.

Site plans for the three campus maintenance facilities are provided in Appendix A-2, Kent Campus; Appendix B-2, Stark Campus; and Appendix C-2, Trumbull Campus. Each map includes the size of the facility in acres and the location and extent of significant structures and impervious surfaces.

Site drainage maps for the three maintenance facilities are provided in Appendix A-3, Kent Campus; Appendix B-3, Stark Campus; and Appendix C-3, Trumbull Campus. Each includes the following features:

- Direction of storm water flow;
- Locations of all existing structural control measures;
- Locations of all storm water conveyances including ditches, pipes, and swales;
- Locations of all storm water monitoring points;
- Locations of storm water outfalls, indicating if one or more outfalls are identified as “substantially identical” and an approximate outline of the areas draining to each outfall;
- MS4s and where facility storm water discharges to them; and
- Locations and sources of run-on to site from adjacent property.

1.3.2 Storm Water Infrastructure Inventory

Kent State University performed a storm water study that located and mapped all of the storm drains on the Kent, Stark, and Trumbull Campuses. Kent State University has maps detailing its entire storm sewer system, as well as a Master Plan for its storm water facilities. These maps are located in Appendix A-4, Kent Campus; Appendix B-4, Stark Campus; and Appendix C-4, Trumbull Campus.

2. REGULATORY BACKGROUND

The 1972 amendments to the Federal Water Pollution Control Act (FWPCA), also known as the Clean Water Act (CWA), provide the statutory basis for the NPDES permit program and the basic structure for regulating the discharge of pollutants from point sources to waters of the United States. Congress amended the FWPCA to prohibit the discharge of any pollutant to waters of the United States from a point source unless the discharge is authorized by an NPDES permit. The NPDES program is designed to track point sources and requires the implementation of BMPs or controls in order to minimize the discharge of pollutants.

In 1990, the USEPA developed Phase I of the NPDES Storm Water Program to address sources of storm water runoff that had the greatest potential to impact water quality. Under Phase I, USEPA required NPDES permit coverage for storm water discharges from medium and large MS4s with populations of 100,000 or more people.

The NPDES Phase II Rule, which was promulgated in December 1999, addressed small communities and institutions serving populations fewer than 100,000 people in urbanized areas. The Storm Water Phase II Rule requires that all MS4s, located within urbanized areas as defined by the Bureau of the Census, comply with the Phase II Storm Water regulations.

The Ohio EPA has designated Kent State University as a Phase II community that must comply with NPDES regulations for small MS4 operators. Kent State University was covered under previous iterations of the permit. Prior to 2016, Kent State University shared a SWMP with the City of Kent.

Kent State University is currently covered under the Ohio EPA Small MS4 Permit No. OHQ000004 which became effective April 1, 2021. A copy of the permit is located in Appendix D. Since Kent State University renewed coverage by submittal of a Notice of Intent (NOI), the SWMP must be updated to be consistent with requirements of OHQ000004 within one year of the effective date of the permit. The updated SWMP must be submitted as an attachment with the 2021 Annual Report that is due on April 1, 2022.

The previous general permit required MS4s to be aware of and use USEPA-approved Total Maximum Daily Load (TMDL) reports applicable to their watershed when selecting

BMPs. The revised permit OHQ000004 requires TMDL performance standards for each MCM for applicable facilities. Based on current USEPA-approved TMDLs, (listed in Appendix A of OHQ000004) the Kent Campus and Stark Campus have TMDLs applicable to the watersheds that receive their storm water discharges. The Kent Campus discharges storm water to the lower Cuyahoga River (Portage County) which has TMDLs assigned for total phosphorus and *E. coli*. Stark Campus discharges storm water to Nimishillen Creek in Stark County which has a TMDL assigned for *E. coli*. The MCM sections of this SWMP (Sections 4 through 9) specify performance standards for each TMDL for each watershed, as required.

3. PROGRAM OVERVIEW AND EVALUATION

Kent State University is required to reduce the discharge of pollutants to waters of the State and the United States to the “maximum extent practicable” to protect water quality. At a minimum, the permit requires the Kent State University SWMP to specify BMPs for the six MCMs listed below, and implement them to the “maximum extent practicable”:

1. Public Education and Outreach.
2. Public Participation and Involvement.
3. Illicit Discharge Detection and Elimination.
4. Construction Site Runoff Control.
5. Post-Construction Runoff Control.
6. Pollution Prevention/Good Housekeeping for Municipal Operations.

The MCM sections of this SWMP (Sections 4 through 9) specify performance standards for each TMDL waste allocation for each watershed, as required. The permit also requires the SWMP to describe why particular BMPs were selected based upon local water quality issues; identify measurable goals and performance standards for each control measure; develop an implementation schedule for each control measure; and define the responsible person to implement each control measure.

In accordance with Part IV of Permit No. OHQ000004 Kent State University will evaluate its SWMP for compliance, appropriateness of BMPs and MCMs, and progress toward achieving measurable goals. Kent State University will submit an Annual Report each year of the permit term that includes the reporting requirements outlined in Part IV, Section C of the permit. Review of the SWMP will occur annually or as soon as practical when significant changes take place. The Annual Report is discussed in detail in Section 10.

4. MINIMUM CONTROL MEASURE 1: PUBLIC EDUCATION AND OUTREACH

The purpose of the public education and outreach MCM is to provide tools and resources to the public to promote a better understanding of the potential pollution impacts of storm water runoff to local water bodies and to subsequently promote the public to take an active role in reducing these impacts. The target audience for this SWMP includes Kent State University faculty, students (including households), staff, alumni, and on-site contractors. This target audience was selected because these groups are most likely to make significant storm water impacts on Kent State University campuses.

Several BMPs have been identified that employ more than one mechanism and include five different storm water themes, with one message targeting the development community. Because storm water from the Kent and Stark Campuses discharge to a watershed with USEPA-approved TMDLs, the public education and outreach program must, at a minimum, target total phosphorus and *E. coli* at least once towards satisfying the required five storm water themes over the permit term. Over the course of the permit term, these BMPs are expected to reach at least 50 percent of Kent State University's target population.

MCM1 Public Education and Outreach is closely tied to MCM2 Public Involvement/Participation (discussed in Section 5) because public education and outreach provide information to individuals as to how they can get involved in the storm water program by participating in activities (*i.e.*, litter pickup, stream restoration, etc.).

Themes addressed in Public Education and Outreach BMPs

Storm water themes addressed in this SWMP have been identified based on current campus activities (*i.e.*, green infrastructure construction, Earth day celebrations, etc.), resources available, and potential pollution sources. Themes that may be addressed over the course of the permit term include, but are not limited to:

- Total Maximum Daily Loads (TMDLs) for Stark Campus watershed (Nimishillen Creek) and Kent Campus watershed (lower Cuyahoga River)
- Green Infrastructure
- Storm Water Pollution Prevention

- Illicit Discharge Detection and Elimination
- Community Involvement
- Pollution from Construction Sites

Mechanisms

In order to address the above themes and to reach the target audience, several existing university mechanisms are available for the MS4 Storm Water Management Team to capitalize on, including, but not limited to:

- The Kent Stater, Kent State's campus newspaper that reaches more than 15,000 readers
- Storm Water Related Research Publications
- Kent State Faculty and Staff News
- Kentwired.com (Digital Newspaper)
- Kent State University Annual Water Symposium
- Permanent Interpretive Signage
- Annual Earth Day Celebration
- Lunch and Learn – Walk and Talk (Wellness Office)
- Campus Sustainability Month
- Kent State Stark Campus Tours
- Kent State University Sustainability web page at <https://www.kent.edu/sustainability/water>
- Kent State University Environmental Compliance web page at <http://www.kent.edu/compliance/environmental-compliance>

4.1 BMP: Articles in Campus Publications

Program Description, Target Audience, and Rationale

Newsworthy storm water information will be provided to Kent State University faculty, staff, and the development community using one of the available campus publications. Publishing articles about timely storm water issues will help showcase what the campus is doing to reduce storm water pollution, will educate readers about storm water pollution prevention on campus, and will generate interest in storm water-related issues on a larger world-wide scale.

Campus publications are an important mechanism because they have the potential to reach large target audiences.

Measureable Goals

- Track the number of articles with storm water themes that appear in campus publications.

Responsible Parties and Schedule of Activities

The Director of EHS will oversee and track articles; however, other members of the MS4 Storm Water Management Team are expected to pitch article ideas and communicate these promptly to the Director of EHS. The Director of EHS will prompt other parties such as the Biology Department, Geology Department, and others to contribute ideas and articles.

Implementation of this BMP will be ongoing throughout the year since newsworthy events are sporadic. The Director of EHS will ensure that an article is published at least annually.

4.2 BMP: Updates to Kent State University's Website

Program Description, Target Audience, and Rationale

Updated information about storm water pollution and prevention will be added and/or updated on relevant Kent State University website pages. The website is a resource visited by on-campus audiences (faculty, staff, and development community) and by off-campus audiences.

Measureable Goals

- Review and update Kent State University web pages about sustainability:
 - <https://www.kent.edu/sustainability/water> (main site)
 - <http://www.kent.edu/compliance/environmental-compliance>
 - <https://www.kent.edu/stark/sustainability>
- Update website links to new SWMP at <http://www.kent.edu/compliance/environmental-compliance>.
- Add links for SWMP at the Kent State sustainability, Stark, and Trumbull pages.
- Add links to updated materials provided by USEPA and Ohio EPA on storm water pollution prevention:
 - <http://www.epa.gov/npdes>

- <http://www.epa.gov/npdes/npdes-stormwater-program>
- <http://www.epa.ohio.gov/dsw/storm/index.aspx>
- <http://www.epa.gov/urbanwaters/how-you-can-help>
- Add links about watershed assessment and USEPA’s TMDL program:
 - <http://www.epa.ohio.gov/dsw/tmdl/index.aspx>

Responsible Parties and Schedule of Activities

The Director of EHS will oversee the updating of the web pages; however, other members of the MS4 Storm Water Management Team will be responsible for contributing ideas and content and for communicating these promptly to the Director of EHS. Implementation of this BMP will occur periodically throughout the permit term and will be reviewed annually.

4.3 BMP: Incorporate Storm Water Education in Green Building Tours at Stark Campus

Program Description, Target Audience, and Rationale

Green building tours are currently conducted at the Stark campus to highlight the projects Kent State University has undertaken to positively impact the quality and quantity of storm water. This tour provides an opportunity to educate students, contractors, and staff on the importance of green infrastructure to storm water management. This BMP directly ties in with MCM 5 Post-Construction Storm Water Management, and can be used to satisfy the requirement described in Section 8.4 of this SWMP. The Stark Campus has the following green infrastructure features that are related to storm water pollution prevention:

- Biology Building Green Roof
- Pond / Wetland area
- Rain garden
- Summit Street Project Bio-retention basins

Measureable Goals

- Document Green Building tour dates and number of attendees at each event.

Responsible Parties and Schedule of Activities

The Director of EHS will ensure that this BMP is completed. The Senior Facilities Manager at Stark will oversee the implementation of this BMP. Tours will be held throughout the year as weather and schedules permit.

4.4 BMP: Develop Partnerships throughout Campus to Gain Interest and Support in Storm Water Education and Public Involvement/Participation

Program Description, Target Audience, and Rationale

New ways will be discovered to incorporate storm water education throughout campus by working with campus education departments, researchers, student clubs/organizations, and other staff. The more interest that can be generated and the more assistance that can be used as a resource for storm water education, the more robust the SWMP can become. These efforts can help increase audience members and general awareness about storm water issues. The OUA and the Sustainability Office both have programs and events that reach other campus departments (*i.e.*, the Wellness Office).

Measureable Goals

- Develop and document a working list of partners and potential partners who will implement storm water education initiatives within their own circles of influence. Potential partnerships include:
 - Child Development Center
 - Biological Sciences Department
 - Environmental Studies Department
 - Geology Department
 - Art Department
 - Office of Sustainability
 - University Communications and Marketing Department
 - Kent State Environmental Society Biology Club
 - Kent State Environmental Society

Responsible Parties and Schedule of Activities

The Director of EHS will be the central contact person for this BMP; however, other members of the MS4 Storm Water Management Team will assist in networking to find partners and reporting them promptly to the Director of EHS. This BMP is ongoing throughout the year as opportunities arise.

4.5 BMP: Employee Training on Storm Water Pollution and Illicit Discharge Detection and Elimination

Program Description, Target Audience, and Rationale

An annual training program is provided to current and newly hired Kent State University personnel that addresses storm water pollution prevention. This training program includes specific training on illicit discharge detection and elimination (IDDE). Training topics include basic storm water information, storm water pollution prevention, good housekeeping measures, and recognizing and reporting illicit discharges.

Measureable Goals

- Document the number of individuals who receive annual and new hire training when offered.

Responsible Parties and Schedule of Activities

The Director of UFM at the Kent Campus and Senior Facilities Managers at the Trumbull and Stark Campuses schedule trainings at their campus locations. Training is offered once a year for all maintenance staff at the Kent, Trumbull, and Stark Campuses and during orientation for new staff members. Training is conducted electronically.

4.6 BMP: Implement Additional BMPs Based on Available Funding and Resources

Program Description, Target Audience, and Rationale

As with many SWMPs, implementation of BMPs is very much dependent on the funding and resources that are available. A number of BMPs have been discussed in MS4 Storm Water

Management Team meetings, but it is unknown what the budget will be from year to year. Below are additional BMPs that may be implemented if funding and resources permit:

- Hire an intern or part-time employee at the Office of Environmental Health and Safety with duties that include storm water education, outreach, and participation.
- Design and install additional signage about other storm water green infrastructure on the Kent Campus, featuring green roofs, rain gardens, rain barrels, etc.
- Design and install signage on the Kent Stark's campus regarding green infrastructure and storm water.
- Hold Kent Campus green infrastructure tours, highlighting storm water features (possibly during Earth Month).
- Develop and disseminate storm water educational materials such as posters, stickers, and brochures.

Measureable Goals

- Record any additional BMPs that are implemented. Include target audience and approximate percentage of target audience reached.

Responsible Parties and Schedule of Activities

Director of EHS will oversee and keep records of any additional BMPs that are installed or implemented. As resources become available, additional BMPs may be implemented.

5. MINIMUM CONTROL MEASURE 2: PUBLIC INVOLVEMENT AND PARTICIPATION

Kent State University’s public involvement and participation program aims to utilize resources acquired from the BMPs of MCM 1 Public Education and Outreach in order to actively involve the public in the development and implementation of the SWMP. For MCM 2, five public participation activities have been identified for implementation over the course of the permit term that target students, faculty, staff, commercial businesses, environmental groups, and on-site contractors. Additional public participation activities are included in this program as a way to allow for flexibility and inclusion – and possible substitution – of new opportunities should they become available.

5.1 BMP: Storm Water Outfall Dry Weather Screening

Program Description, Target Audience, and Rationale

Field investigations and inspections of all forty-four storm water outfalls have been completed by Facilities Management at each campus location during the first permit term. Students from the Water and Wastewater Program at Kent Campus screened the outfalls. The target audience of this activity is the group of students who volunteer and their friends and classmates. Kent State University is not required to rescreen the forty-four outfalls that were screened during the first permit term. Any new connections to the MS4 (new buildings, newly acquired property, etc.) will be dry weather screened to ensure that there are no illicit cross connections to the MS4.

Measureable Goals

- Continue to screen university outfalls with higher priority and areas where new construction has taken place.
- Update the Dry Weather Inspection Summary

Responsible Parties and Schedule of Activities

The Director of EHS will oversee this activity and will work with the University faculty to implement the BMP. This activity will be completed as schedules and weather allow over the course of the permit term.

5.2 BMP: Storm Water Screening for the Summit Street Improvement Project

Program Description, Target Audience, and Rationale

The Summit Street Improvement Project was completed during last permit term. Two bioretention basins to help manage storm water volume and quality were built as post-construction BMPs to manage storm water quality and quantity. The OUA submitted a grant proposal to collect before, during, and after data from the bioretention basins, with faculty and students monitoring storm water quality. Participants of this BMP included students and relevant faculty and staff.

Measureable Goals

- Record number of faculty and students involved in data collection
- Update web page and report number of web-site visitors.

Responsible Parties and Schedule of Activities

The Executive Director of the OUA will oversee this BMP. Senior Research Scientist, Department of Biological Sciences will manage the implementation of this BMP. Data collection and other monitoring activities will occur throughout the lifecycle of the project.

5.3 BMP: Incorporate Storm Water Themes into Educational Outreach Sessions

Program Description, Target Audience, and Rationale

The Wellness Office, part of the Division of Human Resources, holds educational events incorporating environmental themes for faculty and staff throughout the year. The Office of Sustainability has been involved in helping with past events. Storm water-themed educational

events for faculty and staff will be conducted that specifically addresses the TMDLs established for Stark campus (Nimishillen Creek) and Kent Campus (lower Cuyahoga River). These events tend to be smaller and more intimate, allowing for participants to ask specific questions and engage in dialogue about storm water. With a smaller audience, the goal is for attendees to find ways to incorporate storm water education and participation into their own fields.

Measureable Goals

- Track the number of storm water-themed “Walk and Talk” or “Lunch and Learn” events during the permit term.
- Track the attendance of each storm water-themed “Walk and Talk” or “Lunch and Learn” and conduct a post-event analysis for future improvement of the program.

Responsible Parties and Schedule of Activities

The Director of EHS will ensure that this BMP is implemented; however, the Manager of the Office of Sustainability will oversee this BMP. Implementation of this BMP will occur when schedules permit. One storm water-related session, incorporating TMDLs, will be performed over the course of the permit term. Responsible parties may want to coordinate this BMP with other campus activities (*i.e.*, Arbor Day, Earth etc.).

5.4 BMP: Include Storm Water Events in Kent State’s Earth Month

Program Description, Target Audience, and Rationale

The month of April for the Kent Campus is known as Earth Month, and several green activities are typically scheduled throughout. Students, faculty, and staff are able to participate, and since the event spans a month, a large audience can participate. Storm water-themed events (*e.g.*, plantings, wetlands cleanup, and campus green tours) will be incorporated into the Earth Month program. TMDL program information will be incorporated, if relevant.

Measureable Goals

- Publicize the Earth Day celebration through university and local media outlets.
- Record number of Earth Day events each year related to storm water quality.
- Note the number of people who participated in these events.

Responsible Parties and Schedule of Activities

The Director of EHS will work with event organizers and the Manger of Sustainability to ensure the incorporation of storm water-related events. If possible, the Director of EHS will seek input and participation from students and faculty in water and wastewater management courses. Activities will take place in April of each year.

5.5 BMP: Encourage Participation in Kent State Stark’s Arbor Day Celebration

Program Description, Target Audience, and Rationale

Kent State University at Stark has been designated a Tree Campus USA university every year since 2009 for meeting requirements outlined by the National Arbor Day Foundation. The Arbor Day celebration has included several earth-friendly events, including tree plantings on the campus. Encouraging participation in this event can help show the importance of a holistic ecosystem that includes the important and various roles of storm water. The target audience consists of students, faculty, staff, and campus visitors.

Measureable Goals

- Document the publicization of the Arbor Day celebration through university and local media outlets.
- Note the number of participants at the event.

Responsible Parties and Schedule of Activities

The Sr. Manager of Facilities at Stark will be responsible for overseeing this BMP and will report results to the Director of EHS. The Stark Campus holds the Arbor Day event annually.

5.6 Additional BMPs Based on Time and Resources

As with the Public Education and Outreach MCM1, implementation of additional BMPs for Public Involvement and Participation is very much dependent on the funding and resources

that are available. Below are additional BMPs that may be implemented if funding and resources permit:

- River cleanups that are targeted at participation from student environmental groups, emphasizing impaired waters and waterways with TMDLs when possible.
- Art event: work with the art department to incorporate storm water themes into artwork and/or public art events. For example, have a rain barrel art program or have a found river item art contest.
- Sustainability event at Kent Trumbull campus.
- Storm drain labeling event.

Measureable Goals

- Keep record of any additional BMPs that are implemented.
- Maintain records of attendees present at each additional event.

Responsible Parties and Schedule of Activities

Director of EHS will oversee and keep record of the additional BMPs. As resources become available, additional BMPs may be implemented.

6. MINIMUM CONTROL MEASURE 3: ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDDE)

Kent State University has an illicit discharge protocol that includes specifications for illicit discharge identification (including dry weather screening procedures), elimination of detected illicit discharges, and illicit discharge notification/reporting procedures. The university illicit discharge protocol also provides appropriate enforcement procedures and actions.

The Ohio Multi-Sector General Permit (MSGP) requires the assessment of the absence of non-storm water discharges to permitted storm water outfalls. The permit lists the non-storm water discharges that are allowable. The allowable non-storm water discharges present at Kent State University are listed Table 2. If detected, unauthorized non-storm water discharges must be eliminated. The Kent State maintenance facilities SWPPPs describe the non-storm water assessments that have been conducted at the campus maintenance facilities. This section describes the BMPs that will be implemented to eliminate illicit discharges into the university’s storm sewer collection system.

Table 2. Allowable Non-Storm Water Discharges at Kent State University

Uncontaminated Air Conditioner Condensate
Discharges from Firefighting Activities
Fire Hydrant Flushings (Potable water, including water line flushings)
Uncontaminated Groundwater
Incidental windblown mist from the cooling tower

Kent State University must notify the Ohio EPA Northeast District Office at nedo24hournpdes@epa.ohio.gov within 24 hours of discovery of one of the following illicit discharges:

- Illicit sanitary cross connections from industrial, commercial, or multi-family sources
- Leaking or broken sanitary lines that are actively contributing sewage to the MS4.

Notification must include the location, general description, date, and approximate time the illicit discharge was discovered. If at any time any of the allowable non-storm water discharges listed in Table 2 and others listed in Part III. B.3.g of the small MS4 permit are suspected by Kent State University or the Ohio EPA of significantly contributing pollutants to the MS4, Kent State University will immediately address the discharge.

6.1 BMP: Comprehensive Storm Sewer System Map

Program Description

Kent State University has developed complete storm sewer system maps for its three campuses (Appendix A, Kent Campus Drainage Map; B, Stark Campus Drainage Map; and C, Trumbull Campus Drainage Map) and corresponding dry and wet weather sample locations. The maps contain locations and attributes of the entire storm sewer system maintained by Kent State University and include culverts, pipes, inlets, catch basins, trench drains, outfalls, retention/detention ponds, and post-construction water quality BMPs identified by type. MS4 outfalls are further identified to include receiving watersheds and an estimated MS4 acreage served. Kent State University additionally has aerial photographs of its entire storm sewer system with infrared detection, which identifies areas of standing water throughout campus. The storm sewer system maps and the aerial photographs are used for illicit discharge tracking and for documenting maintenance activities.

Kent State developed these maps using engineering drawings, aerial photographs, property survey studies, and other means. The storm sewer system maps were verified visually with field surveys. The maps are reviewed annually and updated, as necessary. Any new construction and any renovations are added to maps as soon as practicable.

Measurable Goals

- Continue to update and maintain storm sewer system maps on an annual basis to ensure that all known structures are located. Accurate, continuously updated, storm sewer system maps will aid in illicit discharge detection and elimination.

Responsible Parties and Schedule of Activities

The Director of EHS is responsible for ensuring that the storm sewer system maps are updated as needed by the OUA. Copies are stored in digital format in the OUA. Kent State University will update maps as new structures are identified, added, or modified.

6.2 BMP: Storm Water Outfall Dry Weather Screening

Program Description

Monitoring for dry weather discharges includes using visual observation to detect possible illicit discharges. If flow is observed at any outfall, the source of flow is investigated. Kent State University will promptly address illicit discharges and utilize the storm sewer system map to determine the source of discharge. Once a source has been identified, the Director of EHS will identify funding and determine best method of eliminating the discharge in a timely manner.

Field investigations and inspections of all forty-four storm water outfalls have been completed by Facilities Management at each campus location during the first permit term. One dry weather flow was observed at the engineering wetland at the Stark Campus. Analytical samples were collected, and results indicated that the source of the flow was most likely groundwater, and not an illicit discharge. Flow was observed at a second outfall during a dry weather screening. The outfall was screened a second time after more time had elapsed since a prior rainfall event and there was no observed flow.

Any new connections to the MS4 (new buildings, newly acquired property, etc.) will be dry weather screened to ensure that there are no illicit cross connections to the MS4. A copy of the Dry Weather Inspection Summary is located in Appendix F.

Measurable Goals

- Maintain records of outfalls that were inspected during dry weather screenings, and the number of illicit discharges detected.
- Promptly investigate the possible source of flow identified and eliminate illicit discharges.
- At a minimum, inspect at least 25% of outfalls per year to ensure that all outfalls are completed by the end of the permit term.
- Evaluate data collected each year and re-establish priorities and goals as a result of this evaluation

Responsible Parties and Schedule of Activities

The Director of EHS is responsible for ensuring that all outfalls are inspected by appropriate facilities managers. The dry weather screening program will be continued and

evaluated annually. Kent State University will develop a schedule to eliminate illicit discharges identified during the dry weather outfall inspections.

6.3 BMP: Spill Prevention, Control, and Countermeasure (SPCC) Plan

Program Description

SPCC Plans have been developed for the three Kent State University campuses to establish procedures to prevent discharges of oil from facilities, to contain such discharges should they occur, and to implement countermeasures to reduce the risk of oil from entering the storm sewer system.

Measurable Goals

- Document annual plan reviews, updates, and 5-year P.E. reviews and certifications.
- Document monthly inspections and annual training.

Responsible Parties and Schedule of Activities

Kent State University will continue to follow procedures and protocols established in the SPCC Plans. The SPCC Plans will be updated when there is a facility change in operations or maintenance that could affect the potential for an oil discharge to the storm water outfall. The plans will be reviewed annually, and all amendments to the plan will be documented within 6 months of the amendment documentation. The plans will be reviewed and certified every 5 years by a professional engineer. Discharge prevention briefings are conducted as needed, and training for oil handling employees is conducted annually. Monthly inspections of all regulated oil containers are conducted.

The Director of UFM and Senior Facilities Directors at the Stark and Trumbull Campuses will be responsible for implementing the SPCC Plan at their respective campuses and will report to the Director of EHS. Plan reviews and updates will be the responsibility of the Director of EHS

6.4 BMP: Illicit Discharge Detection & Elimination (IDDE) Education

Program Description

Kent State University will ensure materials and information are available to help inform students, faculty, and staff of the university illicit discharge protocol that prohibits discharges associated with car washing, dumping fats, oils, and grease, or other non-storm water potential pollutants to storm drains. This BMP will be completed in conjunction with the Public Outreach and Education BMPs, identified under MCM 1 and the pollution prevention/good housekeeping BMPs, described under MCM 6.

Measurable Goals

- Post links on Kent State University's EHS website about storm drain dumping.
- Track number of phone calls/emails reporting illicit discharges to storm drains.

Responsible Parties and Schedule of Activities

Refer to MCM1 for specific activities related to educating staff, faculty, students, and community members about the importance of eliminating illicit discharges from storm drains. The Director of EHS will oversee the updating of the web pages; however, other members of the MS4 Storm Water Management Team will be responsible for contributing ideas and content and for communicating these promptly to the Director of EHS.

6.5 BMP: Notification of Downstream MS4 Interconnections

Program Description

Kent State University is interconnected to the City of Kent's (or other interconnected municipalities as applicable at Stark and Trumbull campuses) MS4. As such, the University is required to notify the municipalities of known illicit discharges in accordance with the small MS4 permit.

Measurable Goals

- Record any notifications of illicit discharges provided by Kent State University to downstream MS4s or other interconnected municipality.

- Record any notifications of illicit discharges provided to Kent State University by downstream MS4s or other interconnected municipality.

Responsible Parties and Schedule of Activities

Kent State University will notify interconnected MS4s of any illicit discharge detected. The Director of EHS will oversee this BMP; however, Facilities Management at Kent, Stark, and Trumbull will be responsible for implementation. The OUA will assist as needed.

6.6 BMP: Identification of Home Sewage Treatment System (HSTS) Connections

Program Description

UFM at Kent Campus and facilities maintenance departments at Stark, and Trumbull Campuses conduct storm sewer monitoring (*i.e.*, odor, smoke and dye tests, analytical testing, and other indicators) and inspections to determine if home sewage treatment systems (HSTSs) are connected to the MS4. All new connections are inspected to ensure that they are connected to the appropriate drainage system.

Kent State University will work with county (Portage, Stark, and Trumbull) boards of health, local wastewater authorities, etc. to determine if any newly discovered HSTSs can be legally and economically connected to central wastewater sewers. If HSTSs are found to be operating incorrectly or not operating as designed, Kent State University will work with county entities or wastewater authorities to eliminate, upgrade, or replace the system, as appropriate.

Measurable Goals

- Record locations of any new HSTSs identified during routine monitoring.
- Identify type and size of conduits or ditches receiving discharge from the HSTS and receiving water bodies.
- Annotate location of HSTSs on storm sewer map.

Responsible Parties and Schedule of Activities

The Director of EHS will oversee this BMP; however, the UFM at Kent Campus and facilities management teams at the Stark and Trumbull Campuses will implement it. The OUA

will ensure that new construction is properly connected. The storm sewer maps are updated at least annually to indicate the location of any newly identified HSTS locations.

6.7 BMP: Illicit Discharge Detection & Elimination (IDDE) Training

Program Description

Because Kent State University Kent Campus and Stark Campus discharge to a watershed with USEPA-approved TMDLs for *E. coli* and total phosphorus, an employee training performance standard is required. Kent State University will include the illicit discharge detection and elimination program in annual employee training.

Measurable Goals

- Create educational materials or update the employee training program to include illicit discharge detection and elimination program
- Document and keep records of annual training program and number of attendees

Responsible Parties and Schedule of Activities

The Director of EHS will oversee this BMP. The employee training program will be completed annually, and new employees will receive training upon hire.

7. MINIMUM CONTROL MEASURE 4: CONSTRUCTION SITE STORM WATER RUNOFF CONTROL

Kent State University implements and enforces a progressive construction site storm water erosion and control program for all construction sites that disturb greater than one acre of land. Requirements have been developed for construction site operators to control waste from their construction projects including sediment, discarded building materials, concrete truck washout, chemicals, litter, oil/fuel products, and sanitary waste. Procedures for SWPPP review and an inspection program have been established and are strictly followed. The BMPs presented in this section provide detail about the implementation of the construction site storm water runoff MCM.

7.1 BMP: University Design and Engineering Guidelines

Program Description

Section 02200.12 of the Kent State University Design and Engineering Guidelines was developed to curtail soil disturbing activities performed by construction contractors. Kent State University conforms to the BMPs found in the “Rainwater and Land Development – Ohio’s Standards for Storm Water Management, Land Development, and Urban Stream Protection,” Ohio Department of Transportation (ODOT) guidelines, and the Office of Industrial compliance of the Ohio Department of Commerce Bureau of Plans and Specifications. The Kent State University Design and Engineering Guide is available to the public on the university web page.

Measurable Goals

- Review the Kent State University’s Design and Engineering Guidelines annually to make sure it remains current with any changes Ohio EPA makes to the Ohio Erosion and Sediment Control (ESC) Laws and Regulations and Ohio Storm Water Management Laws and Regulations.
- Incorporate new guidelines or revisions to guidelines as needed and as new BMPs are developed and approved.

Responsible Parties and Schedule of Activities

The Executive Director of OUA will oversee this BMP. The Director of EHS will be informed when modifications to these standards occur.

7.2 BMP: Storm Water Management Protocol

Program Description

Kent State University has developed and enforces a Storm Water Runoff Control Program that reduces pollutant discharges associated with land disturbing activities larger than one acre or activities less than one acre that are part of a common plan of development into the MS4. The erosion and sediment controls will comply with regulatory guidance found in the Ohio EPA NPDES General Storm Water Permit(s) for Construction Activities including OHC000004.

In addition, in accordance with Part III.B.6.e.iv of the small MS4 permit, Kent State University will enforce a performance standard for ditch/MS4 maintenance soil disturbing activities that do not disturb the one acreage threshold. The performance standard requires that soil stabilization measures mandated in the construction general permit be followed for ditch/MS4 maintenance projects that disturb less than one acre. This performance standard must commence no later than two years after the effective date of the small MS4 permit.

Measurable Goals

- Ensure Kent State University's Storm Water Management Protocol is updated to include the performance standard for construction projects that disturb less than once acre. Also, on a broader scale, ensure that the storm water management protocol remains current.

Responsible Parties and Schedule of Activities

The Executive Director of OUA will oversee this BMP and will inform the Director of EHS as needed. UFM at Kent Campus and facilities maintenance departments at the Trumbull and Stark Campuses are also responsible for these small construction projects that disturb less than one acre. The internal protocol will be updated on an as needed basis.

7.3 BMP: Requirements for Construction Storm Water Pollution Prevention Plan and Review

Program Description

Construction site specific SWPPPs are prepared for all Kent State University projects involving regulated construction activity as defined in the Ohio EPA NPDES General Storm

Water Permit for Construction Activities (OHC000005). The OUA and UFM receive and review all Construction SWPPP prepared by contractors who will execute construction projects on the campuses. The site contractors are responsible for preparing the SWPPP and for preparing and submitting the Notice of Intent to obtain coverage under OHC000005 and the Notice of Termination to end permit coverage. Kent State University submits a Co-Permittee NOI for all construction projects that require a construction storm water permit. Kent State University Quality Assurance Inspectors and or Project Managers are responsible for ensuring proper SWPPP implementation and site stabilization.

Construction SWPPPs are reviewed at pre-construction meetings, and standards are enforced if the contract fails to comply. Plans are reviewed by knowledgeable OUA personnel that are well-versed in sediment and erosion control measures. Notifications and approval of any modifications to post-construction storm water runoff controls that occur after initial SWPPP approval are required.

A SWPPP checklist is used to document plan reviews for sediment/erosion controls and post-construction water quality controls. An example SWPPP Checklist provided by Ohio EPA is located in Appendix E. This checklist or one developed by Kent State University will be used to document SWPPP review.

Measurable Goals

The Construction SWPPP review process will be tracked, and completed SWPPP review checklists will be filed.

Responsible Parties and Schedule of Activities

The Executive Director of OUA will oversee this BMP and report as needed to the Director of EHS. Each Construction SWPPP will be reviewed at the pre-construction meeting, and any necessary changes to the plan, resulting from the review, must be made prior to initiation of project work.

7.4 BMP: Construction Contract Language

Program Description

The Kent State University Design and Engineering Guidelines includes a provision that ensures all contractors performing land disturbing activities on campus property are required (through contract documents) to follow existing Ohio erosion and sediment control requirements and BMPs. Contractors are required to obtain all applicable permits by submitting notices of intent and preparing construction SWPPPs before construction activity commences.

Technical specifications are included in construction contract documents for liquidated damages in the event that required sediment and erosion controls are not installed and inspected according to recommendations.

Failure to comply can delay the start of construction, and final payment can be withheld if final site stabilization is not achieved in accordance with erosion and sediment control requirements and storm water BMPs. Furthermore, the contractor is responsible for replacing or paying for any damages due to inadequate and/or deficient sediment and erosion control measures or construction operations.

Measurable Goals

- Ensure contractors comply with the contractual components of the construction general permit and construction SWPPPs.
- Evaluate contractual language annually.

Responsible Parties and Schedule of Activities

The OUA will make contract obligations clear to contractors during preconstruction meetings and as BMP inspections take place throughout the duration of the construction activity. The Executive Director of OUA will oversee this BMP and report as needed to the Director of EHS.

7.5 BMP: Requirement for Construction Site Inspections

Program Description

Construction projects are inspected for compliance with the approved SWPPP and erosion and sediment control BMPs for conformance to the specifications of the Ohio Department of Natural Resources' Rainwater and Land Development Manual. This manual describes Ohio's standards for storm water management, land development, and urban stream protection.

Designated construction contractor personnel or a subcontracted third party are required by the Ohio EPA general construction storm water permit to inspect the construction site weekly and within 24 hours after rainfall events. This inspection is to ensure that the stormwater BMPs that are outlined in the SWPPP are maintained and functioning as designed.

In accordance with the small MS4 permit, Kent State University is required to conduct construction site inspections on a monthly basis throughout the construction activity. The inspections performed by Kent State University personnel are in addition to the self-inspections required by construction site operators under OHC000005. The MS4 inspection is designed to make sure that the contractor and their SWPPP inspectors are meeting the criteria of the MS4. If the Kent State University inspector observes any of the following compliance issues, the construction site will be inspected once every fourteen calendar days instead of on a monthly basis:

1. Construction activities have started at the site with no SWP3 reviewed and approved by the MS4;
2. Failure to install sediment basin(s) when the SWP3 and/or site drainage clearly indicate as a first step (within 7 days prior to grading and within 7 days of grubbing);
3. Construction activities taking place with no sediment/erosion controls; or
4. Dewatering activities resulting in turbid discharges.

Inspections can return to a monthly basis for the construction site once compliance with the above compliance issues have been addressed and verified.

A Construction Site Inspection Checklist must be used by construction contractors to document weekly and after rainfall event inspections. This checklist or one developed by the construction contractor will be used to document inspections.

Any comments and/or violations noted in an inspection report will be immediately forwarded to the Construction Site Project Manager so that corrective actions can be expediently performed. Kent State University conducts monthly inspections of construction sites, and the OUA can issue a stop work order to a contractor who is not implementing approved sediment and erosion controls.

Measurable Goals

- Construction site inspections will be tracked via the Construction Site Inspection Checklists. In addition, a spreadsheet will be used to track the number of construction site inspections, noted violations, and communications of violations to contractors.

Responsible Parties and Schedule of Activities

Construction site inspections will be made by the contractor during or immediately following initial installation of erosion and sediment controls, at least weekly, or within 24 hours of a 0.5” rain event producing storm water runoff, and at the completion of the project. Additionally, site inspections will be conducted by a Kent State University-approved inspector on a monthly basis and after rainfall events. The construction site inspection program will be evaluated annually. The Executive Director of OUA will oversee this BMP and report to the Director of EHS, as needed.

7.6 BMP: Pollution Reporting

Program Description

Kent State University provides a mechanism for members of the community, staff, faculty, and students to report pollution emanating from construction projects and/or illicit discharges. Contact information (email and phone number) for who to report concerns to is located at <https://www.kent.edu/compliance/environmental-compliance>. Any information submitted by the public concerning active construction projects will be reviewed by a Kent State University Project Manager, the OUA, and the Director of EHS.

Measurable Goals

- Track the number of complaints received via email and phone.

- Keep complaint hotline information up to date on the appropriate web pages.
- Increase public knowledge and awareness of issues regarding storm water runoff from construction sites (refer to MCM 1 and 2).

Responsible Parties and Schedule of Activities

The Director of EHS will oversee this BMP. However, any information regarding storm water pollution as a result of construction activities that is submitted to other members of the MS4 Storm Water Management Team will be expeditiously relayed to the Director of EHS.

8. MINIMUM CONTROL MEASURE 5: POST-CONSTRUCTION STORM WATER MANAGEMENT FOR NEW DEVELOPMENT AND REDEVELOPMENT

Post-construction storm water practices provide long-term management of runoff quality and quantity. The strategies incorporated at Kent State University for new development and redevelopment include a combination of non-structural and structural post-construction runoff controls, with the goal being to maintain predevelopment runoff conditions (*i.e.*, not result in a net increase of impervious areas).

In its effort to improve the quality of their watersheds, Kent State University incorporates the benefits of green infrastructure into their decision-making process. Green infrastructure at the watershed scale includes protecting large open natural spaces, riparian areas, wetlands, or greening steep hillsides. When green infrastructure systems are installed, they provide cleaner water as well as significant value for the community with flood protection, diverse habitat, and green spaces. This section describes the BMPs that address post-construction storm water runoff from new and redeveloped projects that disturb more than one acre.

8.1 BMP: Requirement for Storm Water Pollution Prevention Plan Review

Program Description

Construction site specific SWPPPs will be prepared by construction contractors for all Kent State University projects involving regulated construction activity as defined in the Ohio EPA NPDES General Storm Water Permit for Construction Activities (OHC000005).

The construction general permit requires that the construction SWPPP contain a description of the post-construction BMPs that will be installed during construction for the site and the rationale for their selection. Post-construction storm water BMPs provide long-term management of runoff quality and quantity. Detail drawings and long-term operation and maintenance (O&M) plans will be developed by the contractor for all post-construction BMPs in the SWPPP. O&M Plans will be provided by the permittee to the post-construction operator of the site (Kent State University) upon completion of construction activities.

To ensure that storm water management systems function as designed and constructed, the post-construction operation and maintenance plan will be a stand-alone document which contains: (1) a designated entity for storm water inspection and maintenance responsibilities; (2)

the routine and nonroutine maintenance tasks to be undertaken; (3) a schedule for inspection and maintenance; (4) any necessary legally binding maintenance easements and agreements; (5) construction drawings or excerpts showing the plan view, profile, and details of the outlet(s); and (6) a map showing all access and maintenance easements.

The OUA and UFM receive and review all Construction SWPPP prepared by contractors who will execute construction projects on the campuses. These offices will review and approve all post-construction structural features contained in the plans and will additionally review associated O&M plans. A copy of each O&M Plan will be maintained by the OUA, and at least one on-site inspection of each post-construction runoff control will be conducted by a third party contractor (approved by the OUA) during the permit term.

Measurable Goals

- Track the number of regulated construction activities and SWPPPs prepared.
- Create or add to inventory of post-construction structural controls.
- Schedule a third party inspector to inspect each post-construction storm water control annually.
- Review O&M Plans prepared by contractors for each post-construction structural control, maintain a copy of each plan on-site, and make sure that the plan(s) are being followed.

Responsible Parties and Schedule of Activities

The OUA assisted by UFM will review and approve SWPPPs and report to the Director of EHS. An annual inventory of all regulated construction projects will be reviewed to ensure that post-construction structural features were included in the SWPPP, as required by the construction general permit. In addition, the assessment will make sure that O&M Plans for each post-construction water quality and quantity control were prepared and are adequate to maintain the features in operable condition.

8.2 BMP: Storm Water Management Facilities Protocol for Post Construction Runoff

Program Description

Kent State University has storm water management guidelines that set forth requirements and procedures for post-construction storm water structural BMP design, review, installation,

approval, inspection, maintenance, and reporting. The University's guidelines address post-construction runoff from new development and redevelopment projects to the extent allowable under state and local law. They include non-structural post-construction runoff controls, such as the protection of wetland and riparian areas, minimization of impervious areas through planning, education programs for developers (See Section 8.4), and source control measures (good housekeeping, preventive maintenance, and spill control). In addition, the guidelines ensure that adequate long-term operation and maintenance (O&M) plans are established for post-construction BMPs.

Measurable Goals

- Record number of sites that are added to the University's post-construction BMP inventory and the inspections performed each year.

Responsible Parties and Schedule of Activities

The Executive Director of Facility, Planning, and Design will oversee this BMP and report to the Director of EHS. This BMP will be implemented as needed and reviewed annually.

8.3 BMP: Map Structural BMPs

Program Description

Kent State University's storm water management protocol for runoff control is demonstrated by the fact that it has several post-construction structural runoff control measures in place on its campuses. The controls are indicated on the storm water maps for each campus. These drawings are located in Appendices A, B, and C. Each of those controls are inspected annually either by a third party or by the facilities management at each campus to ensure that they are properly maintained and operating effectively and as designed.

Measurable Goals

- Develop and maintain a list of post-construction structural BMPs and other required information
- Report the number of structural BMPs added to the system annually, and update the storm water system maps to reflect changes.

Responsible Parties and Schedule of Activities

The Executive Director of Facility, Planning and Design will oversee this BMP and report to the Director of EHS. This BMP will be implemented as need and reviewed annually.

8.4 BMP: Green Infrastructure Education

Program Description

During the permit term, Kent State University will provide one educational opportunity for contractors, SWPPP designers, and facilities management employees to learn about the storm water benefits that green infrastructure provides. In accordance with the small MS4 permit, the learning event will describe the practices of bioretention, infiltration, permeable pavement, and underground storage, as presented in Table 4b of the construction general permit OHC000005. This BMP can tie in with MCM1 Public Education and Outreach, Part 4.3 of this SWMP that describes green building tours.

Measurable Goals

- Develop and plan the educational materials
- Document the education event including number of attendees and attendee job descriptions

Responsible Parties and Schedule of Activities

The OUA will perform this BMP along with oversight provided by the Director of EHS. One green infrastructure educational opportunity will be provided once during the permit term.

8.5 BMP: Green Infrastructure TMDL Performance Standard

Program Description

In accordance with the small MS4 permit (OHQ000004), the post-construction storm water management MCM requires Kent State University to include one of the following TMDL performance standards during the permit term because the Kent Campus discharges to a watershed (lower Cuyahoga River) with a USEPA-approved TMDL for nutrients (phosphorus):

1. Retrofit one existing storm water practice that currently provides a peak-discharge function to meet an extended detention post-construction practice.
2. Perform restoration of at least three hundred linear feet of channelized stream to reduce erosion.
3. Update Kent State University's Design and Engineering Guidelines to require OHC000005 Table 4b practices or other green infrastructure, where feasible.
4. Install one or more Table 4b practices to meet a minimum of one acre of existing impervious area developed prior to 2003.

Measurable Goals

- Track the fulfillment of the TMDL performance standard for post-construction storm water management. Document date and time performed and describe how standard was met.

Responsible Parties and Schedule of Activities

The OUA will make sure that one of the above options for the TMDL performance standard is performed during the permit term. The OUA will include the Director of EHS in conversations and decision-making.

9. MINIMUM CONTROL MEASURE 6: POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS

Kent State University has developed an overall pollution prevention/good housekeeping program for its three campuses with a particular emphasis on its municipal operations at each campus. This MCM describes the BMPs that are implemented in order to meet regulatory requirements for pollution prevention/good housekeeping to prevent or reduce contaminated storm water runoff from municipal operations. The specific municipal operations and activities that are involved in the pollution prevention program are listed separately in this section.

9.1 BMP: Hazardous Materials and Chemical Storage

Program Description

Kent State University maintains a chemical inventory for the University Sciences that includes the location and quantity of each chemical stored. Individual departments outside of University Sciences maintain their own chemical inventories. All chemicals are stored in proper containers. All fuel oil storage facilities are equipped with leak detection and containment equipment. Licensed contractors or licensed university personnel are used for the application of fertilizers and herbicides in landscaped and vegetated areas. These materials are applied in accordance with manufacturer's recommendations and in accordance with the licensed contractor's standard operating procedures. The licensed contractors follow all federal, state, and local laws governing the use, storage, and disposal of fertilizers and pesticides, and training of applicators.

UFM at Kent campus and facilities maintenance departments at the Trumbull and Stark Campuses conducts quarterly outfall and maintenance facility inspections per their industrial storm water permits. Kent State University maintains two hazardous waste storage areas and associated satellite accumulation points.

Measurable Goals

- Maintain a spill history including material spilled, amount spilled, cleanup actions, and reporting (if applicable).

- Document the gallons of pesticides and herbicides and the pounds of fertilizer used each year.
- Perform periodic audits to verify accuracy of the records and monitor overall inventory for opportunities to reuse, recycle, or reduce the number of hazardous materials at Kent State University.
- Maintain compliance with annual Tier 2 chemical inventory submissions

Responsible Parties and Schedule of Activities

The Director of Operations of UFM at Kent and the the Facilities Managers at the Stark and Trumbull Campuses will handle hazardous and non-hazardous materials. The Director of EHS will ensure that Tier 2 chemical inventories are submitted to the appropriate agencies. Material handling occurs on a daily basis, and pollution prevention efforts accompany all material handling operations.

9.2 BMP: Oil & Antifreeze Recycling

Program Description

Kent State University offers a used oil and antifreeze collection and recycling program at facilities management locations in designated areas on each respective campus (Kent, Stark, and Trumbull) for staff, faculty, and students.

Measurable Goals

- Monitor the locations where campus vehicle maintenance operations take place.
- Document the number and type of users (*i.e.*, students, community, etc.) of the recycling/collection program
- Audit program to make sure that oil and antifreeze are being disposed of in accordance with current applicable regulations.

Responsible Parties and Schedule of Activities

The Director of Operations of UFM at Kent and the Facilities Managers at the Stark and Trumbull Campuses will implement this BMP and report to the Director of EHS. The used oil and recycling program will take place periodically throughout each year of the permit term.

9.3 BMP: Salt Storage, Application, and Snow Removal

Program Description

Bulk salt and a brine/calcium solution are used by facilities management to treat snow-covered paved surfaces during winter. Bulk salt is currently stored in a barn and a brine/calcium solution will be stored in a 3,000-gallon double wall tank on the east side of the salt barn. The salt pile and brine tank will be moved from former locations to UFM property at 1787 East Summit Street in order to better protect surface water. The salt pile at its current location is covered, and storm water run-on does not contact the pile. The minimum application rates of salt and brine/calcium solution are used for deicing streets, roads, parking lots, maintenance and storage areas, and outdoor storage areas. More environmentally-friendly alternatives are currently being evaluated by the Facilities Management.

At the Stark and Trumbull campuses salt is primarily stored inside the maintenance facilities. A small tarp-covered salt pile may be located outdoors at these locations.

Street sweeping is conducted at the Kent and Stark campuses to remove salt or other the materials from roadways and parking lots to prevent it from entering the storm sewer system. Also, whenever possible, snow stockpiles will be stored in a way that they do not block storm water inlets and away from environmentally sensitive areas such as streams, lakes, and swales.

Measurable Goals

- Document the estimated amount of salt and brine/calcium solution applied each winter to aid in ice and snow removal.
- Ensure snow and ice removal on campus is performed in a manner that minimizes storm water pollution.

Responsible Parties and Schedule of Activities

The Director of Operations of UFM at Kent, and the Facilities Managers at the Stark and Trumbull Campuses will implement this BMP and report to the Director of EHS. Continue current program and evaluate annually.

9.4 BMP: Vehicle and Equipment Washing

Program Description

Kent State University vehicles are washed in enclosed bays where all drains are connected to an oil interceptor, allowing the wash water to pass through before it is discharged into the sanitary sewer system. All maintenance or mechanical repairs for Kent State University vehicles are performed at a Maintenance Department.

Measurable Goals

- Monitor the locations where vehicles or equipment are washed and seek alternative washing practices to reduce storm water pollution.
- Identify and eliminate illicit discharges from vehicle and equipment washing operations conducted at residences, as specified in MCM3.

Responsible Parties and Schedule of Activities

The Director of Operations of UFM at Kent, the Facilities Manager at the Stark Campus, and the Facilities Manager at the Trumbull Campus will implement this BMP and report to the Director of EHS.

9.5 BMP: Employee Training

Program Description

Kent State University has implemented a training program with the ultimate goal of preventing or reducing pollutant runoff from municipal operations such as park and open space maintenance, building maintenance, storm water system maintenance and cleaning, and yard waste pickup and composting operations. An IDDE fact sheet has been developed for use with employee training. Training is offered once a year for facilities management staff. Each year of the permit term, a new presentation on a different storm water compliance subject is given. Employee training for pollution prevention ties in with MCM 1 Public Education and Outreach.

Measurable Goals

- Document the number of individuals who receive training when it is offered.

- Ensure contractors and vendors are licensed.
- Record and track contractor performance rating.
- Increase the overall awareness of the impacts of storm water and the measures that the University is undertaking to improve storm water quality.

Responsible Parties and Schedule of Activities

The Director of Operations of UFM at Kent, the Facilities Manager at the Stark Campus, and the Facilities Manager at the Trumbull Campus will implement this BMP and report to the Director of EHS. Training is conducted once per year and on a more frequent basis, as need. New facilities maintenance employees are provided training upon hire.

9.6 BMP: Parking Lot and Street Sweeping Program

Program Description

Kent State University Kent and Stark campuses are currently compliant with the TMDL performance standard for pollution prevention/good housekeeping for municipal operations, as a street sweeper is used to pick up litter and debris from parking lots and streets on the campuses. All campus parking lots and curbed streets are scheduled to be swept twice per year and as needed, such as the cleanup of parking lots after football games. Debris and trash swept from streets will be disposed of or recycled in accordance with applicable solid waste regulations. The Trumbull campus is not subject to the TMDL street sweeping performance standard, but as a best management practice debris along the curbs is removed on a regular basis.

Measurable Goals

- Record the frequency of streets swept and the number of lane miles swept.
- Record the amount of debris and materials that were swept up and disposed of and the locations of disposal.

Responsible Parties and Schedule of Activities

The Director of Operations of UFM at Kent and the Facilities Manager at the Stark Campus will implement this BMP and report to the Director of EHS. Curbed streets and parking lots will be swept at a minimum of twice per year during the permit term. The Facilities Manager at the Trumbull Campus ensures that debris from street curbs is removed on a regular basis.

9.7 BMP: Storm Water Structure Maintenance and Cleaning

Program Description

Kent State University is currently compliant with the TMDL performance standard for pollution prevention/good housekeeping for municipal operations, as storm water structures are inspected and cleaned by maintenance staff to ensure they remain free of obstructions and to prevent sediment and other pollutants from entering the storm sewer system or building up within the structure. Debris removed from storm water structures will be disposed of or recycled in accordance with all applicable solid waste regulations.

Measurable Goals

- Record the number of structures cleaned and the frequency of cleanings for each structure.
- Record the amount of material cleaned out of structures and where material was disposed.

Responsible Parties and Schedule of Activities

The Director of Operations of UFM at Kent, the Facilities Manager at the Stark Campus, and the Facilities Manager at the Trumbull Campus will implement this BMP and report to the Director of EHS. The small MS4 permit requires that catch basin and curb inlet structures must be cleaned once every five years.

9.8 BMP: Outdoor Trash, Ground Litter, and Landscaping Debris Collection

Program Description

Kent State University is currently compliant with the TMDL performance standard for pollution prevention/good housekeeping for municipal operations, as maintenance departments at each campus oversee the collection of outdoor leaf and yard waste. The mission statement of maintenance is to reduce the flow of waste and materials into the landfill, educate the Kent State University community on the proper disposal of waste items, as well as the future impact of global waste stream issues. The maintenance department is responsible for the collection of landscaping debris and performs this activity on a regular basis. Leaf/yard waste removed from

main campus properties will be transported to the Kent State University Type IV compost facility. Yard waste at the Stark and Trumbull campuses is either used as mulch on campus or is disposed of appropriately in accordance with applicable regulations.

Measurable Goals

- Track the leaf/yard waste collection program and the tons of materials received at the compost facility.

Responsible Parties and Schedule of Activities

The Director of Operations of UFM at Kent, the Facilities Manager at the Stark Campus, and the Facilities Manager at the Trumbull Campus will implement this BMP and report to the Director of EHS. Leaf/yard waste is picked up on an as needed basis especially during the fall when leaf litter is most abundant.

9.9 BMP: SWPPPs for High-Priority Facilities

Program Description

SWPPPs have been developed and implemented for all high-priority facilities. Each campus has developed a SWPPP for their maintenance facilities. Notices of Intent have been submitted, and copies are kept in environmental files. SWPPPs have been prepared and coverage has been granted for industrial storm water discharge from each of the UFM facilities.

Measurable Goals

- List the number of facilities that have SWPPPs or will require SWPPPs.
- Train and document UFM and appropriate Trumbull and Stark maintenance staff on storm water BMP implementation.
- Track compliance with the SWPPPs and with the permit (*i.e.*, annual training, quarterly inspections, pollution prevention meetings, visual assessments, and sampling)

Responsible Parties and Schedule of Activities

The Director of Operations of UFM at Kent, the Facilities Manager at the Stark Campus, and the Facilities Manager at the Trumbull Campus implement the SWPPPs prepared for their respective facilities and report to the Director of EHS. Inspections, training, pollution prevention meetings, and storm water monitoring are being performed in accordance with the required frequencies outlined in the storm water general permit OHR000006 and in each SWPPP.

10. REPORTING PROCESS

Kent State University must submit an Annual Report by April 1 of each year within the permit term. The Annual Report must be submitted electronically using the Ohio EPA's electronic small MS4 Report Form available through Ohio EPA's eBusiness Center. Each report will cover the period from January through December of the previous year. The Annual Report Form is utilized to report the status of the SWMP. At a minimum Annual Reports include the following components:

1. A Table of Organization showing personnel who are responsible for overall management and implementation of the SWMP including primary point of contact with contact information for each MCM.
2. An assessment and status report of the Kent State University permit compliance and performance standards, an assessment of the appropriateness of the identified BMPs, progress toward achieving the statutory goal of reducing the discharge of pollutants to the maximum extent practicable, and the measurable goals for each MCM.
3. Estimated percentage of target audience reached for each MCM.
4. How TMDLs (*E. coli* and total phosphorus) were incorporated into each MCM.
5. Summary of illicit discharge detection program including number of MS4 outfalls, number of outfalls that were dry weather screened and found to have dry weather flows, number of illicit discharges detected and eliminated.
6. Summary of any storm sewer system map updates.
7. The results of information collected and analyzed during the reporting period, including monitoring data used to assess the success of the program at reducing the discharge of pollutants to the maximum extent practicable.
8. Summary of construction projects, number of construction SWPPPs reviewed, number and frequency of inspections performed, number of violation letters, enforcement actions, and complaints.
9. A list of number of sites requiring post-construction controls and number of long-term O&M plans reviewed and inspected.
10. A list of proposed changes to the SWMP, including changes to any BMPs or any identified measurable goals that apply to the program elements.
11. Identify waste disposed and recycled, road salt/brine application and usage, quantity of fertilizers and pesticides used, street sweeping, catch basin cleaning, and curb removal of debris status reports.
12. A summary of the storm water activities that will be implemented during the next reporting cycle (including a schedule).