



UNIVERSITY OF
ARKANSAS

STORMWATER MANAGEMENT PROGRAM (SWMP)

University of Arkansas, Fayetteville

2019-2024

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Permit # ARR 040028

AFIN# 88-00849



CREATED IN PARTNERSHIP WITH THE
BENTON AND WASHINGTON COUNTY
COOPERATIVE EXTENSION SERVICES.

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Background and Context:

The University of Arkansas, Fayetteville's (referred to hereinafter as University) Stormwater Management Program was developed to provide policy and management guidance for activities affecting stormwater throughout the University. It is intended to help the University fulfill certain State and Federal water quality requirements, and to meet local water resource management objectives. Over time, through the implementation of the policies and management practices embodied in the Stormwater Program, the University hopes to prevent urban stormwater quality from negatively-impacting local rivers and streams; the University also hopes to develop and preserve the urban drainage infrastructure in a manner that meets the community's future needs.

While State and Federal regulatory programs place significant emphasis on improving water quality and the health of Arkansas's watersheds, the University, as part of the Illinois Watershed, further emphasizes the need for local management of urban stormwater and waterways. It becomes even more important that management of these resources occur in a manner that minimizes destructive long-term impacts to drainage infrastructure and the natural features that help protect water quality and control flooding.

Permit Explained:

The Clean Water Act (CWA) prohibits the discharging of pollutants through point sources into Waters of the United States unless the entity has a National Pollution Discharge Elimination System (NPDES) permit to discharge. Arkansas, in order to meet the requirements of the CWA, is granted General Permit Number AR40000. This document grants "Authorization to Discharge Under the National Pollutant Discharge Elimination System and the Arkansas Water and Air Pollution Control Act." However, each entity required to be permitted in order to discharge must have been issued a Permit Tracking Number and an AFIN number. The University of Arkansas, Fayetteville's Permit Tracking Number is ARR040028 and its AFIN is 88-00849. These two numbers are used to specifically identify the University; they should be used on all correspondence with the EPA or ADEQ.

There were two phases of the EPA's stormwater program under the CWA. Phase I occurred in 1990 and addressed NPDES permit coverages of stormwater runoff from medium and large municipal MS4s serving populations of 100,000 or greater and construction activity disturbing 5 acres or greater and 10 categories of industrial activity.

Phase II took place in 1999 and expanded the NPDES program by requiring MS4 in *urbanized areas* (as defined by the U.S. Census Bureau-definition), public universities, and operators of small construction sites of 1 acre and larger to meet the NPDES permit requirements.

Further information regarding the above can be found in the following EPA fact sheets:

United States. Environmental Protection Agency. *Stormwater Phase II Final Rule* EPA 833-F-00-001. January 2000 (revised December 2005). Fact Sheet 1.0.

<https://www.epa.gov/sites/production/files/2015-11/documents/fact1-0.pdf>

United States. Environmental Protection Agency. *Stormwater Phase II Final Rule. Who's Covered? Designation and Waivers of Regulated Small MS4s*. EPA 833-F-00-003 January 2000 (revised June 2012) Fact Sheet 2.1. <https://www.epa.gov/sites/production/files/2015-11/documents/fact2-1.pdf>

United States. Environmental Protection Agency. *Stormwater Phase II Final Rule, Urbanized Areas: Definition and Description*. EPA 833-F-00-003 revised June 2012. Fact Sheet 2.2.
<https://www.epa.gov/sites/production/files/2015-11/documents/fact2-2.pdf>

Overview of the University's Stormwater Drainage Systems:

The University is responsible for implementing surface water management activities within their properties within the Urbanized Area. This includes the planning, design, construction, operation, and maintenance of the stormwater drainage system. The University performs all operation and maintenance on the public drainage system designed and constructed to University standards located: within their campus and owned by them, and real property that has been conveyed or dedicated to the University, within the University's core campus property (within the MS4 Urbanized Area). The University also maintains its open channels throughout the grounds on University-owned property, and public outfalls to natural streams within the University's jurisdiction within the Core Campus property. The geographic area covered by this Plan includes approximately 371 acres. Note that stormwater infrastructure located on the University campus within Right-of-Way (ROW) owned by the City of Fayetteville and Arkansas Department of Transportation (ARDOT), is maintained by those entities and not by the University.

Description of the Permit Area:

The University of Arkansas, Fayetteville, is situated in Central Washington County, Arkansas and the main campus property is located within the City limits of the City of Fayetteville and within the Springdale-Rogers, AR-MO's 2010 Census's designated Urbanized Area. The outlying, mostly agricultural holdings and research lands are located outside of the Urbanized Area. Due to the nature of land acquisition and donations made to the University, University property grows and shifts over the years. The core campus property comprises, as of the date of this writing in 2019, approximately 371 acres.

Most of the structures located on the University campus are owned (land and building) by the University. However, there are some instances where the University owns the land beneath the building and the building is owned by another entity. The University has complete authority and responsibility for planning, building, operating, maintaining and regulating the stormwater drainage system within the University boundaries.

Watersheds / Stormwater Drainage Basins:

A watershed can be described as a geographic area that captures rainfall and other precipitation from many small systems converging on a larger drainage way. The University lies in the 2-HUC watershed region known as the AR-White-Red Region and their two main 8-Digit-HUC watersheds are the Beaver Reservoir (which ultimately flows into the White River) and the Illinois Reservoir watershed. The northern portion of the University sheds to the Illinois watershed and the southern-most portion sheds to the Beaver Reservoir watershed.

On the University's core campus, these two main watersheds further break down in the following 10 and 12-Digit HUC watersheds:

Illinois Reservoir Watershed:

- Hamestring Creek Watershed
- Clear Creek-Illinois River Watershed
- Mud Creek-Clear Creek Watershed

Beaver Reservoir Watershed:

- Town Branch-West Fork White Watershed
- West Fork White River Watershed

Purposes and Scope:

Purposes:

There are three purposes of the Stormwater Plan (SWMP), as follows:

- 1- The Stormwater Program is for cataloging the University's entire stormwater drainage system (both the open and piped systems), its connections to streams, and the overall condition of the system. This cataloging is necessary to address relevant State and Federal regulatory requirements, it provides baseline information on which to develop focused stormwater management strategies, it provides a map and system for tracking pollutants back to their source, and it provides a scheduled observance program for observing any maintenance needs of the stormwater system.
- 2- The Stormwater Program is used to establish goals, policies, and implementation actions that will achieve the University's long-term objectives in a way that is understandable to the public, usable by University staff, and that meets regulatory needs.
- 3 - The Stormwater Program establishes a means for measuring, reporting, and adaptively managing the University's water resources by presenting benchmarks that will ensure meaningful progress, as well as ensuring compliance with applicable laws and permit requirements.

Scope:

The scope of the Stormwater Program is determined primarily by the Federal MS4 permit requirements but is intended to address local water resource issues as well. The rules and regulations specified in this SWMP are designed to reduce pollutant discharges, to protect water quality, and to satisfy the appropriate water quality requirements and the Clean Water Act. The stormwater program ensures that stormwater quality management policies and management practices will be implemented by the University.

Areas of Focus in the Stormwater Program:

Public education geared toward broad community stewardship of water resources. The Federal NPDES Stormwater Program places significant emphasis on public education as part of the long-term solution to stormwater pollution. As such, education is a required element of the Stormwater Program. The long-term success of the University's efforts will hinge on increased awareness and stewardship throughout the community. Many of these efforts are most effectively approached on a broad Northwest Arkansas MS4 basis through cooperative efforts with the University of Arkansas Cooperative Extension Service.

Public awareness and involvement in the University's Stormwater management program. Broad awareness and participation in the development and implementation of the Stormwater Program by residents and local area businesses is a key component to ensure effectiveness of the Stormwater Program. The Stormwater Program includes a public involvement component in its development that meets the Federal NPDES program.

Detection and elimination of pollution incidents and unlawful (illicit) discharges to the University's stormwater drainage system. These discharges can be systematic (recurring) or episodic (occasional or one-time) discharges, and include pollutant runoff from parking lots, discharges from industrial outfalls, accidental spills, poor construction site management, and a variety of ways people dump pollutants into street gutters or catch basins.

On-site management of stormwater to reduce the quantity of stormwater and pollution entering the drainage system. Similar to illicit discharges, events that cause flooding, system surcharges, or ongoing pollutant loading can occur downstream from the University limits and originate from a variety of causes. These include inadequacies in the type and design of infrastructure, inadequate maintenance, insufficient erosion and/or sediment control practices. The University regulates these issues through implementation of the University of Arkansas' Policies within the University's MS4 boundary.

Reduction and prevention of pollution from University facilities and from University activities and business practices. The University provides services with a potential of creating water pollution, erosion, and sedimentation. These include field activities such as ditch cleaning and excavation/maintenance activities, activities at University facilities such as vehicle washing and maintenance, painting, and material handling (such as street sweeper dumping and processing), and continued construction activities. The Federal NPDES Stormwater Program requires the University to implement pollution prevention practices that reduce or eliminate stormwater pollution from University activities. Beyond this regulatory motivation, it is important that the University lead by example in areas where similar practices and behaviors from citizens and businesses are required.

Maintain knowledge of the University's stormwater plan. The University maintains a map of their stormwater system. This plan will be updated periodically to maintain a masterplan for tracking pollutants. Dry Weather Screenings will be conducted based off this map in order to maintain knowledge of the general health of the University's Stormwater System.

Goals & Policies:

In order to aid the University in developing its MS4 program, it was needed to create a list of needed policies and to explain how those policies would be implemented. The following section provides overall guidance to the University in performing stormwater management activities in a manner consistent with State and Federal laws, while meeting local goals and the long-term outcomes the University hopes to achieve.

The following goals are derived from long-term key outcomes that have been reviewed. The following policies provide specific direction consistent with the stated goals and State and Federal requirements.

GOAL 1: Protect citizens and property from flooding.

Policies:

- A. Maintain surface drainage on the University campus to reduce the threat of flooding, through property maintenance of the University's stormwater drainage system infrastructure, with practices are protective of water quality.
- B. Through the development review process, ensure that new development incorporates adequate stormwater management infrastructure to avoid downstream capacity and water quality problems.
- C. Adhere to standards, policies, and practices which comply with Federal Emergency Management Agency (FEMA) Flood Management Program requirements.

GOAL 2: Improve surface and sub-surface waters for aquatic life and other beneficial uses.

Policies

- A. Through the development review process, the University will ensure that development is protective of significant open waterways, wetlands, and riparian areas.
- B. The University will implement permitting programs, educational outreach, compliance inspections and enforcement activities as needed to reduce erosion, sedimentation, illicit discharges, and other pollution impacts to the University's waterways. Education is handled by the University of Arkansas' Cooperative Extension Service.

GOAL 3: Preserve and maintain surface waters, wetlands, and riparian areas.

Policies

- A. The University will develop targeted education and outreach and technical assistance programs regarding practices and obligations for keeping debris and pollutants out of the stormwater drainage system and train stakeholder groups in appropriate erosion control and sediment prevention practices, as well as stormwater management BMPs.
- B. The University will seek to form partnerships with neighborhoods or groups interested in providing stewardship of local waterways.
- C. The University will develop, implement, and enforce appropriate building, design, and Policies to address water quality compliance issues, including pollution, habitat, and aesthetic issues, to encourage the development of urban waterways that are positive amenities in the community.

GOAL 4: Citizens, businesses, and industries understand the need to protect water quality.

Policies

- A. The University will work with the University of Arkansas Cooperative Extension Service to develop targeted education, outreach, and technical assistance programs regarding practices and obligations for keeping debris and pollutants out of the storm water drainage system.
- B. The University will develop, implement, and enforce appropriate building, design, and University Policies to address water quality compliance issues such as pollution, to encourage the development of urban waterways that are positive amenities within the community.

GOAL 5: Urban drainage ways become community amenities.

Policies

- A. The University will conduct education and outreach activities to appropriate target groups to increase understanding of the importance of maintaining safe and clean drainage ways, and to seek volunteers willing to be caretakers for water features near them.
- B. The University will, through the FAMA A&E Design Standards, protect existing significant open waterways and encourage site planning and landscaping that enhances the attractiveness and natural functions of the water features.
- C. The University will maintain urban drainage ways in a manner that provides for safe and attractive conditions within the limits of its fiscal constraints.

The University's NPDES MS4 Program:

University's Stormwater Management Program - Responsible Parties:

The University is responsible for implementing surface water management activities within its boundaries, including the planning, design, construction, operation, and maintenance of the stormwater drainage system. In response to the NPDES Phase II stormwater requirements, the University developed a MS4 program addressing each of the six required Minimum Control Measures specified in the Federal-NPDES Phase II rules. The implementation of the MS4 program extends throughout the University, involving multiple department divisions within the Facilities Management Department. Within Facility Management, the following Divisions are directly involved: Engineering & Construction, Facility Operations & Maintenance, and Planning & Design. In addition, contractors are also responsible parties – they are hired by the University and are inspected by University Staff.

Campus Maintenance

The University maintains all its property. All facilities on campus are maintained by the University's Facility Management Division. There is also an Environmental Health and Safety department which addresses items such as proper handling of, cleanup, and disposal of items such as chemicals. On-campus maintenance maintains the University's grounds with mowing, tree trimming, storm drainage removal of debris, sediments, and other items that may hinder conveyance of stormwater. Stormwater infrastructure within the City of Fayetteville's Right-of-Way (ROW) is the responsibility of Fayetteville; likewise, stormwater infrastructure within the Department of Transportation (ARDOT)'s ROW is the responsibility of ARDOT. The University of Arkansas is responsible for maintaining streets owned by the University. The University utilizes a sweep sweeper for sweeping streets owned by them and they are responsible for maintenance activities such as inlet cleanout on their streets.

New Development on Campus

New development is held to a high standard of following best management practices to prevent stormwater pollution. A fact that aids in decreasing runoff pollution is that, due to fewer students being on campus in the summer months, much development occurs in those summer months when sediment-carrying rain events are typically fewer than in the cooler seasons. Contractors are held to strict BMP guidelines. There are multiple manuals and, if the University feels that a more stringent BMP should be followed than what is employed, since the University is the contractor's employer, they can typically require stricter compliance.

ADEQ-required Municipal Separate Storm Sewer System (MS4) Plan Elements:

The Federal rules and, therefore, ADEQ's permit requirements, direct that the University's MS4 program address six minimum areas termed "Minimum Control Measures" described in detail later in this document:

Minimum Control Measures:

1. **Public Education and Outreach on Stormwater Impacts** (3.2.1 - 3.2.1.4 of the NPDES Permit ARR040000)
2. **Public Involvement/Participation** (3.2.2 of the NPDES Permit ARR040000)
3. **Illicit Discharge Detection and Elimination** (3.2.3 of the NPDES Permit ARR040000)
4. **Construction Site Stormwater Runoff Control** (3.2.4 of the NPDES Permit ARR040000)
5. **Post-Construction Stormwater Management for New Development and Redevelopment** (3.2.5 of the NPDES Permit ARR040000)
6. **Pollution Prevention/Good Housekeeping in Municipal Operations** (3.2.6 of the NPDES Permit ARR040000)

For each of these six minimum control measures, this SWMP includes the following information:

- The Best Management Practices (BMPs) that the permittee or another entity will or already implements for each of the stormwater Minimum Control Measures;
- The measurable goals (Benchmarks) for each of the BMPs including, as the University has authority to implement and as appropriate: the months and years in which the permittee will undertake required actions, including interim milestones and the frequency of the action, in order to satisfy the Permit's performance standards;
- The person or persons responsible for implementing or coordinating the BMPs for the University's MS4 program. There shall be a Table of Organization including a primary point of contact and identification of how implementation of the SWMP across the University's various positions, agencies, and departments will occur. Needed contact information and position title for each entity shall be listed.
- Rationale for how and why each of the BMPs and measurable goals for the permittee's stormwater management program was selected. The MS4 program is required to be developed and implemented within five (5) years of initially being granted Small MS4 general permit coverage. Since the University initially had coverage under a previous version of this permit, the University has revised the MS4 program and this SWMP where needed to satisfy the 2019-2024 NPDES Permit ARR040000.
- Reevaluation of BMPs will occur if the University discharges into impaired waters, waters with an approved TMDL where it has been determined that the University contributes to said impairment, or waters designated as an Extraordinary Resource Water (ERW), Ecologically Sensitive Waterbody (ESW), Natural and Scenic Waterway (NSW). The enhanced BMPs shall be specifically addressed within the SWMP. *See below:*

Stormwater Best Management Practices (BMPs):

The term "Stormwater Best Management Practices (BMPs)" is a *catch-all* term for approaches to managing stormwater that reduce negative impacts of runoff on the receiving streams. While the term has become widely used by regulatory agencies and throughout the stormwater management industry, it does **not** imply that each BMP is necessarily the "Best" at achieving a particular stormwater management objective. BMPs are alternatives to practices that reduce the water quality and flow management

functions and benefits of the open drainage system such as piping, filling or hardening open drainage ways. BMPs include, but are not limited to:

- physical structures or created natural features such as wetlands or ponds that improve water quality and/or attenuate flow;
- maintenance or construction practices that prevent erosion, control sedimentation, and reduce pollution entering runoff;
- educational strategies that inform the public, contractors, business/industry, etc. on stormwater pollution prevention;
- regulations and enforcement programs that protect water quality;
- protection of open drainage ways for stormwater treatment and conveyance and maintaining adjacent (riparian) buffers to provide natural stormwater filtration, cooling and long-term channel stability and other stormwater management functions; and the avoidance of piping, filling, or deteriorating the condition of open drainage ways.

Organization Chart

In order to view the most up-to-date information regarding people in charge of the MS4 program, please view, online, the Table of Organization at: <http://fama.uark.edu/organization-chart.php>.

Also part of this organization chart is the University of Arkansas' Cooperative Extension Service which provides the educational aspect of the MS4 program.

NPDES Phase II BMP Requirements:

Specific BMPs, proposed for each Minimum Control Measure, are intended to support the reduction of pollutant discharges in stormwater runoff to the *maximum extent practicable (MEP)* as required by the Federal-NPDES Phase II rules. The tables to follow provide a summary of the selected BMPs and the associated implementation schedule. A summary sheet is provided for each Minimum Control Measure, which includes a list of the selected BMPs, the rationale for their development and selection, and a summary of the measurable goals and implementation schedule.

On the following pages, the five-year BMP development/implementation schedule specifies when certain activities will be completed on a fiscal year basis. The NPDES Phase II rules provide for a five-year implementation schedule starting August 01, 2019 and terminating July 31, 2024.

Minimum Control Measure #1: Public Education and Outreach on Stormwater Impacts

Decision Process

The NWA Stormwater Compliance Group meets to discuss stormwater pollution prevention and provide input on education activities. The NWA Stormwater Education Steering committee (public membership comprised of diverse backgrounds/interests) convenes at least once each year to review and evaluate program accomplishments and plan next steps. Both groups provide the localized input used to identify critical stormwater pollutants, education needs, target audiences, program methods, and public relations strategies.

Public Education/Outreach BMPs

Develop and distribute educational materials

Input from both the MS4 Stormwater Compliance Group and Education Steering Committee guides the emphases of electronic and printed educational materials. Once topics are identified, materials will be developed, adapted, and/or gathered for distribution at public meetings, in support of presentations, and with educational displays. Examples may include fact sheets, videos, social media content, website content, newsletters, press releases, and PSAs.

Measurable Goals:

Mechanism types and numbers of educational materials will be documented.

Develop 5 educational materials across the permit term.

Attendance of MS4 Stormwater Compliance Group and Education Steering Committee meetings will be documented.

Conduct stormwater education activities

Educational presentations will be given to illustrate stormwater dynamics, identify potential pollutants and pathways, describe techniques to reduce stormwater pollution and encourage voluntary BMP implementation according to the annual topic/audience emphases outlined in the following table.

Measurable Goal:

Stormwater education programs will be conducted and documented.

Responsible Party

The Northwest Arkansas Regional Planning Commission and the University of Arkansas Cooperative Extension Service have contracted with the municipality to be responsible for the development and implementation of the public education efforts. A copy of that agreement is included in this plan.

Performance Standard:

Urban stormwater outreach/education programs will reach at least 50% of the urbanized area population.

**Minimum Control Measure #1:
Public Education & Outreach on Stormwater Impacts
5 Year Implementation Schedule**

2020	2021	2022	2023	2024
<i>Topic Emphases:</i> Storm drain awareness/dumping	<i>Topic Emphasis:</i> Litter	<i>Topic Emphasis:</i> Sediment control	<i>Topic Emphasis:</i> Yard waste	<i>Topic Emphasis:</i> Automotive maintenance and Household Hazardous Waste (HHW)
<i>Target Audience:</i> General public	<i>Target Audience:</i> General public	<i>Target Audience:</i> Land development community	<i>Target Audience:</i> General public and green industry	<i>Target Audience:</i> General public and vehicle owners
<i>Rationale:</i> Pollutants entering the storm drain system degrade water quality	<i>Rationale:</i> Improper handling and disposal of litter can allow it to enter the storm drain system and degrade water quality	<i>Rationale:</i> Sediment leaving construction sites can enter the storm drain system and degrade water quality	<i>Rationale:</i> Improper yard waste disposal can clog drainage ways and excess fertilizer and pesticide applications can enter the storm drain system and	<i>Rationale:</i> Improper vehicle maintenance and HHW disposal can allow pollutants to enter the storm drain system and degrade water quality

Minimum Control Measure #2: Public Involvement/Participation

Decision Process

The NWA Stormwater Compliance Group meets to discuss stormwater pollution prevention and provide input on education activities. The NWA Stormwater Education Steering committee (public membership comprised of diverse backgrounds/interests) convenes at least once each year to review and evaluate program accomplishments and plan next steps. Both groups provide the localized input used to identify critical stormwater pollutants, education needs, target audiences, program methods, and public relations strategies.

Target Audience

The audience for public involvement programs and activities will be the general public and may include businesses, trade associations, environmental groups, homeowners, and civic organizations.

Public Involvement/Participation BMPs

Engage Residents in Public Participation/Involvement Activities

Input from both the MS4 Stormwater Compliance Group and Education Steering Committee guides the emphases of educational materials, educational programs, and public involvement efforts. Residents will participate in public involvement activities. Examples may include stormwater compliance meetings, stormwater steering meetings, clean ups, etc.

Measurable Goal:

Public participation activities will be documented.

Responsible Party

The Northwest Arkansas Regional Planning Commission and the University of Arkansas Cooperative Extension Service have contracted with the municipality to be responsible for the development and implementation of the public involvement efforts. A copy of that agreement is included in this plan.

Performance Standard

At least 5 public participation and involvement activities will be coordinated over the permit term.

Minimum Control Measure #3: Illicit Discharge Detection and Elimination

SWMP Permit Requirements: The permittee must:

1. *...develop, implement and enforce a program to detect and eliminate illicit discharges...into the small MS4; 3.2.3.1*
2. *...develop a storm sewer system map, showing the location of all surface waters of the State that receive discharges from those outfalls..(including catch basins, pipes, ditches and public and private stormwater facilities)...3.2.3.2*
3. *...effectively prohibit, through ordinance or other regulatory mechanism, illicit discharges into the storm sewer system and implement appropriate enforcement procedures and actions;(3.2.3.3); ...develop and implement a plan to detect and eliminate non-storm water discharges, including illegal dumping...(3.2.3.4);*
4. *...inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste; 3.2.3.5*
5. *...address...non-stormwater discharges or flows (i.e. illicit discharges)...only if the MS4 identifies them as significant contributors of pollutants to the small MS4: uncontaminated water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)), uncontaminated pumped ground water, discharges from potable water sources, uncontaminated foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, uncontaminated footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, uncontaminated street wash water, and discharges or flows from emergency fire fighting activities, and splash pads. 3.2.3.6*
6. *...develop a list of other similar occasional incidental non-storm water discharges (e.g. non-commercial or charity car washes, etc.) that will not be addressed as illicit discharges. These non-storm water discharges must not be reasonably expected...to be significant sources of pollutants to the MS4, because of either the nature of the discharges or conditions the MS4 have established for allowing these discharges to the permittee's MS4 (e.g., a charity car wash with appropriate controls on frequency, proximity to waters such as impaired waters, waters with an applicable TMDL, ERWs, ESWs, or NSWs, BMPs on the wash water, etc.). The MS4 must document in the SWMP any local controls or conditions placed on the discharges. The MS4 must include a provision prohibiting any individual non-storm water discharge...determined to be contributing substantial amounts of pollutants to the permittee's MS4. 3.2.3.7*
7. *...document the decision process for the development of a stormwater illicit discharge detection and elimination program. ...the rational statement shall address the overall illicit discharge detection and elimination program and the individual BMPs, measurable goals, and responsible persons for the program...and shall include the following information, at a minimum: 3.2.3.8.*
 - a. *...how the MS4 will develop a storm sewer system map showing ...location of all outfalls and the names and location of all receiving waters. Describe the sources of information used for the storm sewer system maps and the plan to verify the outfall locations with field surveys. If already completed, describe how the map was developed. Also, describe how the storm sewer system map will be regularly updated. 3.2.3.8.1*
 - b. *The mechanism (ordinance or other regulatory mechanism) the MS4 will use to...prohibit illicit discharges...and why the MS4 chose that mechanism. ...Include a copy of the relevant sections with the program.; 3.2.3.8.2*

- c. *The plan (through enforcement procedures and actions) that will ensure that the illicit discharge ordinance is implemented. 3.2.3.8.3*
- d. *The plan to detect and address illicit discharges...shall address the following...procedures for...3.2.3.8.4*
 - i. *... locating priority areas...with higher likelihood of illicit connections... or ambient sampling to locate impacted reaches. 3.2.3.8.4.1*
 - ii. *...tracing the source of an illicit discharge, including the specific techniques that will be used to detect the location of the source. 3.2.3.8.4.2*
 - iii. *...removing the source of the illicit discharge; and 3.2.3.8.4.3*
 - iv. *...for program evaluation and assessment. 3.2.3.8.4.4*
- e. *how the MS4 plans to inform public employees, businesses, and the general public of hazards associated with illegal discharge and the improper disposal of waste. Include in the description how this plan will coordinate with the public education minimum measure and the pollution prevention/good housekeeping minimum measure programs; 3.2.3.8.5*
- f. *...who is responsible for overall management and implementation of...this Minimum Control Measure #3. 3.2.3.8.6*
- g. *...How the MS4 will evaluate the success of this minimum measure, including how the MS4 selected the measurable goals for each of the BMPs. 3.2.3.8.7*

The University has chosen to follow the below five Illicit Discharge, Detection, and Elimination (IDDE) BMPs to address the above SWMP permit requirements:

- IDDE1 – Illicit Discharge Reporting and Tracking Regulating Documents
- IDDE2 -- Storm Sewer Inventory and Mapping
- IDDE3 – Illicit Discharges Response and Enforcement
- IDDE4 – University-wide Illicit Discharge Detection and Elimination
- IDDE5 -- Non-Stormwater Discharge Assessment

Decision Process

The University selected the above BMPs to aid them in developing tools and processes for discovering and eliminating illicit stormwater discharges. Permit requirements **4 & 7e** are addressed through the University of Arkansas' Cooperative Extension Service's public education portion of this SWMP permit.

IDDE1 sets illicit discharge reporting and tracking regulating documents and meets permit requirements **1 & 3**). The University utilizes the following regulating documents for their ability to track, regulate, and enforce illicit discharge regulations (**IDDE1, 7b & 7c**): illicit discharge and outfall inspection forms, MS4 map, Illicit Discharge Detection and Elimination Policy document https://enhs.uark.edu/resources/documents/forms/update-UA_illicit-discharge-policy.pdf, and Stormwater Pollution Prevention, Grading, and Erosion Control BMP Manual (revision date of April 2014) <https://fama.uark.edu/resources/documents/ae-guide/div-01-general-requirements.pdf>.

The University's Illicit Discharge Detection & Elimination Policy explains the expectations and enforcement abilities the University has of contractors. Once notification of a violation is made, based on the severity of the violation, a notice detailing the MS4 issue and a timeline for corrective actions are provided to the violator. The Environmental, Health and Safety staff in Facilities Management is responsible for non-construction related violation documentation and response. If the violation is caused by a contractor and action is not taken in the required time period, the violation is taken to the contractor's superior. If resolution within the allotted time period is not met, payment is withheld until appropriate action has been taken to remedy the violation. If the contractor still does not clean up the

spill, the University will clean up the spill and invoice the violator for said work. The University has the ability to terminate business with a contractor if they do not comply with the Illicit Discharge Policy (**2b, 2f**).

The University uses their detailed outfall map of the campus' ditches, outfalls, detention ponds, springs, culverts, storm pipes, roads, and waterbodies for inspections. They also maintain and update the map when changes are needed (addressed in **IDDE2, IDDE4, & 2**). The stormwater conveyance map was created from online aerial imagery, .dwg files from past development plans, from old plan sets, and from field observations. Names of waterbodies come from google earth's Water .kmz file data and, if needed, historical surveys or local knowledge. Outfalls will be inspected at least once every five years. The inspector is to report any inaccuracies to the mapper for corrections (**2 & 7a**).

IDDE3 (utilizing/addressing permit requirements **1, 3, & 5**) involves utilizing the University's above Policy documents for a response and enforcement framework guide to illicit discharges, including any non-stormwater discharges or flows determined to be significant contributors of pollutants (**5**). **IDDE3 & 4** involve University Staff utilizing their MS4 map and their illicit discharge reporting forms and system to detect and eliminate sources of illicit discharge. University Staff responds to illicit discharge reports/discoveries and they follow up with required measures for elimination of illicit discharges (**7e II**). When allowable *non-stormwater* illicit discharges are discovered, Staff will keep a record and a list of the allowable discharges (**IDDE5**) (**6**). Dry-weather screening for non-stormwater flows will occur in order to detect and address illicit discharge to the MS4 system (**IDDE4**). Tracking of illicit discharges shall utilize public and employee complaints and the stormwater map; from the known source of the contamination, the inspector shall track the illicit discharge up-flow to locate the source. (**7d 1-II**). Once the source of the illicit discharge has been discovered, the University's regulating documents will be utilized as well as the University's position of being able to withhold pay in order to require remediation of the situation (**7d III**). The success of this Minimum Measure will be determined by whether illicit discharges are remediated as required by the University (**7g**).

Each of the Measurable goals were selected in order to coincide with the rows of the Annual Report and with the NPDES Permit No. AR040000's regulations for each minimum control measure (**7e III**). If the University encounters problems locating illicit discharges and/or enforcing illicit discharge elimination, they will reevaluate the program elements (**7d iv**).

Measurable Goals

IDDE1 - Illicit Discharge Reporting and Tracking Regulating Documents

Measurable Goals:

- Follow:
 - Illicit Discharge Detection & Elimination Policy
https://enhs.uark.edu/resources/documents/forms/update-UA_illicit-discharge-policy.pdf
 - Stormwater Pollution Prevention, Grading, and Erosion Control Best Management Practices Manual (revision date of April 2014)
<https://fama.uark.edu/resources/documents/ae-guide/div-01-general-requirements.pdf>,
- Create a tracking mechanism for documents and files
- Create standard forms

IDDE2 - Storm Sewer Inventory and Mapping

Measurable Goals:

- Add new outfalls, stormwater pipes, ponds, ditches, and springs to the map when discovered.
- Add new .dwg linework to the Stormwater Map when new development or changes in ditches, outfalls, or storm pipe occur.

IDDE3 – Illicit Discharges Response and Enforcement

Measurable Goals:

- Staff to report to the Engineering & Construction (E&C) Division any concerns observed while completing their daily responsibilities
- Eliminate sources of non-allowed MS4 pollution
- Complaints phoned in shall be directed to the E&A department and all complaints documented, and a file created for investigation and resolution.
 - Track number of complaints received and investigated
- Continue to track number of enforcement actions taken
- Utilize the Illicit Discharge Detection & Elimination Policy for enforcement actions:
https://enhs.uark.edu/resources/documents/forms/update-UA_illicit-discharge-policy.pdf
- Follow the response and enforcement procedures described under the above Minimum Control Measure #3: Illicit Discharge Detection and Elimination.

IDDE4 – University-wide Illicit Discharge Detection and Elimination

Measurable Goals:

Detection

- Inspect outfalls and record inspection data, resulting in 100% of the outfalls being inspected by the termination of this SWMP's permitted span.
- Continue to update storm sewer outfall map as needed.
- Staff to report any concerns observed while completing their daily responsibilities.

Elimination

- Follow enforcement procedures developed for illicit discharges (see Illicit Discharge Detection & Elimination Policy https://enhs.uark.edu/resources/documents/forms/update-UA_illicit-discharge-policy.pdf)

- Educate University Staff and area businesses about illicit discharges (*carried out by the University of Arkansas' Cooperative Extension Service's public education programs and through University Staff notifying University renters about illicit discharges*).
- Track number of outfalls dry-weather screened.
- Track number of dry-weather flows identified.
- Investigations to include notification to responsible party and creation of a plan of resolution.
- Reported severe incidents to the appropriate State or Federal agency.

IDDE5 - Non-Stormwater Discharge Assessment

Measurable Goals:

Assess non-stormwater discharges, once identified

- Record allowable and potentially significant non-stormwater illicit discharges.
- Determine if discharges are detrimental to storm water system
- If any exist, identify any non-stormwater illicit discharges.

Responsible Parties

Facilities Management Department and its various divisions:

- Engineering & Construction (E&C)
- Facility Operations & Maintenance (O&M)
- The Environmental, Health and Safety Staff in Facilities Management (responsible for non-construction related violation documentation and response)

Performance Standard

The successful implementation of a non-stormwater discharge assessment process includes complete mapping of the storm sewer system, utilization of standard forms and procedures, and the ability to track progress of events such as screenings, inspections, and enforcement in order to determine where non-stormwater discharges exist.

**Minimum Control Measure #3:
 Illicit Discharge Detection & Elimination (IDDE)
 5 Year Implementation Schedule of Measurable Goals**

BMP#	PERMIT YEAR				
	2020	2021	2022	2023	2024
IDDE1	Illicit Discharge Reporting and Tracking Regulating Documents				
	Create standard forms and procedures	Create a tracking mechanism for documents and files so the Facility Management departments acquire needed information regarding MS4.	Utilize tracking mechanisms and forms	Utilize tracking mechanisms and forms	Utilize tracking mechanisms and forms. Update the regulating documents if needed.
	Continue utilizing tracking forms and documenting complaints.	Continue utilizing tracking forms and documenting complaints.	Continue utilizing tracking forms and documenting complaints.	Continue utilizing tracking forms and documenting complaints.	Continue utilizing tracking forms and documenting complaints.
IDDE2	Storm Sewer Inventory and Mapping				
	Add new and changed MS4 items to map as needed/discovered.				
IDDE3	Illicit Discharge Response and Enforcement				
	Continue to eliminate sources of non-allowed MS4 pollution				
	Continue to track number of complaints received and investigated Continue to track number of enforcement actions taken				
IDDE4	University-wide Illicit Discharge Detection and Elimination				
	Continue to inspect outfalls and record inspection data, resulting in 100% of the outfalls being inspected by the termination of this SWMP's permitted span.				
	Continue to update storm sewer outfall map as needed. Report IDDE concerns through proper channels for remediation.				
IDDE5	Non-Stormwater Discharge Assessment				
	If any exist, identify any non-stormwater illicit discharges.				

Minimum Control Measure #4: Construction Site Stormwater Runoff Control

Permit Requirements: The permittee must:

1. *...develop, implement, and enforce a program to reduce pollutants in any stormwater runoff to the permittee's small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of pollutants in stormwater discharges from construction activity disturbing less than one acre shall be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. If the Department waives requirements for stormwater discharges associated with small construction from a specific site(s), the permittee is not required to enforce the program to reduce pollutant discharges from such site(s). The program shall include the development and implementation of, at a minimum:*
 - a. *Enforce the University's existing regulating documents to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State or local law; 3.2.4.1.1*
 - b. *Requirements for construction site operators to implement appropriate erosion and sediment control BMPs; 3.2.4.1.2*
 - c. *Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality; 3.2.4.1.3*
 - d. *Procedures for site plan review which incorporate consideration of potential water quality impacts; 3.2.4.1.4*
 - e. *Procedures for receipt and consideration of information submitted by the public; and 3.2.4.1.5*
 - f. *Procedures for site inspection and enforcement of control measures. 3.2.4.1.6*
2. *Decision Process...document the decision process for the development of a construction site stormwater control program. The rationale statement shall address both the overall construction site stormwater control program and the individual BMPs, measurable goals, and responsible persons for the program. The rationale statement shall include the following information, at a minimum: 3.2.4.2*
 - a. *...(ordinance or other regulatory mechanism)...used to require erosion and sediment controls at construction sites and why the MS4 chose that mechanism...If the ordinance or regulatory mechanism is already developed, include a copy of the relevant sections with the SWMP description. 3.2.4.2.1*
 - b. *...plan to ensure compliance with the erosion and sediment control regulatory mechanism, including the sanctions and enforcement mechanisms that will be used to ensure compliance. Describe the procedures for when certain sanctions will be used... 3.2.4.2.2*
 - c. *The requirements for construction site operators to implement appropriate erosion and sediment control BMPs and control waste at construction sites that may cause adverse impacts to water quality. 3.2.4.2.3*
 - d. *...procedures for site plan review, including the review of pre-construction site plans, which incorporate consideration of potential water quality impacts. Describe ...procedures and...rationale for how certain sites will be identified for site plan review, if not all plans are reviewed. Describe the estimated number of percentage of sites that will have pre-construction site plans reviewed; 3.2.4.2.4*
 - e. *...procedures for receipt and consideration of information submitted by the public. Consider coordinating this requirement with the public education program; 3.2.4.2.5*

- f. ...procedures for site inspection and enforcement of control measures, including how sites are prioritized for inspections; 3.2.4.2.6
 - g. ...who is responsible for overall management and implementation of the construction site stormwater control program and, if different, who is responsible for each of the BMPs identified with this program, and 3.2.4.2.8
 - h. Describe how the MS4 will evaluate the success of this minimum measure, including how the measurable goals were selected for each of the BMPs. 3.2.4.2.8
3. Performance Standards. The construction site stormwater control program shall include pre-construction site plan reviews (reviews of construction site Stormwater Pollution Prevention Plans) of 100 percent of projects from construction activities that result in a land disturbance of greater than or equal to one acre. These applicable sites shall be inspected at least on a monthly basis to ensure compliance. 3.2.4.3

The University has chosen to follow the below three Construction Storm Water (CSW) BMPs to address the above SWMP permit requirements:

Construction Storm Water measures (CSW):

CSW1 – Stormwater Drainage Ordinance Regulations

CSW2 – Reduction of runoff pollutants

CSW3 – Address complaints

CSW4 – Site Plan Review

CSW5 – Site Inspections

CSW6 -- Enforcement

Decision Process

The above chosen six BMPs act to address construction site stormwater runoff control requirements. The University utilizes their Stormwater Pollution Prevention, Grading, and Erosion Control Best Management Practices Manual (revision date of April 2014) <https://fama.uark.edu/resources/documents/ae-guide/div-01-general-requirements.pdf> and their Illicit Discharge Detection & Elimination Policy document https://enhs.uark.edu/resources/documents/forms/update-UA_illicit-discharge-policy.pdf to guide contractors in expected construction site stormwater runoff control methods, outcomes, and enforcement abilities (**CSW1 and 1, 1b, & 1c**). These documents are provided by the University to guide contractors and to provide a policy for the University to follow for regulating discharges by contractors (**CSW2**).

Responsible persons for the program are University staff and contractors working on University property. The Engineering & Construction (E&C) department is responsible for site plan review and site inspections (**2g**). The existing regulations provide guides for Staff to utilize in enforcing the BMPs applicable on construction sites; this addresses all above **CSW** measures & **1a-1f, 2a, 2c**. Complaints will be received by the E&C department or by the Operations & Maintenance department and remediation will either be enforced or be taken care off by University staff (**CSW3, 2c, & 2e**). Enforcement abilities are explained in the Illicit Discharge Detection & Elimination Policy document https://enhs.uark.edu/resources/documents/forms/update-UA_illicit-discharge-policy.pdf. Violations are reported to the Facilities Management call center. Non-construction site violations are reported to EH&S while construction site violations are reported to the Engineering and Construction Department. The Engineering and Construction Department will then be notified and the Construction Coordinator/Supervisor will respond. An IDDE inspection form or a Construction Inspection form may be utilized as needed.

Pre-Construction Site plans are reviewed by the E&C department (**CSW4**) for compliance with the University's regulating Policy documents (links given above) (**2b, 2d, & 3f**). Sites of 1 acre or more are required to undergo site plan review (**CSW4, 2d, & 3**). Any plans not in compliance are required to be brought into compliance before the plans will be approved for construction.

Construction site inspections occur at least once a month; multiple inspections within a month may occur on sites (**CSW5 & 2**). If illicit discharges are discovered on a site, compliance with the BMP manual is required (**2b**). Once notification of a violation is made, based on the severity of the violation, a notice detailing the MS4 issue and a timeline for corrective actions are provided to the violator. If action is not taken in the required time period, the violation is taken to the superiors of the violator. If resolution within the allotted time period is not met, payment is withheld until appropriate action has been taken to remedy the violation (**2b, 2f**). In addition, the University has the ability to terminate business with a contractor if they do not comply with the Illicit Discharge Policy.

Success of this BMP will be determined by the number of sites requiring BMP changes to their site plans, by the number of enforcement actions required, and/or by the rate of compliance (**CSW4, CSW5, CSW6 & 2h**).

An important aspect of this minimum control measure is employee education which is handled by the University of Arkansas' Cooperative Extension Service (**2e**).

Measurable Goals

CSW1 Stormwater Drainage Ordinance Regulations

Measurable Goals:

- Continue to follow the requirements put forth by the existing regulating documents for construction site runoff control:
 - Stormwater Pollution Prevention, Grading, and Erosion Control Best Management Practices Manual (revision date of April 2014)
<https://fama.uark.edu/resources/documents/ae-guide/div-01-general-requirements.pdf>
 - Illicit Discharge Detection & Elimination Policy document
https://enhs.uark.edu/resources/documents/forms/update-UA_illicit-discharge-policy.pdf
- Update the regulating documents if found to be needed.

CSW2 Reduction of Runoff Pollutants

Measurable Goals:

- Staff to review all applicable projects of 1 acre and larger, including projects less than 1 acre that are part of a larger common plan of development, before construction, for BMP compliance.
- Erosion and sediment controls are to be shown on the erosion control plans as well as measures to control waste. Such waste includes discarded building materials, concrete truck washouts, chemicals, litter, and sanitary waste.

CSW3 Address Complaints

Measurable Goals:

- Develop and utilize complaint form
- Record number of complaints received
- Work to get resolution of complaints

CSW 4 Site Plan Review

Measurable Goals:

- Staff to review all applicable project plans of 1 acre and larger before construction, for BMP compliance. Staff to review smaller sites if determined by Staff to be needed.
- Erosion and sediment controls are to be shown on the erosion control plans as well as measures to control waste. Such waste includes discarded building materials, concrete truck washouts, chemicals, litter, and sanitary waste.
- Continue to track number of applicable sites in the MS4 jurisdiction requiring pre-construction plan review.

CSW5 Site Inspections

Measurable Goals:

- A Preconstruction Meeting shall be held to discuss maintenance of BMPs during construction. Track projects requiring Preconstruction Meetings.
- Continue to inspect all applicable sites for compliance with regulating documents once a month or more often if needed.
- Record site inspections.
- Record number of violation communications issued.

CSW6 Enforcement

Measurable Goals:

- Continue enforcement communications and subsequent inspection letters; continue tracking both. Any reports of non-compliance of BMPs on any construction site are to be dealt with in a timely manner.
- Continue to track enforcement communications and subsequent inspection letters.
- Follow the University's enforcement actions as detailed in the above Decision Process.
- If problems getting BMP enforcement are encountered, consider updating the University's regulating policy documents to provide further enforcement actions.

Responsible Parties

Responsible persons for the program are University staff and contractors working on University property. The Engineering & Construction (E&C) department is responsible for site plan review and site inspections. The Environmental, Health and Safety Staff in Facilities Management is responsible for non-construction related violation documentation and response.

Performance Standard

The performance of this BMP can be determined by how well the BMP requirements are followed for projects and by the enforcement actions of University staff.

**Minimum Control Measure #4:
Construction Site Runoff Control
5 Year Implementation Schedule of Measurable Goals**

BMP#	PERMIT YEAR				
	2020	2021	2022	2023	2024
CSW1	Stormwater Drainage Ordinance Regulations				
	Continue to follow the requirements put forth by the existing regulating policy documents for erosion and construction site runoff control.				
	Update the regulating documents if found to be needed.				
CSW2	Reduction of runoff pollutants				
	Staff to continue reviewing all applicable projects of 1 acre and larger for BMP compliance.				
CSW3	Address complaints				
	Develop and utilize a complaint form.				
	Record number of complaints received, and the process followed to remedy the complaints.				
	Continue working to get resolution of complaints.				
CSW4	Site Plan Review				
	Staff to review all applicable project plans of 1 acre and larger before construction, for BMP compliance. Staff to review smaller sites if determined by Staff to be needed.				
	Erosion and sediment controls are to be shown on the erosion control plans as well as measures to control waste. Such waste includes discarded building materials, concrete truck washouts, chemicals, litter, and sanitary waste.				
	Continue to track number of applicable sites in the MS4 jurisdiction requiring pre-construction plan review.				
CSW5	Site Inspections				
	Continue to conduct Preconstruction Meetings to discuss maintenance of BMPs during construction. Track projects requiring Preconstruction Meetings.				
	Continue to inspect all applicable sites for compliance once a month or more often if needed.				
	Record site inspections and number of violation communications issued.				
CSW6	Enforcement				
	Continue enforcement communications and subsequent inspection letters and tracking of both. Any reports of non-compliance of BMPs on any construction site are to be dealt with in a timely manner.				
	If problems getting BMP enforcement are encountered, consider updating the regulating policy documents to provide further enforcement actions.				

Minimum Control Measure #5: Post-Construction Stormwater Management in New Development and Redevelopment

Permit Requirements: The permittee shall:

1. *...develop, implement, and enforce a program to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or scale, that discharge into a small MS4. The program shall ensure that controls are in place that will prevent or minimize water quality impacts.* 3.2.5.1
2. *...develop and implement strategies which include a combination of structural and/or non-structural BMPs appropriate for the community.* 3.2.5.2
3. *...use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State or local law...*3.2.5.3
4. *The permittee shall ensure adequate long-term operation and maintenance of BMPs.* 3.2.5.4
5. Decision process...*document the decision process for the development of a post-construction SWMP. The rationale statement shall address both the overall post-construction SWMP and the individual BMPs, measurable goals, and responsible persons for the program. The rationale statement shall include the following information, at a minimum:* 3.2.5.5
 - a. *Develop...a program to address stormwater runoff from new development and redevelopment projects. Include in this description any specific priority areas for this program.* 3.2.5.5.1
 - b. *How the program will be specifically tailored for a local community, minimize water quality impacts, and attempt to maintain pre-development runoff conditions;* 3.2.5.5.2
 - c. *Provide information regarding Any non-structural BMPs in the program (i.e. TMDLs, minimization of impervious surfaces, etc).* 3.2.5.5.3
 - d. *Provide information regarding...Any structural BMPs in the program (i.e. stormwater storage practices such as wet ponds and extended-detention outlet structures, infiltration practices, etc.).* 3.2.5.5.4
 - e. *Provide information regarding the mechanisms (ordinance or other regulatory mechanisms) used to address post-construction runoff from new developments and redevelopment and why they were chosen. If a mechanism needs to be developed, then describe a plan and a schedule to do so.* 3.2.5.5.6
 - f. *How the permittee will ensure the long-term operation and maintenance (O&M) of the selected BMPs.* 3.2.5.5.6
 - g. *Who is responsible for overall management and implementation of the post-construction SWMP and, if different, who is responsible for each of the BMPs identified for this program; and* 3.2.5.5.7
 - h. *How the MS4 will evaluate the success of this minimum measure, including how the MS4 selected the measurable goals for each of the BMPs.*
6. Low Impact Development. *ADEQ recommends that MS4s evaluate their existing codes and planning procedures to remove impediments to low impact development and green infrastructure. The Department also encourages municipalities to evaluate proposed development using green infrastructure for waivers from local requirements in their community planning process. The operator must include information on efforts to identify and remove impediments to LID in the post-construction program element of the Annual Report covering the 4th year of this renewal permit term.* 3.2.5.8

The University has chosen to follow the below six Development Standards (DS) BMPs to address the above SWMP permit requirements:

Development Standards (DS):

DS1 -- University Policies and BMP Manual

DS2 -- Post Construction Requirements

DS3 -- Site Plan Review

DS4 -- Site Inspection Procedures

DS5 -- Enforcement Procedures

DS6 -- Long-Term O&M Plans/Agreements

Decision Process

Regulations for post-construction site runoff on sites one acre or larger are already in place (**DS1**) through the Stormwater Pollution Prevention, Grading, and Erosion Control Best Management Practices Manual (revision date of April 2014) https://fama.uark.edu/_resources/documents/ae-guide/div-01-general-requirements.pdf. Also, the University's Stormwater Management Landscape Manual dictates guidelines for designers of campus projects: https://fama.uark.edu/_resources/documents/ae-guide/campus_landscape_manual_stormwater_management.pdf. In these regulating policy documents, strategies covering a combination of structural and non-structural BMP requirements are provided (**DS1 & 2**). The Landscape Manual also identifies sensitive areas such as stream and watershed priority areas.

Long-term operation and maintenance of BMPs is ensured through an entire department being tasked with this job – Facility Operations & Maintenance (O&M) which, being its own department, has long-term operations and managements plans and agreements with the University (**DS6 & 4**).

Encourage Low Impact Development (LID) methods (**DS2, 3, 5c, 5d**). The University has regulating policy documents requiring development to address post-construction runoff from new development and redevelopment in order to prevent off-site illicit discharges (**5e**). Their Design and Construction Guide Planning Policy requires new campus buildings and full-building renovations with a construction cost greater than \$1 million to meet Silver Leadership in Energy and Environmental Design (LEED) rating for new construction and major renovations OR to meet the Two Globes Green Globes equivalent rating standards. Projects with a construction cost less than \$1 million are required to incorporate sustainable design principles to the fullest extent possible. These specifications are stipulated in the University's Facility Management's Planning Guidelines http://planning.uark.edu/campus_planning/content/guide%20-%20part%202.pdf (a part of the University's Design and Construction Guide for Buildings and Landscapes http://planning.uark.edu/campus_planning/design_construction/index.html). This Planning Document also specifies the minimization of impervious paving, use of pervious paving or re-charge beds, and the utilization of swales.

Post-Construction BMP methods are reviewed during Site Plan Review and Site Inspections for compliance (**DS1-DS4, 5a**). The Stormwater Pollution, Prevention, Grading, & Erosion Control BMP Manual's long-term operation and maintenance of post-construction BMPs is insured by the University's Facility Operations & Maintenance Department (O&M) (**DS5, DS6, & 5f**). The success of the program will be measured by the ability to enforce post-construction BMP requirements (**DS5 & 5h**).

Measurable Goals

DS1 University Policies and BMP Manual

Measurable Goals:

- Utilize the existing regulating policy documents to guide the methods used on construction sites for erosion and sediment control on sites 1 acre or larger in size, including projects less than 1 acre that are part of a larger common plan of development:
 - Stormwater Pollution Prevention, Grading, and Erosion Control Best Management Practices Manual (revision date of April 2014) https://fama.uark.edu/_resources/documents/ae-guide/div-01-general-requirements.pdf
 - University's Stormwater Management Landscape Manual dictates guidelines for designers of campus projects: https://fama.uark.edu/_resources/documents/ae-guide/campus_landscape_manual_stormwater_managment.pdf
 - University's Design and Construction Guide for Buildings and Landscapes http://planning.uark.edu/campus_planning/design_construction/index.html If needed, revise regulating documents to provide additional post-construction runoff regulations.
- Remove impediments to LID where possible.

DS2 Post Construction Requirements

Measurable Goals:

- Encourage LID elements in site design.
- When needed, enforce structural BMPs for post construction runoff.

DS3 Site Plan Review

Measurable Goals:

- Review site plans for post-construction BMPs to ensure adequate stormwater controls are employed.

DS4 Site Inspection Procedures

Measurable Goals:

- During a site's final inspection, ensure that any constructed post-construction BMPs are installed adequately

DS5 Site Enforcement Procedures

Measurable Goals:

- Continue to enforce the University's BMP requirements during both site plan review and during site inspections.

DS6 Long-Term O&M Plans/Agreements

Measurable Goals:

- Continue to have the University's O&M department maintain post-construction BMPs.

Responsible Parties

The University's Engineering & Construction division reviews construction plans and coordinates site plan review, grading and drainage review, and final walk-through inspections. The University's O&M division maintains the campus grounds. Both divisions maintain the integrity of post-construction BMPs. Individual contractors are responsible for their individual sites.

Performance Standard

The performance of this BMP can be determined by how well the University is able to enforce post-construction requirements.

**Minimum Control Measure #5:
Post-Construction Storm Water Management in New Development and Redevelopment
5 Year Implementation Schedule of Measurable Goals**

BMP#	PERMIT YEAR				
	2020	2021	2022	2023	2024
DS1	University Policies and BMP Manual				
	Utilize the existing regulating policy documents to guide the methods used on construction sites for erosion and sediment control on sites 1 acre or larger in size, including projects less than 1 acre that are part of a larger common plan of development.				
	If needed, revise regulating documents to provide additional post-construction runoff regulations. Remove impediments to LID where possible.				
DS2	Post Construction Requirements				
	Encourage LID elements in site design. When needed, enforce structural BMPs for post construction runoff				
DS3	Site Plan Review				
	Continue to review site plans for post-construction BMPs to ensure adequate stormwater controls are employed.				
DS4	Site Inspection Procedures				
	During a site's final inspection, ensure that any constructed post-construction BMPs are installed adequately				
DS5	Enforcement Procedures				
	Continue to enforce the University's BMP requirements during both site plan review & during site inspections. Record every site inspection and record the number of violation letters issued.				
DS6	Long-Term O&M Plans/Agreements				
	Continue to have the University's Grounds Maintenance department maintain post-construction BMPs.				

Minimum Control Measure #6: Pollution Prevention/Good Housekeeping for municipal Operations

Permit Requirements: The permittee must:

1. *...develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations. 3.2.6.1*
2. *Using training materials that are available from EPA, ADEQ, other organizations, or developed in-house, the program shall include employee training to prevent and reduce stormwater pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and stormwater system maintenance; and
...shall include a list of industrial facilities owned or operated by the MS4 that are subject to ADEQ's Industrial Stormwater General Permit or individual NPDES permits for discharges of stormwater associated with industrial activity that ultimately discharge to the MS4. 3.2.6.2*
3. *Decision Process. ...shall document the decision process for the development of a pollution prevention/good housekeeping program for municipal operations. The rationale statement shall address both the overall pollution prevention/good housekeeping program and the individual BMPs, measurable goals, and responsible persons for the program. The rationale statement shall include the following information, a minimum: 3.2.6.3*
 - a. *The operation and maintenance program to prevent or reduce pollutant runoff from the municipal operations. The program shall specifically list the municipal operations that are impacted by this operation and maintenance program; 3.2.6.3.1*
 - b. *Any government employee training program that will be used to prevent and reduce stormwater pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and stormwater system maintenance. Describe any existing, available materials planned for use. Describe how this training program will be coordinated with the outreach programs developed for the public information minimum measure and the illicit discharge minimum measure; 3.2.6.3.2*
 - c. *The program description shall specifically address the following areas: 3.2.6.3.3*
 - I. *Maintenance activities, maintenance schedules, and long-term inspection procedures for controls to reduce floatables and other pollutants to the MS4; 3.2.6.3.3.1*
 - II. *Controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, waste transfer stations, fleet or maintenance shops with outdoor storage areas, and salt/sand storage locations and snow disposal areas the permittee operates; 3.2.6.3.3.2*
 - III. *Procedures for the proper disposal of waste removed from the MS4 and the municipal operations, including dredge spoil, accumulated sediments, floatables, and other debris; and 3.2.6.3.3.3*
 - IV. *Procedures to ensure that new flood management projects are assessed for impacts on water quality and existing projects are assessed for incorporation of additional water quality protection devices or practices. 3.2.6.3.3.4*
 - d. *Who is responsible for overall management and implementation of the pollution prevention/good housekeeping program and, if different, who is responsible for each of the BMPs identified for this program; and 3.2.6.3.4*
 - e. *How will the MS4 evaluate the success of this minimum measure, including how the MS4 selected the measurable goals for each of the BMPs. 3.2.6.3.5*
4. **Performance Standards.** *The pollution prevention/good housekeeping program shall include, at a minimum, an annual employee training for all eligible employees. An eligible employee is a new or*

veteran employee whose day-to-day work activities have the potential to impact stormwater quality. MS4s shall evaluate all current municipal-owned facilities to ensure that industrial general stormwater permit coverage (ARRO00000), if needed, is obtained. This evaluation shall be included in the first annual report. Annual inspections for all municipal facilities not requiring industrial stormwater permit coverage are required for municipal facilities performing maintenance activities on mechanical equipment, facilities with fueling stations, facilities involved in waste storage, transfer or recycling, facilities with material stockpiles, and facilities storing fertilizers or pesticides. The operation and maintenance program shall include appropriate procedures, controls, maintenance schedules and recordkeeping to address Part 3.2.6.3.3. of this permit. 3.2.6.4

Decision Process

The University has a contract with Northwest Arkansas Regional Planning and the University of Arkansas Cooperative Extension Service to offer training at least once a year on reducing contamination to the MS4; applicable University employees attend these training services (**3b**). In addition, periodic meetings are held by the Cooperative Extension Service to discuss MS4 related matters with the University and other MS4s in the area (**3b**). This service provides the needed training per permit requirements **1, 2, 3**, and per **OM1**.

The University will create a list of industrial facilities owned or operated by the University (**2**). Each non-industrial facility required to be inspected annually for MS4 compliance will be inspected and a facility inspection form completed (**OM2, 3a, & 4**). The overall pollution prevention/good housekeeping program is composed of individual BMPs, measurable goals, and responsible persons at the University's various facilities (**OM1**).

An Operations & Management Manual will be developed to address routine maintenance activities and practices involving road salt, pesticides, herbicides, and fertilizer usages (**OM4**). This manual will also address controls for reducing or eliminating discharges of pollutants from streets, roads, highways, parking lots, maintenance and storage yards, waste transfer stations, fleet or maintenance shops with outdoor storage areas, and salt/sand storage locations and snow disposal areas (**OM3, OM4, OM5, & 3c II**). Procedures guiding proper disposal of waste removed from the University campus will be included in this manual (**3c III**). Said procedures aim to prevent or reduce pollutants contained in urban stormwater runoff.

New projects are required to follow existing policy for reducing impacts on water quality (**3c IV d**). Success of this BMP will be determined by methods successfully implemented to reduce applied pollutants such as road salt (**3c IV e**).

The University has chosen to follow the below five Pollution Prevention/Good Housekeeping for Municipal Operations standards to address the above SWMP permit requirements:

Operation and Maintenance (**OM**):

OM1 -- Operation and Maintenance Program

OM2 -- Facility Inspections

OM3 -- Maintenance Program

OM4 -- Road Salt, Pesticide, Herbicide, and Fertilizer Usage

OM5 -- Street Sweeping

OM1 Operation and maintenance program

Measurable Goals:

- As part of the contract with Northwest Arkansas Regional Planning and the University of Arkansas Cooperative Extension Service, Cooperative Extension service employees will provide training at least once a year to MS4s. The training will use materials provided by ExCal Visuals and others that include information on construction sites, park & open space maintenance, and fleet & building maintenance. Jurisdictional-specific policies will also be addressed during these trainings and specific system maintenance as departmentally appropriate. Training will stress how the employees are the “eyes and ears” of the University and that they should learn to recognize signs of illicit discharge and how to properly report these instances. Recommendations from the employees are also addressed during the regional stormwater compliance committee’s monthly meetings, and these recommendations help to shape the educational outreach messages.
- Attend employee training as required by the NPDES permit.

OM2 Facility Inspections

Measurable Goals:

- Create a list of any industrial facilities owned or operated by the University.
- Create a list of municipal facilities performing maintenance activities that need to be listed on the Annual Report.
 - Perform annual inspections for all municipal facilities not requiring industrial stormwater permit coverage that perform maintenance activities on mechanical equipment, facilities with fueling stations, facilities involved in waste storage, transfer or recycling, facilities with material stockpiles, and facilities storing fertilizers or pesticides. Appropriate procedures, controls, maintenance schedules and recordkeeping are required.
- Create inspection form for industrial facilities

OM3 Maintenance Program

Measurable Goals:

- Identify University entities involved in MS4 maintenance activities.
- Gather MS4 maintenance activity information and report to the O&C division for recordation.

OM4 Road Salt, Pesticide, Herbicide, and Fertilizer Usage

Measurable Goals:

- Develop an Operations & Management Manual to provide use guidelines and potential reduction of road salt, pesticide usage, herbicide usage, and fertilizer usage. This document will include written procedures for municipal operations

OM5 Street Sweeping for Stormwater Pollution Control

Measurable Goals:

- Maintain street sweeping program.
- Develop a street sweeping procedure

Responsible Departments

University departments responsible for pollution prevention/good housekeeping for municipal operations are the Facilities Management and grounds maintenance departments.

Responsible Parties

Various divisions of the Facilities Management department are responsible for the potential pollutants tracked in Minimum Control Measure #6.

**Minimum Control Measure #6:
Pollution Prevention / Good Housekeeping for Municipal Operations
5 Year Implementation Schedule of Measurable Goals**

BMP#	PERMIT YEAR				
	2020	2021	2022	2023	2024
OM1	Operation and Maintenance Program				
	Attend employee training as required by the NPDES permit				
OM2	Facility Inspections				
	Create an inspection form for facilities.		Inspect any facilities at least once a year that are determined to require inspections.		
	Create a list of facilities subject to ADEQ's annual inspection procedures.				
Create a list of any industrial facilities owned or operated by the University & a list of facilities per Permit ARR040000 that are required to be inspected.					
OM3	Maintenance Program				
	Identify University entities involved in MS4 maintenance activities.				
Gather MS4 maintenance activity information and report to the O&C division for recordation.					
OM4	Road Salt, Pesticide, Herbicide, & Fertilizer Usage				
	Develop an Operations & Management Manual to provide use guidelines and potential reduction of road salt, pesticide usage, herbicide usage, and fertilizer usage.			Utilize Operations & Management Manual	
OM5	Street Sweeping				
	Within the Operations & Management Manual, create written procedures for the City's street sweeping program.		Continue utilizing the City's street sweeping program.		