



AUBURN

UNIVERSITY

**MUNICIPAL STORM SEWER SYSTEM (MS4) ANNUAL REPORT
REPORTING PERIOD APRIL 1, 2015 – MARCH 31, 2016**

Prepared by
AUBURN UNIVERSITY

STORMWATER MANAGEMENT COMMITTEE

Submitted March 2016

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Introduction

This Annual Report was developed in accordance with the guidelines provided in Title 40 Code of Federal Regulations (CFR), Part 122.26(d) incorporated by reference in the Alabama Administrative Code 335-6 as administered by the Alabama Department of Environmental Management (ADEM) and NPDES ALR040030 Phase II General Permit effective February 1, 2011.

The purpose of this Annual Report is to describe the compliance efforts reflected in the University's Stormwater Management Plan (SWMP). The Annual Report will identify the control measure specific efforts undertaken by Auburn University from April 1, 2015 through March 31, 2016 to reduce the discharge of pollutants from Auburn University's main campus to the maximum extent practicable (MEP) to protect water quality and to satisfy the appropriate water quality requirements of the Clean Water Act (CWA).

The information contained within this Annual Report has been provided by those individuals that represent both academic and operational areas of campus. The collaborative effort continues to be strengthened by its diversity and includes the following individuals and their areas of responsibility or interest:

Dr. Eve Brantley, Alabama Cooperative Extension Services (ACES)

Mr. Ben Burmester, Facilities Management – Campus Planning & Space Management

Mr. Jeffrey Dumars, Facilities Management - Campus Planning & Space Management

Mr. Malcolm Dailey, Facilities Management – Utilities & Energy

Mr. Gregory Forthofer, Facilities Management - Design Services

Ms. Rita Grub, Alabama Water Watch

Mr. Steve Johnston, Facilities Management - Landscape Services

Mr. Mike Kensler, Office of Sustainability

Mr. Dan King, Facilities Management

Mr. Eric Klypas, Athletics Department – Field Management

Dr. Charlene Lebleau, Landscape Architecture

Mr. Tom McCauley, Risk Management & Safety

Mr. Buster Reese, Facilities Management, Construction Management

Mr. Eric Reutebuch, Alabama Water Watch

Dr. Puneet Srivastava, Water Resources Center

Ms. Amy Strickland, Office of Sustainability

Mr. Vic Walker Facilities Management - Waste Reduction & Recycling

MS4 Description

Auburn University is a large teaching and research institution located in Auburn, Lee County, Alabama comprised of approximately 1800 acres of contiguous property. Auburn University is one of the major land grant/ liberal arts and science universities in the southeast. The area surrounding Auburn University consists of residential property to the east and southeast, agricultural property to the southwest and west and urban city property to the north and east.

Control Measures

Stormwater management controls or Best Management Practices (BMPs) will be implemented to prevent pollution in stormwater discharges from Auburn University's main campus. State and federal regulations require BMPs addressing six minimum control measures to be part of the SWMP. Consistent with Part V.C. of the Permit, the Annual Report will describe the University's efforts performed during this reporting period to implement the established BMPs (Public Education & Outreach, Public Involvement & Participation, Illicit Discharge Detection & Elimination, Construction Site Stormwater Runoff Control, Post Construction Stormwater Management in New and Redevelopments and Pollution Prevention / Good Housekeeping for Municipal Operations) and will include:

1. The status of AU's compliance with Permit conditions, an assessment of the appropriateness of the identified BMPs, and progress towards achieving the statutory goal for each of the minimum control measures.
2. Results of information collected and analyzed during this reporting period, including any monitoring data used to assess the success of the SWMP at reducing discharge of pollutants to the MEP.
3. A summary of stormwater activities the University plans to undertake during the next reporting cycle.
4. Proposed changes to the University's SWMP.
5. All monitoring results collected during the reporting period in accordance with Part V. of the Permit.

BMP: Public Education and Outreach on Stormwater Impacts

Stormwater pollution prevention education leads to an informed and knowledgeable campus community that is more likely to support and comply with the BMP provisions. The targeted "Public" audiences of the University's SWMP are Auburn University faculty, staff, students and visitors, which populate the campus on any given day. Within these populations, only students

in residence housing live on campus. All other students, employees and visitors reside in the surrounding communities.

Throughout this reporting period, Auburn University initiated activities consistent with the Stormwater Management Plan as follow:

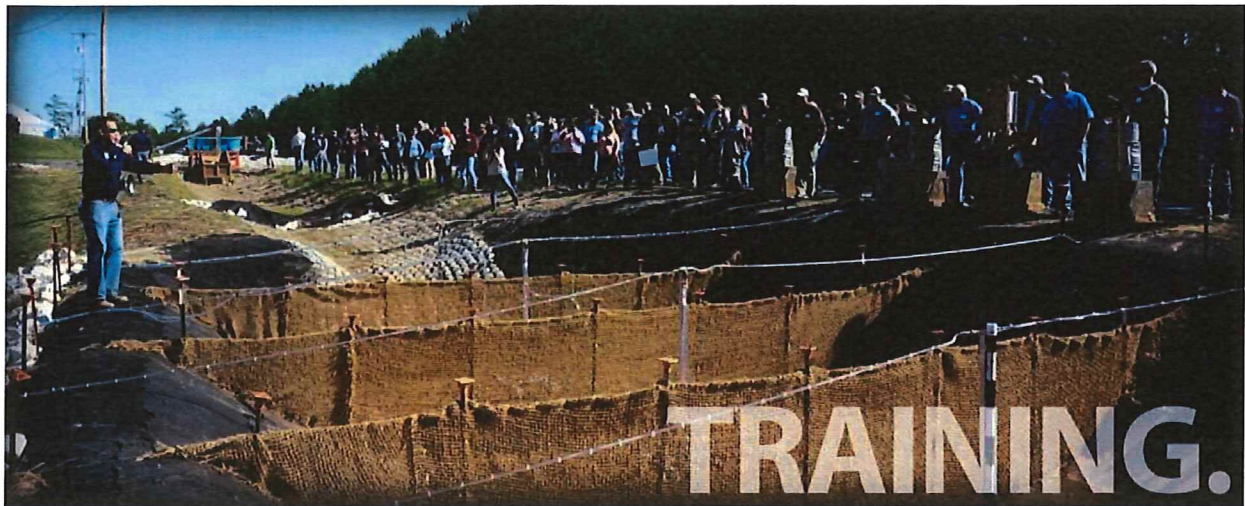
Presentations and Events

Multiple presentations were offered by Auburn University throughout the course of this reporting period to promote water quality and stormwater management principles. Presentations were offered by a variety of different AU entities and for diverse AU and non-AU audiences.

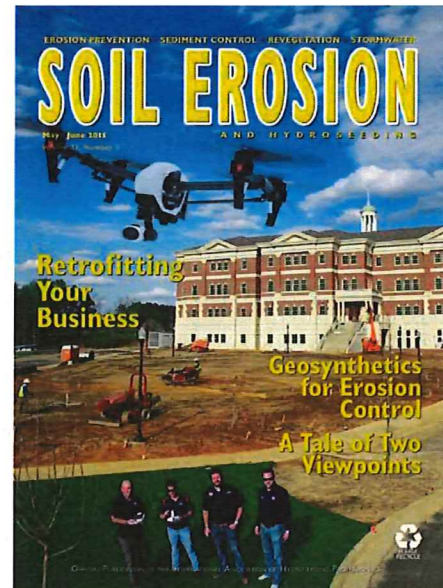
Erosion & Sediment Control Hands-On Field Installer Workshop & Innovative Erosion & Sediment Control Research Field Day (November 18-20, 2015)

This seminar is one a series of conferences and workshops conducted as part of the Alabama Technology Transfer Center at Auburn University. This program is a part of the Local Technical Assistance Program (LTAP) supported by the Federal Highway Administration, the Alabama Department of Transportation and Auburn University. Two training events were offered to provide industry participants education on implementation tools and installation techniques to provide efficient and effective erosion and sediment controls in both horizontal and vertical construction in an effort to improve environmental compliance and water quality.

The seminar/workshop focused on providing classroom and hands-on training geared for participants involved in the installation of construction site erosion and sediment control practices. The half-day classroom component covered a wide variety of topics that were reinforced with field installations during the full day field component. The field component was held at the Auburn University – Erosion and Sediment Control Testing Facility. Participants gained knowledge in the governing compliance regulations, leadership tactics, and hands-on installation and implementation tools to provide efficient and effective erosion and sediment controls.



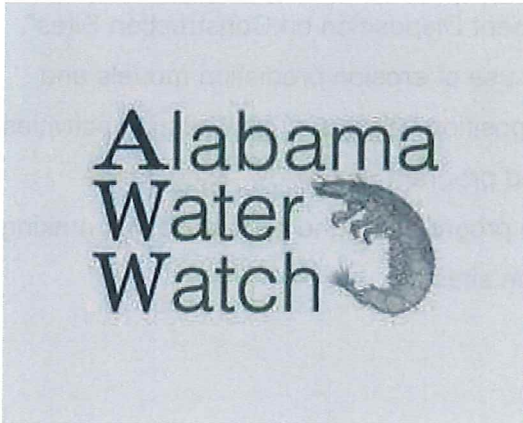
In the May/June 2015 Soil Erosion and Hydroseeding publication, Auburn University research into the use of unmanned aerial vehicles (UAVs) for site inspections was published. In October 21, 2015 the International Erosion Control Association (IECA), offered a webinar entitled “It’s a Bird, it’s a Plane, it’s a Drone”; The Future of Erosion and Sediment Control Site Inspections. The webinar highlighted this research and covered topics geared towards conducting inspections for construction, infrastructure, environmental, and agricultural applications.



2015 Alabama Water Resource Conference (September 9-11 2015)

Auburn University’s Center for Environmental Studies at the Urban-Rural Interface was a sponsor to the 2015 conference. The Center for Environmental Studies at the Urban-Rural Interface (CESURI) engages students, researchers and stakeholders in interdisciplinary efforts to clarify the influence of urbanization across rural landscapes. During the 2015 conference, multiple AU researchers presented during the conference in areas of Aquatic Biology/Ecology, Flood Issues, Drought/Climate Issues, Water Issues, GIS in Water Management and Water Resource Education & Stewardship.

Alabama Water Watch Annual Get Together (June 13, 2015)



On Saturday, June 13th volunteer monitors, members of the Alabama Water Watch Association and other AWW supporters gathered in Auburn, AL at the AWW Program Office in the CASIC building (Center for Advanced Science, Innovation, and Commerce) for the AWW Annual Get-Together. Multiple presentations were offered to provide volunteers opportunities to enhance their knowledge and skills as water monitors.

Birmingham Young Water Ambassador (BYWA) Program (July 8-9, 2015)

Over 100 high school juniors and seniors from the Birmingham AI area participate in the BYWA. The objective of the program is to increase the student's awareness of water quality, conservation and pollution. The two day event was hosted by Auburn University's faculty, staff and students from the College of Agriculture, College of Science and Mathematics, Alabama Cooperative Extension System, the Alabama



Agricultural Experiment Station and the Department of Risk Management & Safety. Educational sessions were provided on a variety of topics including water quality, wetlands, stream assessments, water harvesting, conservation, fish population sampling and aquaculture.

ACES Training Program February 2-5, 2016

For four days in February, the Alabama Cooperative Extension System (ACES) offered training in Irondale and Montgomery Alabama to educate erosion and sediment



planners, stormwater planners and plan reviewers on “Using the Revised Universal Soil Loss Equation (RUSLE2) to Predict Water Erosion & Sediment Disposition on Construction Sites”. Federal and state regulations increasingly require the use of erosion prediction models and tools to evaluate the off-site erosion and sediment deposition impacts of construction activities. Participants of the training learned to load the provided program and follow along as the instructor demonstrated the important functions of the program and the procedures for making soil erosion and sediment delivery runs on construction sites.

2015 Clear Water Alabama Seminar & Field Day (September 2-3, 2015)

Auburn University is a participating member of the Alabama Erosion and Sediment Control Partnership which offered the annual Clear Water Alabama Seminar and Field Day in Tuscaloosa Alabama. The two day event provided attendees a thorough discussion of the stormwater requirements associated with construction activities, discussed appropriate application of



the best management practices identified in the Alabama Handbook and explored growing technologies and emerging research to aid sites to better manage stormwater.

Earth Day and Caring for Water: why Does Citizen Participation Matter? (April 7, 2015)



The Office of Sustainability and Alabama Water Watch partnered to promote discussions to engage students on the importance of becoming

involved with the environmental concerns surrounding water not only locally but also globally.

Sustainability Picnic (August 19, 2015)

A collaborative effort held in AU's Davis Arboretum as a part of Welcome Week for incoming students. The event was a zero-waste event with educational opportunities for participants on zero-waste strategies, brief environmental education tidbits shared, and the opportunity for attendees to interact with a range of sustainability-focused students groups from campus, as well as community organizations/farmers.



Sponsors
Office of Sustainability
Tiger Dining
Davis Arboretum
Waste Reduction and Recycling
Academic Sustainability Programs
Natural Resource Mgmt. Degree

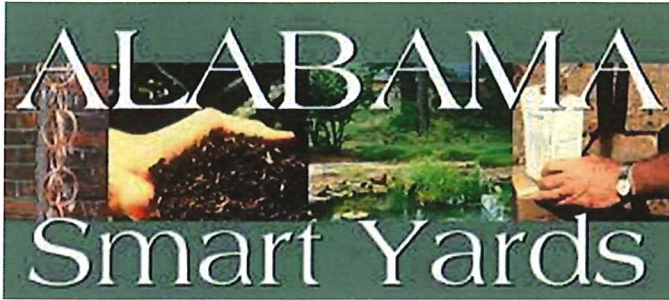
Green Roofs: On the Soft Path to a More Sustainable World (September 30, 2015)



The College of Architecture, Design, and Construction and the Office of Sustainability along with the City of Auburn and Portland State University welcomed expert Elaine Kearney to campus to speak on green roofs, including what they are, how they work, and their many benefits. Ms. Kearney has over a decade of experience in the field of landscape architecture, during which she has worked on award-winning projects featuring green roofs and living walls.

Using Natures Processes to Treat Wastewater (November 10, 2015)

The Office of Sustainability co-hosted a talk by Sustainable Water for the public to learn more about their system of utilizing plants and natural processes to filter and treat wastewater. The discussion was open to the community and highlighted a successful launch of a water recycling system at Emory University in Atlanta, Georgia. The recycling system is the first system of its kind to be installed in the United States. The system utilized at Emory is capable of recycling up to 400,000 gallons-per-day –nearly 40% of Emory's total campus water needs. Since it's commissioning in May 2015, the recycling system has reclaimed nearly 40 million gallons of wastewater and shielded the University from municipal water main failures.



The Alabama Smart Yards (ASY) program is a cooperative alliance whose mission is to introduce environmental consciousness to homeowners and neighborhoods. This extensive handbook was promoted during this reporting period and contains vital information that will help individuals create

and implement a successful landscape plan. The 10 chapters include everything you need to get started and also feature instructions on how to recycle lawn waste and reduce stormwater runoff. Charts of plant and flower care, as well as lists of local resources, round out this highly informative guide.

Web Resources

Information related to water quality and stormwater management continues to be provided from a wide variety of Auburn University web sites. The AU Department of Risk Management and Safety provides the central web resource specific to the SWMP and the requirements of the Phase II General Permit NPDES ALR040030 through the webpage located at auburn.edu/rms/stormwater. Other Auburn University websites which provide information relating to stormwater BMPs and research supporting BMPs include:

- Alabama Cooperative Extension System: aces.edu/main
- Alabama Water Watch Association: alabamawaterwatch.org
- College of Architecture, Design & Construction: cadc.auburn.edu/construction
- College of Science & Mathematics: auburn.edu/cosam
- College of Engineering: eng.auburn.edu
- Environmental Institute: auei.auburn.edu
- Office of Sustainability; auburn.edu/sustainability
- Facilities Management: auburn.edu/administration/facilities

Measure Specific Evaluation

Auburn University continued to be successful in providing a variety of information related to stormwater management, water quality and water conservation to AU and non-AU entities. The University strives to engage all faculty, staff and students through education to serve the community and to become more involved in making a positive impact.

Measure specific activities planned for the next reporting period

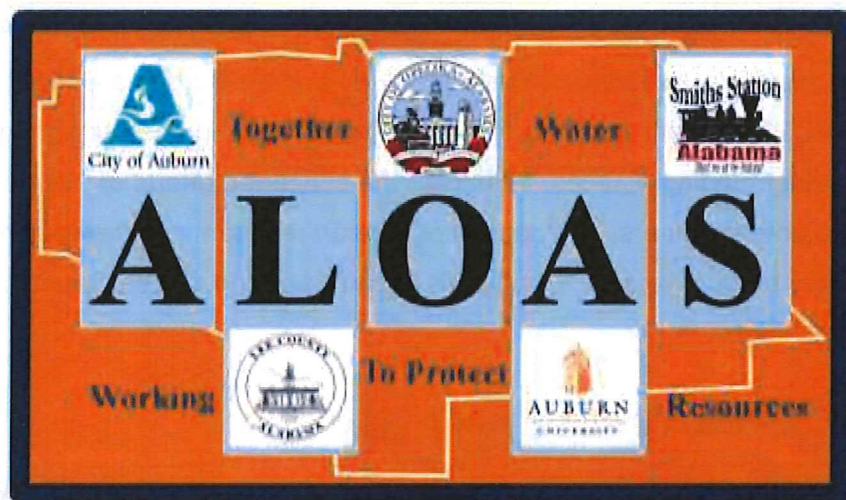
During this next reporting period, Auburn University plans to continue to promote the MS4 Public Education and Outreach best management measures to include at a minimum:

1. Host the annual Lee County Water Festival (April 2016).
2. Host Alabama Stormwater Symposium (May 2016)
3. Sponsor the Alabama Water Resource Conference set for September 2016.
4. Continued promotion of Parkerson Mill Creek (PMC) and the PMC Watershed Management Plan.

BMP: Public Involvement & Participation

Consistent with the Public Education and Outreach measures previously identified, Auburn University continued to involve others within the University community to become better aware of the responsibilities and activities associated with stormwater management. In addition, Auburn University partners with other state entities to pursue research and advances in the management of stormwater.

Auburn University is an active member of **ALOAS**, a

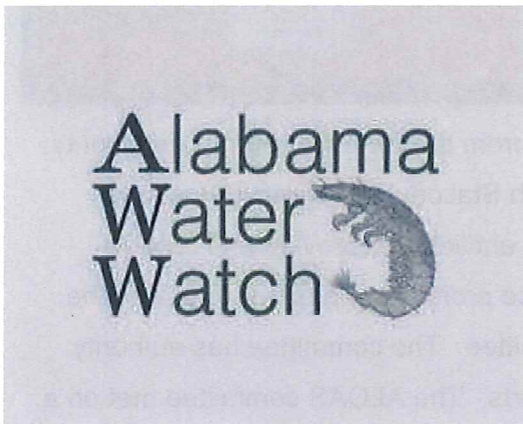


citizen's advisory committee comprised of representatives from the City of Auburn, Lee County, the City of Opelika, Auburn University and the City of Smith Station. The committee allows individuals from the community to interact with the ALOAS entities and provide and receive feedback related to stormwater activities planned. This also promotes a positive forum for the community to participate in the developments of the committee. The committee has authority and direct input into regional stormwater management efforts. The ALOAS committee met on a quarterly basis throughout this reporting period to discuss issues and coordinate community activities related to stormwater management. During this reporting period, ALOAS was responsible for the production of two publications entitled "**What does the Little Uchee Look Like**" and "**Alabama Smart Yards**" to further promote water quality and the importance of rethinking stormwater management when designing a development or redevelopment. Links to these publications and others created by ALOAS can be found at the Department of Risk Management and Safety's website: auburn.edu/rms/stormwater.

During this reporting period, Auburn University continued to be an active member in local watershed improvement and protection organizations including Save our Saugahatchee (SOS) and The Friends of the Chewacla Creek and the Uphapee Watershed. The organizations are dedicated to the restoration, preservation and enhancement of the watershed to include Parkerson Mill Creek. This involvement has proven to be beneficial as ideas and observations are commonly shared related to watershed preservation and protection.

Alabama Water Watch

Alabama Water Watch (AWW) is a statewide program dedicated to promote community-based watershed stewardship through developing citizen volunteer monitoring of Alabama's lakes, streams and coastal waters. The AWW Program, formerly in the Auburn University (AU) Department of Fisheries, became part of the AU Water Resources Center and relocated to the CASIC Building in the Auburn Research Park in 2013. AWW is funded primarily by the Alabama Agricultural Experiment Station (AAES) and the Alabama Cooperative Extension System (ACES). Other funding is obtained through securing grants from governmental and private sector funding sources. Thanks to the concerted efforts of the AWW staff, the dedicated volunteer trainers, and dozens of veteran monitors and newly-certified monitors, 2015 was a very productive year. During this reporting period, in Lee County alone, AWW accomplishments included:



- 6 water chemistry workshops,
- 7 bacteriological workshops,
- 2 water chemistry recertification sessions,
- 1 Training of Trainer Workshops

AWW- Global Water Watch

The GWW Program has been coordinated from Auburn University (AU) for more than 20 years, and is based in the AU Water Resources Center. Monitoring protocols are documented in Quality Assurance/Quality Control Plans approved by the USEPA for citizen water testing (water chemistry and bacteriological monitoring). GWW has certified about 1,100 citizen monitors who have submitted more than 7,000



water quality data records from 450 sites on 175 waterbodies beyond Alabama. Data are stored in a customized, online database, which can be accessed by monitors, educators and the general public to analyze, graph, map, share and retrieve summarized data in a variety of ways. GWW projects have led to improved public health, positive impacts on local and national water legislation, and local, regional and national environmental awards.

GWW activities have been integrated with fisheries, agriculture, animal production, food security, forestry, education, water resource management, health, and other programs while addressing cross-cutting themes of sustainability, integration, private-sector engagement and role of gender. Currently, active community-based water monitoring programs are being implemented in several countries throughout the world, including: Argentina, Kenya, Mexico, Peru, USA/Alabama, and several others.

AWW – 4-H Alabama Water Watch Program

4-H AWW increases environmental literacy by building capacity in volunteers and educators to provide youth with an increased awareness and understanding of watershed issues and tools that cultivate the critical



thinking skills students need to identify problems related to water quality and to develop solutions for such problems. As students engage in water monitoring activities they are able to interpret the health of local waterbodies, and then to make decisions and offer solutions that will contribute to the maintenance and restoration of the local watershed. With this goal in mind, the 4-H AWW Program accomplished the following outcomes in 2015:

- 74 adults were trained to utilize the Exploring Our Living Streams curriculum during three workshops,
- 1,000+ youth were reached through 4-H AWW outreach and education activities,
- 70 youth were certified as 4-H AWW water quality monitors,
- 50 data records were submitted to the AWW database by 4-H AWW groups,
- the *Exploring Our Living Streams* curriculum was revised and reprinted,
- a partnership between 4-H AWW Program and the EPA Gulf of Mexico Program Office was established, and,
- the 4-H AWW Program received a grant from the EPA Office of Environmental Education, \$91,000 for 2-year project!



**United States
Department of
Agriculture**

**National Institute
of Food and
Agriculture**

The USDA/AFRI project, titled *A Systems Approach to Identifying and Filling Gaps in and Between Knowledge and Practice in Production and Distribution of Local and Regional Foods for a More Secure Food Supply Chain*, is an innovative five-year project based at Auburn University aimed at ensuring the quality and safety of locally and regionally produced meat. This USDA-funded project is led by a multidisciplinary team of professors and extension specialists at AU and Tuskegee who specialize in animal sciences, agriculture economics, food safety, supply chain analysis, marketing, sociology, business, and environmental sciences. The project goal is to identify consumer perceptions about locally/regionally produced foods and compare that to the perceptions of the farmers/producers.

The information will then be evaluated to develop guidelines and practices aimed toward improving food safety and build teaching modules to deliver the information to farm operators.

The first phase of the project consists of data collection—on-site, environmental bacterial sampling of troughs, barns and equipment as well as microbial sampling of streams located on or near each farm to evaluate water quality. This phase of the project has been completed, and data compilation and analyses are underway.

AWW - Alabama Water Resources Research Institute (WRRRI) Project

The WRRRI project, titled *Identification of pollution sources on agricultural farms and evaluation of new fecal indicators for surface water quality monitoring*, pairs AWW staff with AU researchers to evaluate water quality on livestock farms. Luxin Wang, microbiological researcher at AU, and Eric Reutebuch, director of the Alabama Water Watch Program, received a one-year grant from the Alabama Water Resources Research Institute to sample farms in east Alabama.

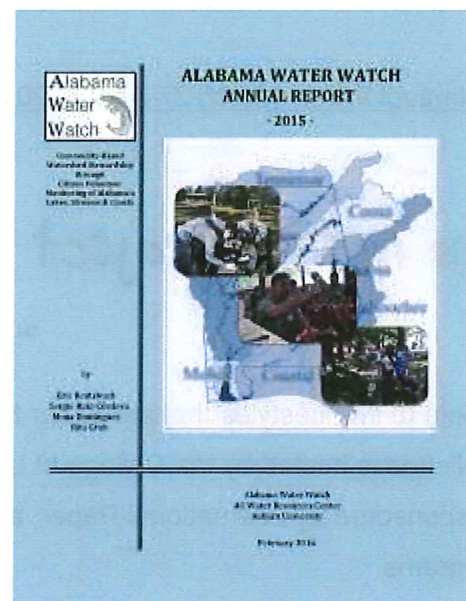
A recent study conducted by Wang and Reutebuch (unpublished) found that the *E. coli* concentrations downstream of cattle farms were significantly higher than the *E. coli* concentrations upstream of the farms. These results indicated that on-farm management and good agricultural practices need to be improved in order to lower the fecal contamination of

surface water. The genus *Bacteroides* has been suggested as an alternative fecal indicator to replace *E. coli* or fecal coliforms because they make up a significant portion of the fecal bacterial population. Field work to support this research will continue through 2016 and will focus on two primary objectives to include:

- Objective 1: Identify water contamination sources by collecting and analyzing surface water samples (upstream and downstream) from different farms and detecting host specific *Bacteroides* groups via real-time PCR assays.
- Objective 2: Investigate the development of a water monitoring protocol that is credible and easy-to-use for AWW water quality monitoring groups using *Enterococci* as the indicator microorganism. Researchers will also investigate the feasibility and reliability of volunteer monitors using *Bacteroides* as an indicator of fecal contamination.

The annual report for Alabama Water Watch more completely compiles all educative efforts accomplished during the 2015 year and can be accessed in the link provided below.

<http://www.alabamawaterwatch.org/about-us/reports/>



Watershed Clean-Up Efforts

Auburn University performed a variety of community events including stream clean-ups, invasive floral species removal projects and live-staking within the watershed to further promote awareness and measures that can be taken to better protect our watershed. The following table provides a summary of the events that took place during this reporting period.



Location	Date	Participation	Participants
PMC @ Shug Jordan Parkway	04-11-15	7	AU Staff & Students
PMC @ Shug Jordan Parkway	10-24-15	4	AU Staff & Students
PMC @ Samford to Lem Morrison	03-02-16	9	AU Staff & Students
Campus Wide	Continual	23 Groups/Individuals Adopt-A-Spot	AU Students, Staff & Faculty

No Impact Week (March 27-April 3, 2016)



no impact project

Each year, Auburn University students, faculty, and staff are invited to conserve and reduce their impact on the environment as they participate in No Impact Week. No Impact Week is an international initiative designed to promote sustainability by challenging

people to live lifestyles that are better for them and for the environment. This week-long challenge is hosted by the College of Liberal Arts' Community and Civic Engagement Initiative, co-sponsored by International Paper, and in collaboration with the AU Academic Sustainability Programs.

The themes for each day were Trash, Transportation, Consumption, Food, Water, Energy, Giving Back and Eco Sabbath



Auburn Student Government Association's Big Event (March 5, 2016)

The BIG Event gives thousands of Auburn students the opportunity to give back to the Auburn & Opelika community. As students go into the community to serve its homeowners through yard work or housework, the student body was able to make a positive impact.

Measure Specific Evaluation

Throughout this reporting period, Auburn University continued to foster an open and collaborative relationship with the many different groups on and off campus, through the continued pursuit of research initiatives and funding to improve and protect water resources as witnessed by the Auburn Water Resource Center, the continued and exhaustive efforts of the Alabama Water Watch to engage and to train a local and global volunteer water monitoring network spanning all generations and for the continued efforts by the Office of Sustainability and the SGA to engage the campus community. Through these continued efforts, our connectivity with the environment and the importance of stormwater management is better understood by all involved.

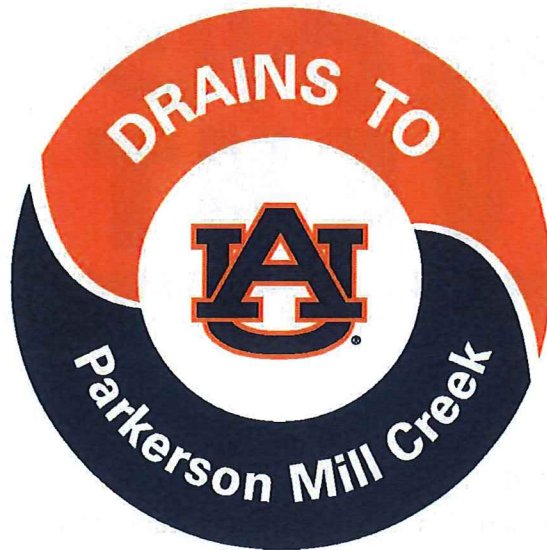
Measure specific activities planned for the next reporting period

Auburn University will continue to implement the Public Involvement & Participation measures as defined in the University's SWMP. During the next reporting period, the following activities are planned:

1. Continue on-going effort to install storm-drain markers throughout campus.
2. Continue partnership with ALOAS to address local stormwater challenges and community concerns.
3. Continue to promote sustainability initiatives to include stormwater management best management practices.

BMP: Illicit Discharge Detection & Elimination

During this reporting period, Auburn University continued to utilize the stormwater infrastructure engineering assessment that was completed in 2012 to prioritize areas requiring further assessment and/or repair along with field observations by AU Facilities Management – Utilities and Energy, Mechanical Shops, Water Resources and Risk Management & Safety to investigate sources of potential illicit discharges. An updated map is attached to this report and identifies the stormwater conveyance system maintained by the University.



Upon discovery, any potential illicit discharge is investigated further. A variety of measures can be deployed to track the source of the illicit discharge and may involve multiple AU groups as well as the City of Auburn as necessary.

Bacteriological Intensive Study of Parkerson Mill Creek Watershed (April 2015 – Nov 2015)

During this reporting period, Auburn University collaborated with the City of Auburn to initiate an intensive bacteriological study of Parkerson Mill Creek. By design, the intensive study replicated the duration of previous studies performed by ADEM. Auburn University personnel collected bacteriological samples from seven strategic locations within the jurisdictional boundaries of campus. The seven locations were selected from the uppermost interface between the City of Auburn and Auburn University along Magnolia and College Avenues. Samples were provided to the Alabama Water Watch laboratory located on campus for analysis and results were shared with the City of Auburn. The intensive study was initiated in April 2015 and concluded December 2015. Of the 105 samples collected during this period, 33 samples exceeded the single sample exceedance and 11 geometric mean exceedances were recorded. The intensive study continued to monitor the stormwater conveyance system to locate potential sources of contamination with an emphasis on the pathogen impairment. When necessary, the investigation involved personnel from the City of Auburn. Complete results of this investigation can be found in Appendix A.

The proper management of waste and the prohibition of illicit discharges on campus continued to be promoted by Auburn University through a variety of guidance documents, job aids design standards and contractual specifications:

- Chemical Waste Management Guide
- Medical Waste Guide
- Pharmaceutical Waste Job Aid
- Used Battery Job Aid
- Used Fluorescent Bulbs Job Aid
- Aerosol Container Management
- Used Oil Management
- Universal Waste Management

Measure Specific Evaluation

Throughout this reporting period, Auburn University was successful in meeting the objectives of the Illicit Discharge Detection Elimination measure as defined in the University's SWMP.

Accomplishments and ongoing actions supporting this BMP included:

- The intensive bacteriological study that was performed during this reporting period aided in the identification of one sanitary sewer cross connection that the City of Auburn was able to repair and further cease the discharge of raw sewage to the storm sewer system.
- The continued evaluation of the infrastructure engineering assessment has given direction to Facilities Management to enable a prioritized approach to infrastructure management
- The promotion of multiple job aids to the campus community aided in educating the MS4 community of the appropriate means to manage potential environmental harmful materials.

Measure specific activities planned for the next reporting period

Auburn University will continue the Illicit Discharge Detection and Elimination measures as defined in the University's SWMP. During the next reporting period, the following activities are planned:

1. Provide annual IDDE training to University employee, students and visitors to increase community's level of awareness to pollution prevention.
2. Improve upon the dry weather screening efforts by utilizing the engineering assessment and inspection software utilized by AU Facilities Management for the management of University assets.

BMP: Construction Site Stormwater Runoff Control

In accordance with Part III (B) (4) of NPDES Permit No ALR040030, Auburn University developed the Construction Site Stormwater Runoff Control Best Management Practice. Auburn University's Facilities Management is responsible for all construction projects on campus and implementation of this measure.

During this reporting period, Auburn University began implementing the new Design and Construction Standards. These standards are meant to strengthen the stormwater management efforts on all University construction sites.

Section G10 – Site Preparation

[AU Design Standard G10-Site Preparation](#)

Section G10 steps the AU Project Manager, Design Engineer and AU Contractor through the process from a project's beginning to end. Most notably elements include:

Design Engineers responsibilities include:

- Designing the project following the Erosion and Sedimentation Control Standards into all projects greater than .25 acres.
- Design must include three phase (pre-construction, construction and post construction) Erosion Sedimentation Control Plan.

AU Contractor responsibilities include:

- Providing AU proof of ADEM Registration for qualifying site
- Request Land Disturbing Authorization for Approval by AU
- Performing QCI/QCP inspections per ADEM Registration
- Perform turbidity monitoring at all specified site outfalls at least monthly and within 24 hours of a 0.5" rain event. (Storm water outfall from any construction site on campus shall not have a turbidity of more than 50 NTUs (Nephelometric Turbidity Units) for any 25 year, 24-hour event and greater.)

AU responsibilities include:

- Assign Project Manager for all sites.
- Review and approve Land Disturbing Authorization request.
- Contract with Engineer of Record to perform QCP inspections at least monthly, before forecasted rain events and within 48 hours of a Rain Wave flagged 0.5” or greater event.
- Contract with Engineer of Record to perform turbidity monitoring at all specified site outfalls at least monthly and within 24 hours of a 0.5” rain event. (Storm water outfall from any construction site on campus shall not have a turbidity of more than 50 NTUs (Nephelometric Turbidity Units) for any 25 year, 24-hour event and smaller.)
- Notify contractors of all reported violations or BMP failures and inform them that corrections are to be made within 24 hours. If the contractor is non-responsive ADEM is to be notified.

Annual Erosion Control Workshop (December 10, 2015)

Auburn University co-sponsored the annual erosion control workshop with the City of Auburn and Lee County governments. The event was held on Auburn’s main campus and was attended by nearly 60 individuals representing local construction trades, erosion control professionals, engineer and design professionals, students and MS4 staffs.

Presentations by ADEM, Sunshine Enterprises Inc. and the NRCS educated attendees on

regulatory changes facing the construction industry and the importance of effective control measures to prevent erosion after land disturbance.



Measure Specific Evaluation

Based on the requirements identified in Part III (B) (4) of NPDES Permit No ALR040030, Auburn University implemented the Design Standards to assist in meeting these requirements. The Design Standards establish a measurable performance standard to qualify the

effectiveness of on-site controls. The utilization of Rain Wave a precipitation monitoring service continues to enable the AU Project Manager, AU Engineer of Record to have real-time precipitation data. The inclusion of turbidity monitoring into specified projects has been an excellent measure to evaluate the implementation of the site specific ESC Plan. The training events both internally as well as the externally, allowed for a collaborative exchange of information.

Measure specific activities planned for the next reporting period

Auburn University will continue implementing Construction Site Stormwater Runoff Control as defined in the University's Stormwater Management Plan. During the next reporting period, the following activities are planned:

1. Provide annual training event to AU Project Managers and Design Engineers.
2. Evaluate BMP following established AU environmental audit initiative.
3. Investigate opportunities to collaborate with local governments to offer training event to the public.

BMP: Post Construction Stormwater Runoff Control

The Auburn University Board of Trustees approved the University's first Landscape Master Plan February 5, 2016 as an update to the Comprehensive Campus Master Plan. The Landscape Master Plan contains the Post-Construction Stormwater Manual, completed in 2013, that establishes principles, guidelines and standards for stormwater management planning, design and operation. Incorporated into the Design and Construction Standards, the Landscape Master Plan puts in place a set of comprehensive best management practices for stormwater management so future campus construction projects protect and improve water quality, provide campus flood protection, and reduce stormwater flow rates to downstream waters. Additionally, projects are reviewed using the stormwater management project review checklist in the Post-Construction stormwater manual to document compliance with the University's stormwater project requirements.

With the implementation of the Landscape Master Plan and stormwater Design and Construction Standards, several projects currently in the design and construction stages included stormwater best management practices to meet these requirements.

Samford Park Redevelopment Phase II

completed in August 2015 removed impervious concrete walks within Samford Park and replaced the prominent large pathway through the park utilizing pervious pavers on top of a bed of washed 57 stone to promote stormwater infiltration.



The **Natural Resource Management Area Pond Walkway** project adjacent to the recently completed Edward via College of Osteopathic Medicine currently under construction will include utilizing porous asphalt for the pathway material leaning on expertise and recommendations from the National Center for Asphalt Technology.

While the **Mell Classroom Building** was under design prior to the current stormwater design standards, the project was still went through the design review process and modified the stormwater design for a more desirable design to manage stormwater. With no existing stormwater infrastructure near the site, the original design proposed a large underground detention basin to capture stormwater and slowly release it to another drainage basin. During the plan review, a design change was recommended and made to eliminate the large underground detention basin and replace it with stormwater infrastructure offsite that would allow the large underground detention basin to be removed and have the site to maintain its current drainage basin.

While running utilities along Lem Morrison drive to serve the future home for the School of Nursing and Pharmacy Research building, the **Health Science Infrastructure** project currently under construction will remove the concrete lined roadside ditch and replace it with a grassed infiltration swale.



The School of Nursing and Pharmacy Research Buildings, both under design, will have a shared stormwater management pond with a forebay and bioretention areas as well as bioswales to collect roof drains alongside each of the buildings.

The **Auburn Memorial** project, located within the Garden of Memory, is being used to implement a portion of the 5 Star Grant received by the Donald E. Davis Arboretum for water quality improvements for the Town Creek watershed. With the Garden of Memory serving as the headwater for the Auburn University branch of Town Creek, this project currently in design will provide a wetland shelf to an existing pond, stilling basins for existing stormwater outfalls, an in-stream rock structure and plantings to improve water quality downstream into the Arboretum.

As the stormwater design and construction standards are continued to be implemented, projects should continue to provide comprehensive stormwater management while utilizing the plan review checklist and educating university design leads and design consultants on the project requirements.

Measure Specific Evaluation

During this reporting period, Auburn University continued efforts to strengthen this measure. The Board of Trustees' approval of the Landscape Master Plan further demonstrates a commitment by the University to proactively explore and install new and improved methods of stormwater management tools where applicable and as evidenced by the examples identified above.

Measure specific activities planned for the next reporting period

Auburn University will continue implementation of Post Construction Stormwater Management in new development and redevelopment as defined in the University's SWMP. During the next reporting period, the following activities are planned:

1. Continue to provide training to University Design Leads on the Design Standards required for future University projects.
2. Further develop and document post construction BMP inspections to ensure they are being maintained and functioning as designed.
3. Perform environmental audit of the post construction stormwater runoff control measure to ensure that the goals of the Campus Landscape Master Plan are being achieved.

BMP: Pollution Prevention / Good Housekeeping

Parking Lot, Parking Deck Cleaning Program

Facility Management's Landscape Services utilizes street sweepers on a daily basis to address the removal of accumulated debris from parking lots, parking decks, streets, pedestrian walkways and sidewalks. Landscape Services provides daily inspections of streets, street drains and curbs. During fall and winter months, Landscape Services removes leaves and other debris on a daily basis throughout campus. Landscape Services also incorporates the use of a large vacuum that allows the landscape debris, which is harvested on campus grounds, to be removed before it is introduced into a storm drain system. Mowers with mulching equipment pulverize leaves, limbs and debris on site which reduces possible storm drain blockage. This process is reduced during the spring and summer months unless storms or high winds cause leaves, limbs and debris to cover our campus grounds and streets; at that point we use the same procedures as the fall and winter removal. This system not only reduces the problem of storm drain blockage, but allows AU to compost the harvested material and eventually incorporate it back into campus landscape.

Stormwater Conveyance System Cleaning Program

Auburn University Landscape Services inspects all stormwater conveyance outfalls routinely throughout the year. This is done after each heavy rain or storm activity. If any large limbs, trees, or debris are blocking the area, the blockage is removed as quickly as possible. Streamside maintenance to include invasive plant removal continues and allows better accessibility to Parkerson Mill Creek. On-going efforts to remove invasive vegetative species and replace with native species have further enhanced Parkerson Mill Creek. Throughout this reporting period, Landscape Services calculated the removal of approximately 539 cubic yards of landscape debris.

Integrated Pest Management

All areas maintained on campus have a four-tiered management system, however all areas are not equal in tolerance and /or action thresholds. These thresholds are based on pedestrian traffic, tolerance thresholds set down by building occupants and historic importance of an area.

Understanding that over application of chemicals to control pests on campus landscapes can have a detrimental effect to the environment, Facility Management's Landscape Services objective is to survey/monitor selected areas on campus and determine if the thresholds of a pest warrants chemical applications. Incorporation of best management practices such as

aeration, fertilization and proper irrigation promote healthy trees, shrubs and turf while reducing the unnecessary level of chemicals applied to the environment.

An estimated 235 acres of AU main campus's premium areas (turf, trees, shrubs and hardscapes) receives targeted IPM application. Leaves on turf and turf clippings are mulched and/or recycled to reuse on campus. It is estimated that 7200 cubic yards of grass clippings are beneficially reused on campus each year.

Waste Management Reduction & Recycling

The Waste Reduction and Recycling Department (WRRD) manages all waste contracts on campus and works with faculty, staff, and students on a daily basis to provide easy and convenient recycling to Auburn University.

WRRD manages the Campus Building Recycling program, Game day Recycling, office clean-outs, toner and ink cartridge recycling, indoor/outdoor event trash and recycling bins, secure document shredding services, and electronics recycling.

Waste reduction and recycling initiatives are also promoted through education and outreach on campus and in the surrounding community. Outreach initiatives encompass events, including America Recycles Day, and community partnerships, such as the East Alabama Recycling Partnership.



WRRD maintained a contract with Waste Management (WM). WRRD and WM operational staffs attended an annual training on litter prevention, spill clean-up and storm water management. WRRD will continue to conduct this annual training each year for all university and contracted waste and recycling operational staff. This training outlines the steps that both University and contracted staff use to prevent and clean-up hydraulic oil spills.

Spill Prevention Control & Countermeasure (SPCC) Program

Auburn University maintains compliance efforts consistent with 40 CFR 112 and the University's SPCC Plan. The SPCC Plan addresses the University's program to manage oil and other petroleum products defined by 40 CFR 112.7(2) and 40 CFR 112.7(4). This includes the management of fuel oils, gasoline, jet fuel, lubricating oils, hydraulic and dielectric fluids as they are utilized and stored on Auburn University's main campus. The University inspects all applicable containers (fuel tanks, generators, elevators and drums) monthly and all transformers annually. These routine inspections evaluate the condition of the containers to ensure proper functionality and management to prevent releases to the environment.

Applicable SPCC containers	Number of Inspections	Volume of SPCC applicable oil (gallons)
Tanks, Generators, Drums	696	99173
Elevators	1596	19445
Pad Mount Transformers	237	110574
Satellite Equipment	21	3847

Annual training is provided to oil handling personnel employed by Auburn University to promote the objectives of the SPCC Plan, the regulatory responsibility associated with these regulated materials and to address in-house procedures necessary to respond to spills or releases from them. During this reporting period, 243 employees were trained.

Used Oil Recycling Program

Auburn University's Department of Risk Management & Safety routinely collects and recycles used oil from campus operations. Currently, the Department of Risk Management & Safety uses Metro Environmental based out of Sylacauga AL for removal and recycling of campus generated used oil. Throughout this reporting period, the Department of Risk Management & Safety collected 780 gallons of used oil from campus operations.

Used Cooking Oil Recycling Program

Auburn University's Dining Services collects and recycles all used cooking oil generated from the University's dining facilities. During this reporting period, 3903 gallons of used cooking oil was collected under contract with Filta Fry.

Measure Specific Evaluation

Throughout this reporting period, the on-going preventative measures taken by multiple groups on campus have removed items that could have been ultimately destined to our local landfill, groundwater and or surface waters. The University promotes e-waste minimization through reuse and recycling. The University has developed sound practices to manage equipment and operations to minimize releases to the environment and provides training to University and contractual employees on these best management practices.

Measure specific activities planned for the next reporting period

Auburn University will continue to perform and promote sound pollution prevention good housekeeping management practices. Despite program delays, during this next reporting period AU will continue researching the possibility of establishing a University composting facility to receive landscape debris, bedding waste generated from the College of Agricultural operations, the College of Veterinary Medicine (CVM) and AU Dining.

Monitoring Plan for Pathogen Impairment

The Parkerson Mill Creek Watershed is located in Lee County; the watershed is part of the Chewacla Watershed, in the lower Tallapoosa River Basin. The 9.3 square mile (5,981 acres) watershed contains 21,000 meters (68,500 ft.) of main stem perennial stream and approximately 86,000 meters (282,152 ft.) of tributary stream length. The stream network empties into Chewacla Creek, just south of the H.C. Morgan Water Pollution Control Facility

The watershed includes the City of Auburn, Auburn University and the surrounding areas. The headwaters of Parkerson Mill Creek are approximately 3,000 meters (9,845.5 ft.) in length and are located on the campus of Auburn University.

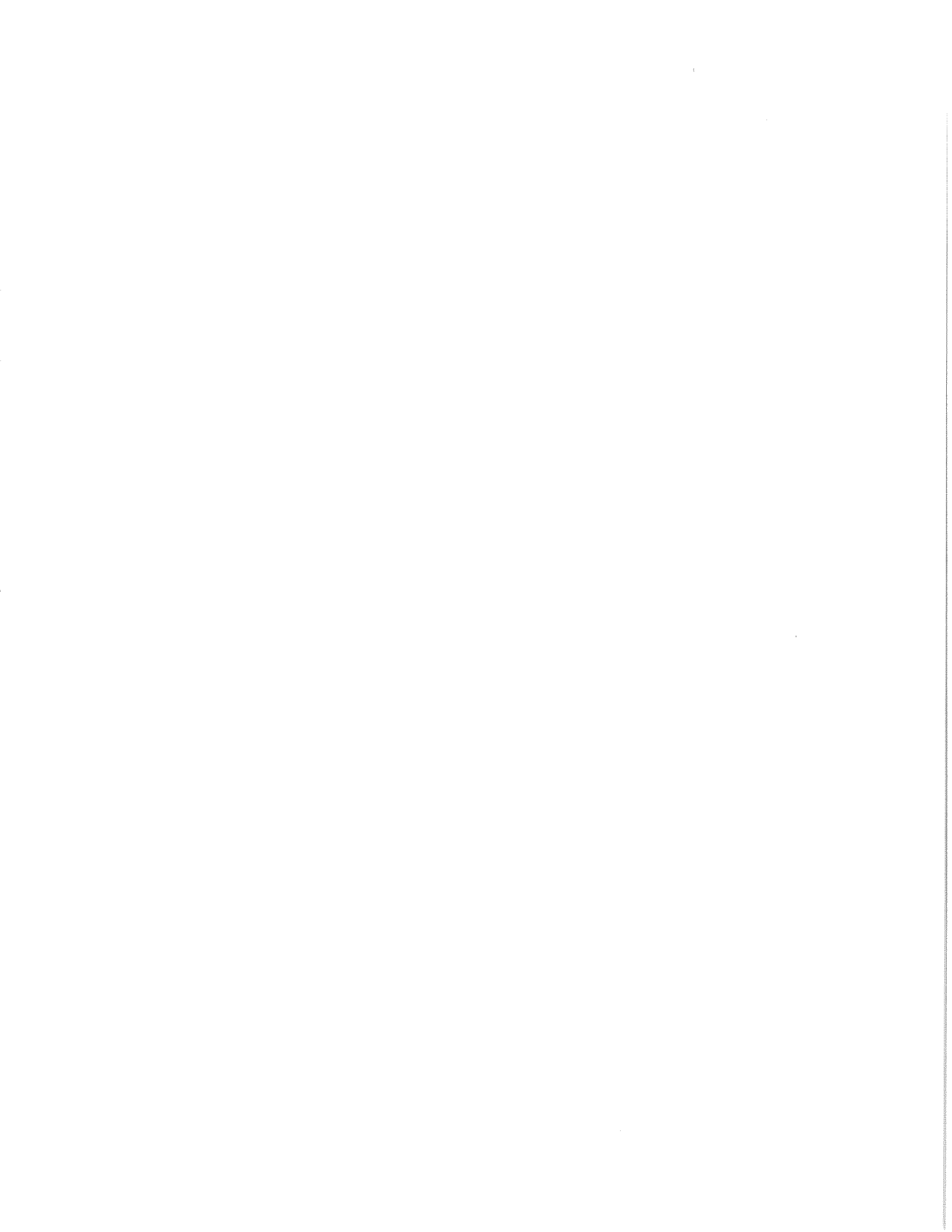
In 2007, ADEM listed Parkerson Mill Creek as impaired on Alabama's 303(d) List of Impaired Waters for pathogens from point source and non-point sources, primarily urban runoff and storm sewer connections. As such, Auburn University monitors Parkerson Mill Creek by performing bacteriological analysis through the AU Water Resource Center's Alabama Water Watch (AWW) program. The results of the monitoring effort for this reporting period are contained in Appendix A of this Annual Report.

Appendix A

Parkerson Mill Creek

Water Quality Monitoring

April 1, 2015 through March 31, 2016



Appendix A

Parkerson Mill Creek Water Quality Monitoring
 April 1, 2015 through March 31, 2016

AWW Site Code 7011035
 Location Description Thach Ave near Rugby Field

Sample Date	air temp	water temp	E-coli (1)	E-coli (2)	E-coli (3)	Calc Mean	Notes
16-Nov-15	17	17	13	13	17	1433.33	
13-Oct-15	19.5	19.5	32	28	30	3000.00	
26-Aug-15	24	24	43	25	70	4600.00	
22-Jun-15	23.5	24	12	9	11	1066.67	
4-May-15	18	18	0	4	1	166.67	
7-Apr-15	19	18	5	5	3	433.33	
29-Mar-15	18	15	1	6	0	233.33	
28-Feb-15	14	10	1	7	3	366.67	

AWW Site Code 7007010
 Location Description Wire Road and Samford Avenue

Sample Date	air temp	water temp	E-coli (1)	E-coli (2)	E-coli (3)	Calc. Mean	Notes
13-Oct-15	19.5	19.5	44	45	54	4766.67	
26-Aug-15	23	23	0	0	0	0.00	
22-Jun-15	24.5	25	7	9	8	800.00	
4-May-15	20	20	2	2	7	366.67	
7-Apr-15	21	19	4	8	5	566.67	
29-Mar-15	20	16	2	6	0	266.67	
28-Feb-15	14	10	0	0	0	0.00	

AWW Site Code 7012004
 Location Description Bridge on Samford Ave near Women's Soccer Field

Sample Date	air temp	water temp	E-coli (1)	E-coli (2)	E-coli (3)	Calc. Mean	Notes
14-Oct-15	18	18	19	17	20	1866.67	
13-Sep-15	18	18	0	1	2	100.00	
26-Aug-15	20	20	200	200	200	20000.00	
22-Jun-15	23.5	24	3	3	4	333.33	
4-May-15	18.5	18.5	0	0	2	66.67	
7-Apr-15	23	19	0	2	2	133.33	
29-Mar-15	18	15	26	29	24	2633.33	
28-Feb-15	14	10	0	0	1	33.33	

AWW Site Code 7007008
 Location Description Lem Morrison Bridge

Sample Date	air temp	water temp	E-coli (1)	E-coli (2)	E-coli (3)	Calc. Mean	Notes
26-Aug-15	21	21	200	200	200	20000.00	
22-Jun-15	23.5	24	8	10	5	766.67	
4-May-15	17.5	17.5	1	2	1	133.33	
7-Apr-15	31	20	1	6	1	266.67	
29-Mar-15	18	15	3	2	5	333.33	
28-Feb-15	10	8	0	0	1	33.33	

AWW Site Code 7018002
 Location Description Shug Jordan near AU Beef Unit

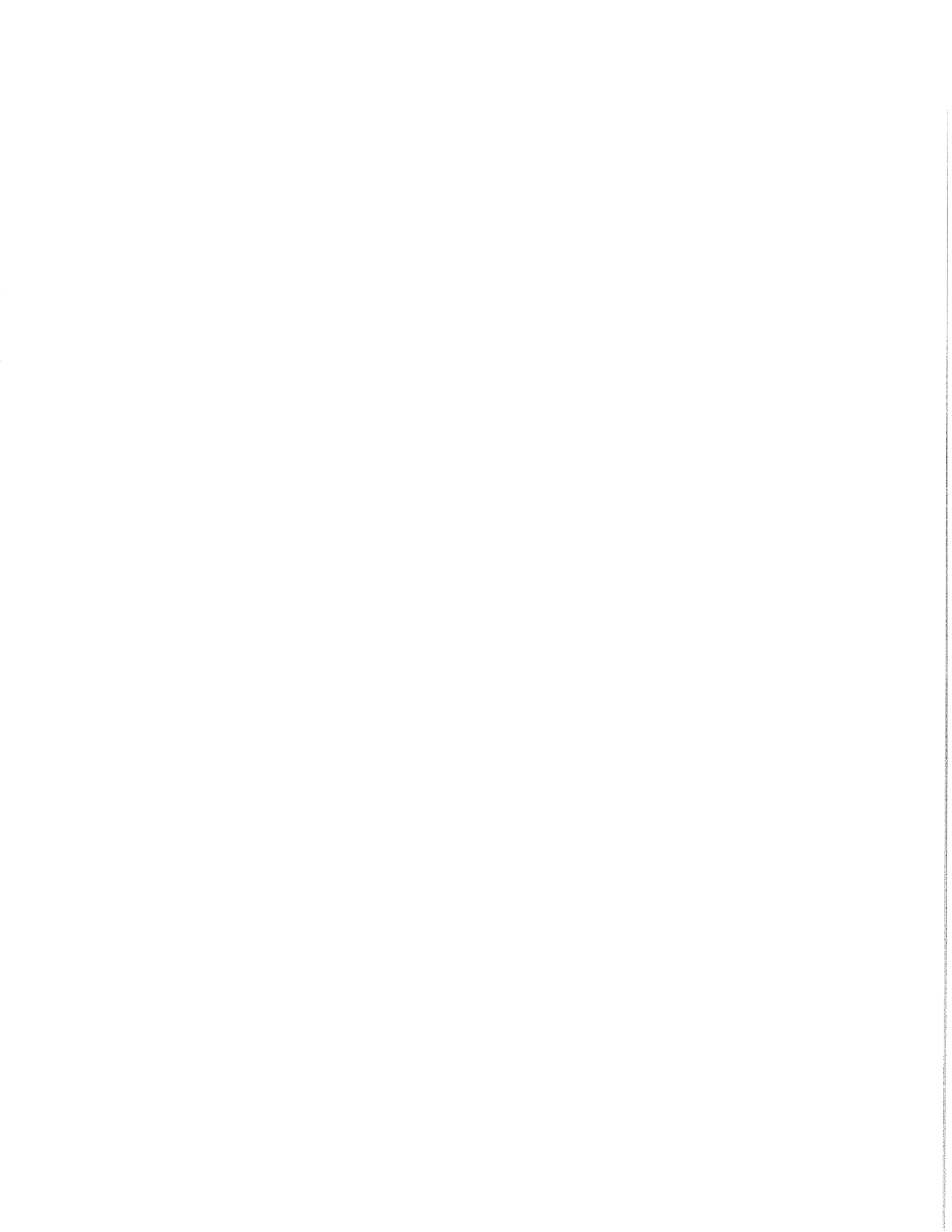
Sample Date	air temp	water temp	E-coli (1)	E-coli (2)	E-coli (3)	Calc. Mean	Notes
16-Nov-15	14	14	3	1	2	200.00	
13-Oct-15	19	19	39	44	41	4133.33	
26-Aug-15	20.5	20.5	8	5	13	866.67	
22-Jun-15	24	24.5	8	4	2	466.67	
4-May-15	17	17	0	0	0	0.00	
7-Apr-15	28.5	18	7	7	4	600.00	
29-Mar-15	20	15	11	2	5	600.00	
28-Feb-15	15	12	0	4	0	133.33	

AWW Site Code 7021009
 Location Description Below Sewer Main Near Coliseum

Sample Date	air temp	water temp	E-coli (1)	E-coli (2)	E-coli (3)	Calc. Mean	Notes
26-Aug-15	22	22	200	200	200	20000.00	
22-Jun-15	27	24	1	1	1	100.00	
4-May-15	20	20	0	0	0	0.00	
7-Apr-15	23	20	1	1	2	133.33	
29-Mar-15	16	15	84	68	132	9466.67	
28-Feb-15	13	12	0	0	0	0.00	

AWW Site Code 7011036
 Location Description Parkerson Mill Creek - Biggio Drive near Auburn Coliseum

Sample Date	air temp	water temp	E-coli (1)	E-coli (2)	E-coli (3)	Calc. Mean	Notes
16-Nov-15	19	19	9	8	13	1000.00	
13-Oct-15	20	20	35	33	29	3233.33	
7-Apr-15	x	x	1	2	0	100.00	



Appendix B

Updated Stormwater Management Plan

April 1, 2015 through March 31, 2016



AUBURN

UNIVERSITY

STORMWATER MANAGEMENT PLAN

Prepared by

AUBURN UNIVERSITY

STORMWATER MANAGEMENT COMMITTEE

Updated March 2016

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INTRODUCTION

This Stormwater Management Plan (SWMP) was developed in general accordance with the guidelines provided in Title 40 Code of Federal Regulations (CFR), Part 122.26(d) incorporated by reference in the Alabama Administrative Code 335-6 as administered by the Alabama Department of Environmental Management (ADEM) and NPDES ALR040030 Phase II General Permit effective February 1, 2011.

The purpose of this SWMP is to describe Auburn University and its operation, and identify the Best Management Practices (BMPs) to be utilized to reduce the discharge of pollutants from Auburn University's main campus to the maximum extent practicable (MEP) to protect water quality and to satisfy the appropriate water quality requirements of the Clean Water Act (CWA).

The Stormwater Committee formed to develop this SWMP is comprised of individuals from both academic and operational areas of campus. The collaborative effort was strengthened by its diversity and includes the following individuals and their areas of responsibility or interest:

Dr. Eve Brantley, Alabama Cooperative Extension Services (ACES)
Mr. Ben Burmester, Facilities Management
Mr. Malcolm Dailey, Facilities Management Utilities & Energy
Mr. Jeffrey Dumars, Office of Campus Planning
Mr. Gregory Forthofer, Facilities Management
Ms. Rita Grub, Water Resource Center – Alabama Water Watch
Mr. Steven Johnston, Facilities Management Landscape Services
Mr. Mike Kensler, Office of Sustainability
Mr. Dan King, Facilities Management
Mr. Eric Kleypas, Athletics Department - Field Management
Dr. Charlene Lebleu, Landscape Architecture
Mr. Tom McCauley, Risk Management & Safety
Mr. Buster Reese, Facilities Management, Construction Management
Mr. Eric Reutebuch, Water Resource Center – Alabama Water Watch
Ms. Amy Strickland, Office of Sustainability
Mr. Vic Walker, Facilities Management – Waste Reduction & Recycling

Objective

The primary goal of the developed SWMP is to improve the quality of surface waters at Auburn University by reducing the amount pollutants contained in stormwater runoff to a maximum extent practicable (MEP). Auburn University will seek to reduce the pollutants from entering stormwater runoff through the implementation of best management practices. The SWMP will describe the minimum best management practices to be implemented by Auburn University and as required by ADEM General Permit ALR040030 (effective date February 1, 2011).

1.1 MS4 Description

Auburn University is a large land grant educational institution located in Auburn, Lee County, Alabama comprised of approximately 1800 acres of contiguous property. Auburn University is one of the major liberal arts and science universities in the southeast. The area surrounding Auburn University consists of residential property to the east and southeast, agricultural property to the southwest and west and urban city property to the north and east.

1.2 Definitions

ADEM: Alabama Department of Environmental Management responsible for enforcing environmental regulations in the State of Alabama.

Best Management Practices (BMP): may include schedule of activities, prohibition of practices, maintenance procedures or other management practices to prevent or reduce the pollution of Waters of the State. BMPs also include treatment requirements, operating procedures and practices to control runoff, spillage or leaks, sludge or waste disposal or drainage from raw material storage.

Clean Water Act (CWA): The Clean water Act is an act passed by U.S. Congress to control water pollution. It is formally referred to as the Federal Water Pollution control Act of 1972 or Federal Water Pollution Control Act Amendments of 1972.

Code of Federal Regulations (CFR): A codification of the final rules published daily in the Federal Register. Title 40 of the CFR contains the environmental regulations.

Composite Sample: A sample collected with consideration giving towards flow and time.

Control Measure: any Best Management practice or other method used to prevent or reduce the discharge of pollutants to Waters of the State.

Discharge: when used without a qualifier, refers to “discharge of pollutant” as defined as ADEM Admin Code 335-6-6-.02(m)

EPA: Environmental Protection Agency

Grab Sample: A sample that is taken on a one-time basis without consideration of the flow rate of the sampling media and without consideration of time.

Green Infrastructure: refers to systems and practices that use or mimic natural processes to infiltrate, evapotranspiration (the return of water to the atmosphere either through evaporation or by plants), or reuse storm water or runoff on the site where it is generated.

Illicit Connection: any man made conveyance connecting an illicit discharge directly to municipal separate storm sewer (MS4)

Illicit Discharge: defined at 40 CFR 122.26(b)(2) and refers to any discharge to a municipal separate storm sewer (MS4) that is not entirely composed of storm water, except those discharges authorized or excluded under an NPDES permit.

Low Impact Development (LID): an approach to land development (or redevelopment) that works with nature to manage storm water as close to its source as possible. LID employs principles such as preserving and recreating natural landscape features, minimizing effective imperviousness to create functional and appealing site drainage that treat storm water as a resource rather than a waste product.

Maximum Extent Practicable (MEP): the technology based discharge standard for municipal separate storm sewer systems to reduce pollutants in storm water discharges that was established by the Clean Water Act (CWA) Section 402(p). A discussion of MEP as it applies to small MS4s like Auburn University is found at 40 CFR 122.34

Municipal Separate Storm Sewer System (MS4): A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm ditches) owned or operated by a State, city, town or other public body having jurisdiction over the collection and conveyance of storm water which is not a combined sewer and which is not part of a publicly owned treatment works.

Notice of Intent (NOI): the mechanism used to “register” for coverage under a General Permit.

National Pollutant Discharge Elimination System (NPDES): The national program for issuing, modifying , revoking and reissuing, terminating, monitoring and enforcing permits and imposing and enforcing pretreatment requirements under Section 307, 318, 402 and 405 of the CWA.

Permit: NPDES ALR040030 issued to Auburn University & became effective February 1, 2011.

Permittee: Auburn University

Priority Construction Site: any qualifying construction site in an area where the MS4 discharges to a waterbody which is listed on the most recently approved 303d list of impaired waters for turbidity, siltation or sedimentation, any waterbody for which a TMDL has been finalized or approved by EPA for turbidity , siltation or sedimentation, any waterbody assigned the Outstanding Alabama Water use classification in accordance with ADEM Admin Code 335-6-10-.09 and any waterbody assigned a special designation in accordance with 335-6-10-.10

Stormwater: defined at 40 CFR 122.26(b)(13) storm water runoff, surface runoff and drainage

Storm Water Management Plan (SWMP): A plan developed for implementation of NPDES permit requirements.

Waters of the State: All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce. Waters of the State include but are not limited to all interstate waters and interstate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, play lakes or natural ponds.

CONTROL MEASURES

Stormwater management controls or Best Management Practices (BMPs) will be implemented to prevent pollution in stormwater discharges from Auburn University's main campus. State and federal regulations require BMPs addressing six minimum control measures to be part of the SWMP. These BMPs are described in the remaining subsections of this section with applicable measurable goals and scheduled implementation dates for each BMP.

The six control measures addressed by this SWMP include:

- 2.1 Public Education and Outreach
- 2.2 Public Involvement / Participation
- 2.3 Illicit Discharge Detection and Elimination
- 2.4 Construction Site Storm Water Runoff Control
- 2.5 Post Construction Storm Water Management in New and Redevelopment
- 2.6 Pollution Prevention / Good Housekeeping for Municipal Operations

2.1 Public Education and Outreach

An informed and knowledgeable "community" at Auburn University will be an important factor in the success of this SWMP to reach its goal of reducing the discharge of pollutants associated with stormwater runoff to Parkerson Mill Creek (PMC) and its

tributaries. The implementation of an effective public education and outreach program will help Auburn University to ensure:

- 1) Greater awareness to the University community of the importance of managing discharges to local receiving waters (PMC and its unnamed tributaries);
- 2) Greater support from the University community for the stormwater management program; and
- 3) Greater compliance with the requirements of the General NPDES Permit.

The Public Education and Outreach minimum control measure consists of Best Management Practices (BMPs) that focus on the development of educational materials designed to inform the public (University community) about the impacts that stormwater discharges have on local water bodies. The educational materials will contain specific actions as to how the public, as individuals or collectively as a group, can help reduce pollutants and their impacts on the environment, and specifically to PMC. The Public Education and Outreach program and BMPs, in combination, are expected to reach all of the constituents within the MS4s permitted boundary (Auburn University's main campus). The emphasis of these outreach efforts will be towards the removal of known pollutants of PMC to include floatables, pathogens and sediment. Auburn University has a strong network of partners in its ongoing efforts to educate stakeholders on the importance of stormwater management, personal pollution prevention, and actions that have been implemented to protect and improve nonpoint source pollution to local surface waters. A plan for effectively engaging in Public Education and Outreach (minimum measure #1) is presented below as required by the Permit.

Communication to the Public

Traditional and innovative avenues will be utilized to communicate with the public. Examples of traditional media include newspapers such as the Plainsman (Auburn University student publication), the Opelika-Auburn News (local newspaper serving Auburn, Opelika, Lee County, and surrounding communities), and radio as a part of the weekly Alabama Cooperative Extension System Backyard Wisdom program. Innovative communication avenues will include electronic media and tours of campus that include highlighting stream resources and stormwater practices.

Target Audience

Auburn University has a unique opportunity to reach several distinct target audiences throughout the year. These audiences include Auburn University faculty and staff, students, parents of students, visitors, contractors on campus, and surrounding community stakeholders.

Pollutants of Concern

Primary stormwater pollutants of concern for Auburn University include pathogens as listed on the 2010 303(d) list, floatables i.e. litter from improper trash disposal, and sediment from land disturbing activities and in-stream erosion processes.

Communication Mechanisms

Communication of stormwater pollution prevention principles will include the following mechanisms interactive web sites such as a campus stormwater BMP tour, AU Daily electronic bulletin that reaches the entire student body and all Auburn University employees, creation of a stormwater listserve, inclusion of stormwater and stream information on electronic kiosks located in the strategically located on campus, presentations to student and watershed organizations, and participation in University-led activities such as Earth Day, Arboretum Game Day events, student service events (Big Event, IMPACT).

Responsible Parties

The Public Education and Outreach measure development and implementation will be overseen by a partnership between the University Water Resources Center and the Department of Risk Management and Safety (RMS).

Measurable Outcomes and Evaluation

Effectiveness of the activities related to education and outreach will be measured through:

1. Number of presentations delivered - AU SWMP will partner with other programs to provide at a minimum of four presentations specific to stormwater management annually.
2. RMS maintains the central electronic resource (webpage) to serve as primary reference site for the updated University SWMP. [RMS-Stormwater](#)

3. Quantify the number of individuals reached through University led activities throughout each reporting cycle. Audience includes students, staff, employees and visitors to Auburn University and is targeted at 2500 individuals each reporting cycle.
4. Amount of litter removed from Parkerson Mill Creek. AU SWMP aims to remove a minimum of 450 55-gallon trash bags per year of litter from Parkerson Mill Creek. It is suggested that quantifying the amount of litter in bags is not practical nor does it accurately represent the positive efforts of the many volunteers to remove litter from the PMC. It is suggested that the measurable goal should be the number of events and volunteers rather than bags. During this reporting period, 280 clean-up events were performed on campus with 100 students, faculty and staff participating.

2.2 Public Involvement / Participation

Public Participation is closely linked to Public Education and Outreach in that Auburn University's success in educating the public will directly affect the public participation in stormwater related activities. The public can provide valuable input and assistance in the implantation of the SWMP, therefore, where possible public participation should be encouraged. Auburn University has a successful history of participatory programming related to stormwater management and protection of surface waters as they flow through Auburn University properties. A plan for effectively engaging in Public Involvement and Participation (minimum measure #2) is presented below as required by the Phase II Stormwater Regulations.

Communication to the Public

Traditional and innovative avenues will be utilized to communicate with the public. Examples of traditional media include newspapers such as the Plainsman (Auburn University student publication), the Opelika-Auburn News (local newspaper serving Auburn, Opelika, Lee County, and surrounding communities), and radio as a part of the weekly Alabama Cooperative Extension System Backyard Wisdom program. Innovative communication avenues will include electronic media and tours of campus that include highlighting stream resources and stormwater practices.

Target Audience

Auburn University has a unique opportunity to reach several distinct target audiences throughout the year. These audiences include Auburn University faculty and staff, students, parents of students, visitors, contractors on campus, and surrounding community stakeholders.

Public Involvement Activities

Auburn University and community partners will provide opportunities for stakeholders to learn more about stormwater practices and policies, demonstration projects, and assessment of local water quality through ALOAS (City of Auburn, Lee County, City of Opelika, Auburn University and City of Smith Station stormwater consortium) public meetings, Alabama Water Watch citizen monitoring, storm drain markers, and assistance with the implementation of the PMC watershed plan.

Responsible Parties

The Public Education and Outreach measure development and implementation will be overseen by a partnership between the University Water Resources Center and the Department of Risk Management and Safety.

Measureable Outcomes and Evaluation

1. Effectiveness of the activities related to public involvement and participation will be measured through:
 - a. Number of target audience participating in stream and stormwater programs and events (parallel with BMP #1 goal #5).
 - b. Documented attendance to quarterly citizen advisory meetings (ALOAS) meetings.
 - c. Continued attendance, partnership, or participation in Alabama Water Watch monitoring workshops.
2. Installation of storm drain markers on all inlets located on campus (~450). During this and the next reporting cycle, an additional 25 storm drain markers are targeted to be installed.

2.3 Illicit Discharge Detection and Elimination

Illicit discharges into a storm drain system are defined by EPA as "...any discharge to an MS4 (municipal separate storm sewer system) that is not composed entirely of stormwater ...". Exceptions include permitted industrial sources and discharges from fire-fighting activities. Some examples of illicit discharges include: sanitary wastewater, effluent from septic tanks, car wash wastewaters, improper oil disposal, and radiator flushing disposal, laundry wastewaters, and spills from roadway accidents, and swimming pool discharges (that have not been de-chlorinated). These illicit discharges can enter a storm drain system either through a direct connection (e.g., a pipe connected directly to the storm drain) or indirectly (e.g., spills, dumped chemicals, cracks in sanitary sewers). As a result, inadequately treated wastes containing high levels of pollutants, such as heavy metals, oil and grease, toxics, viruses, and bacteria, are discharged to receiving waters. The next subsections describe Auburn University's current program to detect and eliminate both direct and indirect illicit discharges into the storm drain system and associated plans for the permit term.

Regulations require identification and elimination of all non-stormwater discharges and appropriate responses to protect the campus community and the environment. The following discharges are not considered illicit and are not regulated under this minimum control measure:

- A. Water line flushing (including fire hydrant testing)
- B. Landscape irrigation
- C. Diverted stream flows
- D. Rising ground waters
- E. Uncontaminated ground water infiltration (infiltration is defined as water other than wastewater that enters a sewer system, including sewer service connection and foundation drains, from the ground through such means as defective pipes, sewer service connections or manholes.)
- F. Uncontaminated pumped ground water
- G. Discharges from potable water sources
- H. Foundation drains
- I. Air conditioning condensation

- J. Springs
- K. Water from crawl space pumps
- L. Footing drains
- M. Flows from riparian habitats and wetlands
- N. De-chlorinated swimming pool discharges
- O. Street wash water
- P. Discharges or flows from fire fighting

Auburn University relies upon multiple methods to identify illicit discharges as quickly as possible. All potential illicit discharges should be reported to Auburn University Risk Management and Safety upon discovery. Discovery and reporting methods include reports conveyed from the campus community to the University's Facilities Division or the Department of Risk Management and Safety. Reports might originate from faculty, staff, students, or campus visitors. In particular, AU staff with specific training on illicit discharge identification will increase the probability of proper and timely reporting.

Investigation of illicit discharges will commence as soon as practicable but always within 5 working days of the initial discovery or report. Investigation and mitigation measures are implemented upon detection to identify possible source(s) of illicit discharges and to either prevent or reduce adverse impacts to stormwater runoff and the environment. A written report will be prepared to document each illicit discharge investigation. Reports will include the nature of the discharge, possible sources, mitigation or cleanup measures implemented, any steps taken to prevent similar discharges in the future, and documentation of any ADEM reporting required.

Target Audience

Auburn University has a unique opportunity to reach several distinct target audiences throughout the year. These audiences include Auburn University faculty and staff, students, parents of students, visitors, contractors on campus, and surrounding community stakeholders.

Responsible Parties

The Illicit Discharge Detection & Elimination measure development and implementation will be overseen by a partnership between the Auburn University Facilities Management

Utilities & Energy Department, Department of Risk Management and Safety and the University Water Resource Center.

Measurable Outcomes and Evaluation

1. Update map of all campus storm water outfalls. As required by Section III(b)(i) of the Permit, Auburn University will provide annual updates of the map to ADEM by March 31st each year. (AU Utilities & Energy Department/ AU Risk Management & Safety)
2. Incorporate illicit discharge detection and elimination program into the Auburn University Public Education & Outreach initiatives. AU SWMP will partner with other programs to provide two presentations per semester or four presentations to include principles of the IDDE program to be delivered annually.
3. Bacteriological monitoring continues to be performed to identify possible sources of illicit discharge. (AU Risk Management & Safety in conjunction with AU Water Resource Center and AU Facilities Management)
4. Perform and document routine outfall field inspections. Evaluate all outfalls to PMC annually.
5. Continue to evaluate recently completed stormwater system model and develop a prioritized schedule for repairs and maintenance. (AU Utilities & Energy).
6. Develop training program to further promote the objectives of the Illicit Discharge and Detection Program. (AU Risk Management & Safety) A training program is offered to AU personnel annually. (AU Risk Management & Safety)
7. Develop Standard Operating Procedure (SOP) for the Illicit Discharge Detection program. The SOP identified below was developed during this past reporting period and is maintained and enforced by Risk Management & Safety and Facilities Management.

Auburn University
Illicit Discharge Detection and Elimination
Standard Operating Procedure

1. Purpose of Standard Operating Procedure:

A. To improve the quality of surface water and ground water within the watershed areas owned and maintained by Auburn University by preventing illicit discharges and illicit connections.

B. To prevent the discharge of contaminated stormwater runoff from Auburn University properties and operations into the storm drainage system and Parkerson Mill Creek.

C. To comply with the requirements of Auburn University stormwater permit.

D. To comply with all United States Environmental Protection Agency and State laws applicable to stormwater discharges.

2. Definitions

An Illicit Discharge is the discharge of pollutants or non-stormwater materials to the storm drainage system via overland flow or direct dumping of materials into a catch basin or inlet. Examples of illicit discharges include overland drainage from car washing or cleaning paint brushes in or around a catch basin.

An Illicit Connection is the discharge of pollutants or non-stormwater materials into the storm drainage system via a pipe or other direct connection. Sources of illicit connections may include sanitary sewer taps, wash water from laundry facilities, wash water from sinks, or other similar sources.

3. Illicit Discharges

No University employee, student, visitor, contractor, department, or unit shall cause or allow discharges into the Auburn University storm drainage system which are not composed entirely of stormwater, except for the allowed discharges listed in Section 5.

Prohibited discharges include but are not limited to: oil, anti-freeze, grease, chemicals, wash water, paint, animal waste, garbage, and litter.

4. Illicit Connections

The following connections are prohibited, except as provided in Section 5 below:

Any drain or conveyance, whether on the surface or subsurface, which allows any non-stormwater discharge, including but not limited to sewage, process water, waste water, or wash water, to enter the stormwater drainage system, and any connections to the storm drain system from indoor drains or sinks.

5. Allowed Discharges

The following discharges to the storm drainage system are allowed:

A. Discharges that are specifically permitted under a State or federal stormwater program.

B. Incidental non-stormwater discharges which do not significantly contribute to the pollution of Auburn University surface waters and are limited to the following:

- water line flushing;
- reclaimed water line flushing;
- landscape irrigation, including but not limited to reclaimed water;
- diverted stream flows;
- rising groundwater;
- uncontaminated groundwater infiltration;
- uncontaminated pumped groundwater;
- discharges from potable water sources;
- foundation drains;
- air conditioning condensate (that does not contain biocide);
- springs;
- water from crawl space pumps;
- footing drains;
- flows from riparian buffers and wetlands;
- dechlorinated swimming pool discharges;
- flows from emergency firefighting; and
- building wash water without detergents, cleaners, or corrosive additives.

C. In the event that Auburn University determines that any of the above discharges contribute to pollution of campus streams or other surface waters or is notified by a State or federal government agency, such as the Alabama Department of Environmental Management, that the discharge must cease, Auburn University will instruct the responsible person to cease the discharge.

D. When instructed to cease the discharge, the discharger of substances newly classified as pollutants shall cease the discharge immediately and be given

reasonable time to make corrections so that the discharge will not continue into the future.

E. Nothing in this SOP shall affect a discharger's responsibilities under federal or State law.

6. Enforcement and Penalties

A. Whenever Auburn University finds that a violation of this SOP has occurred; Auburn University may order compliance by written notice to the responsible person. Such notice may require without limitation:

- i. The performance of monitoring, analyses, and reporting;
- ii. The elimination of prohibited discharges or connections;
- iii. Cessation of any violating discharges, practices, or operations;
- iv. The abatement or remediation of stormwater pollution or contamination hazards and the restoration of any affected property;
- v. Payment of any fee, penalty, or fine assessed against Auburn University to cover remediation cost;
- vi. The implementation of new stormwater management practices; and
- vii. Disciplinary action up to and including dismissal, where appropriate.

B. Such notification shall set forth the nature of the violation(s) and establish a time limit for correction of these violation(s). Said notice may further advise that, if applicable, should the violator fail to take the required action within the established deadline, then Auburn University Department of Risk Management & Safety will initiate work orders for the appropriate corrective actions and the individual or University department will be charged for the cost.

7. Inspection and Sampling of Outfalls

Auburn University shall, at a minimum, visually inspect outfalls draining one fifth of its geographic area per year during dry weather conditions. Flows suspected of containing illicit discharges due to the presence of odors, colors or sheens shall be tested. Test parameters may be bacteriological or chemical in nature and will be dependent upon the characteristics of the observed discharge. The physical condition of the outfall shall also be noted during the inspections. Collected illicit discharge data will be used in the preparation of the annual report to the Alabama Department of Environmental Management.

8. Illicit Discharge Training

Training on how to identify and report illicit discharges and implement good

housekeeping and pollution prevention best management practices shall be presented to Auburn University community.

2.4 Construction Site Stormwater Runoff Control

In accordance with Part III (B) (4) of NPDES Permit No ALR040030, Auburn University developed the Construction Site Stormwater Runoff Control Best Management Practice.

Target Audience

The construction Site Runoff Control Program was developed for teh contractors performing construction activities on campus and to assist Facilities Management personnel in Auburn University has a unique opportunity to reach several distinct target audiences throughout the year. These audiences include Auburn University faculty and staff, students, parents of students, visitors, contractors on campus, and surrounding community stakeholders.

Responsible Parties

Auburn University's Facilities Management is responsible for all construction projects on campus and implementation of this measure.

Auburn University Design and Construction Standards serve as the University's regulatory mechanism for the Construction Stormwater Control Program and were recently revised to strengthen the stormwater management efforts on all University construction sites including the following sections.

Section G10 – Site Preparation

[AU Design Standard G10-Site Preparation](#)

Section G10 of the Design and Construction Standards was modified to provide the Contractor a contractual responsibility to meet the objectives of the General NPDES Permit. This section requires that the Contractor:

- Meet the requirements outlined in the Alabama Handbook for Erosion and Sediment Control and Stormwater Management of Construction Sites and

Urban Areas and the ALOA developed Erosion and Sediment Control Policy.

- Demonstrate compliance with the ADEM registration requirements prior to initiating any earthwork at the site.
- Require turbidity monitoring at specified construction sites to ensure that site runoff not exceed 50 NTU turbidity standard.

Auburn University will conduct routine turbidity monitoring at specified sites to determine the effectiveness of the on-site controls design, installation and maintenance. Section G10 further identifies the procedures that will be taken by the Auburn University should non-compliance be identified to include withholding payment and notification to ADEM.

Measurable Outcomes and Evaluation

1. Continue turbidity monitoring program for new projects.
2. Perform annual training for contractors, designers and project managers to better understand the G10 requirements.

2.5 Post Construction Runoff Control

The post construction runoff control measure is designed to ensure that new construction designs do not result in increased stormwater pollution.

Development can alter landscapes by increasing imperviousness (i.e. roofs, driveways, parking lots) and changing drainage patterns, thereby increasing the volume and velocity of runoff from a site. Increased volume leads to degradation of receiving waters and increases in the occurrence of flooding. Stormwater from developed impervious areas can also contain a variety of pollutants that are detrimental to water quality, such as sediment, nutrients, heavy metals, pathogenic bacteria, and petroleum hydrocarbons.

Considering water quality impacts early in the design process can provide long-term water quality benefits. For example, a project designed with reduced impervious surfaces and increased use of biofiltration practices will result in significant reductions in

stormwater runoff volume from the site. New development projects on undeveloped land offer many opportunities to reduce storm water runoff from the site.

To meet the requirements of Part III B5 of the Permit, Auburn University developed a Campus Landscape Master Plan (CLMP) as part of the overall Comprehensive Campus Master Plan. Once approved by the Auburn University Board of Trustees, this will serve as the regulatory mechanism to ensure that the objectives of the CLMP are achieved.

Responsible Parties

Auburn University's Facilities Management is responsible for the implementation of the CLMP and implementation of this measure.

The campus landscape includes all open space, roadways, and parking and takes into consideration both cultural and ecological considerations. The CLMP will embrace a sustainable environment, including an emphasis on stormwater management that will look at best management practices for maintenance and implementation schedules, as well as Parkerson Mill Creek restoration opportunities.

Measurable Outcomes and Evaluation

The Auburn University Board of Trustees approved the University's first Landscape Master Plan February 5, 2016 as an update to the Comprehensive Campus Master Plan. The Design and Construction Standards performance requirements state a project is to not increase peak stormwater flows for the 2, 5, 10, and 25 year storm events as well as provide water quality treatment for the first 1.2 inches of rainfall with an 80 percent Total Suspended Solids (TSS) reduction goal. Projects are also encouraged to reduce overall stormwater runoff volume by reducing impervious cover campus wide and promotion of infiltration.

1. Provide training to AU Design Leads on updated Design Standards / Post Construction Stormwater Manual.
2. All New and Redeveloped AU properties are evaluated for LID and Green Technologies for stormwater management. During this next reporting period,

emphasis will be directed towards improving and documenting the review process.

2.6 Pollution Prevention / Good Housekeeping for Municipal Operations

Efforts to survey University activities and facilities will continue. These surveys focus on the storage of materials at the variety of areas managed by Facilities Management, Auxiliary Operations, various academic departments and the Athletic Department.

This measure requires Auburn University to establish standard operating procedures, a regular inspection protocol and frequencies as well as educative efforts to ensure that University operations are managed in a way to prevent the introduction of pollutants into the storm system. If necessary, Auburn University will modify current operations to help ensure a reduction in the amount and type of pollution, including pollution that collects on streets, and parking areas, maintenance areas and outdoor research related activities.

The activities implemented under this measure will focus on developing and implementing general procedures for the Auburn University campus operations and maintenance program that will reduce or eliminate the impacts of stormwater pollution from open streets, roads, parking lots, parking decks, maintenance and storage yards, waste/recycle collection locations, recycling processing facility, vehicle and building maintenance, landscaped areas, and stormwater conveyance system. The program will also develop and promote through employee training efforts, Standard Operating Procedures for each of the identified municipal operations listed below:

Parking Lot, Parking Deck Cleaning Program

Auburn University Facilities Management staff will research and develop procedures for parking lot, parking deck and street-cleaning practices to minimize pollutant discharge to receiving waters. These cleaning practices will remove surface sediment, debris, and other pollutants that are a potential source of significant pollution to the campus watershed.

Measurable Outcomes and Evaluation:

1. Street sweeping, leaf and litter collection will be performed on a regular basis throughout the permit term. The 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.
2. Develop 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.

Responsible Department:

Auburn University Facilities Management – Landscape Services

Storm Water Conveyance System-Cleaning Program

The Auburn University Facilities Management staff will investigate and develop procedures for inspecting and cleaning of the stormwater conveyance systems to reduce the amount of pollutants, sediments, debris and trash from entering receiving waters on campus. This program will be applied to the following units or areas of campus:

- Paved areas
- Vegetated areas
- Waterways
- Drains
- New development projects
- Waste and recycling material handling areas & collection points

Based on the results from the inspection procedures developed, repairs and maintenance measures will be determined for the appropriate campus operation.

Measurable Outcomes and Evaluation:

1. Twenty percent (20%) of all storm conveyance system outfalls maintained by Auburn University Facilities Management will be inspected and cleaned each year during the permit term.

Responsible Department:

Auburn University Risk Management & Safety and Facilities Management

Facilities Management - Fleet Maintenance Facilities

Auburn University Facilities Management maintains the majority of Auburn University vehicles as well as various equipment including mowers, tractors, rototillers etc. This entire fleet is maintained primarily at the Facilities Management compound located on West Samford Road. In general, only light to moderate repairs and maintenance activities occur at this location. All vehicles and equipment are regularly maintained to ensure proper and effective operation as well as to prevent impacts on stormwater quality.

Measurable Outcomes and Evaluation:

1. Provide annual training to educate employees in these areas as to the proper measures necessary to prevent pollutant discharge. Assess number of brochures and personnel trained.

Responsible Department:

Auburn University Facilities Management
Auburn University Risk Management & Safety

Solid Waste/Recycling Collection and Processing Areas

Auburn University Facilities Management will investigate and develop a program for maintaining solid waste and recycling containers and collection sites in outdoor areas in order to reduce the amount of refuse, waste contaminated rainwater or hydraulic oil spills from compactors that can reach storm drains and ultimately discharge into receiving waters. Individual collection sites and containers will be reviewed to try to locate containers away from storm drains. All solid waste and recycling equipment will

have lids or covers to not allow for rainwater to accumulate and leak out of the containers. In the event that a solid waste or inert waste container does not have a lid (i.e. open top roll-off), the container will be sealed at the bottom to not allow for liquid to leak out of the container. All solid waste and recycling equipment will have plugs to contain water and other liquids to not allow them to leak out of the container. If this is not possible, Auburn University Facilities Management will maintain adequate spill equipment on-site to mitigate spills and releases.

Measurable Outcomes and Evaluation:

1. Conduct annual training for Auburn University and contracted solid waste hauler staff to maintain solid waste and recycling collection sites to reduce the amount of litter and clean up spills quickly.
2. Promote educational guidelines for the campus community to follow with respect to how and where to dispose of certain types of waste.
3. Conduct inspections on all solid waste handling equipment annually to prevent any hydraulic leaks or liquid from seeping out of compactors, dumpsters and collection bins.
4. Track number of spills and incidents related to solid waste and recycling equipment, spills and clean-up remediation.

Responsible Department:

Auburn University Facilities Management – Waste Reduction and Recycling Department
Auburn University Risk Management & Safety

Material Handling Areas and Loading Docks

The Auburn University Facilities Management will investigate and develop a program for material handling areas, such as loading docks. These areas are where new and old materials are stored for receiving and shipping. These areas typically contain storm drains to collect stormwater. If materials are not properly managed in these areas, the result can be stormwater pollution. The program for material handling and loading dock areas will focus on keeping material on or around these areas from building up, leaking or becoming a litter problem.

Measurable Outcomes and Evaluation:

1. Identify number of loading areas on campus and document activities and materials handled at each location.
2. Develop procedures and identify processes for keeping these areas clean of litter and spills.

Responsible Department:

Auburn University Facilities Management
Auburn University Risk Management & Safety

Spill Prevention Control and Countermeasure (SPCC) Program

Auburn University Department of Risk Management and Safety has developed and maintains the campus SPCC Plan. The Plan calls for the proper storage and management of oil containing equipment. The SPCC Plan identifies the procedures to be followed to regularly (monthly) inspect applicable containers and instructs “oil handling personnel” on the appropriate measures to take in the event of a spill.

Measurable Outcomes and Evaluation:

1. Document the number of inspections performed on regulated storage units on an annual basis (SPCC).
2. Document the number of preventive maintenance procedures performed on tanks, valves, pumps, pipes, and other equipment.
3. Document the number of training presentations performed and the number of employees trained annually.

Responsible Department:

Auburn University Risk Management & Safety

Used Oil Recycling Program

Auburn University Department of Risk Management and Safety manages used oil generated from the variety of University operations.

Measurable Outcomes and Evaluation:

1. Determine the volume of used oil collected from University operations annually.
2. Assess all used oil generator locations annually to ensure proper management measures are in place.

Responsible Department:

Auburn University Risk Management & Safety

Pesticide, Herbicide and Fertilizer Management and Use

The application of pesticides, herbicides and fertilizers is controlled by several departments to include Facilities Management, Athletic Department and Auxiliary Operations. For University buildings, the university outsources pest management. Per contract, the University employs Integrated Pest Management (IPM) methodology, an ecological approach to pest management, in University buildings. All available techniques are used to reduce pest populations to acceptable levels while minimizing the potential impact of pesticides upon humans and the environment.

Measurable Outcomes and Evaluation:

1. Inspect annually all pesticide, herbicide and fertilizer storage areas to ensure appropriate materials management measures are being employed.
2. Provide training to personnel annually on proper materials management and pollution prevention.

Responsible Department:

Auburn University Risk Management & Safety

Auburn University Facilities Management – Landscape Services

REVIEW AND UPDATING SWMP

Auburn University will review the SWMP annually in conjunction with the preparation of the annual report required under Part V, Section C of the General Permit.

The annual report will be submitted to the ADEM for each year of the permit term. Reports are due to ADEM by March 31st of each year and will cover activities for the previous year.

The reports consist of:

- Compliance status including:
 - Assessment of the appropriateness of the BMPs
 - Progress towards achieving statutory goals of reducing the discharge of pollutants and protecting water quality
 - Measurable goals for each of the minimum control measures
- Results of information collected and analyzed, if any, during the reporting period.
- Any changes made to the SWMP since the last annual report and a summary of the storm water activities Auburn university plans to initiate during the next reporting cycle.
- Proposed changes to the SWMP
- Description and schedule for implementation of additional BMPs that may be necessary based on monitoring results.

Annual reports are signed by Mr. Tom McCauley, Environmental Programs Manager Department of Risk Management and Safety and the Stormwater Executive Committee.