

NPDES Phase II Storm Water Management Plan

2019

JSU

“The friendliest campus in the South”



3/14/2019

5/8/2017

P:\18003\SWMP\JSU SWMP.docx



Introduction

In January of 2017, Jacksonville State University (JSU) was identified as a potential operator of a regulated small MS4 under the Phase II Storm Water Program. This document, "Storm Water Management Plan (SWMP)", is a portion of the National Pollutant Discharge Elimination System (NPDES) permit for storm water discharges from JSU, a regulated small municipal separate storm sewer system (MS4). The permit cycle runs from April 1st through March 31st. In March of 2018 an EF-3 tornado struck the JSU campus. The tornado disaster impacted approximately 60% of all buildings as well numerous other campus infrastructure. The JSU SWMP is a living document and was revised as a result of the impacts from the natural disaster.

The Storm Water Management Plan

The SWMP has been developed and designed as a guide to minimize the discharge of pollutants from JSU, a small MS4, to the maximum extent practical. The purpose of this SWMP is to protect the water quality of the Flat Tire Creek-Talasseehatchee Creek Watershed as well as other downstream water bodies, and to satisfy requirements of the Clean Water Act. The JSU SWMP includes various management practices, control techniques, engineering methods, and other provisions which will be described in detail in the body of this document.

Minimum Control Measures

There are six minimum control measures outlined in the MS4 permit requirements. These are:

1. Public education and outreach.
2. Public involvement and participation.
3. Illicit discharge detection and elimination (IDDE).
4. Construction site storm water runoff control.
5. Post-construction storm water 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 this SWMP.

I. Public Education and Outreach

A. Introduction

The office of Capital Planning & Facilities at JSU will continue to build and improve their public education, outreach and involvement program to distribute educational materials and information to the campus community. These measures will address the impact of storm water discharges to the Flat Tire Creek-Tallassee hatchee Creek Watershed and to the Coosa River. The Coosa River receiving waterway has TMDL's for primarily nutrient loading. Therefore, this SWMP indicates steps that can be taken to reduce pollutants in storm water runoff to the maximum extent practical. These efforts are also designed to encourage individuals and groups to take active steps to reduce pollutants in storm water runoff and enhance water quality.

The office of Capital Planning & Facilities at JSU has a public involvement program which creates opportunities for the campus community to get involved in activities relevant to the preservation and enhancement of water quality. Opportunities for involvement in activities that directly benefit the environment and lead to improvements in overall water quality will be developed. The office of Capital Planning & Facilities at JSU will continue to notify the campus community of opportunities to participate in activities that improve or preserve water quality. Public notice announcements in the form of flyers and advertisement of "Take Pride in Jacksonville Day" are distributed annually. Public notice announcements in the form of flyers and advertisement for the annual Arbor Day tree planting and tree give away are distributed annually. JSU also holds the recognition of "Tree Campus USA".

B. Rationale

Each Best Management Practice (BMP) within the public education, outreach and involvement measure was selected by examining BMP databases and examples, analyzing the effectiveness of previously utilized BMP's, and the evaluation of educational methodologies to achieve the desired outcome.

C. Summary

The public education, outreach and involvement measure is organized to identify how the campus community will be informed about ways to reduce storm water pollution; to identify ways the campus community can be informed regarding how to become involved in JSU's storm water management

program; to identify alternative ways to reach the target audience and to identify the audience for the specified educational programs. The target audience is JSU's campus community which includes faculty, staff, students, and visitors. Segments of this audience may be targeted based upon specific goals or regulatory requirements. The goal of the public education and outreach measure is to reach all employees and students of JSU within the life of the permitting cycle and to expose a significant segment of the visitor population to information regarding the impact of contaminated storm water discharges on local bodies of water and watersheds as well as ways to preserve and/or enhance water quality. Targeted pollutant sources include sediment from construction sites, illicit discharges of hazardous materials, litter, and nutrient loading in runoff related to grounds maintenance. Other pollutants may be added as conditions on campus change or other parameters are added. Evaluations of success of specific management practices will be determined by the goals reached for each BMP within the public education and outreach measure. Each BMP will have a measurable goal that is established by attainable goals for the BMP implementation steps and the ability of JSU, to meet stated goals.

D. BMP Summary

The office of Capital Planning & Facilities at JSU will utilize a variety of methods to educate and inform the campus community regarding storm water quality issues. Examples of these methods include printed materials for direct distribution and, electronic or printed public service advertisements. These distribution methods will provide education regarding impacts of illegal disposal of contaminants, littering, adverse impacts from construction activities, education on the importance of water quality and education of JSU and contractor personnel on sediment control on construction sites.

The office of Capital Planning & Facilities at JSU will distribute brochures, fliers, or posters for the purpose of educating the campus community on storm water quality issues and the harmful effects from illegal dumping and littering. The educational content may be edited, updated, and modified as needed to ensure that messages conveyed are in concert with the public education and outreach program. The office of Capital Planning & Facilities at JSU may provide materials for public meetings, or provide training related to storm water quality. As a method of measuring and documenting the audience reached by the printed materials, the office of Capital Planning & Facilities at JSU will include the approximate number of printed materials distributed in each annual report.

Printed public service announcements will begin running at least once a year in JSU's newspaper, the *Chanticleer* beginning with the 2019 – 2020 permit cycle. The material will focus on steps that

can be taken to reduce storm water pollution. The public service announcements will be reviewed, edited, updated, and modified to ensure relevancy to current water quality issues. The office of Capital Planning & Facilities at JSU will retain a copy of each public service announcement and will report the type and frequency of each add in each annual report beginning in the 2019-2020 permit cycle.

JSU has regularly occurring construction activity. Because of this activity it is important that there is a mechanism in place to inform the campus community on steps that can be taken to report potential construction site runoff problems. Information about how to report runoff problems will be posted in the physical plant once annually. The office of Capital Planning & Facilities at JSU will review, edit, and modify information in said report to ensure relevancy to current construction related issues. The office of Capital Planning & Facilities at JSU will provide information regarding construction activity reporting as part of each annual report beginning with the 2019-2020 permit cycle.

In order to ensure that JSU staff is informed on the most current policies and procedures related to water quality, the office of Capital Planning & Facilities at JSU will develop standard operating procedures (SOP's) to communicate principals and practices of pollution prevention and good housekeeping. The office of Capital Planning & Facilities at JSU will review, edit, modify and distribute the SOP's. The office of Capital Planning & Facilities at JSU will provide information regarding distribution of, modifications to, and additions to the SOP's as part of each annual report beginning with the 2018-2019 permit cycle.

The office of Capital Planning & Facilities at JSU will utilize a variety of BMP's to encourage public involvement from the campus community in the SWMP. The goals are to identify ways to notify individuals of opportunities to participate in activities related to the SWMP, to provide opportunities for the campus community to participate in activities leading to water quality improvement and identify activities that have relevance to the SWMP and improved water quality. Targeted participants will be selected based on permit requirements and the goal of creating opportunities for personal involvement in the SWMP and impact on water quality at the local level. The public involvement program, in conjunction with other best management practices, is expected to reach most members of JSU campus community during the life of the permit cycle. The success of public involvement BMP's will be evaluated through analysis of each BMP goal within the public involvement measure. Each BMP will have a measurable goal that is established by attainable goals for the BMP implementation steps, and the ability of JSU within the context of financial and physical resources to meet stated goals.

II. Public Involvement and Participation

1. Water Shed Clean-up, Maintenance and Inspection

To oversee the implementation of the SWMP and provide advice and consultation, The office of Capital Planning & Facilities at JSU will continue to participate and support the annual "Take Pride in Jacksonville" day. Public notices will be posted around campus or advertised through other social outlets. The office of Capital Planning & Facilities at JSU will maintain records of clean-up activities for inclusion in each annual report.

2. Storm Sewer Inspection and Marking

The storm sewer inspection and marking campaign provides a way to make a positive, hands on, impact on local water quality. The office of Capital Planning & Facilities at JSU will provide storm sewer inlet markers which state something similar to "No Dumping-Drains to Stream". To ensure continued success through the permit cycle, The office of Capital Planning & Facilities at JSU will seek to identify groups that may be interested in program participation, provide support to individuals or groups who volunteer for storm sewer marking and update procedures as needed. The goal of this activity is to identify, inspect and mark all storm inlets before 2025. The office of Capital Planning & Facilities at JSU will include information regarding the Storm Sewer Marking Campaign as part of each annual report beginning with the 2019-2020 permit cycle.

III. Illicit Discharge Detection and Elimination

A. Introduction

The Illicit Discharge Detection and Elimination (IDDE) measure consists of BMP's that focus on the detection and elimination of illicit discharges into the MS4. An illicit discharge is defined as any discharge to an MS4 that is not composed entirely of storm water except those specified in the NPDES permit and exempt non-storm water discharges.

B. Rationale

Each BMP within the IDDE measure was selected by evaluating techniques utilized by other permitted entities, analyzing the effectiveness of previously utilized BMP's, identify and consider the

economic impact of new practices, and consideration of selected BMP's applicability to permit provisions.

C. Summary

The IDDE measure is designed to identify methods for conducting and documenting dry weather screening inspections, develop methods for identifying and mitigating illegal dumping and ways of educating personnel on the proper methods for successful BMP implementation. The success of IDDE BMP's will be evaluated through analysis of each BMP goal within the IDDE measure. Each BMP will have a measurable goal that is established by attainable goals in the BMP implementation steps and the ability of JSU within the context of financial and physical resources to meet stated goals.

D. BMP Summary

The office of Capital Planning & Facilities at JSU will utilize a number of BMP's to detect and eliminate illicit discharges. Among these are development and maintenance of JSU storm water system map, dry weather screening inspections, employee training, and illegal dumping detection and reporting.

1. Storm Water System Map

JSU will initiate a storm sewer system mapping program which will detail inlets, outlets, and storm sewer piping on JSU campus with the data archived in a GIS Database. To continue this process, JSU will develop a consistent method for updating the storm sewer map. Outfalls will be identified and new data will be included as available. New outfall locations identified through this process will be included in the office of Capital Planning & Facilities at JSU annual report. A map of the JSU campus including outfall locations will be completed before the end of the 2018-2019 permit cycle.

2. Dry Weather Inspections

The office of Capital Planning & Facilities at JSU will develop and implement a dry weather screening process. Each outfall will be inspected annually starting in 2019. The office of Capital Planning & Facilities at JSU will create and conduct a training program which will target construction administration and facility personnel by using Standard Operating Procedures (SOP) before the end of 2019. Training will specifically address the identification, reporting, documentation, and mitigation of illicit discharges. The office of Capital Planning & Facilities at JSU will develop a system for tracking and reporting non-storm water discharges before the end of the 2018-2019 permit cycle.

This system shall include incident specific activities including identification, reporting, and mitigation actions. The office of Capital Planning & Facilities at JSU will document the number of outfalls screened and the number of non-storm water discharges identified and reported as part of each annual report beginning with the 2018-2019 permit cycle.

3. Employee Training

The office of Capital Planning & Facilities at JSU will conduct annual dry weather screening using the SOP's starting in 2019. The successful implementation of the dry weather screening BMP will rely on properly trained personnel. The office of Capital Planning & Facilities at JSU will develop a training program that focuses specifically on the dry weather screening process, identification, and reporting of illicit discharges. The office of Capital Planning & Facilities at JSU will report the number of personnel trained in each annual report beginning with the 2019-2020 permit cycle.

4. Illegal Dumping Detection and Reporting

One of the major goals of the SWMP is to minimize incidents of illegal dumping and maximize the ability of JSU to respond to and mitigate incidents of illegal dumping and coordinate with adjacent MS4 areas. Toward this end, The office of Capital Planning & Facilities at JSU will include illegal dumping in the dry weather screening process, implement a system to track illegal dumping occurrences discovered, include illegal dumping identification and reporting in the training for illicit discharges and dry weather screening, and include the number of illegal dumping incidents discovered in each annual report. The activities in this paragraph will commence on or before the 2020 permit cycle.

IV. Construction Site Runoff Control

A. Introduction

The construction site runoff control measure consists of BMP's that focus on the reduction of volume of runoff and the reduction of pollutants in storm water runoff that originates from construction activities involving land disturbances of one acre and greater. The pollutant of greatest concern on a construction site is sediments from land disturbance activities. Equally important pollutants that could originate from construction sites are nutrients and hydrocarbon. JSU requires that any sources of hydrocarbon pollution be removed from campus construction projects immediately upon discovery. The selected BMP's are designed to minimize erosion and the transfer of sediments from

construction sites to adjacent areas and outfalls, and minimize nutrients and hydrocarbon discharge from construction sites.

B. Rationale

Each BMP within the construction site runoff control measure was selected by analyzing techniques utilized by other permitted entities, analyzing the effectiveness of previously utilized BMP's, development of new BMP's, and consideration of selected BMP's applicability to permit provisions.

C. Summary

The construction site runoff control measure is designed to identify mechanisms which will be used for sediment and erosion controls on construction sites, to establish requirements for construction site supervisors to implement erosion and sediment control BMP's, to establish requirements for waste control on construction sites, to establish procedures for site plan reviews that consider water quality impacts, to establish procedures for site inspection, and to develop education and training for JSU personnel overseeing construction projects. All construction projects must be designed and constructed in compliance with the Alabama Handbook for Erosion Control, Sediment Control and Stormwater Management on Construction Sites and Urban Areas, latest edition as well as all applicable state and federal laws.

The success of the construction site runoff control measure BMP's will be evaluated through analysis of each BMP goal. Each BMP will have a measurable goal that is established by attainable goals for the BMP implementation steps and the ability of JSU within the context of financial and physical resources to meet stated goals.

D. BMP Summary

JSU will utilize a number of BMP's to control runoff from construction sites. Among these are construction plan review, inspection punch lists, and reporting of problems related to construction projects.

1. Education

Training will be developed and provided to JSU staff. This training will include proper site management procedures related to water quality as well as protocols for reporting discharges and

inspection results. Educational programs will be updated and modified as needed. The office of Capital Planning & Facilities at JSU will include the number of individuals trained as part of each annual report beginning in the 2019-2020 permit cycle.

2. Construction Plan Review

In order to effectively minimize occurrences of erosion and sediment transfer at construction sites the construction process must begin with the development of plans that incorporate BMP's for construction sites that are relevant to site conditions. To accomplish this JSU will create and implement plan review checklists to address conformance to storm water guidelines and the use of erosion controls; maintain records of plan reviews; and report the number of plans reviewed, modified, approved or rejected under the plan review program as part of each annual report beginning in the 2019-2020 permit cycle.

3. Construction Site Inspections

JSU will develop standardized procedures for conducting construction site inspections to ensure compliance with storm water management requirements. A construction site inspection form will be developed in the 2019-2020 permit cycle. JSU project supervisors will utilize appropriate inspection procedures and forms to ensure compliance with storm water guidelines. JSU will require contractors to take immediate corrective actions when conditions are discovered that are not in compliance with construction site storm water guidelines. JSU will maintain records of inspections and corrective actions and report the number of each inspection in each annual report beginning with the 2019-2020 permit cycle.

4. Construction Site Problem Reporting

In or before the 2025 permit cycle, JSU will provide a mechanism for the campus community to report storm water and water quality concerns related to construction projects. To this end JSU will develop a system for reporting stormwater concerns related to construction sites. Methods of reporting information will be reviewed and modified as necessary. Those sites reported by the campus community will be investigated. Records regarding the number of public reports received and responded to shall be maintained and included in each annual report beginning in the 2021-2022 permit cycle.

V. Post Construction Site Runoff

A. Introduction

The post construction storm water runoff measure consists of a post construction inspection to assure that structural BMP's that are designed to minimize water quality impact and storm water volume from new and redevelopment meets the designed intent once construction activities are complete. BMP's selected are inspected to ensure that appropriate construction methods were conducted and pre-construction conditions were taken into consideration during the design, construction, and post-construction phases. Post construction inspections are required to be performed on all structural BMP's including stormwater retention/detention BMP's, and infiltration BMP's (basins/trenches, dry wells and porous pavement).

B. Rationale

The post construction site runoff BMT measure was selected by analyzing techniques utilized by other permitted entities and past professional experiences.

C. BMP Summary (Quality)

The post construction site runoff measures will be used to identify procedures that will be used to address post construction runoff quality from new and redevelopment projects. Standard Operation Procedures for long term inspections and maintenance of post-construction BMP's will be developed in or before 2020. The success of the post construction site runoff BMP will be evaluated by the number of SOP's and inspections completed each year. A listing of the number of SOP's completed each year will be included in the annual reports beginning in or before the 2025-2026 permit cycle.

D. BMP Summary (Volume)

JSU will utilize SOP's and post construction inspection forms to inspect structural BMP's constructed to control the water quantity of construction site runoff. These BMP's will consider maintenance and protection of downstream infrastructure, as well as sensitive and/or impaired water bodies, to ensure coordination with their storm water runoff efforts. The locations of post construction volumetric BMP's requiring annual inspection will be included on the JSU stormwater mapping beginning in the 2020-2021 permit cycle. A copy of each post construction BMP inspection will be included in each annual report beginning in the 2020-2021 permit cycle.

1. Plan Review

In order to mitigate post construction site runoff issues, construction plans will be reviewed to determine if post construction runoff from new and/or redevelopment will adversely affect water quantity and quality. If negative impacts are anticipated to occur, the plans, procedures, or methods will be designed or modified to ensure compliance with the SWMP.

2. Protection of Sensitive Waters

To facilitate the effective review of post construction BMP's to be implemented on new and/or redevelopment projects, a review of the potential impact to sensitive or impaired water bodies on the latest ADEM publications of the 303(d) list or with approved TMDL's will be conducted during the plan review process for all new and/or redevelopment projects on JSU campus. To ensure an accurate review, JSU's consultants will examine the most current listing of impaired waters to determine if any could be potentially affected.

3. Local Interaction

JSU will continue to interact with the storm water personnel from the City of Jacksonville, and ALDOT, both being adjacent permitted MS4's. The purpose of this interaction is to make them aware of JSU's efforts and to coordinate storm water quantity and quality issues.

VI. Pollution Prevention and Good Housekeeping

A. Introduction

The Pollution Prevention and Good Housekeeping measure is made up of BMP's that focus on the reduction of pollutants in the storm water runoff that originates from JSU operation and maintenance activities. The operations and maintenance activities include vehicle and equipment maintenance, materials handling and storage, and facility operations. The BMP's selected will focus on the prevention of circumstances that have the potential to create polluted runoff. To this effect, SOP's will be created, starting in the 2018-2019 permit cycle to describe the efforts that will be taken to preserve water quality during operation and maintenance activities.

B. Rationale

Each BMP within the pollution prevention and good housekeeping measure was selected by analyzing techniques utilized by other permitted entities, considering the effect of selected BMP's applicability to permit provisions and creation of specific SOP's applicable to JSU.

C. Summary

The pollution prevention and good housekeeping measure is designed to identify procedures for transportation system maintenance, develop procedures for vehicle and equipment maintenance, review storage and handling of hazardous materials and develop employee training on proper good housekeeping and pollution prevention standard operating procedures (SOP's). The success of the pollution prevention and good housekeeping will be evaluated by including the number of SOP's distributed, created and/or modified for any given permit year starting in or before the 2020-2021 permit cycle.

D. BMP Summary

JSU will utilize a number of BMP's which are designed to minimize pollution related to operations and maintenance. Among these are street operations and management, litter control, herbicide application, vehicle maintenance, hazardous material management, and employee training.

1. Roadway Maintenance

Routine street and parking lot maintenance has significant potential to contribute to pollution runoff. In order to minimize potential impact from street and parking lot maintenance, JSU will continue to evaluate activities to determine if modifications to current activities would reduce the negative impact to storm water quality from the activity. JSU will seek to identify alternative procedures or materials that would reduce the potential of maintenance activities to contribute to polluted runoff. Specifications and/or SOP's will be created, and/or revised according to identified alternative practices. JSU will maintain records of road maintenance activities, alternative practices, and include this information as a part of each annual report starting with the 2020-2021 permit cycle.

2. Litter Collection

JSU will continue to promote anti-litter on campus. SOP's will be developed and utilized in an effort to reduce the discharge of litter into water bodies. JSU will periodically evaluate the location of litter and trash receptacles, collect litter on an established schedule, and adjust locations of receptacles and collection schedules as necessary. JSU will include information regarding litter collection on campus as part of each annual report starting with the 2020-2021 permit cycle.

3. Herbicide Application

The use of herbicides is a very effective tool on controlling the growth of unwanted vegetation. Improper or indiscriminate use can have potentially harmful effects on water quality. To ensure that herbicide application does not contribute to negative water quality. JSU will review all areas where herbicides are used and utilize alternatives where possible. JSU will ensure compliance with herbicide application regulations by designating that only licensed individuals may use herbicides and/or pesticides. Any changes in the number of staff personnel trained to apply herbicide and/or pesticide will be included as part of each annual report starting with the 2020-2021 permit cycle.

4. Vehicle Maintenance

JSU owns and operates a variety of vehicles and equipment used in the operation and maintenance of the facilities and services on campus. These vehicles range from passenger cars, trucks, and vans to heavy equipment all of which require regular maintenance. Properly maintained vehicles have a lesser potential to contribute to water quality impairment than improperly maintained vehicles. To ensure that vehicles do not adversely contribute to water quality, JSU will create a SOP for vehicle and equipment maintenance. JSU has a third party who inspects and maintains their vehicles. The applicable SOP's pertaining to this activity will be provided to all parties who conduct routine maintenance of vehicles and examples of maintenance records shall be available for review as a portion of each annual report starting with the 2020-2021 permit cycle.

5. Employee Training

The office of Capital Planning & Facilities at JSU will prepare training SOP's that focuses on pollution prevention and good housekeeping measures and IDDE. The office of Capital Planning & Facilities at JSU will identify JSU personnel who will be required to attend training on the applicable SOP's and will maintain records related to this training. Training information including the number of employees on the applicable SOP's shall be part of each annual report beginning with the 2018-2019 permit cycle.

VII. Enforcement

JSU will utilize a variety of enforcement strategies depending upon the nature of the incident and the individuals involved. Enforcement could include monetary penalties, civil action, institutional restrictions, police response, and other actions. Students involved in activities requiring enforcement may face academic actions including enrollment suspension up to expulsion. Faculty and staff are

subject to supervisory discipline including possible termination. Contractors are subject to financial penalties, termination of contracts and cancellation of work on campus. Any individuals exercising willful violation of storm water management guidelines may be subject to police involvement and civil actions. The number of enforcements will be included in each annual report beginning in the 2025-2026 permit cycle.

P:\18003\SWMP\JSU SWMP.docx