

AMIRI ENGINEERING

Geotechnical, Materials & Environmental Engineers

May 6, 2019

Ms. Marla Smith
Alabama Department of Environmental Management
Water Division
Storm Water Management Branch
P.O. Box 301463
Montgomery, AL 36130-1463

Subject: Annual Report-MS4
Municipal Separate Storm Sewer System (MS4) Phase II General Permit
NPDES Permit No. ALR040059
The University of Alabama in Huntsville
Madison County (89)

Dear Ms. Smith:

Amiri Engineering Corporation has prepared the following Annual Report for The University of Alabama in Huntsville for the Municipal Separate Storm Sewer System (MS4) Phase II General Permit, NPDES Permit No. ALR040059, in Madison County (89), for the period between May 1, 2018 and April 30, 2019.

If you have any questions regarding the information contained herein, or if you require any revisions/changes, please contact undersigned at your convenience.

Respectfully submitted,



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The University of Alabama in Huntsville

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Introduction

This Annual Report, for Year 2 for “Measurable Goals to Meet MEP Requirements of MS4”, 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 ALR4040091 Phase II General Permit effective May 1, 2017.

The purpose of this Annual Report is to describe the compliance efforts reflected in the University of Alabama in Huntsville’s Storm Water Management Program Plan (SWMPP). The Annual Report will identify the control measure specific efforts undertaken by University of Alabama in Huntsville from May 1, 2018 through April 30, 2019 to reduce discharge of pollutants from University of Alabama in Huntsville’s 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).

This Annual Report is a result of a collaborative approach from individuals that represent both academic and operational areas of the campus. The multi-disciplinary effort continues to be strengthened by its diversity and includes the following individuals and their areas of responsibility or interest:

1. Mr. Greg Smith, UAH Facilities & Operations; Assoc. Vice President for Facilities & Operations
2. Mr. Larrell Hughes, AIA, AUA, UAH Facilities & Operations, Senior Campus Architect
3. Mr. Justin Thompson, UAH Facilities & Operations, Assistant Campus Architect II
4. Ms. Kristy Olive, UAH, Interim Director of Office of Environmental and Safety
5. Mr. James A.(Tony) Davis, UAH Facilities & Operations, Director of Facilities Maintenance
6. Mr. Taylor Myers, UAH Facilities & Operations, Sustainability Coordinator
8. Mr. Kevin Bennett, UAH Office of Risk Management, Director of Risk Management
9. Mr. Paul Patterson; UAH Director of Grounds Management
10. Mr. Scott Royse; Assistant Dean of Students
10. Mr. Nasser Amiri, PE; Amiri Engineering Corp; Environmental Consultant

MS4 Description

The University of Alabama in Huntsville (UAH) is a public Tier 1 national university located in Huntsville, Alabama. UAH offers nearly 90 degree programs of study at the undergraduate and graduate level, with colleges in Engineering; Education; Nursing; Science; Business Administration; Arts, Humanities, & Social Sciences; Graduate Studies; and Professional & Continuing Studies. UAH is a fast growing University with current year’s record-setting enrollment of nearly 10,000. The current student population plus the faculty and staff does not trigger the Standard Urban Storm Water Mitigation Plan (SUSMP) requirements for new construction projects.

Actions taken during this reporting period are presented in this Annual Report and also in the MS4 document “Measurable Goals to Meet MEP Requirements” for Year 2 section.

Control Measures

Storm water management controls or Best Management Practices (BMPs) is implemented to the MEP to minimize pollution in storm water discharges from University of Alabama in Huntsville's Campus. The Permit requires BMPs to be implemented to address five minimum control measures to be part of the SWMPP. As required by Part III.B of the Permit, the Annual Report will describe the University's efforts performed during this reporting period to implement the established BMPs (Public Education & Public Involvement on Storm Water Impacts, Illicit Discharge Detection & Elimination, Construction Site Storm Water Runoff Control, Post Construction Storm Water Management in New and Redevelopments and Pollution Prevention / Good Housekeeping for Municipal Operations) and will include:

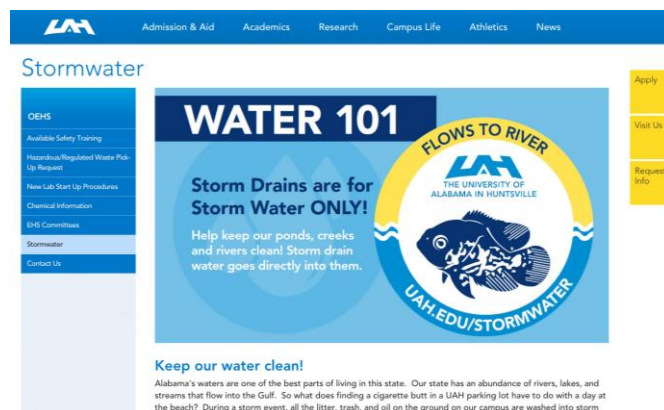
1. The status of UAH's compliance with Permit conditions, an assessment of the appropriateness of the identified BMPs, and progress towards achieving the statutory goal for each of the minimum control measures.
3. Results of information collected and analyzed during this reporting period, including any monitoring data used to assess the success of the SWMPP at reducing discharge of pollutants to the MEP.
4. Update University of Alabama in Huntsville's SWMPP.
5. All monitoring results collected during the reporting period in accordance with Part V. of the Permit.

BMP: Public Education & Public Involvement on Storm Water Impacts

Storm water 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 SWMPP are University of Alabama in Huntsville 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, University of Alabama in Huntsville initiated activities consistent with the SWMPP, and continued the activities that begin prior year and built upon those. Some of those activities are as follow:

- **Marking Campaign:** The marketing campaign's purpose is to inform and educate the campus community about the importance of properly managing storm water on campus and avoiding storm water pollution. The campaign include Website announcements, as shown here, Posters which were printed and distributed and Medallions informing the campus community that storm drains flow to the river were placed on drains around campus.



- Meetings are held during the course of the year between OESH staff and Housing administration staff as part of the public education sessions to help get the word out on storm water pollution prevention.
- As a part of the larger “Big Event” that Student Affairs puts on, volunteer students signed up for storm water medallion installation.



- Since January 5th, 2015 that UAH implemented a campus wide single-stream recycling program. The program covers majority of buildings on campus.
- Student Workers, Jake Davenport and Darnisha Crane, on every Friday, when weather conditions were favorable (no precipitation or extreme temperature), perform Storm Sewer Medallion observation and update. They replace the damaged medallions and installed new medallions on new structures as needed.
- During the events where students and staff were present, educational materials were distributed and/or placed on display. Photograph of one of such events, during the Week of Welcome of the students, which Storm Water Control Poster was in display, is presented here.
- Posted storm water pollution prevention information on OEHS website. Storm Water pollution prevention is presented on the website of OEHS.
- Increased storm water pollution prevention outreach to surrounding community. UAH Campus is surrounded by City of Huntsville (larger MS4). As a part of community outreach program, Mr. Greg Smith, Assistant Vice President of Facilities and Operations, has initiated meetings and discussions about runoff which enters UAH Campus from adjacent community and discussed improvement of the Storm-Water drainage system that runs from the City of Huntsville to the drainage systems within UAH campus. Partnership between UAH and City of Huntsville to correct and improve erosion and maintain drainage infrastructures within UAH will continue. Copy of an email discussing this outreach is presented in Appendix B.
- Convened campus storm water working group. On every third Thursday of the Month at 3:00 PM, Stormwater Working Group, convened. This event was publicized in the UAH Website and the entire UAH community was invited to attend. Typical attendances were OESH personnel, Architectural Staff that are involved with new and



existing projects, maintenance and grounds control group. Samples of Sign-in sheets of the Water Working Group are presented in Appendix B.

Web Resources

Information related to water quality and storm water management continues to be provided from a wide variety of University of Alabama in Huntsville websites. The UAH Office of Environmental Health and Safety (OEHS) is the central web resource specific to the SWMPP and the requirements of the Phase II General Permit NPDES ALR4040091 through the webpage is presented at www.uah.edu/oehs/stormwater. The University of Alabama in Huntsville websites which provide information relating to storm water BMPs include:

- Office of Environmental Health and Safety <https://www.uah.edu/oehs>
- Dept. of Atmospheric Science: www.uah.edu/science/departments/atmospheric-science
- Earth System Science: www.nsstc.uah.edu/ess/ess_bs.html
- Civil and Environmental Engineering: [//www.uah.edu/eng/departments/cee](http://www.uah.edu/eng/departments/cee)
- Office of Sustainability; www.uah.edu/sustainability
- Facilities and Operations: [//www.uah.edu/facilities-and-operations](http://www.uah.edu/facilities-and-operations)

Measure Specific Evaluation

Throughout this reporting period, University of Alabama in Huntsville continued to foster an open and collaborative relationship with different groups on and off campus to improve and protect water resources to engage and to train a local network for the continued efforts by the Office of Sustainability. Through these continued efforts, our connectivity with the environment and the importance of storm water management is better understood.

BMP: Illicit Discharge Detection & Elimination

During this reporting period, University of Alabama in Huntsville continued to utilize the storm water infrastructure engineering assessment to prioritize areas on campus requiring further assessment and/or repair along with field observations by UAH Facilities Management, Mechanical Shops, Resources and Risk Management & Safety to investigate sources of potential illicit discharges. An updated map is attached to this report and identifies the storm water conveyance system maintained by the University.

Upon discovery, any potential illicit discharge is investigated further. In the Stormwater section of the Environmental Health & Safety page of the University's website, <https://www.uah.edu/oehs/stormwater>, individuals are asked to call UAH Emergency to report any illicit discharge. A variety of measures can be deployed to track the source of the illicit discharge and may involve multiple UAH groups as well as the City of Huntsville as necessary.

The proper management of waste and the prohibition of illicit discharges on campus continued to be promoted by University of Alabama in Huntsville through a variety of guidance documents, design standards, recycling guidelines and contractual specifications:

Measure Specific Evaluation

Throughout this reporting period, The University of Alabama in Huntsville was successful in meeting the objectives of the Illicit Discharge Detection Elimination (IDDE) measure as defined in the University's SWMPP. Advance/improvements to the program are dependent upon an informed public. Continued educational efforts promoted by numerous groups on campus are successful in increasing the campus community's awareness towards proper waste management procedures and services. Some of the specific actions taken, during this reporting period, to reduce the potential for illicit discharge, are as follows:

- During this period, Kimberly Fuller of UAH Facility Services installed new Leak Detection System for fuel tanks to reduce the potential for leaks and spills.
- Daniel Boutwell of Facilities & Operations coordinated with the contractors to ensure that the soft wash program for the buildings use environmental friendly cleaning process and the rinse water does not enter the storm drains.

Measure specific activities planned for the next reporting period

University of Alabama in Huntsville will continue the Illicit Discharge Detection and Elimination (IDDE) measures as defined in the University's SWMPP. During the next reporting period, planned activities will include performing a campaign of IDDE to the UAH employees, students and visitors to increase community's level of awareness to pollution prevention.

BMP: Construction Site Storm Water Runoff Control

In accordance with Part III (B) (4) of NPDES Permit No ALR04040091, University of Alabama in Huntsville developed the Construction Site Storm Water Runoff Control Best Management Practice. University of Alabama in Huntsville's Facilities Management is responsible for all construction projects on campus and implementation of this measure.

During this Report period, UAH Construction Site consultant begin education training including site inspections, reporting discharges and evaluation of inspection results. This is provided to project supervisors and construction site operators.

During this reporting period, a total of two (2) projects were initiated that required storm water protection measures to be implemented and maintained. Responsibility of the design engineers and inspection agencies has been as follows:

Design Engineers responsibilities include:

- All UAH construction plans incorporate BMP's. Written Sediment and Erosion Control Plans are part of all applicable construction plans. All have been reviewed and approved. None have been significantly modified or rejected.

- 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.

Contractor responsibilities include:

- Request a Dig Permit from Facilities and Operations.
- Install and maintain Best Management Practices Plans.

Construction Site Inspection

Field inspections associated with Construction Storm Water Runoff protection on both projects have been conducted by a Professional (Registered) Engineer with Amiri Engineering Corporation. The inspections have included QCI/QCP inspections per ADEM Registration. Photo of Morton Hall Addition Site Storm Water Run-Off Sediment Control device is presented in this page.



Construction Site Problem Reporting

There have been no public reports related to construction site problems. Some minor deficiencies which were noted were repaired during 48 hours of the inspection time or before next rain forecast date.

- UAH's Facilities and Operation is responsible for all construction projects on campus and implementation of this measure. Campus Architect's office and Amiri Engineering Corporation, a Consulting Environmental Engineering firm, reviewed Construction Storm Water Control Program on new constructions projects to verify that they meet UAH Construction storm water programs.
- Construction sanctions/penalties is included in construction contract language. All project documents for new construction and/or building additions/expansions included documents for the contractor to meet Construction Stormwater Run-off control and ADEM NPDES Permit requirements.
- Project managers were reminded prior to initiation of the construction, about UAH 's policies about Construction Storm Water Control. Since majority of UAH watershed enters the two (2) lakes in the southwestern portion of the campus, surface run-off from the construction sites typically enters the lake system, through surface runoff and storm sewer lines, and sediment is generally deposited in the upper (northern) lake before it exits over the weir of northern lake and enters the drainage structure and southern lake.

Specific discussions are made to minimize any erosion and loss of fines into the lakes. Project Managers and contractors were reminded during the pre-construction meetings about implication of the erosion and sediment that leaves the jobsite and ends up in the lake system and/or the creeks that run through the campus.

- ADEM NPDES Construction Storm water Inspection form was used during each site inspection associated with Construction Storm water runoff. This requires an inspection by a Qualified Credentialed Professional (QCP) after every $\frac{3}{4}$ inches of rain event in 24 hours period or at least one inspection per month, whichever is more. In addition additional site inspections were made after 0.5 inches of rain in 24 hour period to meet the MS4 program. .

Post Construction Site Runoff

This control measure incorporates BMP's that are designed to minimize water quality impact from developments once construction is complete. During the Course of the past year, two (2) projects which required BMP were completed, and last inspections of both projects indicated that all Post Construction Sites have been stabilized and no deficiencies have been noted by the QCP that performed the site inspections. Photo on this page shows the stabilized grassed areas adjacent to the new business incubator building.



Developed guidelines regarding post-construction storm water controls for new development and re-development project sites. After Construction projects are completed and they are turned over to the University, Post Construction Storm Water management will be turned over to UAH's Grounds Management. Director of Ground Management is responsible for performing Post Construction inspections and maintenance until ground cover and vegetation is well established, at which time, it is maintained the same as other sites within the University.

Developed standard specifications for selected structural and non-structural post-construction BMPs. A copy of this document is enclosed in Appendix B.

Protection of Sensitive Waters

The 303(d) listing of impaired waters is routinely reviewed to ensure that local bodies of water which receive storm water runoff are not listed.

Local Interaction

During the course of this reporting period, Assistant Vice President of Facilities and Operations, Mr. Greg Smith, of UAH, met with Ms. Kathy Martin, Engineering Manager of City of Huntsville, to discuss improvement of Drainage Channels which enter UAH from the City of Huntsville. This interaction was a continuation of discussions between UAH and City of Huntsville staff that was initiated in 2018 and continued in 2019. Information regarding this meeting is attached in Appendix B.

UAH responsibilities included:

- Assign Project Manager for all sites.
- Review and approve Dig Permit requests.
- 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.
- 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.

BMP: POLLUTION PREVENTION / GOOD HOUSEKEEPING

Parking Lot, Parking Deck, Street Cleaning Program

Grounds Management Group at UAH utilizes street sweepers on a weekly basis to address the removal of accumulated debris from parking lots, parking decks, streets, pedestrian walkways and sidewalks. Grounds Management Personnel provide at least weekly inspections of streets, street drains and curbs. During fall and winter months, Grounds Management removed leaves and other debris on a work daily basis throughout the campus. Grounds Management 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 used during the spring and summer months unless storms or high winds cause leaves, limbs and debris to cover the campus grounds and streets; at that point the same procedures as the fall and winter removal are used.

During this reporting period, two (2) incidence of petroleum fuel spills occurred within UAH Campus. One occurred on December 7, 2018, where during placement of diesel fuel into the underground storage tank less than 10 gallons of diesel fuel was spilled out from the hose of the diesel truck to the underground tanks. Based on review of the conditions and discussions with individuals that witnessed the spill, volume of the spilled fuel was less than 10 gallons. The spill removal is detailed in the attached Spill Notification Report presented in Appendix B.

On another incidence, on March 3, 2019, a backhoe leaked hydraulic fluid into the Physical Plant Building parking lot. Based on the equipment operator, and visual observation of the site conditions by OEHS, volume of released hydraulic oil was less than 10 gallons. OEHS

and Grounds staff worked together to absorb the spill and made sure it did not leave the parking lot. The absorbent materials were drummed and placed in UAH waste oil storage area.

During this reporting period, Paul Patterson of Facilities and Operations, began implementing shift equipment check of mobile equipment to check for oil leaks.

During this reporting period, Daniel Boutwell of Facilities and Operations, coordinated with the contractors to ensure that soft wash program for buildings on campus uses an environmentally friendly cleaning process and that the rinse water will not enter the storm drains.

Storm Water Conveyance System Cleaning Program

The University of Alabama in Huntsville Grounds Management inspects all storm water 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. Lakeside maintenance to include invasive plant removal is also performed. To facilitate the inspection process, a Drainage Inventory Map, as shown on this page, was prepared during the past year. This map shows all Manhole locations and also street side drop inlets throughout the campus which allows water to enter into the Campus Drainage system.



During this Reporting Period, such inspection was the responsibility of Paul Patterson of Grounds Management.

Waste Management Reduction & Recycling

The Sustainability Coordinator of the UAH manages the Recycling Waste on the campus and works with faculty, staff, and students on a daily basis to provide easy and convenient recycling to the University.

The Sustainability Coordinator manages the campus building recycling program, game day recycling, office clean-outs, indoor/outdoor event trash and recycling bins, secure document shredding services. Electronics recycling is handled by the Central Receiving.



Waste reduction and recycling initiatives are also promoted through education and outreach on campus and in the surrounding community. The UAH maintained a contract with Waste Management (WM).

Spill Prevention Control & Countermeasure (SPCC) Program

University of Alabama in Huntsville 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, lubricating oils, hydraulic and dielectric fluids as they are utilized and stored on University of Alabama in Huntsville's 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.

During this reporting period, the following were performed to prevent Spill Prevention Control and Countermeasure Program:

- Kimberly Fuller of UAH Facility Services installed new Leak Detection System for fuel tanks to reduce the potential for petroleum fuel leaks.
- Daniel Boutwell of Facilities & Operations coordinated with the contractors to ensure that the soft wash program for the buildings, use environmental friendly cleaning process and the rinse water does not enter the storm drains.
- James (Tony) Davis and Quateaus Jones of UAH Facilities Maintenance investigated converting backup generators currently using diesel fuel from Underground Storage Tanks to Generators using natural gas to reduce the potential for diesel fuel leaks and spills.

On April 4, 2019, online training and quiz was administered by UAH's OEHS for personnel listed above and other key personnel in Facilities and Operations who are involved with SPCC program. At the end of the online training, a quiz was given to the participants to evaluate their understanding of the SPCC plan.

For the upcoming reporting period, training will continue for oil handling personnel employed by University of Alabama in Huntsville to further 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.

Used Oil Recycling Program

During this reporting period, University of Alabama in Huntsville's Grounds Management (Garage Group) routinely collected used oil, which was picked up by Holston environmental Services, Inc of Chattanooga, Tennessee for removal and recycling.



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 waste minimization efforts to include regulated hazardous and non-hazardous wastes, e-waste and construction and demolition waste through reuse and recycling. Picture presented in this page is a sample of recycling efforts placed at UAH Website.

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. Per the newly issued permit, UAH began efforts to inventory “municipal facilities”.

Appendix A

Storm Water Management Program Plan (SWMPP)



NPDES Phase II Storm Water Management Plan (MS4)



PREPARED BY:

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1.0 INTRODUCTION

The Storm Water Management Program Plan (SWMPP) is required by Part II of the Alabama Department of Environmental Management (ADEM) National Pollutant Discharge Elimination System (NPDES) Individual Permit ALS000014 for discharges from The University of Alabama in Huntsville to Huntsville municipal separate storm sewer system (Madison MS4).

1.1 Regulatory Background

This Storm Water Management Plan (SWMP) is required under Federal Environmental Protection Agency Phase II storm water regulations, promulgated under the Clean Water Act. These regulations require The University of Alabama in Huntsville to apply for a National Pollution Discharge Elimination System (NPDES) permit and submit a SWMP.

Polluted storm water runoff is often transported to municipal separate storm sewer systems (MS4s) and ultimately discharged into local waterways (rivers, streams, lakes, and bays) without treatment. EPA's Storm Water Phase II Rule establishes an MS4 storm water management program that is intended to improve the nation's waterways by reducing the quantity of pollutants that storm water picks up and carries into storm sewer systems during storm events. Common pollutants include oil and grease from roadways and parking lots, pesticides from lawns, sediment from construction sites, and carelessly discarded trash, such as cigarette butts, paper wrappers and plastic bottles. These pollutants are deposited into nearby waterways, discouraging recreational use of the resource, and interfering with the habitat for fish, other aquatic organisms, and wildlife.

In 1990, EPA promulgated rules establishing Phase I of the NPDES storm water program. The Phase I program for MS4s requires operators of "medium" and "large" MS4s, that is, those that generally serve populations of 100,000 or greater, to implement a storm water management program as a means to control polluted discharges from these MS4s. The Storm Water Phase II Rule extends coverage of the NPDES storm water program to certain "small" MS4s but takes a slightly different and simplified approach to how the storm water management program is developed and implemented. NPDES Phase II regulations require operators of small MS4s to develop a program in order to:

- Reduce the discharge of pollutants to the "maximum extent practicable" (MEP);
- Protect water quality;
- Satisfy the appropriate water quality requirements of the Clean Water act and Regional Water Quality Control Board Basin Plan.

1.2 Purpose of the SWMP

This document has been developed to comply with Federal Environmental Protection Agency Phase II National Pollutant Discharge Elimination System requirements promulgated under the Clean Water Act. The purpose of the SWMP is: (1) to identify pollutant sources potentially affecting the quality and quantity of storm water discharges; (2) to provide Best Management Practices (BMPs) for municipal and small construction activities implemented by The

University of Alabama in Huntsville staff and contractors and; (3) provide measurable goals for the implementation of this SWMP to reduce the discharge of the identified pollutants into the storm drain system and associated waterways. This SWMP covers The University of Alabama in Huntsville campus.

1.3 SWMP Development Committee

The SWMP was developed with input from representatives from various campus departments with a potential to impact surface water quality. The campus committee members ranged from departmental directors to operations personnel as follows:

- Office of Environmental Health & Safety(OEHS)
- Facilities and Operations — Planning, Design, and Construction; Grounds; Facilities Maintenance; Sustainability
- Auxiliary Services/ Housing and Residence Life
- Environmental Consulting Firm (Amiri Engineering Corp.)

Public input is solicited in the development and implementation of the Stormwater Management Plan (SWMPP). The plan is reviewed at least annually by OEHS. Revisions will be made as necessary and will be submitted to ADEM for review.

1.4 The Storm Water Management Plan

The SWMP has been developed and designed to manage the discharge of pollutants from The University of Alabama in Huntsville small MS4 to the maximum extent practical. The purpose is to protect the water quality of the Unnamed Tributary to McDonald Creek and to satisfy requirements of the Clean Water Act. The University of Alabama in Huntsville SWMP includes various management practices, control techniques, engineering methods, and other provisions which will be described in detail in the body of this document.

1.5 Minimum Control Measures

There are six minimum control measures outlined in the permit requirements. These are:

1. Public Education and Outreach.
2. Public Involvement and Participation.
3. Illicit Discharge Detection and Elimination (IDDE).
4. Construction Site Stormwater Runoff Control.
5. Post-Construction Stormwater Management in new Development and Redevelopment.
6. Pollution Prevention and Good Housekeeping.

Each minimum control measure will be addressed and detailed separately as part of the SWMP.

1.6 Contacts List

Part IV.3.a of the NPDES Permit requires that The University of Alabama in Huntsville provide a list of contacts and responsible parties involved in the preparation of the Annual Report. The following personnel are responsible for the preparation and review of this report:

Ms. Kristy Olive

Interim director of Office of Environmental Health and Safety
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Mr. Nasser Amiri, PE

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Responsibility for management of the Stormwater program lies with OEHS and Construction Administration. The individual responsible for facilitating operational aspects of the program is Kristy Olive at Office of Environmental Health and Safety.

2.0 SITE INFORMATION

2.1 Facility Description

The University of Alabama in Huntsville (UAH) is a public Tier 1 national university located in Huntsville, Alabama. UAH offers nearly 90 degree programs of study at the undergraduate and graduate level, with colleges in Engineering; Education; Nursing; Science; Business Administration; Arts, Humanities, & Social Sciences; Graduate Studies; and Professional & Continuing Studies. UAH is a fast growing University with current year's record-setting enrollment of nearly 10,000. The current student population plus the faculty and staff does not trigger the Standard Urban Storm Water Mitigation Plan (SUSMP) requirements for new construction projects.

The university's 432-acre campus, which includes 16 research centers and labs, serves the anchor tenant for the second-largest research park in the nation. It also maintains strong partnerships with federal agencies and commercial organizations that include the Hudson Alpha Institute for Biotechnology, NASA's Marshall Space Flight Center, the Missile Defense Agency, the DIA Missile and Space Intelligence Center, and the U.S. Army Materiel Command.

The University of Alabama in Huntsville campus is situated in Huntsville, Madison County. The facility is generally bounded by University Drive to the north, Interstate I-565 to the south, Sparkman Drive to the west and residential neighborhoods to the east. However, as shown on the attached Campus Plan, a few of UAH buildings are situated to the west of Sparkman Drive.

This SWMP covers facilities in urbanized areas operated by The University of Alabama in Huntsville.

2.2 Facility Operation

The University of Alabama in Huntsville employs maintenance, custodial, and grounds staff for day-to-day operations. This includes building maintenance (cleaning, painting, repairs), completion of department work requests, daily cleaning of common buildings, grounds maintenance, small construction jobs, and various repair and maintenance activities.

Campus Facilities Management staff and outside contractors do electrical, plumbing, roofing, asphalt, painting, sewer line cleaning, utility repairs, vehicle repairs, pool maintenance and janitorial duties.

3.0 DESCRIPTION OF POTENTIAL SOURCES OF POLLUTION

3.1 Potential Pollutant Activity or Sources List

In order to aid in identification of pollutant sources, historic spills as well as knowledge on the day to day operations to identify activities and sources of potential pollutants of concern were utilized to prepare this SWMP. Best Management Practices (BMP) to address the pollutant sources and activities described below will be developed as described in the Minimum Control Measures (Section 4.03).

Activity/Source	Pollutants of Concern
Building maintenance (washing, graffiti abatement)	Wash water, paint chips, cleaning products, dirt and sediment
Chemical Spills	Various- cleaning compounds, diesel, paint, hazardous materials, vehicle fluids
Construction activities	Concrete, drywall, paint, sediment
Erosion	Sediment, organic matter
Food service operations	Wash-water, food residue, oil and grease
Grounds maintenance	Green waste, fuel, oil, pesticides, herbicides, sediment
Impervious areas	Increased flows and pollutant loading
Litter and debris	Litter and debris
Loading/Unloading Areas	Petroleum products, fertilizers, pesticides, herbicides,
Outdoor Storage of Raw Materials	Sand, asphalt, soil, pesticides, herbicides, fertilizer, paint, solvents, fuel
Painting (indoor)	Paint or rinse water (oil and water based), paint thinner
Painting (outdoor)	Paint or rinse water (oil and water based), paint thinner
Parking lot runoff	Oil/grease, litter, heavy metals
Roof runoff	Particulate matter and associated pollutants
Sewer line blockages	Raw sewage
Sewer line seepage	Raw sewage
Trash storage areas	Organic materials, litter and debris
Vehicle and equipment washing	Cleaning products, oil/grease, vehicle fluids
Utility line maintenance and repairs (water/ irrigation/ sewer)	Chloramines, chlorine, sediment, adhesive cements, primers & fire protection system water
Animal feces	Coliform bacteria
Swimming Pool	Chlorinated water, pool chemicals
Fleet Maintenance & Repair	Oil, grease, antifreeze

4.0 MINIMUM CONTROL MEASURES

4.1 What are Minimum Control Measures

MEP, and BMPs “Minimum Control Measures” is the term used by the EPA for the six MS4 program elements aimed at achieving improved water quality through NPDES Phase II requirements listed below:

- Public Education and Outreach on Storm Water Impacts
- Public Involvement / Participation

- Illicit Discharge Detection and Elimination
- Pollution Prevention / Good Housekeeping
- Construction Site Storm Water Runoff Control
- Post-construction Storm Water Management in New Development and Redevelopment

The goal of the SWMP is to reduce the discharge of pollutants to the Maximum Extent Practicable (MEP), as defined by the EPA, and to identify activities or structural improvements that help reduce the quantity and improve the quality of the storm water runoff. Best Management Practices (BMPs) have been developed for the SWMP to reduce the discharge of pollutants to the storm drain system to the MEP. BMPs include treatment controls, engineering controls, operating procedures, and practices to control site runoff, spills and leaks, sludge or waste disposal, or drainage from raw material storage. BMPs will be updated as appropriate to comply with any additions or changes to NPDES permit requirements.

4.2 How to use BMPs to Meet MEP Requirements

The BMPs described in this document in the measurable goals section are to be implemented by The University of Alabama in Huntsville staff and outside contractors. Whenever UAH staff or contractors perform work on the campus or associated areas, steps outlined in each relevant BMP, or other proven technique that reaches the same goal, must be used in order to ensure compliance with storm water discharge regulations. The University of Alabama in Huntsville has already initiated many of the BMPs listed in the Minimum Control Measures in this SWMP. In some cases the measure has not been formalized into a written plan or program. The SWMP will formalize and document these Minimum Control measures and associated BMPs. Full development and implementation of BMPs will be completed through the five-year implementation plan as presented in the measurable goals for each Minimum Control Measure in the following sections.

4.3 Minimum Control Measures

4.3.1 Public Education and Outreach on Storm Water Impacts

The goal of this minimum control measure is to develop and distribute educational materials and perform outreach to inform students, faculty, and staff about the impact of polluted storm water runoff discharges, and that their actions can make a positive impact on water quality.

Maximum Extent Practicable (MEP) Standards

- Implement a public education program to distribute educational materials to the community, or conduct equivalent outreach activities about the impacts of storm water discharges on local water bodies and the steps that can be taken to reduce storm water pollution;
- Determine the appropriate Best Management Practices (BMPs) and measurable goals for this minimum control measure.

Measurable Goals to Meet MEP Requirements

Year 1:

- Develop storm water pollution prevention educational materials. Developed by Taylor Myers in conjunction with Marketing Department. UAH's Sustainability Program hosted a water monitoring workshop by Alabama Water Watch on campus April 7, 2018. The UAH News published an article to raise awareness of the Stormwater Program after the event.
- Develop poster to educate students regarding storm water pollution prevention. Poster was developed by Taylor Myers in conjunction with Marketing Department.
- Stencil: "Flows to River" at accessible campus storm drains. A new medallion was designed by Marketing and was ordered for installation on unmarked storm drains. OEHS worked through student workers to develop a Stormwater Drain Map. 50% of the campus was mapped in 2018. Spread sheet of location of the storm drains and their geographic location and a spreadsheet of the status of drain markers is included in the map and associated spreadsheet.
- Developed storm water pollution prevention information for OEHS website. The MS4 plan has been posted to the OEHS website and contact information for reporting stormwater pollution concerns has also been added to the OEHS website.

Year 2:

- Maintain campus storm drain stencils and replaced as needed. Student Workers, Jake Davenport and Darnisha Crane, on every Friday, when weather conditions are favorable (no precipitation or extreme temperature), perform Storm Sewer Medallion observation and update. They replace the damaged medallions and installed new medallions on new structures as needed.
- Distributed educational material to faculty and staff. Educational materials are placed on the University Website and also on OEHS site. During the events where students and staff are present, educational materials will be distributed and/or placed on display. Photograph of one of such events, during the Week of Welcome of the students, which Stormwater Control Placard was in display is present here.
- Posted storm water pollution prevention information on OEHS website. Storm Water pollution prevention is presented on the website of OEHS.
- Increased storm water pollution prevention outreach to surrounding community. UAH Campus is surrounded by City of Huntsville (larger MS4).

As a part of community outreach program, Mr. Greg Smith, Assistant Vice President of Facilities and Operations, has initiated meetings and discussions about runoff which enters UAH Campus from adjacent community and discussed improvement of the Storm-Water drainage system that runs from the City of Huntsville into the drainage systems within UAH campus. Partnership between UAH and City of Huntsville to correct and improve erosion and maintain drainage infrastructures within UAH will continue. Copy of an email discussing this outreach is presented in Appendix B.



Year 3:

- Continue stenciling campus storm drains as needed.
- Distribute educational material to students.
- Sponsor

Year 4: • Continue stenciling campus storm drains as needed.

- Continue sponsoring and/or participating in storm water pollution prevention events such as campus and levee clean-ups.
- Outreach to faculty/academic programs for possible guest lecture opportunities.

Year 5:

- Continue stenciling campus storm drains as needed.
- Continue sponsoring and/or participating in storm water pollution prevention events such as campus and levee clean-ups.
- Write articles on storm water program for campus publications and newsletters.
- Include educational information in new student and new employee orientation packets.
- Give guest lectures on storm water runoff impacts/pollution prevention at community events.

OHES is the Department responsible for implementation of the above goals.

4.3.2 Public Involvement / Participation

The goal of this minimum control measure is to provide opportunities for students, faculty, and staff to participate in program development and implementation on a storm water management working-group.

MEP Standards

- Interact, comply and insure consistency with applicable State, and local public program requirements;
- Determine the appropriate best management practices (BMPs) and measurable goals for this minimum control measure.

Measurable Goals to Meet MEP Requirements

Year 1:

- Established on-going storm water working group for public comment. A stormwater working group began meeting on 1/10/18. Attendees from OEHS, Facilities and Operations and Housing were included. OEHS and Sustainability worked with Housing and Student Life to coordinate events to increase student involvement. Two events were planned: Residence Hall staff where trained on stormwater in April, 2018 and a Stormwater Awareness Event was included in the “Big Event” planned by Student Life on April 14, 2018. An article was published in the UAH News to raise stormwater awareness.
- Established and maintained working relationship with the joint City/County Storm Water Program. On 3/31/17, Taylor Myers and Bryce Morgan of UAH met with representatives of the City (Dustin Wilbourne and Bobby Simmons) to discuss a solution to stormwater coming onto the UAH property from the city from a ditch along John Wright Drive and another that

feeds the two ponds on Sparkman Drive. An agreement was reached to reduce the spraying of herbicide in these areas to prevent erosion.

- Made copies of the SWMP available at OEHS office and website. This information was posted to the website as of 1/10/18.
- Placed e-mail link on OEHS website to report storm water pollution concerns. This information was posted to the website as of 2/9/18.

Year 2:

- Contacted campus community environmental event organizers. Water Working Group participated in student activities, and attended environmental events within campus in several occasions. Posters for stormwater awareness were displayed in the events. Photo of one of the posters is presented in minimum Control Measures, above.
- Convened campus storm water working group. On every third Thursday of the Month at 3:00 PM, Stormwater Working Group, convenes. This event is publicized in the UAH Website and the entire UAH community is invited to attend. Typical attendances are OESH personnel, Architectural Staff that are involved with new and existing projects, maintenance and grounds control group. Samples of Sign-in sheets of the Water Working Group are presented in Appendix B.
- Used Media and publications to promote program and participation. Public involvement and participation is encouraged through the UAH Events Website and also in OESH website.

Year 3:

- Participate in campus storm water pollution prevention event(s). □ Continue to convene campus storm water working group.

Year 4:

- Organize and sponsor campus volunteer clean-up event.
- Continue to convene campus storm water working group.

Year 5:

- Organize and sponsor another campus volunteer clean-up event.
- Participate in campus storm water pollution prevention event(s).
- Continue to convene campus storm water working group.

OHES is the Department responsible for implementation of the above goals.

4.3.3 Illicit Discharge Detection and Elimination

The goal of this minimum control measure is to develop and implement a plan to detect and eliminate non-storm water discharges (illicit discharges) such as process water, wash water, chemical spills, and other non-rainwater discharges to the storm drain system (not applicable to exempt discharges).

MEP Standards

- Have a storm water map, showing outfall locations and the names and location of the waters of the United States that receive discharges from those outfalls;

- Through management, contracting, or other mechanism, prohibit (to the extent allowable under State, or local law) non-storm water discharges into the MS4, and establish appropriate enforcement procedures and actions;
- Have a plan to detect and address non-storm water discharges, including illegal dumping, into the MS4;
- Educate the campus community about the hazards associated with illegal discharges and improper disposal of waste;
- Determine the appropriate best management practices (BMPs) and measurable goals for this minimum control measure.

Measurable Goals to Meet MEP Requirements

Year 1:

- Reviewed and updated campus notification system for sewage spills and other non-storm water discharges. The Director of Risk Management was contacted to discuss notification. UAH website directs all concerns to OEHS. The OEHS has developed a list of people that should be notified in the event that a stormwater concern is reported through the 6911 number used for students to report environmental concerns.
- Developed a storm drain sump and outfall monitoring program to visually identify dry weather flows into the storm drain system. This is done as part of the stormwater mapping project. Approximately 50% of the campus was reviewed as of 3/14/18.

Year 2:

- Implemented updated campus notification system for sewage spills and other non-storm water discharges. Notification systems are set up on UAlert page of Website (<https://www.uah.edu/ualert>). The Notification system was updated in January 2019 meeting of the Water Working Group.
- Provided drain blockers and related training to campus police and parking staff. Training Sessions were organized for Drain Blockers. A copy of the latest Drain Blocker Training meeting sign-in sheet is attached in Appendix B.
- Implemented storm drain sump and outfall monitoring program. Paul Patterson, director of grounds management is responsible to perform observation of Storm Drains before and after major rain event.
- Develop educational materials. Educational Materials to prevent non Storm-Water discharges entering drain systems is posted in OEHS website. In the event that UAH determines that illicit discharges contribute to pollution of campus streams or other surface waters, responsible person or entity will be instructed to cease the discharge. When instructed to cease the discharge, the discharger of substances shall cease the discharge immediately and be given reasonable time to make corrections so that the discharge will not continue into the future. OEHS will also inform the discharger that such a clean-up does not relieve them of their responsibilities under federal or State law for any other actions required by federal or state agencies.

Year 3:

- Develop a campus policy that includes prohibiting non-storm water discharges or improper disposal of wastes to the storm drains.
- Continue to implement storm drain sump and outfall monitoring program.
- Develop an inspection and enforcement program for illegal discharges/improper disposal. The enforcement program will include a plan for escalation in penalties depending on the severity of the act and the number of offenses.
- Train employees of the hazards associated with illegal discharges/improper disposal.

- Provide educational materials on the hazards of illegal storm water discharges at environmental events on campus and in the local community. Make educational materials available on the OEHS website.
- Conduct a storm drain assessment to identify potential sources of non-storm water discharges. Categorize those sources by major functions on campus.

Year 4:

- Implement an inspection/enforcement program for illegal discharge/improper disposal.
- Evaluate the results of the storm drain assessment. Assign risk factors to the potential sources and develop a matrix by area on campus. Develop a prioritization scheme to identify those units that are exposed to the greatest risk.
- Develop a list of procedural and physical BMPs to be used as measures to control non-storm water discharges.
- Develop an action plan to re-route any illicit connections identified in the assessment. Determine any interim measures necessary to prevent illicit discharges from contaminating storm water.

Year 5:

- Continue to implement the inspection/enforcement program for illegal discharge/disposal.
- Implement procedural and physical BMPs to reduce risk of illegal discharges and improper disposal to storm drains.
- Implement any interim measures to reduce the risk of illicit discharges from cross connection until permanent re-routing takes place.
- Develop a long-term sanitary sewer maintenance/upgrade program.

OHES is the Department responsible for implementation of the above goals.

4.3.4 Pollution Prevention / Good Housekeeping for Facilities Operation and Maintenance

The goal of this minimum control measure is to develop and implement a program to prevent or reduce pollutant runoff from facilities operation and maintenance activities. The program must include training to relevant staff on pollution prevention measures and techniques (e.g., regular street sweeping, reduction in the use of pesticides, or frequent sump grate cleaning).

MEP standards

- Have a program with the ultimate goal of preventing or reducing pollutant runoff from facilities and maintenance operations into the storm sewer system;
- Include employee training on how to incorporate pollution prevention/good housekeeping techniques into facilities operation and maintenance such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance. To minimize duplication of effort and conserve resources, the MS4 operator can use training materials that are available from EPA, their State, or relevant organizations;
- Determine the appropriate best management practices (BMPs) and measurable goals for this minimum control measure.

Measurable Goals to Meet MEP Requirements

Measurable Goals to Meet MEP Requirements

Year 1:

- Reviewed and evaluated Best Management Practices (BMPs) for major campus physical operations (grounds; facilities maintenance; physical plant/utilities; fleet services; custodial services; housing and dining services).
- A list of current BMP's in place at UAH has been developed. The Stormwater Working Group is in the process of converting these to a common format.
- Developed a multi-level training program for Facilities Management staff. The first level covered the basics on sources of storm water pollution. The second level would cover campus storm water policies/procedures and the implementation of the BMP's. Directors in the F&O Dept. were trained in level one.
- Created a maintenance schedule for periodic cleaning of storm water system sump grates. OEHS began mapping stormwater drains and determined a base level status for inspection. This process was about 50% completed by the end of year 1. Grounds Maintenance initiated to have a system in place to monitor storm drains after rain events and perform cleanouts as needed.

Year 2:

- Continue to develop the multi-level training program on the sources of storm water pollution and how to implement selected BMPs. Some of the sign-in samples for the training programs are presented in Appendix B.
- Implement the sump grate cleaning program. Director of Grounds Maintenance Group, Paul Patterson, is responsible for grate inspection before and after every major rain event. Grounds Maintenance is responsible for cleanouts as needed.

Year 3:

- Implement the multi-level storm water training program.
- Begin implementation of the Storm Water Pollution Prevention Plan (SWPPP) for major campus physical operations.
- Develop an inspection program for compliance with BMPs.
- Continue sump grate cleaning schedule.

Year 4:

- Continue implementation of SWPPP with selected operational BMPs.
- Implement an inspection program for compliance with BMPs.
- Continue implementation of the multi-level storm water training program.
- Continue sump grate cleaning schedule.

Year 5:

- Continue implementation of SWPPP with selected operational BMPs.
- Continue implementation of the multi-level storm water training program.
- Continue implementation of an inspection program for compliance with BMPs.
- Continue sump grate cleaning schedule.

OHES is the Department responsible for implementation of the above goals.

4.3.5 Construction Site Storm water Runoff Control

The goal of this minimum control measure is to develop, implement, and enforce an erosion and sediment control program for construction activities.

MEP Standards

- Have a management, contracting, or other mechanism requiring the implementation of proper erosion and sediment controls, and controls for other wastes, on applicable construction sites;
- Have procedures for site plan review of construction plans that consider potential water quality impacts;
- Have procedures for site inspection and enforcement of control measures;
- Have sanctions to ensure compliance (established in management, contracting, or other mechanism);
- Establish procedures for the receipt and consideration of information submitted by the public;
- Determine the appropriate best management practices (BMPs) and measurable goals for this minimum control measure.

Measurable Goals to Meet MEP Requirements

Year 1:

- As a component of the University of Alabama in Huntsville Design and Construction Standards, the Post Construction Storm Water Manual provides the principles, guidelines and standards for storm water management design for new campus projects. By providing a set of comprehensive best management practices for storm water management, future campus construction projects will protect and improve water quality, provide campus flood protection, and reduce storm water flow rates to downstream waters. The Post Construction Storm Water Manual includes a storm water management review checklist to review compliance with the University's design standards. Multiple projects were completed, are in construction, or are currently being designed during this reporting period. Review of the BMPs has been conducted on every project by the design professionals as well as a Professional Engineer with Amiri Engineering Corporation, to verify all BMP meet the latest requirements.
- Review and evaluate construction contract sanctions/penalties for violations of storm water sediment and erosion runoff controls. Penalties/sanctions which have been in-place for the construction projects were generally such that the contractor had sufficient incentive to implement the BMPs.
- Review and evaluate construction site inspection procedures for BMPs. All Site Inspection procedure and forms were reviewed and no changes in the reports or procedures was warranted.
- Develop training for construction project managers/inspector. Training and one-on-one discussions of the BMP requirements and procedures were conducted for every project by a Professional Engineer with Amiri Engineering Corporation.

Year 2:

- Campus policy statement regarding storm water runoff controls for minimizing sediment and erosion impacts from construction sites has been prepared and submitted to the president of UAH for approval.

- Formal review procedures and checklists to document site plan, including pollutant source assessment for pre-construction campus site plan and BMP review process is prepared. UAH's Facilities and Operation is responsible for all construction projects on campus and implementation of this measure. Campus Architect's office along with Amiri Engineering Corporation, a Consulting Environmental Engineering firm, reviews Construction Storm Water Control Program on new constructions projects to verify that they meet UAH Construction storm water programs.
- Incorporate construction sanctions/penalties where needed in construction contract language. □ Include revised storm water BMP specifications in large construction projects with the potential to impact water quality. All project documents for new construction and/or building additions/expansions include documents for the contractor to meet Construction Stormwater Run-off control and ADEM NPDES Permit requirements.
- Implication of violations and the importance of the enforcement of storm water specifications will be stressed. Project managers are reminded prior to initiation of the construction about UAH 's policies about Construction Stormwater Control. Since majority of UAH watershed enters the two (2) lakes in the southwestern portion of the campus, surface run-off from the construction sites typically enters the lake system, through surface runoff and storm sewer lines, and sediment is generally deposited in the upper (northern) lake before it exits over the weir of northern lake and enters the drainage structure and southern lake. Specific discussions are made to minimize any erosion and loss of fines into the lakes. Project Managers and contractors are reminded during the pre-construction meetings about implication of the any erosion and sediment that leaves the jobsite and ends up in the lake system and/or the creeks that run through the campus.
- Develop construction site inspection procedures. ADEM NPDES Construction Stormwater Inspection form is used during each site inspection associated with Construction Stormwater runoff. This requires an inspection by a Qualified Credentialed Professional (QCP) after every 3/4 inches of rain event in 24 hours or at least one inspection per month, whichever is more. Results of the inspection will be provided to the contractors. However, as a part of the MS4 program, additional inspections are made after 0.5 inch rain event in 24 hours.

Year 3:

- Implement campus BMP enforcement procedures and responsibilities.
- Implement construction site inspection procedures.

Year 4:

- Include storm water specifications in smaller projects (less than \$50,000) including Physical Plant, and other departments' minor construction activities.
- Continue implementation of construction site inspection procedures.
- Conduct pollutant source assessment during site plan and BMP review.
- Develop standard procedures to receive and respond to public and/or campus reporting/incidents regarding storm water runoff impacts from construction sites.

Year 5:

- Implement standard procedures to receive and respond to public and/or campus reporting/incidents regarding storm water runoff impacts from construction sites.
- Continue implementation of construction site inspection procedures.
- Continue to conduct pollutant source assessment during site plan and BMP review.

OHES is the Department responsible for implementation of the above goals.

4.3.5.1 Construction Projects Greater than One Acre

Construction projects that encompass an area greater than one acre (including Small Linear Underground/Overhead Projects) must develop a specific Storm Water Pollution Prevention Plan (SWPPP). The SWPPP shall conform to the Alabama Department of Environmental Management (ADEM) Template and shall include appropriate BMP's related to the specific project. At project completion, a Notice of Completion shall be submitted. All inspection and monitoring records will be retained for three years.

4.3.5.2 Construction Projects Less than One Acre

Construction projects that encompass an area less than one acre shall follow the guidelines for Construction Project Storm Water Pollution Prevention. All inspection and monitoring records obtained during the project timeframe will be retained for three years.

4.3.6 Post-construction Storm water Management in New Development and Redevelopment

The goal for this minimum control measure is to develop, implement, and enforce a program to address discharges of post-construction storm water runoff from new development and redevelopment areas.

Post-construction storm water management controls include permanent structural and non-structural best management practices (BMPs) (e.g. conservation of natural and permeable areas, permeable pavers, rooftop runoff infiltration galleries, and mechanical storm drain filters) that remain in place after the project is completed and prevent pollution from the new development in the long-run.

MEP standards

- Develop and implement strategies which include a combination of structural and/or nonstructural post-construction BMPs;
- Have a management, contracting, or other mechanism requiring the implementation of post construction runoff controls,
- Ensure adequate long-term operation and maintenance of controls;
- Determine the appropriate BMPs and measurable goals for this minimum control measure. Measurable Goals to Meet MEP Requirements

Year 1:

- Review and evaluate current procedures for developing structural and non-structural post construction BMPs for both new development and re-development projects. Throughout this reporting period, University of Alabama in Huntsville was successful in meeting the objectives of the Illicit Discharge Detection Elimination measure as defined in the University's SWMPP. Advance/improvements to the program are dependent upon an informed public. Continued educational efforts promoted by numerous groups on campus are successful in increasing the campus community's awareness towards proper waste management procedures and services. Routine screening (dry and wet) allowed for several incidences of illicit discharges to be identified. Projects were initiated during the reporting period to address the identified illicit discharges.

- Review current procedures for transitioning responsibility of BMPs from construction phase into long term maintenance. The Stormwater Working Group member from Maintenance will inform the group when projects are turned over to the University for maintenance. This will allow the Group to add these new areas to any plans and programs that are in place.

Year 2:

- Developed guidelines regarding post-construction storm water controls for new development and re-development project sites. After Construction projects are completed and they are turned over to the University, Post Construction Stormwater management will be turned over to UAH's Grounds Management. Director of Ground Management is responsible for performing Post Construction inspections and maintenance until ground cover and vegetation is well established, at which time, it is maintained the same as other sites within the University.
- Developed standard specifications for selected structural and non-structural post-construction BMPs. This is developed and is under Structural and non-structural BMPs listing of OSEH site.

Year 3:

- Provide training for construction staff on post-construction BMP site planning, design, implementation, and inspection/enforcement protocols.
- Develop procedures for a post-construction audit of the effectiveness of structural and nonstructural BMP's.
- Develop procedures for long-term operation and maintenance of BMPs.
- Develop inspection program for long-term operation and maintenance of BMPs. This is prepared and is listed under Post Construction BMPs of OEHS page of UAH Website.

Year 4:

- Implement inspection and enforcement program for post-construction structural and nonstructural BMP's.
- Begin post-construction audits of BMP effectiveness and incorporate any findings into the BMP specifications.
- Provide training for operations and maintenance staff for long-term site BMPs

Year 5:

- Implement procedures for transitioning long-term site BMPs into campus storm water inspection program.
- Implement procedures for the long-term operation and maintenance of BMPs.

OHES is the Department responsible for implementation of the above goals.

5.0 RECORD KEEPING

5.1 SWMP Updating

The SWMP will be reviewed annually and The University of Alabama in Huntsville will update the SWMP whenever a change in activities or operations occur which may significantly affect the discharge of storm water pollutants.

5.2 SWMP Public Access

This SWMP is meant for use by The University of Alabama in Huntsville staff and is a public document. Any request for a copy of the SWMP by the governmental agency, or citizen is to be forwarded to The University of Alabama in Huntsville, Office of Environmental, Health & Safety (OEHS), 301 Sparkman Drive, Huntsville, AL 35899.

5.3 SWMP Annual Reports

OEHS will complete and submit annual reports regarding the implementation of the SWMP and measurable goals to the ADEM Water Division.

Appendix B

7.01 Appendix 1

Campus Facility Information

Location Description

The University of Alabama in Huntsville campus is situated in Huntsville, Madison County. The facility is generally bounded by University Drive to the north, Interstate I565 to the south, Sparkman Drive to the west and residential neighborhoods to the east. However, as shown on the attached Campus Plan, a few of UAH buildings are situated to the west of Sparkman Drive.

Facility Operations

The University of Alabama in Huntsville employs skilled trades, grounds, and custodial staff for day to day operations. Typical duties include building maintenance, plumbing and electrical repairs, clogged sewer line clean-outs, and grounds maintenance.

Climate and Rainfall

Meteorological conditions at The University of Alabama in Huntsville are as follows:

Climate	Jan	Feb	Mar	Apr	May	June	July	August	Sept	Oct.	Nov.	Dec.
Avg. High °F	51	56	65	74	81	88	91	91	85	75	64	53
Avg. Low °F	32	35	42	50	50	67	70	69	62	51	42	34
Avg. Precipitation	4.88	4.84	5.2	4.33	4.33	4.29	4.06	3.62	3.7	3.58	4.92	5.79

Source: US Climate Data

Facility Drainage

There are over 100 point sources that discharge into the storm drain system from the campus. These point sources drain areas such as streets, parking lots, loading docks, roofs, landscaped areas and any other surfaces that receive rainwater. All of the point sources drain into the existing lakes which are situated to the immediately to the east of Sparkman Drive (i.e., western end of the campus). Flow from these lakes then discharges into the Unnamed Tributary to the McDonald Creek which is situated in the southwestern end of the campus.

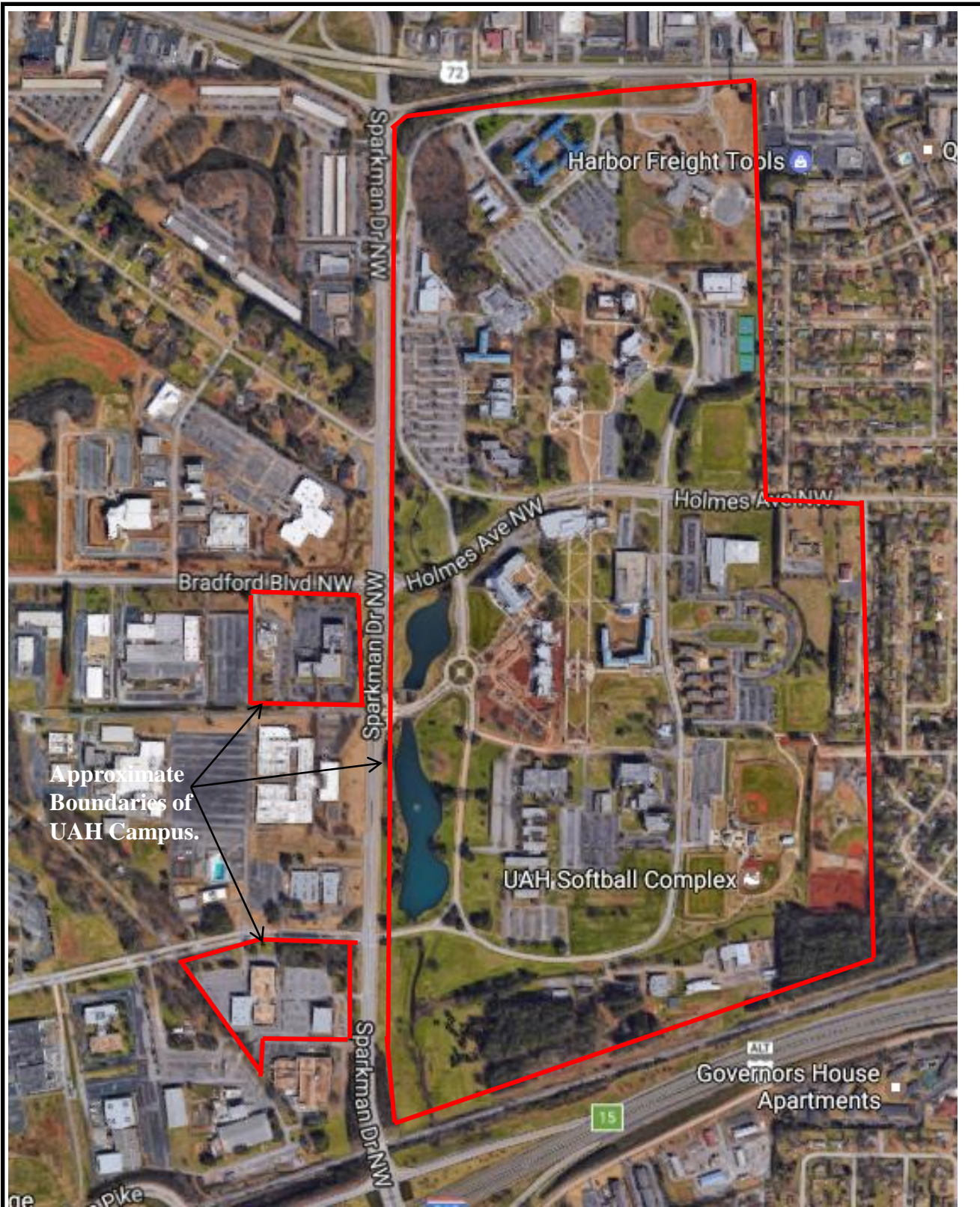
Local Geology

The University of Alabama in Huntsville is underlain by Tuscumbia Limestone, which is of the Mississippian age. Tuscumbia Limestone is composed of coarsely crystalline, fossiliferous

limestone with small amounts of chert. The formation weathers to a deep soil mixed with chert boulders, which may be 12 inches or more in dimension.

Since the Tusculumbia is primarily a carbonate rock, it is subject to solutioning along both joints and bedding planes. The solutioning process tends to initially form vertical slots in the limestone. In many instances, the overlying residual soil is eroded downward into these vertical slots, which subsequently become filled with soft, wet cohesive soils. As a result, the surface of the rock in many instances is characterized by relatively hard blocks (or boulders) and pinnacles separated by soil filled slots. The overlying residual clay is derived from the solution weathering of the limestone strata. The soil mantle has a varying thickness from a few to $50\pm$ feet because of the irregular configuration of the underlying limestone.

The groundwater is poorly defined and subject to seasonal changes. Flow is often very slow and nonuniform. In limestone, the Geologic structure is the major influence on the movement of groundwater. The permeability of rock is generally increased by faulting and fracturing, which results in severe rock weathering in these areas. In this formation, the groundwater flows along the bedding planes and joints, resulting in solutioning of the limestone bedrock. The solution activity along the joints often produces deep vertical slots.



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AERIAL PLAN

PROJECT NO.

211036

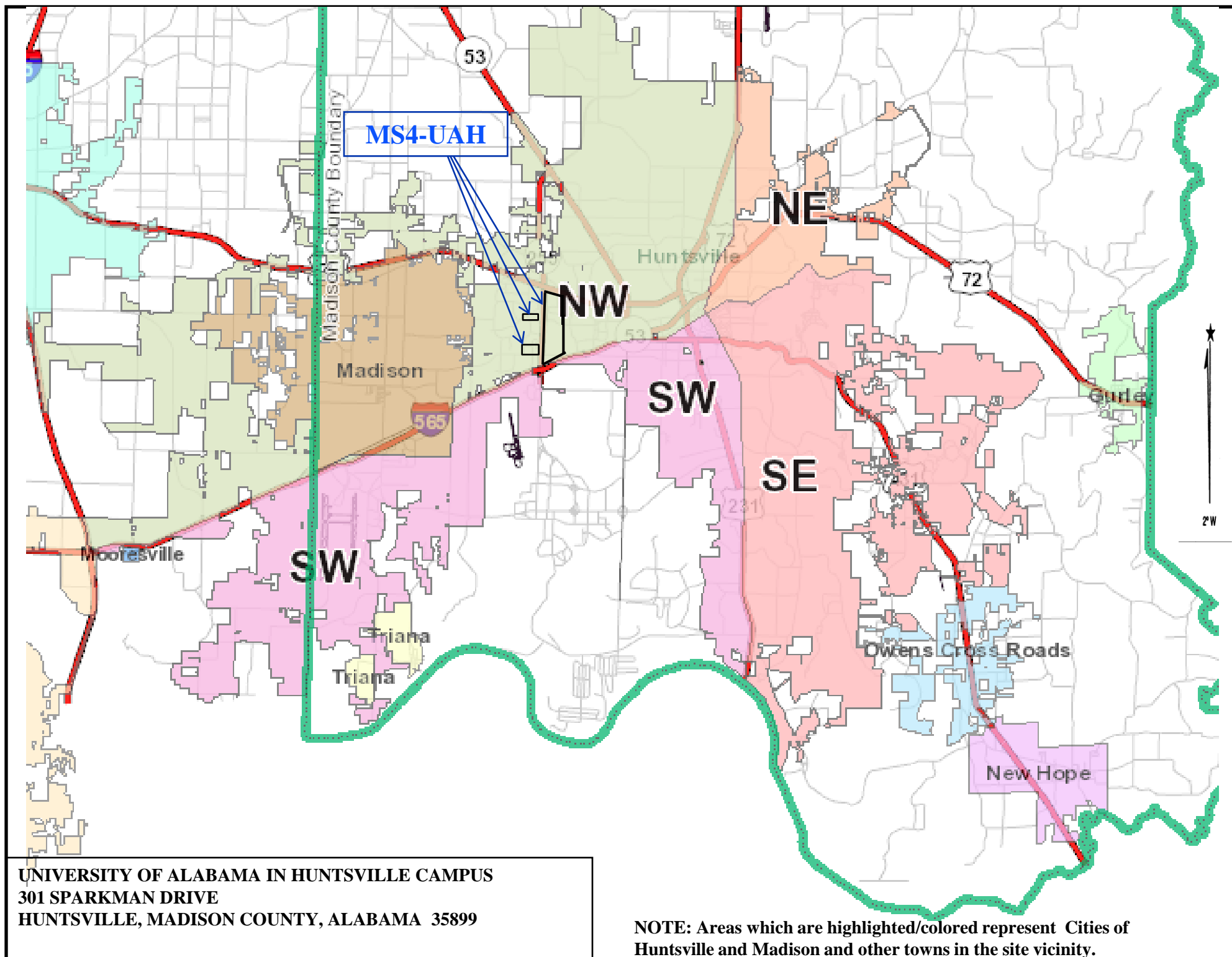
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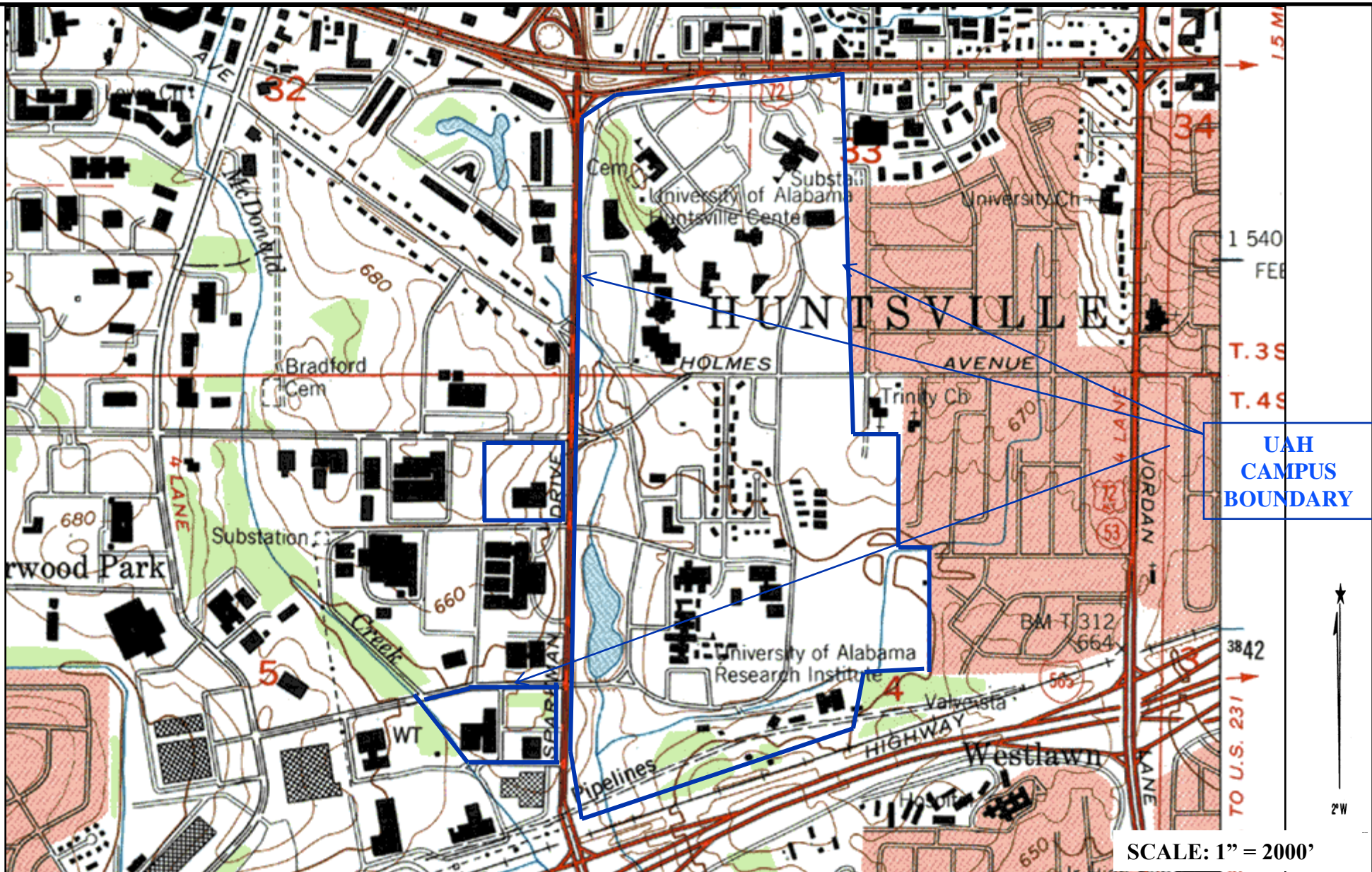
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AMIRI ENGINEERING

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SCALE

1"=2000'

DATE

4/13/2017

**UNIVERSITY OF ALABAMA IN HUNTSVILLE
CAMPUS
301 SPARKMAN DRIVE
HUNTSVILLE, MADISON COUNTY, ALABAMA**

APPENDIX B

Spill Notification for December 7,2018

Per conversation with John Dant, he stated approximately between 4-6pm yesterday (12/6) that a delivery of diesel was spilled out from the hose of the diesel truck to the underground tanks. He stated the hose is pulled over a retaining wall and into the tanks. He states less than 10 gallons was spilled onto the asphalt. Once on the ground, it spread out to a larger puddle size. It was unknown if the spill was cleaned up or absorption pads were placed on the spill.

- a) Date and time of spill (actual/discovered):12/6/18 @ 4:00-6pm
- b) Area where the spill occurred: UAH Central Plant
- c) Type of spill (oil, lubricant, etc.): Diesel
- d) Estimated volume: less than 10 gallons
- e) Did any spill leave the property? : No
- f) Did it go into the storm drain? No
 - i) Suspected failure that caused spill? Hose from truck was “thrown over” the wall to which the tanks are behind.
- g) Assessment of imminent danger to personnel or property? Loss of fuel and clean-up costs
- n) damage and injuries caused by spill: No
- i) Actions taken to contain, stop, remove or cleanup spill: OEHS observed oil dry on the puddle which prevented it going into the storm drain.
- j) Identification of any local emergency unit(s) contacted: No

Addendum to the spill report:

Kristy Olive, Kristi Dendy, and Hannah Upton observed spill area. The sheen did not reach the storm drain and the material spilled appeared to be under ten gallons, consistent with John Dant's report. OEHS personnel cleaned up remaining oil sheen with absorbent, brooms, and shovel. Absorbent and spill pillows were stored in 2 sealed 5 gallon pails and taken to the Hazardous waste storage area. The truck driver was interviewed and a catch basin was supplied to place behind the truck to prevent spillage on this delivery. He stated that approximately 1 gallon spilled from his truck's overflow basin onto the ground the night before. He was informed of the UAH dispatch number and asked to call that number in the future if he had a spill. He agreed. The driver was from H-Oil.

POST CONSTRUCTION BMPs

University of Alabama in Huntsville (UAH) operates under the requirements of the Alabama Department of Environmental Management (ADEM) National Pollutant Discharge Elimination System (NPDES) Permit; and this permit authorizes stormwater discharges from regulated small municipal separate storm sewer systems (MS4); and UAH shall be compliant with the ADEM NPDES Permit by developing, implementing, and enforcing a program to address post-construction stormwater management.

UAH Post-construction stormwater management is established to prevent or minimize water quality impacts. The purpose of post-construction stormwater management (PSCWM) is to provide measures that will take place after construction occurs on a Qualifying Site (any development that disturbs more than one acre of land in total). These measures include Best Management Practices (BMPs), both structural and nonstructural which may include low impact development (LID) and green infrastructure practices (GIP). These measures will provide and maintain permanent stormwater management to prevent or minimize water quality impacts for the life of the property's use to the maximum extent practical (MEP).

Structural BMPs include, but are not be limited to detention/ retention devices, check dams, drainage swales, lined ditches, infiltration basins, porous pavement, outlet protection, velocity dissipation devices, slope protection, constructed wetlands, rain gardens, catch basin inserts, vegetated filter strips, and rain barrels.

Non-structural BMPs. Non-structural BMPs include preservation of open spaces and vegetation, establishment of conservation easements, establishment of buffers along streams and other waters, maintenance of vegetation, BMP inspection and maintenance, planning for future development or redevelopment.

The latest version of the "Alabama Handbook for Erosion Control, Sedimentation Control and Stormwater Management on Construction Sites and Urban Areas", Volumes 1 and 2. and the latest version of the "Low Impact Development Handbook for the State of Alabama". and Post-Construction Stormwater Management {PCSWM) are used as standard guidelines for UAH projects.

The PCSWM includes design procedures and strategies that will address and identify the specific PCSWM measures, to the MEP, that will remain after construction is completed for the life of the property's use. After completion of the projects, UAH Ground Maintenance Group is responsible for Post Construction maintenance and Inspection. Until site is considered to be stabilized and Grounds Management Director is responsible for inspection of the site every 14 days, or prior to any forecasted rain event and after every rain event of 0.5 inches in 24 hours. If any conditions are noted which may appear to cause erosion, measures shall be taken to mitigate the conditions. In addition, an inspection by QCP after every rain event of 0.75 inch in 24 hour period, or one inspection per month, whichever is less shall be performed of Post Construction sites until that site is considered to be well stabilized.

If any Post Construction conditions are noted during the inspections which may requires more extensive efforts that ground Maintenance Group can address, UAH Campus Architect and Environmental Consultant will be consulted to address such conditions.

Stormwater Conveyance System Inspection Performed between Feb. 1 & March 1, 2018

Name	Y	X	Location	Type	Medalian	Blocked	City	Sump	Clean out	Flow	Repair
					Condition		Marking		Needed	Noted	Needed
B7-0006	34.718387	-86.636329	(34.7183873,-86.6363292)	Inlet Box	Missing	No	Yes	No	No	No	No
B7-0007	34.718387	-86.636329	(34.7183873,-86.6363292)	Culvert	Missing	Yes	No	No	Yes	No	No
C7-0008	34.718835	-86.639347	(34.7188349,-86.6393467)	Culvert	Missing	Yes	No	No	Yes	No	NF**
B7-0009	34.71928	-86.637583	(34.7192797,-86.6375834)	Culvert	Missing	No	No	No	No	No	No
C7-0010	34.719221	-86.638588	(34.7192210,-86.6385880)	Curb	Missing	No	No	No	No	No	No
C7-0011	34.719331	-86.638882	-86.638882 34.719331	Curb	Missing	No	Yes	No	No	No	No
C7-0012	34.719389	-86.639138	-86.639138 34.719389	Culvert	Missing	No	No	No	No	Yes: St	Yes
C7-0013	34.719284	-86.639138	-86.639138 34.719284	Curb	Missing	No	Yes	No	No	No	No
C7-0014	34.719301	-86.639844	-86.639844 34.719301	Curb	Missing	No	Yes	No	No	No	No
C7-0015	34.719085	-86.639908	-86.639908 34.719085	Culvert	Missing	No	Yes	No	No	No	No
C7-0016	34.719219	-86.640379	-86.640379 34.719219	Culvert	Missing	No	Yes	No	No	No	No
D8-0017	34.716635	-86.642826	-86.642826 34.716635	Outfall	Missing	No	No	No	No	No	No
C7-0018	34.719572	-86.638823	-86.638823 34.719572	Curb	Old	No	No	No	No	No	No
C7-0019	34.719666	-86.639018	-86.639018 34.719666	Curb	Old	No	Yes	No	No	No	No
B7-0020	34.720396	-86.637744	-86.637744 34.720396	Curb	Old	No	No	No	No	No	No
B7-0021	34.72042	-86.637915	-86.637915 34.720420	Curb	Old	No	Yes	No	No	No	No
B7-0022	34.720201	-86.63752	-86.637520 34.720201	Culvert	Missing	No	No	No	No	No	No
B6-0023	34.721326	-86.635286	-86.635286 34.721326	Inlet Box	Missing	No	No	No	No	No	No
A6-0024	34.721467	-86.634853	-86.634853 34.721467	Culvert	Missing	No	No	No	No	No	No
A6-0025	34.721033	-86.634744	-86.634744 34.721033	Inlet Box	Missing	No	No	No	No	No	No
A6-0026	34.720998	-86.634183	-86.634183 34.720998	Inlet Box	Missing	No	No	No	No	No	No
A6-0027	34.721037	-86.633931	-86.633931 34.721037	Inlet Box	Missing	No	No	No	No	No	No
A6-0028	34.721033	-86.633627	-86.633627 34.721033	Inlet Box	Missing	No	No	No	No	No	No
B7-0029	34.720574	-86.63634	-86.636340 34.720574	Inlet Box	Missing	No	No	No	No	No	No
B6-0030	34.72095	-86.63644	-86.636440 34.720950	Inlet Box	Missing	No	No	No	No	No	No
B6-0031	34.721325	-86.63664	-86.636640 34.721325	Inlet Box	Missing	No	No	No	No	No	No
A7-0032	34.720446	-86.633659	-86.633659 34.720446	Inlet Box	Missing	No	No	No	No	No	No
A7-0033	34.720422	-86.634016	-86.634016 34.720422	Inlet Box	Missing	No	No	No	No	No	No
A7-0034	34.720422	-86.634344	-86.634344 34.720422	Inlet Box	Missing	No	No	No	No	No	No
A5-0035	34.723352	-86.634686	-86.634686 34.723352	Culvert	Missing	No	No	No	No	No	No
B5-0036	34.72327	-86.63664	-86.636640 34.723270	Curb	Printed in C	No	No	No	No	No	No
B6-0037	34.722988	-86.636533	-86.636533 34.722988	Inlet Box	Missing	No	No	No	No	No	No
B6-0038	34.721112	-86.637563	-86.637563 34.721112	Curb	Old	No	No	No	No	No	No
B6-0039	34.72117	-86.637789	-86.637789 34.721170	Curb	Old	No	No	No	No	No	No
B6-0040	34.72245	-86.636672	-86.636672 34.722450	Curb	Printed in C	No	No	No	No	No	No
B6-0041	34.722684	-86.6371	-86.637100 34.722684	Curb	Printed in C	No	No	No	No	No	No
B6-0042	34.722606	-86.637135	-86.637135 34.722606	Curb	Printed in C	No	No	No	No	No	No
B6-0043	34.723202	-86.637302	-86.637302 34.723202	Curb	Printed in C	No	No	No	No	No	No
B6-0044	34.721424	-86.637444	-86.637444 34.721424	Curb	Old	No	Yes	No	No	No	No

C6-0045	34.72162	-86.638621	-86.638621 34.721620	Curb	Missing	No	No	No	No	No	No
C6-0046	34.721532	-86.638858	-86.638858 34.721532	Curb	Missing	No	No	No	No	No	No
C6-0047	34.721698	-86.638906	-86.638906 34.721698	Curb	Missing	No	No	No	No	No	No
C6-0048	34.722264	-86.638882	-86.638882 34.722264	Curb	Missing	No	No	No	No	No	No
C6-0049	34.722538	-86.638882	-86.638882 34.722538	Grate	Missing	No	No	No	No	No	No
C6-0050	34.72243	-86.638728	-86.638728 34.722430	Grate	Missing	No	No	No	No	No	No
B6-0051	34.722167	-86.638145	-86.638145 34.722167	Grate	Missing	No	No	No	No	No	No
B6-0052	34.722186	-86.638133	-86.638133 34.722186	Grate	Missing	No	No	No	No	No	No
B6-0053	34.722137	-86.637813	-86.637813 34.722137	Curb	Old	No	No	No	No	No	No
B6-0054	34.722928	-86.637492	-86.637492 34.722928	Curb	Old	No	No	No	No	No	No
C6-0055	34.723048	-86.639235	-86.639235 34.723048	Curb	Printed in C	No	No	No	No	No	No
C6-0056	34.72293	-86.639378	-86.639378 34.722930	Curb	Printed in C	No	No	No	No	No	No
C6-0057	34.722614	-86.639606	-86.639606 34.722614	Grate	Missing	No	No	No	No	No	No
C6-0058	34.721219	-86.639064	-86.639064 34.721219	Curb	Missing	No	No	No	No	No	No
C6-0059	34.721219	-86.638893	-86.638893 34.721219	Curb	Missing	No	No	No	No	No	No
B6-0060	34.720692	-86.637909	-86.637909 34.720692	Curb	Missing	No	No	No	No	No	No
C7-0061	34.719836	-86.640533	-86.640533 34.719836	Curb	Missing	No	No	No	No	No	No
C6-0062	34.722837	-86.639634	-86.639634 34.722837	Grate	Missing	No	No	No	No	No	No
C6-0063	34.723001	-86.639435	-86.639435 34.723001	Grate	Missing	No	No	No	No	No	No
C6-0064	34.723059	-86.639463	-86.639463 34.723059	Grate	Missing	No	No	No	No	No	No
C5-0065	34.723364	-86.640176	-86.640176 34.723364	Grate	Printed in C	No	No	No	No	No	No
C7-0066	34.7195	-86.64054	-86.640540 34.719500	Curb	Old	No	Yes	No	No	No	No
C7-0067	34.719629	-86.64054	-86.640540 34.719629	Curb	Old	No	Yes	No	No	No	No
D7-0068	34.720016	-86.642907	-86.642907 34.720016	Curb	Old	No	Yes	No	No	No	No
D7-0069	34.720086	-86.643221	-86.643221 34.720086	Culvert	Missing	No	No	No	No	Pond	No
D5-0070	34.723978	-86.643392	-86.643392 34.723978	Curb	Missing	No	Yes	No	No	No	No
D5-0071	34.723884	-86.643406	-86.643406 34.723884	Curb	Missing	No	Yes	No	No	No	No
D5-0072	34.723825	-86.643378	-86.643378 34.723825	Curb	Missing	No	Yes	No	No	No	No
D5-0073	34.723767	-86.643406	-86.643406 34.723767	Culvert	Missing	No	No	No	No	No	No
D5-0074	34.724329	-86.642836	-86.642836 34.724329	Curb	Old	No	Yes	No	No	No	No
D5-0075	34.724259	-86.642422	-86.642422 34.724259	Curb	Old	No	Yes	No	No	No	No
D5-0076	34.724493	-86.641895	-86.641895 34.724493	Curb	Old	No	Yes	No	No	No	No
D5-0077	34.723743	-86.642137	-86.642137 34.723743	Curb	Old	No	Yes	No	No	No	No
D5-0078	34.723626	-86.641923	-86.641923 34.723626	Curb	Old	No	Yes	No	No	No	No
D6-0079	34.721586	-86.642208	-86.642208 34.721586	Curb	Old	No	Yes	No	No	No	No
C6-0080	34.722325	-86.641167	-86.641167 34.722325	Curb	Missing	No	Yes	No	No	No	No
D6-0081	34.722958	-86.641552	-86.641552 34.722958	Curb	Missing	No	Yes	No	No	No	No
D6-0082	34.722524	-86.64161	-86.641610 34.722524	Curb	Missing	No	Yes	No	No	No	No
D6-0083	34.722348	-86.641581	-86.641581 34.722348	Curb	Missing	No	Yes	No	No	No	No
D6-0084	34.720766	-86.642237	-86.642237 34.720766	Curb	Old	No	Yes	No	No	No	No
D6-0085	34.720684	-86.642408	-86.642408 34.720684	Curb	Old	No	Yes	No	No	No	No
D7-0086	34.720449	-86.642494	-86.642494 34.720449	Curb	Missing	No	Yes	No	No	No	No
E7-0087	34.719887	-86.645089	-86.645089 34.719887	Curb	Missing	No	No	No	No	No	No
E7-0088	34.719969	-86.645945	-86.645945 34.719969	Curb	Missing	No	Yes	No	No	No	No

E7-0089	34.719793	-86.646912	-86.646912 34.719793	Culvert	Missing	No	No	No	No	No	No
E7-0090	34.719207	-86.646033	-86.646033 34.719207	Curb	Missing	No	Yes	No	No	No	No
E7-0091	34.719197	-86.646187	-86.646187 34.719197	Curb	Missing	No	Yes	No	No	No	No
E7-0092	34.718386	-86.646734	-86.646734 34.718386	Grate	Missing	No	No	No	No	No	No
E7-0093	34.718484	-86.647328	-86.647328 34.718484	Curb	Missing	No	Yes	No	No	No	No
E7-0094	34.719773	-86.644856	-86.644856 34.719773	Inlet Box	Missing	No	Yes	No	No	No	No
E7-0095	34.719328	-86.645496	-86.645496 34.719328	Grate	Missing	No	No	No	No	No	No
E7-0096	34.718986	-86.645947	-86.645947 34.718986	Grate	Missing	No	No	No	No	No	No
E7-0097	34.718127	-86.644794	-86.644794 34.718127	Curb	Missing	No	Yes	No	No	No	No
C5-0098	34.723352	-86.640956	-86.640956 34.723352	Curb	Missing	No	Yes	No	No	No	No
C5-0099	34.723372	-86.640445	-86.640445 34.723372	Curb	Missing	No	No	No	No	No	No
C5-0100	34.723948	-86.640207	-86.640207 34.723948	Grate	Printed in C	No	No	No	No	No	No
C5-0101	34.723978	-86.640314	-86.640314 34.723978	Grate	Printed in C	No	No	No	No	No	No
C5-0102	34.723411	-86.64054	-86.640540 34.723411	Curb	Printed in C	No	Yes	No	No	No	No
C5-0103	34.723636	-86.640944	-86.640944 34.723636	Curb	Printed in C	No	Yes	No	No	No	No
C5-0104	34.723909	-86.641027	-86.641027 34.723909	Curb	Printed in C	No	Yes	No	No	No	No
C5-0105	34.723948	-86.641099	-86.641099 34.723948	Curb	Printed in C	No	Yes	No	No	No	No
D5-0106	34.724124	-86.641693	-86.641693 34.724124	Curb	Printed in C	No	Yes	No	No	No	No
D5-0107	34.72429	-86.641538	-86.641538 34.724290	Curb	Printed in C	No	No	No	No	No	No
D5-0108	34.724642	-86.641431	-86.641431 34.724642	Curb	Printed in C	No	No	No	No	No	No
D5-0109	34.724485	-86.641467	-86.641467 34.724485	Curb	Printed in C	No	No	No	No	No	No
D5-0110	34.724466	-86.64136	-86.641360 34.724466	Curb	Printed in C	No	No	No	No	No	No
C5-0111	34.72471	-86.641312	-86.641312 34.724710	Curb	Printed in C	No	No	No	No	No	No
C5-0112	34.724339	-86.640718	-86.640718 34.724339	Curb	Printed in C	No	No	No	No	No	No
C5-0113	34.724368	-86.640801	-86.640801 34.724368	Curb	Printed in C	No	No	No	No	No	No
C5-0114	34.724798	-86.640706	-86.640706 34.724798	Curb	Printed in C	No	No	No	No	No	No
C5-0115	34.724749	-86.640801	-86.640801 34.724749	Curb	Printed in C	No	No	No	No	No	No
C5-0116	34.724876	-86.641087	-86.641087 34.724876	Curb	Printed in C	No	No	No	No	No	No
C5-0117	34.724095	-86.640968	-86.640968 34.724095	Curb	Printed in C	No	No	No	No	No	No
C5-0118	34.724046	-86.640885	-86.640885 34.724046	Curb	Printed in C	No	No	No	No	No	No
C5-0119	34.725067	-86.640933	-86.640933 34.725067	Curb	Printed in C	No	No	No	No	No	No
D5-0120	34.724785	-86.641375	-86.641375 34.724785	Curb	Printed in C	No	No	No	No	No	No
D5-0121	34.724744	-86.641952	-86.641952 34.724744	Curb	Missing	No	No	No	No	No	No
D5-0122	34.72492	-86.642102	-86.642102 34.724920	Curb	Old	No	Yes	No	No	No	No
D5-0123	34.724774	-86.64258	-86.642580 34.724774	Curb	Old	No	No	No	No	No	No
D5-0124	34.724234	-86.641981	-86.641981 34.724234	Curb	Old	No	Yes	No	No	No	No
D5-0125	34.72417	-86.642123	-86.642123 34.724170	Curb	Old	No	Yes	No	No	No	No
C5-0126	34.723689	-86.640041	-86.640041 34.723689	Inlet Box	Missing	No	No	No	No	No	No
C5-0127	34.723783	-86.639599	-86.639599 34.723783	Grate	Printed in C	No	No	No	No	No	No
C5-0128	34.723754	-86.639507	-86.639507 34.723754	Grate	Printed in C	No	No	No	No	No	No
C5-0129	34.724123	-86.6395	-86.639500 34.724123	Grate	Printed in C	No	No	No	No	No	No
D5-0130	34.724287	-86.641924	-86.641924 34.724287	Inlet Box	Missing	No	No	No	No	No	No
C5-0131	34.724973	-86.639557	-86.639557 34.724973	Grate	Missing	No	No	No	No	No	No
C5-0132	34.724955	-86.639485	-86.639485 34.724955	Grate	Missing	No	No	No	No	No	No

C5-0133	34.724838	-86.639564	-86.639564 34.724838	Grate	Missing	No	No	No	No	No	No
C5-0134	34.724891	-86.639942	-86.639942 34.724891	Grate	Missing	No	No	No	No	No	No
C5-0135	34.724563	-86.640049	-86.640049 34.724563	Grate	Missing	No	No	No	No	No	No
C5-0136	34.724774	-86.640063	-86.640063 34.724774	Grate	Printed in C	No	No	No	No	No	No
C5-0137	34.725471	-86.640234	-86.640234 34.725471	Grate	Missing	No	No	No	No	No	No
C5-0138	34.725477	-86.640491	-86.640491 34.725477	Grate	Missing	No	No	No	No	No	No
C5-0139	34.724961	-86.638986	-86.638986 34.724961	Grate	Missing	No	No	No	No	No	No
C5-0140	34.724867	-86.638979	-86.638979 34.724867	Grate	Missing	No	No	No	No	No	No
C5-0141	34.724867	-86.638979	-86.638979 34.724867	Grate	Missing	Yes	No	No	Yes	No	No
C5-0142	34.724985	-86.638808	-86.638808 34.724985	Grate	Printed in C	No	No	No	No	No	No
C5-0143	34.724973	-86.638558	-86.638558 34.724973	Grate	Printed in C	No	No	No	No	No	No
C5-0144	34.725061	-86.638508	-86.638508 34.725061	Grate	Printed in C	No	No	No	No	No	No
C5-0145	34.725272	-86.638423	-86.638423 34.725272	Grate	Printed in C	No	No	No	No	No	No
C5-0146	34.725371	-86.63843	-86.638430 34.725371	Grate	Printed in C	No	No	No	No	No	No
C5-0147	34.725143	-86.638573	-86.638573 34.725143	Grate	Printed in C	No	No	No	No	No	No
C5-0148	34.72509	-86.63905	-86.639050 34.725090	Grate	Printed in C	No	No	No	No	No	No
C5-0149	34.725476	-86.638569	-86.638569 34.725476	Grate	Printed in C	No	No	No	No	No	No
C5-0150	34.725493	-86.638498	-86.638498 34.725493	Grate	Printed in C	No	No	No	No	No	No
C5-0151	34.725476	-86.638512	-86.638512 34.725476	Grate	Printed in C	No	No	No	No	No	No
B5-0152	34.725482	-86.638041	-86.638041 34.725482	Curb	Old	No	No	No	No	No	No
B5-0153	34.725488	-86.63792	-86.637920 34.725488	Curb	Old	No	No	No	No	No	No
B5-0154	34.724591	-86.638155	-86.638155 34.724591	Grate	Printed in C	No	No	No	No	No	No
B5-0155	34.724579	-86.638248	-86.638248 34.724579	Grate	Printed in C	No	No	No	No	No	No
C5-0156	34.724579	-86.638369	-86.638369 34.724579	Grate	Printed in C	No	No	No	No	No	No
C5-0157	34.724567	-86.638498	-86.638498 34.724567	Grate	Printed in C	No	No	No	No	No	No
B5-0158	34.724773	-86.638106	-86.638106 34.724773	Grate	Printed in C	No	No	No	No	No	No
B5-0159	34.724503	-86.637728	-86.637728 34.724503	Grate	Printed in C	No	No	No	No	No	No
B5-0160	34.724274	-86.637877	-86.637877 34.724274	Grate	Printed in C	No	No	No	No	No	No
B5-0161	34.724046	-86.637464	-86.637464 34.724046	Grate	Missing	No	No	No	No	No	No
B5-0162	34.724011	-86.637478	-86.637478 34.724011	Grate	Missing	No	No	No	No	No	No
B5-0163	34.7238	-86.637499	-86.637499 34.723800	Curb	Old	No	No	No	No	No	No
B5-0164	34.723817	-86.637314	-86.637314 34.723817	Grate	Missing	No	No	No	No	No	No
B5-0165	34.723817	-86.637043	-86.637043 34.723817	Grate	Missing	No	No	No	No	No	No
B5-0166	34.723835	-86.636922	-86.636922 34.723835	Grate	Missing	No	No	No	No	No	No
B5-0167	34.723636	-86.635695	-86.635695 34.723636	Grate	Missing	No	No	No	No	No	No
A5-0168	34.723489	-86.634555	-86.634555 34.723489	Inlet Box	Missing	Yes	No	No	Yes	No	No
B5-0169	34.723618	-86.635539	-86.635539 34.723618	Grate	Printed in C	No	No	No	No	No	No
B5-0170	34.724104	-86.636672	-86.636672 34.724104	Grate	Missing	No	No	No	No	No	No
B5-0171	34.724017	-86.636758	-86.636758 34.724017	Grate	Missing	No	No	No	No	No	No
B5-0172	34.724116	-86.637015	-86.637015 34.724116	Grate	Missing	No	No	No	No	No	No
B5-0173	34.724011	-86.636972	-86.636972 34.724011	Grate	Missing	No	No	No	No	No	No
B5-0174	34.724099	-86.637072	-86.637072 34.724099	Grate	Missing	No	No	No	No	No	No
B5-0175	34.723999	-86.637079	-86.637079 34.723999	Grate	Missing	No	No	No	No	No	No
B5-0176	34.724556	-86.637207	-86.637207 34.724556	Grate	Missing	No	No	No	No	No	No

[illegible]



301 Sparkman Drive

PPB Room 105

Huntsville, Alabama 35899

256.824.2542

Greg.Smith@uah.edu

From: Tom Cunningham [mailto:TCunningham@4siteinc.biz]

Sent: Thursday, April 04, 2019 1:11 PM

To: Martin, Kathy <kathy.martin@huntsvilleal.gov>

Cc: Taylor Myers (Taylor.Myers@uah.edu) <Taylor.Myers@uah.edu>; Greg Smith <gl0008@uah.edu>

Subject: UAH Drainage Channel Maintenance

Kathy – Thank you for meeting Tuesday with Greg, Jerry, and I to discuss the UAH drainage channel conditions. Attached are the supplemental slides we reviewed with you and John Hamilton. Please contact me if you have any questions.

Thanks!

Tom

Tom Cunningham, PE

Director of Operations



7500 Memorial Parkway SW, Suite 209
Huntsville Alabama 35802

Office: [256.539.1221](tel:256.539.1221) Ext. 303 | Fax: [256.539.1220](tel:256.539.1220)

UAH storm water drainage Channel Maintenance meeting with City HSV

1 message

Greg Smith <gls0008@uah.edu>

Thu, Apr 4, 2019 at 5:05 PM

To: Todd Barre <Todd.Barre@uah.edu>, Larrell Hughes <hughesld@uah.edu>, Justin Thompson <jmt0022@uah.edu>, Taylor Myers <tbm0012@uah.edu>, Kristy Olive <klo0003@uah.edu>, Melanie Leonard <mcl0007@uah.edu>, Paul Patterson <paul.patterson@uah.edu>

FYI.

Greg

From: Greg Smith [mailto:gls0008@uah.edu]

Sent: Thursday, April 04, 2019 5:04 PM

To: john.hamilton@huntsvilleal.gov; Martin, Kathy <kathy.martin@huntsvilleal.gov>

Cc: Tom Cunningham <TCunningham@4siteinc.biz>; Jerry Cargile <JCargile@4siteinc.biz>

Subject: RE: UAH Drainage Channel Maintenance

John and Kathy,

→ Outreach to surrounding community

I also appreciate you meeting with Tom, Jerry and I this week to discuss the storm water drainage system running through UAH and how we can partner with the City of Huntsville to correct and improve the erosion, loss of real estate, pipe damage, and maintenance of this critical infrastructure on our campus.

As you saw, most of the ditch system is highly visible and an integral part of our campus aesthetics.

Below is the link to the google docs slides that I brought to the meeting.

I look forward to us reconnecting to review and discuss property ownership, your maintenance program and storm water infrastructure repair options.

<https://docs.google.com/presentation/d/18GnHsLZy502RGwwsfBI8UKYqGI5HfPA8L8KRId4RDpo/edit?usp=sharing>

Greg

Greg L. Smith, CFM, AAE

Assistant Vice President of Facilities & Operations

The University of Alabama in Huntsville

Stormwater Annual Report Info - Please confirm

Kristy Olive <klo0003@uah.edu>

Thu, Apr 4, 2019 at 12:06 PM

To: Kimberly Fuller <fullerkg@uah.edu>, Paul Patterson <patterpl@uah.edu>, Daniel Boutwell <drb0022@uah.edu>, James Davis <jad0007@uah.edu>, Quanteaus Jones <qj0004@uah.edu>, Larrell D Hughes <hughesld@uah.edu>
Cc: Greg Smith <gls0008@uah.edu>, Kristi Dendy <krd0015@uah.edu>

Good morning all,

I think I have spoken with all of you about our commitment to have **best practices** for our stormwater program by April 30. I'm meeting with Nasser tomorrow about writing the annual report and I wanted to verify my information with you. I believe all of you have done a Best Practice project this year and it's now up to me to write them up. Thank you for providing the requested information. This is what I have down.

- Facility Services*
1. Kim Fuller - ~~Plant Systems~~ - Installed new leak detection system for fuel tanks out back reducing our potential for leaks and spills.
 2. Tony Davis and Quanteaus Jones - Investigating converting backup generators currently using an underground oil tank to natural gas which would reduce our potential for spilling diesel.
 3. Daniel Boutwell - Coordinated with contractor to ensure that the soft wash program for the buildings on campus uses an environmentally friendly cleaning process and that the rinse water will not enter the storm drains.
 4. Paul Patterson - Implementing a beginning of shift equipment check of mobile equipment to check for oil leaks.
 5. Larrell Hughes - Continues to utilize a contractor to manage Environmental concerns for all on-campus building projects.

Kristi Dendy is working with each director to schedule **Regulatory Update training** for the Stormwater year (April 30 - April 30) that will include Stormwater. Maintenance completed theirs in May 2018. Plant Systems completed theirs in February of 2019. Grounds and Custodial are scheduled for later in the year.

The other thing that affects F&O is that each Director is supposed to have **Level II Stormwater Training**. Since everyone's schedule is busy, I would like to offer you online training on this with a short quiz at the end that you return to OEHS. I will have it ready by April 15th. This will get us in compliance as long as each Director completes the training by April 30th. I'll set aside April 29th to do on-demand training for anyone that isn't finished.

If that isn't correct, let me know and I'll adjust it before I give it to Nasser.

Thanks,
Kristy

Kristy Olive, CIH, CSP
Interim Director
UAH-Office of Environmental Health and Safety
256-824-2171

STORM WATER SIGN UP SHEET

August 24, 2018 (1-3pm)

[illegible]

Stormwater Working Group

1:00pm

1/31/19

Kristy Olive

Hannah Upton

Kristi Rensly

Lucy Rensly

Jake Davenport

2/20/19

3:00pm

Kristy Olive

Darnisha Crane

Hannah Upton

JUSTIN THOMPSON

Kristi Rensly

Lucy Rensly

Kevin Bennett

Q/Q

TRAINING SIGN-IN SHEET

[illegible]

Stormwater Level II - BMPs and SPCC

17 messages

Kristy Olive <klo0003@uah.edu>

Wed, Apr 17, 2019 at 3:15 PM

To: Kimberly Fuller <fullerkg@uah.edu>, James Davis <jad0007@uah.edu>, Quanteaus Jones <qj0004@uah.edu>, Justin M Thompson <jmt0022@uah.edu>, Larrell D Hughes <hughesld@uah.edu>, Paul Patterson <patterpl@uah.edu>, Greg Smith <gls0008@uah.edu>, Jorgy M Umlor <umlorj@uah.edu>, Keith Wilson <kaw0002@uah.edu>, Annette Simmons <Annette.Simmons@uah.edu>, John Dant <jld0003@uah.edu>, Ricky Dempsey <rld0017@uah.edu>, John Kennedy <kennedjn@uah.edu>, John Whaley <jaw0057@uah.edu>, Daniel Boutwell <drb0022@uah.edu>, Taylor Myers <tbm0012@uah.edu>, Reyna D Coleman <coleamard@uah.edu>

Cc: Nasser Amiri <nasser@amiriengineering.com>, Hannah Upton <hu0003@uah.edu>, Kristi Dendy <krd0015@uah.edu>

Good afternoon,

Our MS4 Permit that was accepted by the state two years ago requires that the Facilities and Operations group will receive Level 2 Stormwater Training covering existing Stormwater Best Management Practices by April 30, 2019. Since the date is close, this year the training is in an online format with a short quiz. If you have any questions, please contact me at 256-335-3425 and I will work on getting you an answer.

Please review the attached Stormwater Safety Training and SPCC plan and complete the short quiz below by April 29, 2019, to ensure our compliance with our Annual Stormwater Reporting requirements. This training is based on existing BMPs and others are under development. If you would like to schedule a meeting instead of online training, please contact me, Kristi Dendy or Hannah Upton.

E-mail Quiz:

1. Which is better for stormwater - Latex or Oil based paint?
2. From a stormwater standpoint, which is preferable - washing vehicles on the pavement near a storm drain or on grass?
3. Which BMP helps to decrease litter?
4. What is one way Grounds helps to prevent stormwater pollution listed in the slides?
5. Under the SPCC emergency procedures, how much oil must be spilled in 24 hours for a report to be required?

Please reply to this e-mail with the answers to the quiz to show that you have reviewed the material. The SPCC is due for revision soon and the changes to the contacts will be made at that time.

Thank you,
Kristy

Kristy Olive, CIH, CSP
Interim Director
UAH-Office of Environmental Health and Safety
256-824-2171

2 attachments



Stormwater Safety Level 2.pptx
745K



UAH-SPCC PLAN-NOVEMBER 2016-AMIRI ENGINEERING.pdf
1537K

Kristy Olive <klo0003@uah.edu>

Wed, Apr 17, 2019 at 3:40 PM

To: Michael Snellgrove <mrs0014@uah.edu>

Hi Chief,

Our ADEM Annual Stormwater requirements include training the UAH police department on stormwater safety - mainly on the need to put in stormwater drain blockers if there is a chemical spill on pavement. I have ordered 5 of the drain blockers.

Would you prefer that one of the OEHS group come over and brief your guys or that I just provide a procedure similar to the one below for your group to review and sign off on? Either is fine with us and I will work around your schedule since it is last minute.

We have until April 30th, so I know we may not get everyone this time around but I would at least like to get the majority informed if possible.

Thanks,
Kristy

Kristy Olive, CIH, CSP
Interim Director
UAH-Office of Environmental Health and Safety
256-824-2171

[Quoted text hidden]

2 attachments



Stormwater Safety Level 2.pptx
745K



UAH-SPCC PLAN-NOVEMBER 2016-AMIRI ENGINEERING.pdf
1537K

Michael Snellgrove <mrs0014@uah.edu>
To: Kristy Olive <klo0003@uah.edu>
Cc: Dianna L Marshall <dlim0020@uah.edu>

Wed, Apr 17, 2019 at 4:34 PM

Kristy,

It would be best if you set up a training session for us when the drain blockers arrive so we can actually see them and you show us the proper placement procedures. We can then train the other officers who work evenings and nights.

Chief

[Quoted text hidden]

Kristy Olive <klo0003@uah.edu>
To: Michael Snellgrove <mrs0014@uah.edu>
Cc: Dianna L Marshall <dlim0020@uah.edu>

Wed, Apr 17, 2019 at 4:50 PM

That will be fine. Could we tentatively schedule it for April 29th?. It shouldn't take long. They are basically heavy plastic sheets that you lay over the drain.

Kristy Olive, CIH, CSP
Interim Director
UAH-Office of Environmental Health and Safety
256-824-2171

[Quoted text hidden]

Kristy Olive <klo0003@uah.edu>
To: Nasser Amiri <nasser@amiriengineering.com>

Wed, Apr 17, 2019 at 5:31 PM

The police training is tentatively scheduled for april 29th. The drain blockers have been ordered on 4/17/19.

[Quoted text hidden]

Paul Patterson <patterpl@uah.edu>
To: klo0003@uah.edu

Thu, Apr 18, 2019 at 7:25 AM

Your message

To: Paul Patterson
Subject: Stormwater Level II - BMPs and SPCC
Sent: 4/17/19, 3:15:46 PM CDT

was read on 4/18/19, 7:25:32 AM CDT

Paul Patterson <patterpl@uah.edu>
Reply-To: paul.patterson@uah.edu
To: Kristy Olive <klo0003@uah.edu>

Thu, Apr 18, 2019 at 7:25 AM

Hi Kristy,

The answers to the quiz:

1. Latex
2. Grass
3. Recycling Program
4. Street Sweeping
5. A single spill of 1000 gallons into a stream or 2 oil discharges of 42 gallons or more within any consecutive 12 month period.

[Quoted text hidden]

--

Paul Patterson
Interim Director of Grounds Management
UAH
301 Sparkman Drive - PPB 128
Huntsville, AL 35899
O: 256.824.2547
C: 256.508.9056



Kimberly Fuller <fullerkg@uah.edu>
To: Kristy Olive <klo0003@uah.edu>

Thu, Apr 18, 2019 at 7:44 AM

Please see my answer below. ☀️

On Wed, Apr 17, 2019 at 3:16 PM Kristy Olive <klo0003@uah.edu> wrote:
Good afternoon,

Our MS4 Permit that was accepted by the state two years ago requires that the Facilities and Operations group will receive Level 2 Stormwater Training covering existing Stormwater Best Management Practices by April 30, 2019.

Since the date is close, this year the training is in an online format with a short quiz. If you have any questions, please contact me at 256-335-3425 and I will work on getting you an answer.

Please review the attached Stormwater Safety Training and SPCC plan and complete the short quiz below by April 29, 2019, to ensure our compliance with our Annual Stormwater Reporting requirements. This training is based on existing BMPs and others are under development. If you would like to schedule a meeting instead of online training, please contact me, Kristi Dendy or Hannah Upton.

E-mail Quiz:

1. Which is better for stormwater - Latex or Oil based paint? [Latex](#)
2. From a stormwater standpoint, which is preferable - washing vehicles on the pavement near a storm drain or on grass? [Washing on grass](#)
3. Which BMP helps to decrease litter? [Pollution prevention and good housekeeping](#)
4. What is one way Grounds helps to prevent stormwater pollution listed in the slides? [They keep oils, solvents, chemicals, pesticides, fertilizers, and other hazardous fluids under cover and away from the street and storm drains.](#)
5. Under the SPCC emergency procedures, how much oil must be spilled in 24 hours for a report to be required? [All spills must be reported.](#)

Please reply to this e-mail with the answers to the quiz to show that you have reviewed the material. The SPCC is due for revision soon and the changes to the contacts will be made at that time.

Thank you,
Kristy

Kristy Olive, CIH, CSP
Interim Director
UAH-Office of Environmental Health and Safety
256-824-2171

--
Thank you!

Kimberly G. Fuller, MBA, CEFP
Associate Director, Facilities Services
Facilities & Operations



301 Sparkman Drive - PPB 113C
Huntsville, AL 35899
(256) 824-2536 - Office



Kimberly Fuller <fullerkg@uah.edu>
To: klo0003@uah.edu

Thu, Apr 18, 2019 at 7:44 AM

Your message

To: Kimberly Fuller
Subject: Stormwater Level II - BMPs and SPCC
Sent: 4/17/19, 3:15:46 PM CDT

was read on 4/18/19, 7:44:48 AM CDT

Kimberly Fuller <fullerkg@uah.edu>
To: Kristy Olive <klo0003@uah.edu>

Thu, Apr 18, 2019 at 7:45 AM

Please see my revised answer for #5 below.

On Thu, Apr 18, 2019 at 7:44 AM Kimberly Fuller <fullerkg@uah.edu> wrote:

Please see my answer below. 

On Wed, Apr 17, 2019 at 3:16 PM Kristy Olive <klo0003@uah.edu> wrote:

Good afternoon,

Our MS4 Permit that was accepted by the state two years ago requires that the Facilities and Operations group will receive Level 2 Stormwater Training covering existing Stormwater Best Management Practices by April 30, 2019. Since the date is close, this year the training is in an online format with a short quiz. If you have any questions, please contact me at 256-335-3425 and I will work on getting you an answer.

Please review the attached Stormwater Safety Training and SPCC plan and complete the short quiz below by April 29, 2019, to ensure our compliance with our Annual Stormwater Reporting requirements. This training is based on existing BMPs and others are under development. If you would like to schedule a meeting instead of online training, please contact me, Kristi Dendy or Hannah Upton.

E-mail Quiz:

1. Which is better for stormwater - Latex or Oil based paint? [Latex](#)
2. From a stormwater standpoint, which is preferable - washing vehicles on the pavement near a storm drain or on grass? [Washing on grass](#)
3. Which BMP helps to decrease litter? [Pollution prevention and good housekeeping](#)
4. What is one way Grounds helps to prevent stormwater pollution listed in the slides? [They keep oils, solvents, chemicals, pesticides, fertilizers, and other hazardous fluids under cover and away from the street and storm drains.](#)
5. Under the SPCC emergency procedures, how much oil must be spilled in 24 hours for a report to be required?
[1,000 gallons](#)

[Quoted text hidden]

[Quoted text hidden]

[Quoted text hidden]

Daniel Boutwell <drb0022@uah.edu>
To: klo0003@uah.edu

Thu, Apr 18, 2019 at 8:02 AM

Michael Snellgrove <mrs0014@uah.edu>
To: Kristy Olive <klo0003@uah.edu>
Cc: Dianna Marshall <dlim0020@uah.edu>

Thu, Apr 18, 2019 at 8:33 AM

April 29 is of with both Captain Marshall and I. Name the time and you can come over here to give us the briefing.

Chief S

From: Kristy Olive [mailto:klo0003@uah.edu]

Sent: Wednesday, April 17, 2019 4:50 PM

To: Michael Snellgrove <mrs0014@uah.edu>

Cc: Dianna L Marshall <dln0020@uah.edu>

[Quoted text hidden]

[Quoted text hidden]

Kristy Olive <klo0003@uah.edu>
To: Michael Snellgrove <mrs0014@uah.edu>

Thu, Apr 18, 2019 at 8:44 AM

What time causes the least disruption for you?

Kristy Olive, CIH, CSP
Interim Director
UAH-Office of Environmental Health and Safety
256-824-2171

[Quoted text hidden]

Michael Snellgrove <mrs0014@uah.edu>
To: Kristy Olive <klo0003@uah.edu>
Cc: Dianna L Marshall <dln0020@uah.edu>

Thu, Apr 18, 2019 at 8:50 AM

That will depend on the unknown. My day can change by the minute. Let's shoot for 10:00 am, APR 29. Right now, I'm open that entire morning.

[Quoted text hidden]

Kristy Olive <klo0003@uah.edu>
To: Michael Snellgrove <mrs0014@uah.edu>
Cc: Dianna L Marshall <dln0020@uah.edu>

Thu, Apr 18, 2019 at 8:57 AM

Sounds good. I will put it on my calendar.

Thanks,
Kristy

Kristy Olive, CIH, CSP
Interim Director
UAH-Office of Environmental Health and Safety
256-824-2171

[Quoted text hidden]

Keith Wilson <kaw0002@uah.edu>
To: klo0003@uah.edu

Thu, Apr 18, 2019 at 2:32 PM

Annette Simmons <aps0020@uah.edu>
Reply-To: Annette.Simmons@uah.edu
To: Kristy Olive <klo0003@uah.edu>

Fri, Apr 26, 2019 at 4:07 PM

Answers to Stormwater Quiz:

1. Latex
2. Grass
3. Recycling Program

4. Street sweeping, keeping drains clear, regular litter collection
5. 1,000 gallons

On Wed, Apr 17, 2019 at 3:16 PM Kristy Olive <klo0003@uah.edu> wrote:

[Quoted text hidden]

--

Annette Simmons
Plant Systems Assistant
Facilities and Operations
UAH
Huntsville, AL 35899
256-824-2549