In accordance with Part I, Section C.1.e. of National Pollutant Discharge Elimination System (NPDES) Permit MI0053902, the University of Michigan (University/UM) is required to submit an annual report of activities associated with the storm water management program. This program is a requirement of the NPDES permit reissued by the Michigan Department of Environmental Quality (MDEQ) Surface Water Quality Division on October 1, 2001. This report covers the period July 1, 2011 through June 30, 2012 and follows the format identified in the permit.

1. Compliance Assessment –
   a. Describe the status of compliance with permit conditions.

   The University of Michigan is in compliance with the Storm Water Management Program Plan (SWMPP) for the Ann Arbor (UMA2), Dearborn (UMD), and Flint (UMF) campuses, as revised in May 2010 and approved by MDEQ on June 2, 2010. The University is also continuing to implement the approved post-construction storm water management requirements outlined in the Storm Water Management – Post-Construction Requirements Guideline (EP3-001). UM submitted a permit renewal request to MDEQ in accordance with the permit, prior to April 1, 2006 and is awaiting reissuance of a NPDES permit. For the purposes of this report please note that the Occupational Safety and Environmental Health (OSEH) department is associated with UMA2, the Environmental Health Safety and Emergency Management (EHSEM) department is associated with UMD, and the Environmental Health and Safety (EHS) department is associated with UMF.

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

   The following potential illicit discharges were identified during this reporting period:
   - **Dye testing** was completed by UMA2 at the following building during the reporting period: Yost Ice Arena and vicinity on UM South/Athletic Campus; Michigan Union building; Michigan Union building on UMs Central Campus; UM North Campus Hayward Street and the courtyard/diag; Schembechler Hall; East Quad; Lawyers Club. No cross connections were identified during these testing events.
   - **Ruthven Museum**: Floor drains in the basement level were determined to be connected to the storm sewer system. BMPs have been put in place in areas that store potential storm water pollutants, including by not limited to, spill containment systems and designated storage locations.
   - **Northwood – 1613 Beal**: Dye testing prior to renovation work planning identified boiler room drains flow into a sump which discharges into the storm water system. This item has been referred to AEC & the Plumbing Shop to determine the necessary correction. The drains were put out of service. The repair has been scheduled for September 2012.
   - **UMD** – Sewer mapping associated with IDEP-1, IDEP-2 revealed several areas near the Fairlane Center that may have illicit connections. UMD will conduct storm sewer camera “mapping” to verify the flow of these drains and the discharge locations.
   - **UMD** developed a dry weather screening plan for the campus for 2012/2013. The screening plan involves inspection of the 3 outfalls (DOF-001, DOF-006, DOF-007). If dry-weather flow is observed, the potential discharge locations will be inspected to attempt to determine the source of the flow. If the source is not immediately determined, storm water sampling and analysis may be conducted.
The following illicit connections are under further investigation.

- **Naval Architecture & Marine Engineering** – A potential issue was identified by AEC. Floor drains in a 1960 drawing of the building appear to be routed to the storm system. No discharge is occurring to these floor drains.
- **School of Public Health 2** – Plumbing Shop manager reported that chiller machine discharge routed to floor drains in the basement may tie into the storm sump for the building.
- **Burton Tower:** Floor drains in the basement level. Investigations on discharge to date have been inconclusive.
- **Chemistry Building:** Floor drains in room 408-B. Investigations on discharge to date have been inconclusive.
- **Engineering Programs Building /François-Xavier Bagnoud Building/GG Brown:** AEC identified the potential for some floor drains in these buildings to be cross-connected to storm. Additional investigation is needed, including camera work on the lines or dye testing. Dye testing has been recommended by Occupational Safety & Environmental Health (OSEH) prior to/concurrent with proposed renovations.
- **Non-contact cooling water** was identified as the source of flow during dry weather screening at the following locations: Mary Markley Hall (and 1 hand-washing sink); and the Natural History Museum. The Plumbing Shop is reviewing the Markley Hall site for correction planning. Additional reviews of the building and plan sets continue in an effort to confirm the proposed work and tie-ins identified below are properly routed. Individual projects will be prioritized for correction.
- **UMA2** is continuing follow-up investigations for flows identified during dry weather screening events at the following locations: Literature, Science, and the Arts/Student Activities Building (MH-5); News & Information Services (MH-8); Modern Languages Building (MH-14); Biomedical Science Research Building (MH-20); Wolverine Tower; Briarwood; M-Stores; Northwood III (MH-4); Northwood II (MH-8). Follow-up investigation activities by UM are being prioritized for review in conjunction with other priority corrections of cross connections and water main replacement projects.
- **Manufactured Gas Plant (MGP):** Although not considered an “illicit connection” it may be relevant to note that during this past year, Consumers Energy, reported that while investigating their company’s former MGP located under and adjacent to property currently owned by the UMF Campus, a sheen along the riverbank adjacent to the university property. This was reported to the MDEQ by Consumers Energy; booms have been deployed, and the situation is being closely monitored/investigated further. The actual source has not yet been determined but the historic MGP site is considered suspect.

The following illicit connections have been addressed:

- **Alice Lloyd** – During investigation of a cross connection reported by the City, UM identified flow coming from this building’s mechanical room floor drains. The correction of this condition was referred to Architecture, Engineering & Construction (AEC) for inclusion in the building renovation conducted in 2011 and 2012. In June 2012 dye testing was completed and no cross connections were identified.
- **Yost Arena** – Several floor drains were identified as connected to the storm water system during dye testing. The correction of these floor drains to discharge to the sanitary sewer system has been referred to the design team for inclusion in the upcoming building renovation estimated for 2012/13.
- **Kraus Natural Science Building:** Floor drains in the basement level of room 1015-B. Investigations demonstrated that storm drains discharge to the sanitary sewer system.
c. Assess Best Management Practice appropriateness and progress toward goals identified in the SWMPP.

Note: (Excerpts from the SWMPP are shown in italics.)

1. 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 UM has developed a broad and aggressive storm water education and outreach program. This multi-faceted program is closely connected to the UM’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 UM’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. UM’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 UM 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 land owners 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).

The following Best Management Practices are used to meet the requirements of Part I, Section B.1 of the University of Michigan’s NPDES Permit for the Public Education Program (PEP):

PEP-1. Storm Water Education Brochures

In cooperation with the UM School of Natural Resources and Environment (SNRE), the UM Department of Occupational Safety and Environmental Health (OSEH) 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.
Measurable Goal: Review existing brochures and update as needed. Create additional brochures, tip cards, posters, etc. as new needs are identified. The number of new or revised brochures, flyers or other educational media created will be tracked for inclusion in the progress reports. Copies of brochures (and other handouts/postings) will be kept on file.

Actions during the reporting period:

The Fall 2011 OSEH Update Newsletter included the article “Understanding Storm Water” which discussed what storm water runoff is, why runoff is a problem, the effects of pollution, and pollution solutions.

UMA2 revised the Ann Arbor Football Stadium vendors’ posters for the 2011-12 season. Updates to 4 storm water brochures were also completed for: Students, Faculty & Staff, Vendors and Film Projects.

At UMA2, OSEH staff review general BMP information with contractors at larger projects with earth disturbances regarding protection of surface waters from construction site storm water runoff at project kick-off meetings.

At UMA2, any project that is required to have an SESC plan or is under a DEQ issued JPA; OSEH reviews the specific requirements and details of these permits with contractors prior to the start of the project.

EHSEM distributes seven (7) different storm water related brochures and a bookmark with storm water tips and facts at training events, orientations, and campus events. These brochures provide information on how to handle household hazardous waste and pet waste as well as information on fertilizers, pesticides, paints, and vehicle maintenance. These brochures also provide links to the EHSEM storm water website (www.umd.umich.edu/stormwater/), a link to the DEQ website which provides information on household hazardous waste collection dates and locations (http://www.michigan.gov/deq/0,4561,7-135-3585_4130-115394--.00.html) and emergency contact information.

In March of 2012, EHSEM revised and printed five (5) of the seven (7) brochures titled “Dog Owner Tips”, “Pesticide Tips”, “Fertilizer Tips”, “Household Waste Tips”, and “Painting Tips”. EHSEM is in the process of updating their storm water bookmark.

Contractors that are hired at UMD are required to receive Storm Water training before beginning work on campus. During this training, contractors are presented with a UMD flip chart and a Soil Erosion and Sedimentation Control (SESC) Practices document which provide information on the good and bad practices of SESC and emergency contact information. Each day they are on campus, the contractors must sign in, obtain and wear a University identification badge which provides information on how to report an illicit discharge on campus. UMD is in the process of adding language to contracts during the bid process in order to ensure that hired contractors are prepared to handle spills they may be responsible for on campus.

EHSEM worked with the UMD Communications and Marketing Department and created two storm water poster designs. One poster is located in the University Center which is a common gathering for faculty, staff, students, and visitors. The second poster is located in the main entrance of the UMD Fairlane Center.

EHSEM created “Do Not Dump” signs and installed one at the UMD Fairlane Center loading dock. EHSEM is in the process of having “Do Not Dump” signs posted at all of the UMD loading docks.
EHSEM created “Only Rain in the Drain” mouse pads that provide 10 storm water tips along with information on who to contact if an illicit discharge is observed.


In September 2011, UMD revised 5 brochures titled “Pesticide Tips”, “Dog Owner Tips”, “Fertilizing Tips”, “Household Waste Tips” and “Painting Tips”. Each brochure not only gives information on their respective topics but also includes information on how to report an illicit discharge on campus; provides a link to the EHSEM storm water webpage for more information. www.umd.umich.edu/stormwater/; and provides a link to the http://www.michigan.gov/deq/0,4561,7-135-3585-4130-115394--.00.html for recycling information.

At UMF, the outdoor display case located on the Harrison Parking Ramp has been updated during this reporting period and continues to promote awareness of storm water, watershed management, best management practices at work and home, and who to call if a spill occurs or is observed. The information has been posted for the entire year – informing students and staff as they walk by daily.

UMF Environment, Health and Safety (EHS) hired a work-study student employee from our Earth and Resource Science department in spring 2011 and devoted their time to storm water management education/promotion during the spring, summer and fall of 2011.

UMF EHS continues to utilize several different flyers to promote storm water management and related best environmental practices for our campus community. They include a revised version of the MDEQ’s “Our Actions Can Affect Michigan’s Rivers” brochure to specifically identify the Flint River, provide specific contact information to report spills in the UMF community and highlight the University’s storm water management website for further information. An additional flyer developed by EHS in Fall 2010 “Protect the Flint River – Only Rain in the Drain” outlining actions citizens can do at home and at work that will help to protect the Flint River and improve the water quality have been posted around campus, provided at training classes and public events.

UMF EHS continues to use/distribute the two-sided “Only Rain in the Drain” bookmark that provides campus specific storm water educational information about the campus, the Flint River, specific things individuals can do to protect drains and surface water. These bookmarks are distributed via the campus bookstore, the university library and available at our information centers in several buildings.

**Measurable Goal:** 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 for subsequent inclusion in the progress reports.

**Actions during the reporting period:**
An estimated 4,223 brochures and bookmarks on storm water management and pollution prevention topics were distributed at UM’s three campuses. Over 1,188 employees attended training, orientation or workshop sessions across all three campuses which included storm water topics throughout the reporting period.

UMD distributed 1,945 Storm Water Awareness bookmarks, 678 in-house brochures (the seven (7) various types of brochures designed by EHSEM) and 405 SEMCOG brochures during this reporting period.
At UMF, more than 500 “Only Rain in the Drain” bookmarks were distributed through the campus bookstore, library, information desks, and other scheduled student and staff events. In addition approximately 100 “Our Actions Can Affect Michigan’s Rivers” and “Protect the Flint River – Only Rain in the Drain” brochures were distributed during the reporting period.

Measurable Goal: 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.

Actions during the reporting period:
UMA2 created an additional brochure to address storm water BMPs for film/movie projects on the Ann Arbor campus.

EHSEM worked with the UMD marketing department and created two storm water poster designs. One poster is located in the University Center which is a common gathering for faculty, staff, students, and visitors. The second poster is located in the main entrance of the UMD Fairlane Center.

EHSEM also created “Do Not Dump” signs and installed one at the UMD Fairlane Center loading dock.

EHSEM published an article, on November 21, 2011, pertaining to the storm water markers and the newly installed pet waste stations in the “Record” (UMD newspaper) which was distributed electronically to all faculty and staff. The following is a link to the article: www.umdearbornreporter.com/2011/11/protecting-the-rouge-river-storm-drain-badges-pet-waste-stations-are-reminders-to-be-proactive/

EHSEM in partnership with the UMD Honor Transfer Innovator students are in the process of further developing a storm water communications and marketing plan on campus to reach out to students.

Measurable Goal: In 2011-2012, create a dissemination strategy to reach the target audiences and any new audiences identified by UM. Identify educational information available/developed for each target audience applicable at UM and keep this information on file.

Actions during the reporting period:
This information will be kept on file.

Measurable Goal: In 2012-2013, implement the new dissemination strategy/plan for educational brochures. Tally the number of brochures distributed and provide in the annual reports.

Actions during the reporting period:
This information will be provided in a future report.

PEP -2. OSEH/SNRE Storm Water Education Web Sites
Developed in cooperation with the UM SNRE and maintained by OSEH, the Storm Water Education Web site builds upon the information contained in the brochures and disseminates it to the general University community and the public at large. This web site is intended to help students, employees, and visitors in the UM 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.
The 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 website can be viewed by visiting UMA2’s website at www.oseh.umich.edu/environment/storm.shtml, UMD’s website at www.umd.umich.edu/691923/, and UMF’s website at http://www.umflint.edu/ehs/.

**Measurable Goal:** 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 UM 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.

**Actions during the reporting period:**
- As of this report, 21,648 website hits were registered on the UMA2 Storm water website. This is an increase of 588 hits over the 2011-2012 reporting period.
- OSEH staff periodically reviews and updates the content on the UMA2 storm water website. Contact information and webpage links are reviewed for accuracy. Improvements to the information available is also performed on a regular basis.
- The UMD storm water website received 1,897 views during this reporting period. Unfortunately the views that occurred between May 20th – June 28th, 2012 were not able to be accounted for due to an IT error.
- The UMD storm water webpage provides storm water awareness and tips through educational materials, videos, and links to supporting agencies such as the Michigan DNRE, MIEarth, Southeast Michigan Council of Governments (SEMCOG), Friends of the Rouge (FOTR) and Alliance of Rouge Communities (ARC), etc.
- During this reporting period EHSEM made five (5) changes to their storm water website: EHSEM added links promoting an ARC rain barrel sale, the Friends of the Rouge (FOTR) Rouge Rescue event, EIC’s spring events, added a Washtenaw County Storm Water video (http://www.ewashtenaw.org/government/departments/environmental_health/recycling_home_toxics/green_media/water_video), and a link to the Alliance of Rouge Communities (ARC) website.
- UMF EHS & Facilities worked together to develop and maintain a web page to help contractors and project managers to quickly locate environmental health and safety information including storm water management, SESC, environmental due care requirements, etc. all of which are critical in ensuring contractors understand the University’s storm water management program and the expectations we have when they are working on our property. The website is http://www.umflint.edu/facilities/contractinfo.htm. The web link for the UM construction safety requirements, storm water management requirements, and SESC requirements are all incorporated into contractor bid specifications and contract documents during the reporting year.
- Additionally, UMF EHS substantially enhanced our Storm Water Management web pages during the fall 2011 http://www.umflint.edu/ehs/Cover_Stormwater.htm The website provides an overview of defining the watershed, how individuals can protect the surface water and improve water quality,
encourages getting involved in community SW initiatives, identifies best management practices, links to our university programs/guidelines.

**Measurable Goal:** 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.

**Actions during the reporting period:**
This information will be kept on file.

During this reporting period, in addition to the UMD web link to Friends of the Rouge, EHSEM added a link to the Alliance of Rouge Communities (ARC) webpage.

**Measurable Goal:** 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 UM. This information will be kept on file.

**Actions during the reporting period:**
This information will be kept on file.

**Measurable Goal:** 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.

**Actions during the reporting period:**
This information will be kept on file.

**Measurable Goal:** 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).

**Actions during the reporting period:**
As of this report, 21,648 website hits were registered on the Ann Arbor storm water website. This is an increase of 588 hits over the 2011-2012 reporting period.

The UMD storm water website received 1,897 views during this reporting period. Unfortunately the views that occurred between May 20th – June 28th, 2012 were not able to be accounted for due to an IT error.

**PEP -3. Storm Water Management at UM - 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 UMA2’s storm water drainage system and its 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.

This video or other storm water video content is offered for viewing on an as needed basis for inclusion in faculty and staff presentations, classes, workshops, etc.

**Measurable Goal:** 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.
Actions during the reporting period:
Storm water video content is offered for viewing on the OSEH website. In addition, all new employees are sent a welcome email that includes the following:

*Storm Water: The State requires that everyone at UM be trained on storm water management. Learn about your responsibility to help reduce pollutants reaching our storm drains: [http://www.oseh.umich.edu/environment/storm.shtml](http://www.oseh.umich.edu/environment/storm.shtml)*

There were approximately 1,046 new UMA2 employees during the reporting period.

The exhibit area at the UMD’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.

Sixty One (61) Contractors, Public Safety, Grounds, and Facilities Management personnel were trained with a video titled “Storm Water Pollution Prevention – A Drop in the Bucket.”

Two (2) Public Safety personnel were trained with the Washtenaw County video titled “It’s In Our Hands”.

**Measurable Goal:** 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 UM football games. The total anticipated audience for these messages is over 107,000 per game.

Actions during the reporting period:
Public Service Announcements were made at the eight UM football home games during the 2011-12 season, potentially reaching an audience of 897,431 people.

Examples of the football PSAs follow:
- Stop trash, food, and drink wastes from going down the storm drain and to the Huron River! Please recycle and properly dispose of your trash, food, and drink wastes. Help keep our Michigan waters BLUE!
- While the Wolverines score today, you too can score points for the environment. Anything that enters a storm drain goes straight to the river untreated. Pop, juice, coffee, alcohol and tobacco should be disposed of properly. So do your part and help keep our Michigan waters BLUE!
- Dumping pop, juice, coffee, alcohol and cigarette butts into the storm drain or on the pavement might seem like the easiest way to get rid of your trash, but it’s also the easiest way to pollute the river. Anything that enters a storm drain goes straight to the river untreated. Dispose your trash in the proper receptacles to help keep our Michigan waters BLUE!
Due to the fact that the UMD Fieldhouse is not equipped with an announcement system, EHSEM used one of the poster designs that was created by the Communications and Marketing Department and posted several of them in the Fieldhouse/Wellness Center in order to spread storm water awareness.

In addition, UMF provides PSA’s promoting community household hazardous waste collection days in October and May of each year through e-mails and printed materials/post cards, etc. These are typically sent to all faculty, staff and students (> 9000 individuals).

UMF EHS also promotes SWM at the UMF Welcome Back Picnic by having a display table and educational handouts, and signing up volunteers for storm drain stenciling activities in the Fall. An estimated 2,500-3,000 students, staff and faculty attended with more than 20 individuals signing up to request more SW information.

PEP -4. Storm Water Education Presentations (includes 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 UM), new laboratory employee training classes and at new Plant employee training classes. In addition, presentations including storm water topics are provided on an annual basis to UMA2 Plant staff which includes the following sub-groups:

- Building Services,
- Construction Services (including the Cabinet, Sign, Glass, and Upholstery shop departments),
- Facilities Maintenance (including HVAC, Plumbing, Pumps, Steam Distribution & Insulation, Electrical, Fire Systems, Elevators, Roofing, Metal Crafts & Machine Repair shop departments),
- Grounds & Waste Management Services,
- Utilities & Plant Engineering (includes purchasing, generation, distribution, conservation, and accounting of utilities for the University), and the
- Work Control group (responsible for single point of contact for services, all estimates and preventive maintenance planning).

Measurable Goals: 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.

Actions during the reporting period:

Storm water topics were included in classes, workshops or presentations that reached over 1,188 people during the reporting period. Examples of classes include: OSEH New Hire Training for Laboratory Personnel, Spill Prevention Control, Annual Safety Refresher training, Hazard Communication, Hazardous Waste Management, PPE, “All in One Training” for Public Safety staff and Environmental Requirements Update.

UMF held 28 storm water training sessions for faculty, staff, students and contractors where a total of 242 people were trained. Nine (9) Contractor companies were trained resulting in a total of 57
contractor employees. The contractors were trained with a video titled “Storm Water Pollution Prevention – A Drop in the Bucket”, a 34 slide PowerPoint Presentation, a brochure titled “Storm Water, A Shared Responsibility,” along with a quiz at the end of the training session.

The Environmental Interpretive Center (EIC) has offered more than 350 programs during this reporting period on a variety of subjects. Of these programs, 78 programs have directly addressed the importance of clean water to all life and focus on activities which impact water quality. Nearly 5,400 people have attended these 78 programs. Attendance at these programs is broken down in the following categories: Our pond program was offered 72 times with 3245 attendees; The Water Quality & Hydrologic cycle program was offered 6 times for 348 visitors; and the Annual Rouge River Water Festival, a large one-day event brought in 1,740 visitors to attend various programs.

At UMF, during Summer 2011 the EHS intern focused on refreshing training materials, slides, etc. and conducting focused storm water management/SESC employee training for select employees on campus, key Facilities & Operations employees, grounds, HVAC, Central Energy Plant, and maintenance staff. Additionally EHS covers protection of storm drains in other health & safety classes such as hazard communication, hazardous waste, Student Housing Resident Assistant Orientation, Respiratory training, etc.

UMF EHS continues to meet with contractors prior to starting jobs to go over environmental and occupational safety requirements; this includes discussion of soil management, University’s construction safety requirements and protection of storm drains, etc. EHS staff also conduct routine inspections of work sites to insure cautionary measures are in place prior to and during contractor work. SESC weekly inspections are performed as applicable/required.

**Measurable Goals:** 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.

**Actions during the reporting period:**
A total of 931 laboratory rooms were inspected during the reporting period.

**Measurable Goals:** All out- door food vendors will receive training/education including related storm water issues annually. Food establishment inspections will include items to ensure storm water Best Management Practices 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.

**Actions during the reporting period:**
A total of 126 inspections were performed by OSEH sanitarians on temporary food establishments during the reporting period.

UMF EHS provided training to key representatives of our food vendors in the Fall 2011. EHS routinely inspects loading dock areas that are used by food service vendors and their suppliers to ensure waste materials are being properly managed.
Additional measures taken to achieve goals:

- OSEH continues to work with UM 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 2011-12 football season to reinforce proper waste management for these temporary operations.

- The “new employee” automatic email was implemented in August 2011, which is designed to provide an email one month after hire to inform the employee that storm water training is required along with a link to review the storm water education topics online at the OSEH website and to reinforce the need for the employees help to reduce pollutants discharging into storm water system.

- The web link for the UM construction safety requirements, SWM requirements, SESC requirements are all is incorporated into contractor bid specifications and contract documents during the reporting year.

- Presented at the Safety Coordinator’s Conference in July 2011 on “Storm Water: Keeping It Clean”.

- After the successful pilot recycling program that took place in the UMD University Center in the summer of 2011, the Dearborn campus started their single stream recycling program campus wide on July 1, 2012. [http://www.umd.umich.edu/singlestreamrecycling/](http://www.umd.umich.edu/singlestreamrecycling/)

- Annually in May, the Environmental Interpretive Center (EIC) sponsors the Rouge River Water Festival. On average, this event attracts over 1,700 students from 62 different elementary and middle schools in the Rouge watershed to experience over 50 presentations. The event also draws over 100 adults from 30 different organizations to exhibit or present at the festival. Water Festival participants attend presentations or exhibits that address topics such as uses of water; hydrologic cycle; wastewater treatment; soil erosion; and wetlands. Volunteers include organizations like Michigan Department of Environmental Quality; Ford Motor Company; Cranbrook Institute of Science; Environmental Protection Agency; Friends of the Detroit River; Friends of the Rouge; and Marine Pollution Control; to name a few. In addition, the EIC’s ½ acres rain gardens diverted storm water to manage storm water flow on-site.

- UMD participates in the Rouge River Gateway Partnership. Members include the Vice Chancellor of Governmental Relations who is one of the founders and chairs of this program. The Partnership provides a forum to build consensus to revitalize the Rouge River with the goal of making the river an amenity. The Gateway Partnership members have been meeting since the summer of 1999 and continue to meet periodically over the past few years. Over 200 stakeholders have attended some Partnership meetings. The central idea of the Master Plan – a balance of environmental stewardship, cultural heritage, recreation, and economic development – is the vision of the Gateway Partnership. Throughout the planning process, meetings were held with subcommittees of the larger body to understand the plans and goals of individual Partnership members. Summaries of progress have been shared with partners when appropriate. This communication has demonstrated the shared benefits and potential connections between proposed developments. Enthusiasm to share information increased as the participants realized the magnitude of the project as a whole.

- UMD partnered with Friends of the Rouge and hosted three (3) Rouge Rescue Events; the Garlic Mustard Pull at the EIC and HFE on April 28th, 2012; the Honey Suckle Pull at the EIC on June 2, 2012; and the Rouge Rescue Wrap Up Meeting on June 8th, 2012.
Friends of the Rouge (FOTR) have office space on the UMD campus. They host monthly Public Involvement Task Force Meetings and Rouge Education Project Task Force Meetings. FOTR conducts monthly board meetings at the Environmental Interpretive Center (EIC). FOTR also held several events at the EIC including the Schoolyard Habitat Forum on January 25th, 2012; Stonfly Search on January 28th, 2012; Spring Bug Hunt on April 21st, 2012; and a Fish Presentation on February 8th, 2012. During this reporting period, FOTR also had two student interns working to collect data on the status of the Red-Side Dace, an endangered minnow species in the upper and middle branches of the Rouge River.

The UMD Henry Ford Estate (HFE) partnered with FOTR and hosted the Rouge Rescue Garlic Mustard Pull on April 28th, 2012. The HFE staff regularly clean debris, leaves, etc. from all storm drains on site. They collect leaves from the lawns in the fall and shred them for use as winter mulch on the flower beds in order to reduce soil wash off during the winter rains/snow melts. The HFE also retains the riparian buffer along the Rouge River. HFE staff provide selective pruning of the buffer and maintain several types of native herbaceous plants, shrubs, and trees along the edge of the Rouge River. They also limit herbicide use and irrigation on the lawns to only what is necessary to maintain a healthy turf in the vicinity of the main residence. Lawn areas not irrigated or treated with herbicides include the Great Meadow, the orchard, and the picnic areas. Overall, approximately 75 volunteers assisted down at the HFE among the 8 regular staff members that maintain the grounds on a daily basis.

UMD installed three (3) pet waste stations along the “Rouge River Gateway Greenway Trail” which runs through campus. EHSEM published an article in the Record (UMD newspaper) on November 21, 2011 pertaining to the installation of the pet waste stations along with information on the storm water catch basin markers. This article was distributed electronically to all faculty and staff. The article can be found at the following link: [www.umdearbornreporter.com/2011/11/protecting-the-rouge-river-storm-drain-badges-pet-waste-stations-are-reminders-to-be-proactive/](http://www.umdearbornreporter.com/2011/11/protecting-the-rouge-river-storm-drain-badges-pet-waste-stations-are-reminders-to-be-proactive/)

EHSEM sent emails to all UMD faculty and staff on March 6th, 2012 and June 20th, 2012 promoting Wayne County Waste Collection dates and sites. EHSEM also promotes these dates on their website at [http://www.umd.umich.edu/692107/](http://www.umd.umich.edu/692107/).

All UMD safety training classes include information on storm water importance and protection defines an illicit discharge, identifies how to report spills and who to call if they observe an illicit discharge or a spill that could potentially threaten a drain, and how to protect drains.

The UMD Spill Prevention Control and Countermeasure (SPCC)/Pollution Incident Prevention Plan (PIPP) and Storm Water Management training is provided to all employees in Facilities Management.

EHSEM is currently in the process of partnering with a group of Honor Transfer Innovator students to help promote storm water at the fall welcome event on campus.

EHSEM was provided an information table at the campus Sustainability Water Expo which was attended by hundreds of faculty, staff and students. EHSEM passed out 45 bookmarks and 54 storm water brochures. The following links provides details: [http://eventcalendar.umd.umich.edu/calendar/index.php3?action=calendar&text_only=1&timestamp=1318737600&cal_view=week](http://eventcalendar.umd.umich.edu/calendar/index.php3?action=calendar&text_only=1&timestamp=1318737600&cal_view=week)

EHSEM provides storm water management training to contractors to ensure awareness of environmental and safety requirements.
At UMD, the “Evergreen Team” has hosted Campus Sustainability Week on campus for six consecutive years. Several student organizations have assisted with programming including SEA (Student Environmental Association), SIFE (Students in Free Enterprise), along with the Environmental Interpretive Center (EIC). Several events are held throughout the week including a Water Expose where visitors exhibit different issues related to water; a scavenger hunt in which students participate in an informational hunt around campus; “Green Drinks” which is an event that is based around local sustainable beverages; and a fishing competition which is run by the City of Dearborn. Sustainability Week also provides a variety of guest speakers that include some of our own faculty, local organizations, and authors.

- The Flint campus has been engaged directly in promoting or distributing educational information or indirectly by supporting local agencies that are involved in such activities. Examples include the following:
  - Bulletin Board in Hubbard Building & on Harrison Parking Structure displays reminders and tips for employees and students in protecting storm drains and the Flint River
  - All Hazard Communication, Hazardous Waste, PPE, and other general safety training classes address the difference between sanitary and storm drains, illicit discharges, reporting spills, protection of drains, who to call if they observe an illicit discharge or a spill that could potentially threaten a drain.
  - Spill Prevention Control and Countermeasure (SPCC) / Pollution Incident Prevention Plan (PIPP), Storm Water Management and environmental due care training is provided to select employees in Facilities Management & Operations. The training is offered at least every 3 years. Training covers best management practices, housekeeping, protection of storm drains, reporting spills, etc.
  - UMF promotes the local Genesee County Household Hazardous Waste Collection in the spring and summer each year.
  - Annual Earth Day events and activities include participation of many local environmental organizations as well as the Flint River Coalition and Flint River Corridor Alliance (in which UMF is a member of both) providing educational materials about protecting the Flint River, handing out brochures, one on one discussions with university and community members about specific actions individuals can do to improve water quality, report problems, get involved, participate in river clean ups, etc. Presentations by organizations to general community.
  - UMF Outreach has been involved along with the Flint River Watershed Coalition organized Flint River clean up volunteer days in the spring and fall. The University partners with the City of Flint. The University coordinates the student and community volunteers while the City of Flint coordinates the transportation and disposal of the trash and debris that is picked up & pulled from the banks of the river by volunteers.
  - At UMF the campus community is instructed through trainings, 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.
  - UMF’s University Outreach/Center for Applied Environmental Research (CAER) continues to be an engaged and active supporter of promoting environmental stewardship, watershed management planning, greening of the community, storm water intervention workshops, Flint River clean ups, volunteer projects
throughout the City of Flint and the Genesee County area. More information about past and present University Outreach and CAER activities in the community can be found on their websites: http://www.umflint.edu/outreach/; http://www.umflint.edu/caer/; and http://www.umflint.edu/caer/project_archive.htm

2. 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 UMA2 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.

The following Best Management Practices are used to meet the requirements of Part I, Section B.2 of the University of Michigan’s NPDES Permit for Public Involvement and Participation (PIP):

PIP -1. Storm Water Reports
Measurable Goal: The SWMPP and NPDES reports will be made available on the UM storm water web site. The date of addition to the website will be tracked for subsequent reporting.

Actions during the reporting period:
The annual report for 2011 was added to the UM OSEH storm water website on November 28, 2011. Additionally, it was shared with key stakeholders and decision makers on the UMF Campus in the areas of Facilities and Operations, Business and Finance, and others. EHSEM added a link to their webpage to the 2011 annual storm water report.

The semi-annual report for April 2012 was added to the UM OSEH storm water website in August 2012.

PIP -2. Community Meeting Participation
Measurable Goal: The UM will attend a minimum of ten (10) meetings annually with local watershed/creekshed organizations like the Huron River Watershed Council (HRWC), Washtenaw County Drain Commission, City of Ann Arbor (A2), the Millers Creek Action Team (MCAT), Flint River Corridor Alliance, Flint River Watershed Coalition, Friends of the Rouge or other local stream protection organizations for collaboration on storm water issues in the community. UM’s participation in meetings, community events, etc. with these groups will be tracked for subsequent reporting.

Actions during the reporting period:
At least 17 meetings were attended during the reporting period including Miller’s Creek Action Team, Mallett’s Creek Coordinating Committee, Middle Huron Initiative, Flint River Corridor Alliance, Hamilton Dam Committee, Friends of the Rouge River, Alliance of Rouge Communities, Rouge River Gateway Partnership, and the Flint River Watershed Coalition.
Also, OSEH staff (2) attended a MDEQ sponsored MS4 stakeholders coordinating meeting in Lansing, Michigan.

EHSEM attended six (6) monthly Friends of the Rouge Task Force Meetings between November 2011 and May 2012.

At the UMD’s Environmental Interpretive Center (EIC) we also support various off-campus community organizations that 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 activities involved in education and outreach with the following organizations that are directly related to water quality concerns:

- Friends of the Rouge River
- Friends of the Detroit River
- Southeast Michigan Land Conservancy
- Lake Plain Stewardship Coalition
- Sustainable Business Forum
- Community Organic Garden

UMD participates in the Rouge River Gateway Partnership. Members include the Vice Chancellor of Governmental Relations who is one of the founders and chairs of this program. The Partnership provides a forum to build consensus to revitalize the Rouge River with the goal of making the river an amenity. The Gateway Partnership members have been meeting since the summer of 1999 and continue to meet periodically over the past few years. Over 200 stakeholders have attended some Partnership meetings. The central idea of the Master Plan – a balance of environmental stewardship, cultural heritage, recreation, and economic development – is the vision of the Gateway Partnership. Throughout the planning process, meetings were held with subcommittees of the larger body to understand the plans and goals of individual Partnership members. Summaries of progress have been shared with partners when appropriate. This communication has demonstrated the shared benefits and potential connections between proposed developments. Enthusiasm to share information increased as the participants realized the magnitude of the project as a whole.

UMF is extremely involved in the local Flint River Watershed planning and outreach related activities both by attending meetings as well as playing a leadership role on various committees. Our involvement includes the following:

- UMF is an active and committed Flint River Corridor Alliance Partner Member. Leyla Sanker, Community Outreach Coordinator with UMF University Outreach is administrative contact for Flint River Corridor Alliance [http://www.frcorridor.org/](http://www.frcorridor.org/) and David Lossing, UMF Government Relations Director co-chairs the committee. Mike Lane, UMF Environment, Health and Safety attend most monthly meetings throughout the year. UMF hosts the monthly meetings at our facility as well as several open forums to discuss watershed issues.

- UMF is a sponsor of the Flint River Watershed Coalition (FRWC). Brent Nickola, UMF Alumni Relations Manager has been an active board member of the Flint River Watershed Coalition during 2010-12. [http://www.flintriver.org/](http://www.flintriver.org/)
PIP -3. Storm Water Management Program Plan (SWMPP) - Community Feedback

Measurable Goal: The City, County and interested local stream and watershed protection organizations will be notified of the online availability of the UM SWMPP for review and comment on the same frequency the information is provided to the Department. The SWMPP will be accessible on the UM website for review by the public. Any comments received will be reviewed by UM OSEH/EHSEM/EHS and evaluated for inclusion in the SWMPP. Comments submitted and any actions taken in response to comments will be documented and kept on file.

Actions during the reporting period:
The draft SWMPP was previously shared with local watershed organizations and local government in the Ann Arbor/Huron River, Dearborn/Rouge River and Flint/Flint River areas for comments and feedback. The SWMPP is also available for review on the OSEH website.

No community feedback on the SWMPP was received during this reporting period.

UMF Environment, Health and Safety (EHS) shared the new NPDES Permit and SWMPP with key staff on campus, particularly those in Facilities Management and Administration. The SWMPP was also shared with the City of Flint water pollution prevention/compliance team and the Flint River Watershed Coalition for comments and feedback. The program is posted on the EHS website at http://www.umflint.edu/ehs/EHS%20prog-guide.htm and the Facilities & Operations website http://www.umflint.edu/facilities/contractinfo.htm for easy access/reference.

PIP -4. Middle Huron Initiative Participation / Phosphorus TMDL Participation

Measurable Goal: The UM will participate in meetings of the Middle Huron Initiative (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.

Actions during the reporting period:
OSEH participated in at least one Middle Huron Initiative meetings during this reporting period. The MHI partnership continues to contract with the Huron River Watershed Council to perform monitoring of the Middle Huron tributaries for the 2011 and 2012 sampling seasons.

PIP -5. E. coli TMDL Participation

Measurable Goal: The UM 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.

Actions during the reporting period:
No meetings were held during this reporting period.

PIP -6. Environmental Stewardship / Volunteer Opportunities

Measurable Goal: The UM 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.

Actions during the reporting period:
A total of 10 volunteer events were sponsored by UM during this reporting period.
Volunteer invasive species removal events were held at UMA2 in November 2011 and March 2012 with 30 and 25 participants respectively. Semi-annual events are planned for the 2012-2013 reporting period and may also include native species planting opportunities. In addition, the UMA2 Office of Campus Sustainability webpages include volunteer opportunities in a variety of areas including storm water/water quality to encourage the UM community to get involved.

Annually in May, the Natural Sciences’ Environmental Program along with the Environmental Interpretive Center (EIC) sponsors the Rouge River Water Festival. On average, this event attracted over 1,700 students from 62 different elementary and middle schools in the Rouge watershed to experience over 50 presentations. The event also draws over 100 adults from 30 different organizations to exhibit or present at the festival. Water Festival participants attend presentations or exhibits that address topics such as uses of water; hydrologic cycle; wastewater treatment; soil erosion; and wetlands. Volunteers include organizations like Michigan Department of Environmental Quality; Ford Motor Company; Cranbrook Institute of Science; Environmental Protection Agency; Friends of the Detroit River; Friends of the Rouge; and Marine Pollution Control; to name a few. In addition, the EIC’s ½ acres rain gardens diverted storm water to manage storm water flow on-site.

UMD partnered with Friends of the Rouge (FOTR) and hosted several Rouge Rescue sites on campus. This included Honey Suckle Removal at the EIC (June 2nd, 2012) and a Garlic Mustard Pull at the EIC and Henry Ford Estate (April 28th, 2012). FOTR host monthly Public Involvement Task Force Meetings and Rouge Education Project Task Force Meetings. FOTR conducts monthly board meetings at the Environmental Interpretive Center (EIC). FOTR also held several events at the EIC including the Schoolyard Habitat Forum on January 25th, 2012; Stonefly Search on January 28th, 2012; Spring Bug Hunt on April 21st, 2012; and a Fish Presentation on February 8th, 2012. During this reporting period, FOTR also had two student interns working to collect data on the status of the Red-Side Dace, an endangered minnow species in the upper and middle branches of the Rouge River.

Annually UMD hosts Sustainability Week. Several events are held during the week providing opportunities for volunteers, students, faculty and staff to get involved and become educated on the importance of keeping our waters healthy.

UMD continues to promote county recycling events by linking to several county websites. Additionally, EHSEM sends out campus wide email reminders for recycling events occurring close to campus such as the one that took place on June 23rd, 2012 at Henry Ford Community College. UMD also promoted Friends of the Rouge (FOTR) Rouge Rescue events, the ARC’s May 19th, 2012 Rain Barrel Sale and the EIC’s spring 2012 newsletter which provided details on several events that would take place in the spring. (http://www.umd.umich.edu/eic/Newsletters/archive/Spring%202012.pdf)

The EIC is continuing to regularly maintain the Mushroom Garden and is expecting production this fall.

UMF Environment, Health and Safety (EHS) acted as the lead coordinating unit on the UMF campus for the Flint Community event “2012 Earth Day Celebration” where more than 50 organizations participated and over 50 volunteers helped with planning, setup, monitoring
presentations, etc. throughout the day’s activities. A significant portion of the day’s activities addressed environmental stewardship, conservation, protecting natural resources, Flint River watershed management, organic gardening, composting and permaculture, alternative energy technologies, recycling/waste management, etc.

UMF Environment, Health and Safety (EHS) organized and coordinated the “Flint College Recycling Challenge 2012” involving UMF, Kettering University, Baker College and Mott Community College for a fun spirited competition between local colleges competing for the month of March leading up to Earth Day 2012. In promoting the event, colleges were able to highlight the importance of environmental stewardship for the Flint community.

More than 20 individuals indicated that they would be interested in participating in EHS’s Fall storm water stenciling activity. However, <5 showed up on the three days that stenciling was occurring.

Approximately 10-12 individuals showed up to participate in a UMF student organized Flint River fall clean up. The student group partnered with the City of Flint as well as with the University’s Facilities & Operations department and EHS to clean up debris on both sides of the river on campus near the Hamilton Dam.

**Measurable Goal:** 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.

*Actions during the reporting period:*
UM has been participating in local watershed groups/meetings to coordinate efforts, actions, etc., as appropriate. UM is also contributing to the Middle Huron Initiative activities. Detail of activities is provided above.

**Measurable Goal:** 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.

*Actions during the reporting period:*
This information will be kept on file.

**Measurable Goal:** In 2012-2013, implement the participation plan. Tally the number of meetings attended for annual reporting (as detailed in goals above).

*Actions during the reporting period:*
This information will be provided in a future report.

**Additional measures taken to achieve goals:**

- OSEH/EHSEM/EHS staff members continue to create, improve, and revise project/contract specifications for inclusion of Best Management Practices (BMPs) during construction and renovation projects on campus.

- The University of Michigan continues to work with the local City governments and watershed organizations in improving storm water quality. This is accomplished through sharing information and resources.
3. Illicit Discharge Elimination Program (IDEP)

The removal of illicit discharges is an ongoing program being conducted by the UM. 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 UMA2 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 UMA2 to identify illicit connections to the storm water system. The project was completed in 1990.

The UM will continue to encourage reporting of water quality problems and possible illicit connections and discharges to the storm water system. OSEH, Plant Operations, and/or Facilities Management will receive reports of water quality problems and possible illicit connections and perform follow-up investigations, leading to elimination where appropriate.

The following Best Management Practices are used to meet the requirements of Part I, Section B.3 of the University of Michigan’s NPDES Permit for the Illicit Discharge Elimination Program (IDEP):

**IDEP -1. Storm Sewer Map**

**Measurable Goal:** By February 1, 2011 the UM 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.

**Actions during the reporting period:**
Storm sewer maps identifying outfalls at Ann Arbor, Dearborn and Flint have been completed. GIS integration of the outfall information from each campus continues.

A GIS mapping system was completed for the UMA2 campus in 2010. Updates to the system will continue, as needed.

Mapping was complete in December 2010, at UMD.

UMF has completed GPS points mapping for its outfalls into the Flint River or City MS4. In addition, a labeling plan to identify catch basins to specific outfalls is being completed.

**Measurable Goal:** 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.

**Actions during the reporting period:**
UMA2 continues to work with the Plant Utilities department to review and update the storm sewer maps as changes/updates are needed.

UMD – Sewer mapping associated with IDEP-1, IDEP-2 revealed several areas near the Fairlane Center that may have illicit connections. UMD will conduct storm sewer camera “mapping” to verify the flow of these drains and the discharge locations.

UMF EHS met with the UMF Facilities Operations Manager and Architect to begin to establish a labeling plan to identify catch basins to specific outfalls. GIS mapping is underway for the storm drains utilizing expertise from University Outreach. GIS data was collected for more than half of the
storm water outfalls on campus. It is anticipated that the remaining GIS data collection for storm water outfalls and catch basins will be completed this spring. Additional student projects are being designed to conduct further GIS mapping using UMF students with oversight of faculty and GIS technician. UMD will begin additional investigative work to verify directional flow in Spring 2011.

IDEP -2. Survey of Facility Discharge Points

Measurable Goal: UM 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.

Actions during the reporting period:
This information will be kept on file.

IDEP -3. Dry Weather Screening

Measurable Goal: The UM 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 (see IDEP section).

Actions during the reporting period:
UMD developed a dry weather screening plan for the campus for 2012/2013. The screening plan involves inspection of the 3 outfalls (DOF-001, DOF-006, DOF-007). If dry-weather flow is observed, the potential discharge locations will be inspected to attempt to determine the source of the flow. If the source is not immediately determined, storm water sampling and analysis may be conducted.

UMF has conducted the initial phase of dry weather screening during July 2012 with plans of completing the screening activities in August and developing summary report to share with the City of Flint in Fall 2012.

IDEP -4. Public Reporting of Illicit Discharges

Measurable Goal: The emergency response system on campus will be maintained by DPS (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 DPS/OSEH 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.

Actions during the reporting period:
A total of 84 calls of outdoor incidents were reported via the DPS/OSEH/EHSEM/EHS emergency response systems. A majority of these outdoor incidents were remedied (80), while 4 incidents resulted in discharges to surface waters which were reported to the appropriate agencies.

During this reporting period UM personnel responded to approximately 84 incidents, involving spills and leaks of materials that could have potentially impacted storm water. The majority of the spills were small, ranging from a few milliliters to thirty gallons. The materials were contained with spill kits; cleaned up using absorbent materials, and removed for appropriate disposal by UM’s on-call emergency response team. Response activities involved leaks and spills of materials such as automotive fluids (gasoline, hydraulic oil, glycol, transmission fluid, diesel, power steering fluid, brake fluid, antifreeze, and motor oil), soil/sediment, soap/detergent/chemicals, latex paint, and blood. A few examples of such releases and the corresponding response actions are provided below.
- UM bus #3024 began leaking antifreeze in commuter parking lot NC 51 (Glazier Way). The driver discovered the leak on Fuller Road and shut down the bus near Cedar Bend Drive. OSEH personnel and a Transportation Services mechanic applied oil dri to the impacted areas in lot NC 51 and on Fuller Road, as well as under the bus. All waste was collected for proper disposal. The bus was towed back to Transportation Services. No drains were impacted. There were no personal injuries or exposures.

- A UM street sweeper malfunctioned while it was cleaning McIntyre, Beal, Bishop and Cram Circle in the Northwood apartments. Hydraulic oil spilled into the cleaning mechanism and as the sweeper cleaned the streets it applied the hydraulic oil to the pavement in a regular pattern of a 4 by 18 inch patch every 18 inches. Both sides of each street were stained. It is estimated that 10 gallons leaked onto the streets. The surface distance along the impacted streets was 1.5 miles. Oil dri was applied to both sides of each street for a total of 3 miles of remediated streets. No hydraulic oil entered a storm drain. There were no injuries or exposures. The UM street sweeper collected the oil dri for proper disposal. A total of 37 OSEH hours were devoted to the cleanup. 83 bags of oil dri were used.

- Two to three gallons of latex paint were spilled at the UM Hospital Dock when a pallet of latex paint was being moved between adjacent docks. During the use of the dock leveler, the pallet tipped and one plastic paint bucket broke. The staff member tried to clean up the paint utilizing water/hose. Dock staff deployed oil dri around a nearby drain. UMH Safety Management Services (SMS) responded and cleaned up the spill. SMS contacted OSEH because some of the paint entered the storm drain (estimated to be 1 gallon). There was a steady rain during this period. SMS and OSEH personnel proceeded to the outfalls to the Huron River and did not observe a paint discharge to the river. OSEH reported via phone to the MDEQ Jackson Office on December 30, 2011. In follow up SMS reviewed the incident with staff and reinforced storm water best management practices and response procedures to protect storm water system. OSEH filed a follow up written report with the MDEQ Jackson Office on January 3, 2012.

- At UMD one quart of Trane oil leaked on the roof and rocks of the Social Sciences Building as a result of a mechanical failure of a pressure relief screw. EHSEM in conjunction with an outside vendor cleaned the roof rocks and roof membrane.

Additional measures taken to achieve goals:
- Recycling Efforts – The UM promotes environmental awareness by sponsoring recycling programs on campus. Educational materials have been developed by G&WM which address student contributions to the UM 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.

- OSEH sanitarians continue to work with kitchen and food vendors on campus to ensure proper waste management and disposal methods are used. In addition, OSEH continues to work with UM 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 2011-2012 football season to reinforce proper waste management for these temporary operations.

- 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.

- Additional campus programs which assist in maintaining or improving the quality of storm water discharges include: recycling, training and education of staff and students, designing to minimize seepage
and erosion control. In 2012 UMA2 completed its seventh year participating in RecycleMania, a nationwide collegiate recycling and waste reduction competition. The competition is comprised of four categories: recycling rate, per capita recycling, per capita total waste, and total pounds of recycling. UMA2 competed against 266 schools in this 10 week competition running from January 22nd through March 31st. U-M finished in eleventh place in total lbs of recycling with 747,409 lbs!

- Erosion Control – Part 91 of the 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 UM.

- Employee Training and Education – UM personnel involved in the application of herbicides, pesticides, and fertilizers have been trained and are licensed applicators. All applicators in the following departments are trained and licensed: G&WM, Facilities Management Grounds Department, Matthaei Botanical Gardens, Nichols Arboretum, Radrick Farms, and Athletics. In addition to the courses taken through the Michigan Department of Agriculture, G&WM also employs a foreman to train all of its 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 MDEQ in Storm Water Management – Construction Site, Storm Water Management – Industrial Site or Soil Erosion & Sedimentation Control. Six UMD personnel involved in applications of herbicides, pesticides, and fertilizers have been certified by the Michigan Department of Agriculture.

- Hazardous Materials Response – OSEH, EHS & EHSEM 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 UM facilities. The University also maintains spill response teams (UM staff and contracted vendors) for each campus that can quickly and efficiently respond to and mitigate releases of hazardous materials.

- Hazardous Waste Disposal – OSEH is responsible for the appropriate collection and disposal of hazardous waste and hazardous materials used and generated by the UM 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.

- Plan Review – OSEH, EHSEM & EHS review all plans for the renovation of existing structures and the construction of new facilities. The plans are reviewed to identify potential environmental concerns and 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. Although the primary function of these basins is to provide first-flush holding capacity for storm water, the design also provides for sediment deposition within the basin structure significantly reducing pollutant loads in receiving waters.

- UMD switched to a single stream recycling system and now recycles 48 – 52% of their trash in addition to; 26,596 pounds of electronic equipment; and 4,980 light tubes.

- The UMD EHSEM oversees the disposal of hazardous wastes on their respective campuses. EHSEM personnel are properly trained in RCRA and the University utilizes qualified contractors for transport and disposal off site.

- UMF EHS is responsible for coordinating the collection and disposal of hazardous and regulated waste materials generated on campus. EHS HazWaste program ensures frequently scheduled HazWaste pick up, tracking of the waste from point of generation through collection and ultimate disposal, and provide
administration and assistance with identifying, storing, preparing and ultimately transportation of site of regulated waste. Employee hazardous waste training is coordinated through EHS. Only qualified contractors are used to manage, handle, and ultimately transport and disposal off site.

- UMF – Environment, Health and Safety (EHS) routinely walks the campus and inspects loading dock areas, dumpsters, facilities operations and vehicle maintenance/storage areas, refueling operations, etc. to ensure that materials continue to be stored properly, secondary containment is functioning and any outdoor storage containers remain in good condition.

- UMF EHS coordinated the Flint College and University Recycling Challenge in which UMF, Kettering, Baker and Mott Community College competed for the month of March for the top award for collecting the most cardboard, paper, plastic and metal. UMF recycled approximately 8,688 pounds of materials as part of the recycling challenge.

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

The UM has a program to address storm water runoff from new development and redevelopment projects. As part of this program, the UM 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.

**PCSW -1. Post-Construction Storm Water Runoff**

**Measurable Goal:** 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 UM. The guideline is available on the UM-OSEH website and in Appendix G of the SWMPP.

**Actions during the reporting period:**

The Post-Construction Storm Water Requirements Guideline was submitted to MDEQ on July 28, 2009.

**PCSW -2. SESC Plan Review for Structural & Non-Structural Best Management Practices**

**Measurable Goal:** OSEH/EHS/EHSEM and/or the University Planner’s Office will review all construction and renovation plans for use of structural and non-structural Best Management Practices 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 Best Management Practices will be tracked annually for subsequent reporting.

**Actions during the reporting period:**

Approximately 36 UMA2 projects during this reporting period used a variety of Best Management Practices. Examples of Best Management Practices included the use of hydrodynamic separators, in-ground detention systems, storm water basins (detention and retention), bioretention islands, and connection to regional storm water management systems (detention or retention.)

UMF EHS has had four projects during the reporting requiring either an SESC permit or monitoring of SESC protective measures during the duration of the project. The projects included: Parking Lot A resurfacing and catch basin repairs, Wilson Park sidewalk construction, UPAV and Riverbank Park Sidewalk repairs, and Kearsley & Wallenberg road repairs/resurfacing. EHS worked closely with
Facilities and the contractors to ensure all appropriate SESC measures were in place, monitors, maintained to protect nearby storm drains.

**PCSW -3. Operation & Maintenance of Best Management Practices**

**Measurable Goal:** Storm water management basins on campus will be inspected annually, at a minimum. The number and frequency of inspection of storm water basins will be tracked for subsequent reporting. Maintenance issues identified during these inspections will be tracked until corrected.

**Actions during the reporting period:**

Annual inspections of the storm water management basins on campus were completed by UM personnel during this reporting period.

UMF has initiated inspections of the catch basins as part of the dry weather screening activities. Additionally, during normal grounds area inspections, drains and areas around drains are inspected, if problems are observed they are reported. A number of catch basins were repaired during this past reporting year.

**PCSW -4. SESC Plan Review for PCSW Controls**

**Measurable Goal:** OSEH/EHSEM/EHS and/or the University Planner’s Office 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.

**Actions during the reporting period:**

Over 142 plan reviews were performed during this reporting period.

UMD submitted and was approved for a UST removal project at the Henry Ford Estate (HFE). HFE is located within 500 feet of the Rouge River.

UMF reviewed four plans and provided general monitoring/inspections throughout the duration of the projects.

**Additional measures taken to achieve goals:**

- Construction sites are stabilized with the addition of permanent controls and vegetation to reduce the amount of sedimentation that could impact receiving waters.

- OSEH is working with Construction Management to implement standard protocols to dye test the internal piping in new building construction and building renovation projects where more than 10 fixtures are impacted to confirm proper connection to the sanitary sewer system. A program for confirmation of taps to exterior pipes is already in place.

- Bioretention traffic islands, porous pavement and a parking lot storm water treatment system to remove sediments, oil, grease and trash have been installed at various locations on campus and are being evaluated for viability in future construction projects. Additional low impact development options such as green roofs have been constructed at the Ross School of Business, North Quad, Children & Women’s Hospital and additional projects are being considered for other construction/renovation locations on campus. Examples of additional storm water controls installed include hydrodynamic separators at the Elbel Field artificial turf replacement project and the Law School addition and expansion project. In addition underground storm water detention and retention systems have been installed at the Law School. Retention and detention storm water management ponds (2) were constructed at the Golf Course Practice Facility.
5. **Construction Storm Water Runoff Control**

In 1982, the UM 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 UM’s APA status was received in 2004 from the Michigan Department of Environmental Quality. APA status allows the UM to establish and manage the Soil Erosion and Sedimentation Control procedures on its properties. Construction activity at UM may involve contractor or in-house construction activities performed by Plant Operations.

The overall CSW program accomplishes the following goal:

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

The following Best Management Practices are used to meet the requirements of Part I, Section B.5 of the University of Michigan’s NPDES Permit for Construction Storm Water (CSW):

**CSW -1. Site Plan Reviews**

**Measurable Goal:** 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 OSEH/EHS/EHSEM to require projects to insert storm water management controls into the front end of all projects.

**Actions during the reporting period:**

Twenty (20) UM sites required formal SESC plans which were reviewed and approved by OSEH-EP3 during the reporting period.

UMD submitted and was approved for a UST removal project at the Henry Ford Estate (HFE). HFE is located within 500 feet of the Rouge River.


**Measurable Goal:** The use of Best Management Practices is required on all projects under the approved SESC Procedures for the University. The number of projects using the Best Management Practices identified above for SESC will be tracked annually for subsequent reporting. Best Management Practices will be selected as appropriate for site conditions.

**Actions during the reporting period:**

Over 100 UM projects during this reporting period used a variety of Best Management Practices on their sites. Examples of Best Management Practices included the use of vegetative buffers, silt fences, catch basin filters, soil erosion eels, water diversions, street sweeping and anti-tracking pads.

UMD developed a SESC plan (which included BMPs) for the HFE UST removal project.

**CSW -3. SESC Inspections**

**Measurable Goal:** Sites will be inspected weekly and after rain events until final stabilization of the project site. The number of SESC inspections performed annually on UM sites will be tracked for subsequent reporting.

**Actions during the reporting period:**

Approximately 2,002 weekly and after storm SESC inspections were performed during this reporting period at UMA2.
UMD conducted approximately 66 SESC weekly and after storm event inspections on four (4) project sites.

UMF EHS conducted approximately 15 weekly and after rain events and follow up inspections.

**CSW -4. SESC Training by MDEQ**

**Measurable Goal:** Select staff from OSEH, EHSEM, EHS and the University Planner’s Office will be SESC trained by MDEQ. The number of UM staff who have received MDEQ SESC training will be tracked annually for subsequent reporting.

**Actions during the reporting period:**

Eight (8) UM staff have received SESC training from MDEQ and are current with the associated Certificate of Training.

One (1) UMD staff member has received SESC training from MDEQ and is current with the SESC Certificate of Training.

One (1) UMF staff member has received SESC training from MDEQ and is current with the SESC Certificate of Training.

**CSW -5. Storm Water Operator Certification for Construction Sites**

**Measurable Goal:** Select UM staff from OSEH University Planner’s Office and Construction Management/AEC will be certified in Storm Water Management for Construction Sites. The number of UM staff who have received MDEQ certification will be tracked annually for subsequent reporting.

**Actions during the reporting period:**

Eight (8) UMA2 staff are Certified Storm Water Operators in the State of Michigan for Construction sites at the time of this report.

In addition, seven (7) UMA2 staff are Certified Storm Water Operators in the State of Michigan for Industrial sites at the time of this report.

One (1) UMD staff is a Certified Storm Water Operator in the State of Michigan for Construction and Industrial sites at the time of this report.

One (1) UMF staff is a Certified Storm Water Operator in the State of Michigan for Construction and Industrial sites at the time of this report.

**CSW -6. Sedimentation Control During Maintenance Activities**

**Measurable Goal:** The use of SESC controls is required for all maintenance projects involving earthwork. The number of SESC inspections performed annually on UM sites will be tracked for subsequent reporting.

**Actions during the reporting period:**

Approximately 2,002 weekly and after storm SESC inspections were performed at UMA2 during this reporting period.

UMD conducted approximately 66 SESC weekly and after rain event inspections on four (4) project sites.
Additional measures taken to achieve goals:

- Contractors at UM are required to clean/sweep construction areas and adjacent areas to prevent track out from a work site.
- A street sweeper is recommended by UM for contractor usage at construction sites to reduce the amount of sediment that could potentially reach receiving waters.
- The storm water drainage system is vacuumed periodically to remove sediment buildup within the system and to lessen potential sediment impacts to receiving waters.
- 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.
- At UMD street sweeping occurs approximately twice a year, once in the spring and once in the fall. The parking structure is swept at least once a year. Street sweeping is available when necessary.
- UMD personnel pick up litter and debris on a daily basis from campus streets and parking lots.
- UMD’s “no smoking” policy has nearly eliminated cigarette debris from campus grounds.
- EHSEM personnel walk the campus daily to check on project sites and address potential issues with responsible parties.
- At UMF street sweepers are available, if needed. In addition the sweepers are used at least once, usually twice per year in all parking ramps and main roadways. Additionally they are used in some areas more frequently, if conditions show it is needed (i.e., loading dock, near compost area, Hubbard Parking area, etc.).
- Other unofficial SESC/SWM related inspections are conducted by EHS staff as we tour the campus, walk through project sites, and report potential problems to responsible parties for correction i.e. covering a dumpster, debris/litter, inappropriate outdoor storage by contractors, etc.

6. 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.

The following Best Management Practices are used to meet the requirements of Part I, Section B.6 of the University of Michigan’s NPDES Permit for Pollution Prevention & Good Housekeeping (P2/GH):
P2/GH -1. Storm Water Management Basin Inspections

Measurable Goal: Storm water management basins will be inspected annually during the permit term. The number and frequency of inspections on the UM retention basins and detention basins will be tracked for subsequent reporting.

Actions during the reporting period:
Annual inspections of the 46 storm water management basins on campus were completed by UMA2 personnel during this reporting period.

UMD inspected approximately 10 storm water catch basins in May 2012 to verify if maintenance/cleaning was required. All of these catch basins were found in good condition, with minimal material (e.g. sediment, organic material) build-up and a campus wide storm water catch basin clean-out was delayed until further investigation was conducted (see P2/GH-2).

P2/GH -2. Storm Water Catch Basin Maintenance

Measurable Goal: 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.

Actions during the reporting period:
Catch basins across the UMA2 campus are cleaned and the sewer lines rodded out. The liquid waste is drained to approved sanitary locations and the remaining non-hazardous sediment and debris is transported for disposal off-site. To more effectively handle the storm and sanitary cleaning solids, UMA2 constructed a 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 UMA2 has moved to a GIS-based system for catch basin cleanout which has improved tracking for reporting. During the reporting period 2,616 catch basins were cleaned and 332.45 yards of debris was removed from the storm lines, catch basins and manholes.

UMD began storm water catch basin maintenance in May 2012 (refer to P2/GH-1). In June 2012, storm water catch basins noted during the 2010/2011 inspections as having excessive debris or needing clean-out were re-inspected.

During this reporting period, UMD cleaned a total of 15 structures; seven (7) structures at the main campus and eight (8) structures at the Fairlane Center.

UMF – Catch basins are inspected and cleaned out as needed by Facilities and Operations staff. This activity tends to occur more frequently in the fall when leaves and debris are more likely to accumulate near grate openings. Approximately 9.5 hours were logged during the report period of facilities’ staff cleaning catch basins accumulating approximately 1 cubic yard of waste from inside the basins and an additional 9.5 hours cleaning the ventilation pits.

P2/GH -3. Municipal Properties with Storm Water Controls

Measurable Goal: By October 1, 2011 a list of municipal properties and structural storm water controls owned or operated by UM will be created, which includes the type and number of properties and structural controls. This list will be kept on file.
Actions during the reporting period:
This information will be kept on file.

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 this garden grow. They are maintained by 2 student interns and many volunteers who have put in more than 200 hours of maintaining the rain gardens and the Community Organic Garden.

P2/GH -4. Street Sweeping, Leaf, and Litter Collection
Measurable Goal: 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.
Actions during the reporting period:
Approximately 170 cubic yards of waste was sent for disposal from cleaning of parking lots and structures throughout the UMA2 campus. The combined estimated cost for disposal was approximately $1,500.

UMD personnel spent a total of 4,188 hours collecting litter on the main campus, collecting an average of four (4) yards per day. Approximately $45,400 was spent on litter collection and disposal. Fairlane Center personnel collected litter for approximately four (4) hours per week and collected two (2) garbage bags worth of trash each week.

At UMF, approximately 1 cubic yard of waste was sent for disposal from cleaning of parking lots and structures throughout campus by street sweeping operations. Labor associated with street sweeping and cleaning of ramps is logged at more than 484 hours. Daily litter pickup involved more than 2800 hours over the reporting period and disposal yielded an estimated 150 cubic yards of waste. Disposal costs are estimated at $900.

P2/GH -5. TSS Runoff Reduction from Paved Surfaces
Measurable Goal: 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 provided in the progress reports.
Actions during the reporting period:
This information will be provided in a future report.

P2/GH -6. Unpaved Road and Parking Lot Best Management Practices
Measurable Goal: Develop Best Management Practices 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).
Actions during the reporting period:
This information will be kept on file for the Ann Arbor campus.
There are no unpaved roads or parking lots at UMD and UMF.
P2/GH -7. Prohibition of Coal Tar use as Asphalt Sealant  
**Measurable Goal:** 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 OSEH/EHSEM/EHS prohibiting the use of coal tar emulsions for UM projects. Comments on construction and renovation projects are kept on file at the OSEH/EHSEM/EHS offices.

**Actions during the reporting period:**
Approximately 142 plan reviews were performed during this reporting period.

OSEH reviewed one (1) plan for UMD.

University projects that involve sealing parking lot surfaces incorporate the NPDES permit language prohibiting coal tar emulsions to seal asphalt surfaces. Contractors that conduct work on any of the tree campuses are made aware of the NPDES requirement against the use of coal tar emulsions as sealants. Alternative products are identified for contractor use.

P2/GH -8. Snow and Ice Removal – Reduction in Salt Use  
**Measurable Goal:** 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 UMA2 from 1989 to 1999. The quantity of salt used for deicing will be tracked on an annual basis.

**Actions during the reporting period:**
Approximately 1,251 tons of salt was used by UMA2 during this reporting period which is a decrease of 52% from the average annual use amount of 2,600 tons per year from 1989 to 1999. The decrease is attributed in part to a warmer than typical winter season, in addition to the use of programmable dispersion technology, a better understanding of when to apply and pre-treatment activities. It should be noted that there has been an increase in the surface area managed by Grounds & Waste Management for snow removal since the 1989 to 1999 baseline annual usage was set.

UMD used approximately 10,104 pounds of Ice Trax de-icer, 825 gallons of SynTech liquid de-icer, and 148 tons of road salt were applied for 26” of snow on the main campus roads, sidewalks, and parking lots. Fairlane Center used approximately 151,593 pounds of rock salt, 1,021 pounds of NAAC, and 25.25 pounds of Safe Step on the Fairlane Center roads, sidewalks, and parking lots.

UMF - approximately 126 tons of salt was used during this reporting period, a reduction of 19 tons from the previous year. The University continues to try to decrease usage and increase replacement with other effective alternatives.

**Measurable Goal:** 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.

**Actions during the reporting period:**
In the 2011-12 season, the following alternative de-icers were used at UMA2:
- Magnesium Chloride at 98,050 pounds;
- Safer Than Salt (Mag., Cal & Sodium Chloride blend) at 68,300 pounds
- Caliber M-1000 at 17,406 gallons; and
- Calcium Chloride at 1,300 pounds

UMD used the following alternative de-icers during the 2011-12 season:
- Ice Trax de-icer – 10,104 pounds
SynTech liquid de-icer – 825 gallons
NAAC/CMA de-icer – 1,201 pounds (Fairlane Center campus)
Safe Step – 25.25 pounds (Fairlane Center campus)

UMF used the following alternative de-icers during the 2011-12 season:
Caliber M-1000 at 9,126 gallons

P2/GH -10. **Pesticide and Fertilizer Technician Training**

**Measurable Goal:** 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.

**Actions during the reporting period:**
The UMA2 currently employs approximately 90 certified technicians.

UMD has a contract with TruGreen to conduct large treatments/spraying. TruGreen has a non-phosphorus policy.

UMF employs 7 certified technicians.

P2/GH -11. **Roadside Vegetative Replacement**

**Measurable Goal:** 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.

**Actions during the reporting period:**
Vegetative replacement due to salt damage throughout campus is minimal due to the efficient use of alternative de-icers. Negligible replacement due to salt-damaged turf occurred at UMA2 during this reporting period. At UMD, approximately 50 pounds of grass seed and 100 pounds of mulch were used on an approximately 6,250 square feet area. No vegetation replacement was needed at UMF during the reporting period.

P2/GH -12. **Storm Sewer Labeling**

**Measurable Goal:** All UM 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.

**Actions during the reporting period:**
Approximately 90 storm drain markers were installed at UMA2 during the reporting period on catch basins throughout campus. Special attention is given to areas near the annual Art Fair, the Football Stadium and associated parking, as well as higher use walkways. Existing storm drain markers are replaced, as needed, due to wear, etc.

UMD designed, produced, and installed 304 storm drain markers which read “Keep Our Michigan Waters Blue. Dump No Waste! Drains to Rouge River. To report a spill/illicit discharge call (313)593-5333”.

UMF used interns and students to label the catch basins and drain inlets on the Flint Campus. More than half have been label in previous years, however due to some labels becoming damaged, unreadable or repairs made to the drain or nearby concrete, additional labels/stencils were installed during the fall 2011 that indicate that the drain flows to the River. The 2012-13 season will again utilize student volunteers and Environment, Health and Safety (EHS) staff to assess the labels in place, install new labels or a stencil adjacent to the drain if one is missing or damaged.

Measurable Goal: In 2010-2011, Develop an education program for UM staff involved in fertilization of turfgrass at UM. Also include a strategy to disseminate the requirements to contractors at UM.

Actions during the reporting period:
This information will be kept on file.

UMF EHS and Facilities & Operations worked together to implement a revised safe application distance from the Flint River during the summer of 2010. Facilities agreed to pilot doubling the safety distance from 20 feet to 40 feet from the river and only spot treat in the 20’-40’ area as needed.

Measurable Goal: In 2011-2012, implement a turfgrass fertilization education program for appropriate UM staff and contractors. Identify educational information available/developed for each target audience applicable at UM.

Actions during the reporting period:
This information will be kept on file.

Information about the Michigan restrictions on the use of phosphorus-containing fertilizer on turf grass was provided to Facilities & Operations staff responsible for managing grounds/landscape. Additionally, select Facilities employees attended SWM employee training were this information would have be covered. Lastly, our employees certified in IPM attend workshops/seminars routinely to maintain their certification and stay up on new information/technologies as it relates to turf and landscape management.

P2/GH -14. Storm Water Pollution Prevention Plans for Fleet Maintenance & Storage Yards

Measurable Goal: In 2010-2012, Develop SWPPP for all fleet maintenance and storage yards/facilities at UM.

Actions during the reporting period:
This information will be provided in a future report. Once completed, this information will be kept on file.

UMD completed and implemented a SWPPP for the Grounds Building. UMD has one (1) staff member certified as an MDEQ industrial storm water operator for the site. No other maintenance buildings are present on the UMD campus that requires a SWPPP.

Measurable Goal: In 2013, implement all SWPPP for fleet maintenance & storage yards at UM.

Actions during the reporting period:
This information will be provided in a future report. This completed (signed) SWPPP(s) will be kept at each facility.

7. Total Maximum Daily Loads (TMDL)

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

TMDL -1. Major Discharge Points

Measurable Goal: Review existing outfalls to identify major discharge points discharging directly to surface waters of the state within the portion of the TMDL. Major discharge points are pipes or open conveyances measuring 36 inches or more at its widest cross section.
Actions during the reporting period:
Outfalls have been evaluated to determine if they are “major” discharge points. A list of major outfalls is kept on file. UMA2 has identified four major discharge points within TMDL reaches. O-41 and O-47R discharge directly into Millers Creek. O-88R and O-30R discharge directly to the Huron River. Outfall O-127 was previously identified as a major discharge point however, it was field measured and determined to not be a major discharge point (the outfall measured 30 inches in diameter).

UMD has identified three major discharge points. Two of the discharge points are located along the Rouge River and are greater than 36 inches (outfalls D001 & D006). The third major discharge point is on Hubbard (outfall D007). UMD relocated DOF-001 to a manhole located upstream (northwest of the HFE) of the original location.

UMF is not currently in the TMDL program. No TMDL’s have been identified for the Flint River.

TMDL -2. Sampling Major Discharge Points
Measurable Goal: By April 15, 2012, UM 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.

Actions during the reporting period:
UMA2 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.

UMD conducted sampling and analysis of DOF-006 on November 22, 2011 for E. coli. This represents 50% of the major discharges. E-coli was not detected above the action levels set forth by the MDEQ.

UMF does not discharge to a TMDL watershed.

TMDL -3. Action Plan to Reduce TMDL Discharges
Measurable Goal: 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 in the second progress report with implementation targeted during the 5-year permit cycle that begins 2013.

Actions during the reporting period:
No activity during this reporting period.

2. Environmental Impacts –
Provide an assessment of the pollution reduction and probable receiving water quality impacts associated with program implementation. Include any negative water quality impacts that may have occurred as a result of any illicit discharges or accidental spills during the past year.

Storm water management is recognized as a significant issue for the campus and control options are given careful consideration. A major goal of the many Best Management Practices identified and implemented at the University is to reduce the discharge of sediment and associated pollutants to the receiving waters. The control program begins in the project design phase, by providing guidelines for storm water management and soil erosion and sedimentation control on campus and continues through the construction phase of the many projects on campus. The Best Management Practices below have been implemented at the University. Probable impacts to water quality from these Best Management Practices are taken from the MDEQ’s Index of Best Management Practices/Individual Best Management Practices.
- **Catch Basins / Cleanout Procedures** – reasonably effective in protecting sewers from receiving loads of coarse solids.

- **Oil/Grit Separators** – remove coarse sediment and oils from storm water prior to delivery to a storm drain network, the ground, or other treatment.

- **Storm Water Management Basins** – Although the primary function of these basins is to provide first-flush holding capacity for storm water, the design also provides for sediment deposition within the basin structure which can significantly reduce fine sediment and the pollutants (e.g., phosphorus) associated with them. Detention basins can be effective at removing sediment, non-soluble metals, organic matter and nutrients through settling. Up to 90% of particulates may be removed if the storm water is held for 24 hours or more. Sediment basins can be very effective in preventing sedimentation of downstream areas. Coarse and medium size particles and associated pollutants will settle out in the basin. Suspended solids, attached nutrients, and absorbed non-persistent pesticides may break down before proceeding downstream. Because sediment basins also retain water, they may increase recharge to ground water.

- **Street Sweeping** – can remove 50-90% of street pollutants that potentially can enter surface water through storm sewers. Street sweepers will also make road surfaces less slippery in light rains, improve aesthetics by removing litter, and control pollutants which can be captured by the equipment.

Illicit Discharges - Two (2) illicit connections to the storm sewer were identified during the 2011-12 reporting period. 1613 Beal boiler room drains flow into a sump and Ruthven Museum basement floor drains, both are connected to the storm water system. These connections do not have discharges associated with them. The sump at 1613 has been put out of service and is scheduled for correction in September 2012. Best management practices are in place at the Ruthven Museum to protect against improper discharges to the storm water system.

Spills – Minimal adverse impacts to water quality are anticipated, as a majority of outdoor spills (84) were contained and removed from the storm water system using UM’s 24-hour emergency response team. Four reportable events occurred during this reporting period. Discharges included sediment, wash water, latex paint, sewage, and an oily substance. A portion of the reportable spilled material was cleaned up by UM’s emergency response team, the UM vacuum truck and the UM sweeper truck, as appropriate, per site.

3. **Water Quality Assessment** –

**Provide an assessment of the water quality conditions within the jurisdiction.**

**Huron River** - The following information was compiled from the Huron River Watershed Council (HRWC):

The Middle Huron River does not meet state and federal water quality standards due to excess nutrification, E. coli pathogen levels, and fish consumption advisory for polychlorinated biphenyls that exceed state levels. Tributaries to the Huron River within the City of Ann Arbor also exhibit poor macro invertebrate and fish communities.

Communities in the Huron River Watershed are concerned with a number of water quality and water quantity issues including high levels of sediment entering the river system, destruction of aquatic and terrestrial habitat, river flow fluctuations, and pollutant loads of metals and other toxins, bacteria, and excess nutrients. Nutrient enrichment of the River system is of particular concern, driving annual algal blooms in the River’s impoundments, which in turn limit recreation uses protected by the federal Clean Water Act. These blooms are associated with high phosphorus levels in the river and lake waters which originate from both “point sources” (i.e. discharges out the end of a pipe from industry and municipal wastewater treatment) and from “non-point sources”
(i.e. polluted runoff from our lawns, streets, agricultural fields) and from the banks of the River itself. It is thought that to reduce the problems associated with nuisance algal blooms in the impoundments it is necessary to reduce summer concentrations of phosphorus in the River at Ford Lake to 50 micrograms per liter. This concentration would ensure a reduction of the phosphorus concentration in Belleville Lake to 30 micrograms per liter, the goal set by the Michigan Water Resources Commission in 1987. To reach this goal, requires reducing current phosphorus loads by approximately 50%. These goals have been set forth by the Michigan Department of Environmental Quality (MDEQ) in Total Maximum Daily Load allocation (TMDL) for the Middle Huron.

The U. S. EPA approved the TMDL for E. coli in the Huron River submitted by the Michigan Department of Environmental Quality. Stakeholders, including the University of Michigan and the MDEQ have completed the implementation plan with the assistance of a third-party facilitator. This plan will serve as an example for E. coli TMDLs across the country since few, if any; have been completed in other areas.

The following general conclusions were drawn from the analysis of the data collected under the Middle Huron Stream Nutrient Monitoring Program from 2003 through 2011:

- Measured values for Total Phosphorus concentration varied widely from site to site and from month to month. While concentrations trended down through 2009, that trend has reversed in 2010-11. Still, concentrations overall have decreased in urban tributaries. Ultimately, TP concentrations can vary widely due to many environmental variables. Total Phosphorus loading also is variable, dropping in some tributaries and rising in others.
- All 10 sites had measured pH values that are within the expected range for Michigan surface waters, excepting Honey Creek in September 2005 when the value was less than 6.5.
- Six of the ten sites had average conductivity values that exceed the accepted limits. Most of these were the urban sites.
- All 10 sites had average values for Dissolved Oxygen that are within the normal range for Michigan surface waters. Only two measures at separate sites were below this standard.
- The data collected on E. coli thus far indicate that all but the Huron River site regularly exceed state standards. Bacteria levels continue to be an issue of concern in the watershed.
- As with the TP results, mean concentrations of Total Suspended Solids from the monitoring sites are variable year to year. Some sites show a high correlation between TSS and TP, suggesting that the phosphorus is bound to soil or due to erosive processes. Other sites do not show a strong correlation.
- Most tributaries were well below 1 mg/L for levels of Nitrate. Concentrations of Nitrite were within the normal levels of Michigan surface waters for all sites, on average.

In addition, benthic macro invertebrate monitoring is conducted. The HRWC Adopt-Stream River Round 2011 Data and Trends reported the results of sampling 43 sites. The sites were categorized as follows: 17 (41%) were fair, 11 (27%) were good, 11 (27%) were poor, 2 (5%) were excellent and two were not ranked since it was the first time they were sampled. Comparatively, the majority of the sites remained consistent (24, 59%), nine improved (22%), and eight (19%) declined.

Winter Stonefly populations were sampled in 2012 by the HRWC. Forty-nine (49) sites were sampled. The sites were given a subjective abundance rating. Seventeen (17) sites (35%) none were found; eleven (11) sites (23%) were designated “rare”; nine (9) sites (18%) were found to be “abundant”; seven (7) sites (14%) were found to be “frequent” and five (5) sites (10%) found to have “some”.

Rouge River

The Rouge River does not meet state and federal water quality standards due to excess nutrientification, E. coli pathogen levels, and fish consumption advisory for polychlorinated biphenyls that exceed state levels. The following benthic monitoring information was compiled from the Friends of the Rouge:

The Spring 2012 report covers benthic macro invertebrate monitoring at 54 sites on the Rouge River, tributaries and branches. The majority of sites, 54%, had fair stream quality index (SQI); two sites were excellent; 15 sites were good and eight sites had poor SQI scores. A trend analysis was conducted by sub watershed and on a site-by-site basis, when there was enough data. In comparison with past data, four of the sub watersheds had a positive trend indicating improved benthic communities. The site-by-site analysis showed that a majority of the sites had no trend, five sites had a positive trend and two sites had negative trends.

Flint River

The Flint River does not meet state and federal water quality standards due to levels of polychlorinated biphenyls and/or mercury that exceed state levels. This has resulted in a fish consumption advisory. The following benthic monitoring information was compiled from the Flint River Watershed Coalition:

The Spring 2011 benthic macro invertebrate monitoring was conducted at 18 sites on the Flint River, tributaries and branches. Data collection was limited at twelve (12) sites due to unsafe habitat conditions. Twenty-two percent (4) of the sites had fair stream quality index scores (SQI); 2 sites were excellent; none of the sites had good SQI scores; the 12 sites with limited data collection were given poor SQI scores by default.

The Fall 2011 benthic macro invertebrate monitoring was conducted at 20 sites on the Flint River, tributaries and branches. Fifty-four percent (11) of the sites had fair stream quality index scores (SQI); 9 sites were good and none of the sites had excellent or poor SQI scores.

4. Data & Results –
Provide a summary of all information collected and analyzed, including monitoring data, if any, during the annual reporting cycle.

TMDL major discharge points were sampled during the reporting year. UMA2 has identified four major discharge points within TMDL reaches. Two major discharge points are identified as O-41 and O-47R. Both O-41 and O-47R discharge directly into Millers Creek. Two major discharge points are identified as O-30R and O-88R. Both O-30R and O-88R discharge directly into the Huron River. UMA2 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 discharge points. The analytical results associated with this sampling event are attached to this report.

UMD has identified two major discharge points which discharge directly into the Rouge River. UMD conducted sampling and analysis of DOF-006, one of the major discharge points, on November 22, 2011 for E. coli. This represents 50% of the major discharges. E-coli was not detected above the action levels set forth by the MDEQ. The analytical report associated with this sampling event has been submitted in a previous report (The University of Michigan Municipal Storm Water NPDES Permit MI0053902 Mid-Year Report, April 2012).
5. **Upcoming Activities** –

Provide a summary of the storm water activities to be implemented during the next annual reporting cycle. Include schedules for elimination of any illicit connections identified but not disconnected prior to annual report submittal.

The University of Michigan shall continue its on-going programs including:

**Public Education and Outreach**
- Continue to develop/add additional brochures to fill any gaps in the topics needed to meet the permit requirements.
- Create storm water education material (brochures, bookmarks, etc.) dissemination strategy to reach the target audiences and any new audiences identified by UM (2012). Implement storm water education material dissemination plan (2013).
- Distribute storm water educational materials (brochures to members of the campus community and new employees.
- Continue to update the OSEH web page.
- Continue to review website information dissemination and coordination strategy (all campuses) so that it can reach the target audiences.
- Develop/add additional topics, web links, etc. to fill any gaps in the topics needed to meet the permit requirements (2012). Implement website dissemination plan (2013).
- Install additional storm water curb markers, with the dump no waste, flows to river slogan.
- Continue to provide information on household hazardous waste disposal options in the area via the UM website.
- Continue OSEH sanitary work with kitchen and food vendors on campus to ensure proper waste management and disposal methods are used.
- Continue work with U-M staff to improve waste handling procedures.
- Work with Athletics to request continued Storm water educational announcements at the University of Michigan home football games.
- The Fall 2012 OSEH Update Newsletter will include an article on storm water.

**Public Involvement/Participation**
- Continue to work with the Millers Creek Action Team, Malletts Creek Coordinating Committee, Middle Huron Initiative/Partners and other local watershed/creek groups to identify opportunities for joint activities and outcomes in support of permit requirements.
- Continue to participate in the *E.coli* TMDL implementation plan.
- Continue to offer opportunities for environmental stewardship on campus.
- Continue to update the OSEH web page which contains the U-M Storm Water Management Program Plan as well as information for use by students, faculty, staff and the surrounding community.
- Continue to post the U-M NPDES reports on the U-M OSEH website to heighten community awareness of storm water management activities on campus.

**Illicit Discharge Elimination Program**
- Perform/continue dry weather field screening at least once every 5 years (to be completed by February 1, 2015) to determine the existence, location and extent of potential illicit discharges.
- Follow-up on potential illicit discharges to the storm water system and make repairs as required.
- Items for further investigation will be researched, as weather permits. Identified illicit discharges will be prioritized for correction according to their potential impacts to water quality. Cross connections will take
priority; cooling tower discharges will be prioritized based on the frequency of discharge and will be redirected to the sanitary sewer as building improvements and upgrades are undertaken.

- Continue to encourage the campus community to report illicit discharges and spills to OSEH and the Department of Public Safety so appropriate measures can be taken by the 24-hour Emergency Response Team to correct issues that may impact storm water quality.

Post Construction Storm Water Management
- Review storm water management plans for new construction.
- Review targeted sites for flood control projects, as new construction or renovation projects are identified.
- Work on implementation of storm water management basin improvement and maintenance projects to improve detention capacity, retention/infiltration, and additional Best Management Practice usage. Opportunities for enhancement of the basins will be reviewed and prioritized.

Construction Storm Water Runoff Control
- Continue construction site storm water protection Best Management Practices.
- Training of key personnel to maintain certification as construction site storm water operators.
- Training of key personnel to maintain certification as soil erosion and sedimentation control operators.
- Continue OSEH review of site plans. Continue to make recommendations to improve runoff water quality in and around construction projects.
- Notify the Department/Agency, as required, for sediment discharges to surface waters.

Pollution Prevention/Good Housekeeping for University Operations
- Develop Best Management Practices to control dust and suspended solids in runoff from paved roads and parking lots (2012-13).
- Continued cleaning of storm water inlets, lines, and detention basins, as required.
- Develop a TSS reduction strategy for paved surfaces (2012) with a goal of reducing TSS loading by 25% as compared to annual loading with no suspended solids controls, and implement the strategy (2013).
- Continue salt use reduction and alternative product usage to improve storm water runoff quality.
- Continue to implement Best Management Practices to improve storm water discharge quality.
- Continue to update Plant Employee training to reinforce good housekeeping procedures and proper waste management.
- Continue to have pesticide and fertilizer applicators on campus trained and certified in appropriate application amounts and techniques.
- Develop SWPPP for all fleet maintenance and storage yards/facilities at UM (2012), and implement the developed SWPPPs (2013).
- Continue the education program and dissemination strategy for UM staff involved in fertilization of turfgrass at UM. Implement the turfgrass fertilization education program for appropriate UM staff and contractors (2012).
- Develop/add additional topics, web links, brochures, posters, etc. to fill any gaps in the topics needed to meet the permit requirements (2012) and implement the training plan (2013).

6. **Best Management Practice Changes** –

*Describe any planned changes in identified Best Management Practices or Measurable Goals for any of the minimum measures.*

No revisions are proposed at this time.
7. **Notice of Changes in Reliance on Permitted Drainage System Operators** – Describe any changes in the need to rely on other permitted drainage system operators to satisfy the terms and conditions of this permit, as defined in Part I.C.1.d.

No revisions are proposed at this time.

8. **Drainage System Changes** – Provide an update on areas added to the drainage system due to annexation or other statutory processes (if applicable).

The following two outfalls were not added nor are they new, this is an update of the receiving water or system listed:

<table>
<thead>
<tr>
<th>ID #</th>
<th>Receiving Water or System</th>
<th>Ultimate Receiving Water</th>
<th>LONGITUDE</th>
<th>LATITUDE</th>
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<tr>
<td>O-30R</td>
<td>Huron River</td>
<td>Huron River</td>
<td>-83.72539</td>
<td>42.286926</td>
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<tr>
<td>O-88R</td>
<td>Huron River</td>
<td>Huron River</td>
<td>-83.718478</td>
<td>42.284472</td>
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</tbody>
</table>

9. **Revised Fiscal Analysis** – Provide a summary of revisions, if necessary, to the fiscal analysis reported during the previous permit, pursuant to permit application requirements at 40 CFR 122.26(d)(2)(vi).

No revisions are proposed at this time.
10. **Annual Budget** –

Provide the previous fiscal year’s annual expenditures and proposed budget for the fiscal year following the report.

The expenditures and budget are shown in the following table.

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>2011-2012 U-M LABOR AND MATERIALS&lt;sup&gt;1&lt;/sup&gt;</th>
<th>2011-2012 CONTRACTOR COST OR DIRECT PAYMENTS</th>
<th>2012-2013 BUDGET ESTIMATE</th>
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</thead>
<tbody>
<tr>
<td>Permit administration</td>
<td>$145,584</td>
<td>$15,411</td>
<td>$247,087</td>
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<tr>
<td>Storm and sanitary repair</td>
<td>$340,592</td>
<td>$89,355</td>
<td>$373,825</td>
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<tr>
<td>Construction site soil erosion control&lt;sup&gt;3&lt;/sup&gt;</td>
<td>$257,136</td>
<td>$3,000</td>
<td>$269,199</td>
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<td>Storm water management basin construction &amp; maintenance</td>
<td>$36,200</td>
<td>$9,280</td>
<td>$33,700</td>
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<tr>
<td>Storm water education program</td>
<td>$1,300</td>
<td>$1,120</td>
<td>$3,000</td>
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<tr>
<td>Catch basin maintenance and cleaning program</td>
<td>$145,611</td>
<td>$292,324</td>
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<td>Street sweeping program</td>
<td>$60,400</td>
<td>$7,642</td>
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<tr>
<td>Waste Management-Litter collection &amp; disposal</td>
<td>$1,109,700</td>
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<td>Parking structure and lot cleaning program</td>
<td>$1,547,613</td>
<td>$328,446</td>
<td>$1,705,756</td>
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<td>Storm water utility charges paid</td>
<td>$571,000</td>
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<td>OSEH spill response activity</td>
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<tr>
<td>Plant Extension Division</td>
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<td><strong>TOTALS</strong></td>
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<td><strong>$1,303,247</strong></td>
<td><strong>$5,476,052</strong></td>
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Footnotes: * - Many construction and renovation projects do not have separate tracking of SESC costs, storm water management basins or bmps as they are built in to the contract as a whole. Therefore, the expenditures for these line items are higher than shown.  
1 - University labor costs include estimated base salary, 28% for benefits, and 52% for indirect cost recovery charges.  
2 - These departments and divisions have moderate storm water costs and are not tracked separately by the University budget system.  
3 - Costs include structural and nonstructural controls (e.g., street sweeping).
ANALYTICAL RESULTS
TMDL Major Discharge Points
(O-41 and O-47R)