

JAMES MADISON UNIVERSITY.

MS4 Program Plan

Annual Report 2025-26



James Madison University - Harrisonburg, Virginia
Annual Report Period: July 1, 2025 - June 30, 2026

Submitted to satisfy the terms of the General VPDES Permit for Discharges of Stormwater from
Small Municipal Separate Storm Sewer Systems (MS4)

Registration Number: VAR040112

Updated: October 2026

Cover picture: Floating treatment wetlands on the pond at the Edith J. Carrier Arboretum
(JMU/Chelsea Thomas).

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**Stormwater
Management**

jmu.edu/stormwater



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Entry ladder into an underground detention facility
(JMU/Chelsea Thomas).



A pair of Double-Crested Cormorants perched on the Newman Lake Dam spillway structure (JMU/Ali Sloop).

CERTIFICATION STATEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I further certify that after an evaluation of the program plan, and associated MCM's, the plan has been determined to be effective and no plan changes are necessary.

ALISON 'ALI' SLOOP

STORMWATER COORDINATOR

SEPTEMBER 30, 2026

MS4 PROGRAM PLAN - SUMMARY



Bioretention facility during a rain event (JMU/Ali Sloop).



E.J.C. Arboretum stream restoration during a storm event (JMU/Ali Sloop).

James Madison University's Municipal Separate Storm Sewer System (MS4) program plan is implemented in order to have coverage under the state's MS4 permit and allow discharges from our storm system into local water bodies. This annual report details how we implemented the program over the last fiscal year. The six minimum control measures that are part of the University's program plan are the following:

- MCM 1 - Public Education & Outreach
- MCM 2 - Public Involvement & Participation
- MCM 3 - Illicit Discharge Detection & Elimination
- MCM 4 - Construction Stormwater Management
- MCM 5 - Post-Construction Stormwater Management
- MCM 6 - Pollution Prevention & Good Housekeeping

CHANGES & UPDATES TO THE PROGRAM PLAN

DEQ performed an audit on the University's MS4 program in July 2025. The program plan was updated in August 2025 in response to recommendations from the audit's report. These updates will be summarized in this section. The updated MS4 program plan is available on our [website](http://www.jmu.edu/stormwater) (www.jmu.edu/stormwater). Public comments on the University's MS4 Program Plan are accepted at any time by emailing stormwater@jmu.edu or calling the Stormwater Coordinator at 540-568-3174.

MS4 PROGRAM PLAN - CHANGES & UPDATES



Virginia State Big Tree Champion Chinkapin Oak (*Quercus muehlenbergii*) along the South Fork of the Shenandoah River (JMU/Ali Sloop).

CHANGES & UPDATES TO THE PROGRAM PLAN

The first update was in reference to Minimum Control Measure 2 - Public Involvement and Participation (MCM 2). Information detailing the standard operating procedures (SOPs) for how the University responds to comments received and how those comments are maintained were added. These procedures are in the *JMU Stormwater Program Guide* (an internal document that can be viewed upon request) and the guide is referenced in the University MS4 Program Plan in the MCM 2 section.

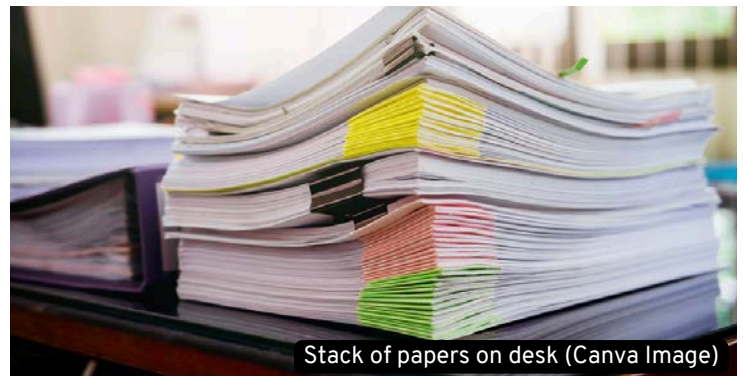
The next update to the program plan was in the MCM 4 (Construction Stormwater Management) section to describe additional details on the procedures for enforcement within the University's construction program that have been added to the *JMU Stormwater Program Guide*.

Another update that was made to the program plan involved adding the title of the Standard Operating Procedures (SOPs) and policies used to carry out permit requirements and the location and availability of each document referenced within each MCM section of the plan. The section on MCM 1 (Public Education and Outreach) did not have updated contact information (email link and phone number) and did not link to JMU's stormwater education and

outreach webpage. This information was added to the program plan.

Dry weather screening protocol and field survey details have been added to the MCM 3 (illicit Discharge and Detection Elimination/IDDE) section and the *JMU Stormwater Program Guide* is referenced in this section of the program plan as the full procedures for the IDDE program are available within that SOP.

The written training plan included as part of the Stormwater Pollution Prevention/IDDE Presentation and guidebook is now referenced in the body of the MCM 6 section in the plan. The updated JMU MS4 Program Plan is viewable at JMU's stormwater MS4 [website](http://jmu.edu/stormwater) (jmu.edu/stormwater).



Stack of papers on desk (Canva Image)

MCM 1: PUBLIC EDUCATION AND OUTREACH



Meaningful watershed education experience 4th grade field trip at the E.J.C. Arboretum (JMU/Ali Sloop).

To best identify the most efficient use of resources to distribute information related to stormwater impacts to the public, three main issues have been identified for focus: (1) public awareness of pollution prevention and reporting of water quality issues, (2) litter prevention at outdoor athletic events, and (3) bacteria from animal wastes and sanitary sewer overflows. These three issues have been selected as they target campus audiences that are most likely to have significant impacts on stormwater quality within the University.

Possible strategies of increasing public knowledge include printed materials (newspaper advertisements, brochures, flyers, etc.), signage, websites, social media, training (seminars, presentations, guidance booklets), and other activities deemed appropriate. As with most targeted audiences, there will be some overlap in promotion.

Several strategies listed above are ongoing and always available such as JMU's website, signage, and storm drain marking. Typically, digital and print advertisements and posters are promoted during each semester of the school year, and speaking arrangements and curriculum materials are provided as requested or scheduled.

PUBLIC AWARENESS OF POLLUTION PREVENTION AND REPORTING OF WATER QUALITY ISSUES

Illicit discharges to the University's Municipal Separate Storm Sewer System or MS4 can be acutely harmful to aquatic life and pose a risk to health and safety on campus. These factors make it a critical issue of which the entire university community should be aware. The focus of this high priority issue is recognizing and reporting illicit discharges (water quality issues from pollution). While minimum control measure 3 (MCM 3) requires JMU to "promote, publicize, and facilitate public reporting of illicit discharges into or from" the MS4, the general public doesn't necessarily know how to identify or prevent such, or why. To maximize outreach effectiveness, this issue will combine education on general awareness with outreach on reporting water quality issues on campus.

Stormwater literacy and illicit discharges are general awareness issues, and thus affect everyone on campus. An illicit discharge could be noticed by anyone, at any time, necessitating broad outreach to the campus community. The target audiences for these issues include the faculty (1,405), staff (2,700), and students (23,157).

MCM 1: PUBLIC EDUCATION AND OUTREACH



Student section of the football stadium celebrating a touchdown at a football game (Photo courtesy of James Madison University).

Faculty and staff are considered long-term members of the university community, and as such, will receive outreach on this topic cumulatively over the years. Students are short-term members of the campus community but will carry these lessons with them when they move on. Together these groups are the eyes and ears of the stormwater management team and play a critical role in addressing illicit discharges on campus. In general, bulletins or ads will be placed in the printed and online Breeze (printed student newspaper distributed throughout campus) along with postings on TVs in academic building main hallways. In addition, speaking and tabling outreach engagements are provided as requested to classes and at campus events. (See table at the end of Section MCM 1 (page 9) for other strategies and activities utilized.)

LITTER PREVENTION AT OUTDOOR ATHLETIC EVENTS

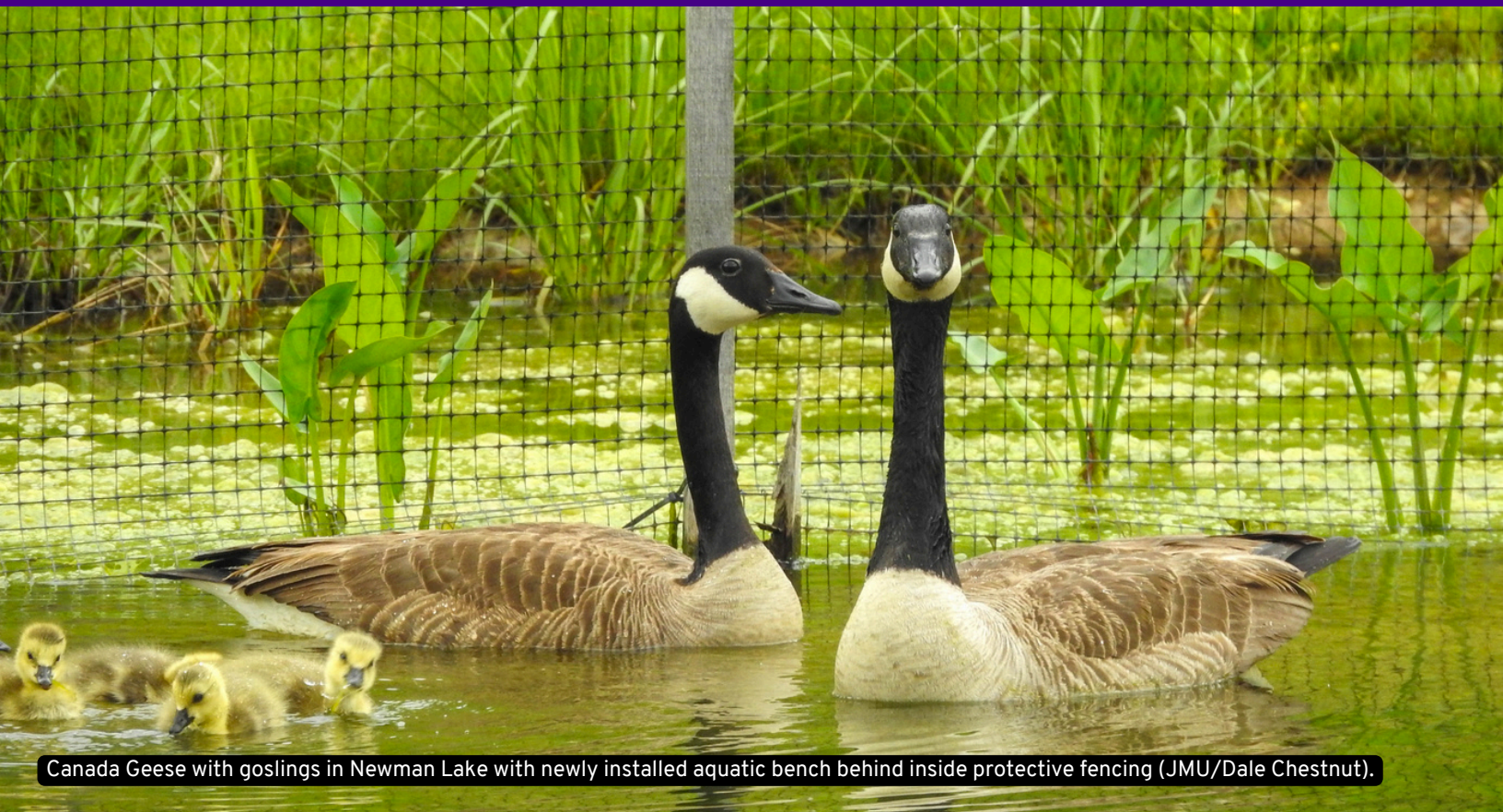
JMU welcomes many visitors, in addition to faculty, staff, and students, to events that take place on campus. While JMU hosts other outdoor events, there are none that are as numerous and regularly scheduled as athletic events.

Athletic events are more prone to create litter than normal campus activities and events. Attendees often participate in tailgating and other activities, involving eating, drinking, and vending in outdoor areas for extended periods of time and the use of disposable items is the norm. Various promotional debris related to these events can also be left behind at the facilities, in the parking lots, and on the roads. Targeting the outdoor athletic events maximizes the opportunity to prevent and reduce litter on campus.

Carried by rain and wind, litter can end up in drainage ways, storm sewers, stormwater facilities, and ultimately Sibert Creek and Blacks Run. While JMU's Landscaping and Recycling Department is tasked with cleaning up the debris created by athletic events, there is the opportunity to reduce litter before it is created. Preventing litter from entering stormwater infrastructure is a priority.

Football games account for approximately 94% of JMU's outdoor athletic event activity. The football game attendees are the most likely to create the largest amount of litter, but also provide the best potential for litter prevention, education and outreach on stormwater pollution.

MCM 1: PUBLIC EDUCATION AND OUTREACH



Canada Geese with goslings in Newman Lake with newly installed aquatic bench behind inside protective fencing (JMU/Dale Chestnut).

The average population size of the target audience is approximately 25,134 people per home football game. All other outdoor athletic events combined attract on average 300 people per event. This includes several other sports team schedules such as track, soccer, lacrosse, baseball, softball, field hockey, and tennis. The Athletics Department makes at least two public service announcements at each outdoor sporting event to promote pollution prevention, requesting spectators to be responsible and discard all wastes in the trash and recycling receptacles located throughout the sports facility. With approximately 170,644 spectators at seven home football game events, these targeted announcements were estimated to have reached more than 90% of the target audience.

BACTERIA FROM ANIMAL WASTES & SANITARY SEWER OVERFLOWS

Sanitary sewer overflows, wildlife (i.e. Canada Geese), and pet waste can contribute bacteria (E.coli) to stormwater runoff. JMU's campus welcomes many visitors in addition to faculty, staff and students, and many bring their pets for a walk on main campus grounds or at the Edith J. Carrier Arboretum.

With a lake and several wet ponds, excessive geese can be an issue with the amount of waste as each goose can leave up to 2 to 4 pounds of droppings a day. The goose population is managed using non-lethal measures such as educational signs for the public to ensure they "Don't Feed the Geese", habitat modification by planting buffers and aquatic benches, and the use of other deterrents.

To assist in repair to damaged sewer manholes, during regular inspections of MS4 outfalls JMU inspectors take a quick look at nearby sewer manholes to ensure frame and covers are adequately attached and sealed. If loose covers are observed, the owner of the utility will be notified. Sewer manholes located in floodplains or stream beds are inspected at least annually and debris removed around sewer manhole structure(s) as needed to prevent damage,

JMU continues to focus on the education of pet owners through signage and access to pet waste stations. The year-round signage will serve as a reminder to pick up after pets. Pet waste stations are available at the E.J.C. Arboretum, where pets are most often walked. Pet waste stations are checked and restocked with pet waste bags as needed.

MCM 1: PUBLIC EDUCATION AND OUTREACH

ENVIRONMENTAL COURSES

A variety of environmental courses are offered at the University that cover issues related to the impact of urban stormwater runoff on the environment, hydrology in the urban landscapes, and strategies for pollution prevention which will increase the overall awareness of stormwater management and the University's MS4 program among students.

Environmental Economics (ECON 305)

An analysis of the problems of the environment, their causes and alternative proposed methods of solution. Air and water pollution will be stressed as case studies of environmental problems. **(21 students)**

Environmental and Energy Sustainability (ISAT 100)

This course explores scientific and technical issues important to environmental and energy sustainability. Students study fundamental chemistry and physics and then apply this knowledge to better understand air quality, water quality, and conventional and alternative energy processes. The class also explores the societal impacts of our energy choices and the potential impact we as individuals can have. **(285 students)**

Issues in Environmental Science and Technology (ISAT 112)

As an outdoor lab, students perform water quality sampling of on-campus waterbodies including the Arboretum Pond, ISAT Retention Ponds, Sibert Creek, and Newman Lake. Parameters measured include phosphorus, nitrate, pH, dissolved oxygen, hardness, conductivity, and turbidity. **(224 students)**

Fundamentals of Environmental Science and Technology (ISAT 320)

Provides a basic understanding of environmental processes, pollution and control technologies. Grounded in ecology and systems thinking, ISAT 320 integrates classroom learning, field-based studies and laboratory analysis of field samples (such as water quality testing) to explore local aquatic and terrestrial environments and contextualize them in broader scientific knowledge. **(39 students)**

Industrial Environmental Management (ISAT 422)

Students learn about stormwater and wastewater, and created fictitious companies to produce compliance plans addressing stormwater management. **(6 students)**



MCM 1: PUBLIC EDUCATION AND OUTREACH



Undergraduate student, Olivia Jose, capstone project researching effects of biochar filters on water quality in a local stream (JMU/Dr. Jennifer Coffman).



Fundamentals of Environmental Science and Technology II (ISAT 321)

This class specifically covers stormwater impacts and best management practices designed to reduce those impacts. Stormwater quantity and quality were discussed with particular attention given to stormwater BMPs installed on JMU's campus. **(36 students)**

Environmental Analysis and Modeling (ISAT 420)

This course explores applications of mathematical techniques and computer models to the environmental field. The course introduces the principles underlying environmental analysis and modeling, including limitations and pitfalls. Several environmental models and analytical systems are then discussed and applied, using a variety of computational platforms. **(6 students)**

Natural Resource Management (ISAT 424)

This course focuses on how resource management decisions affect the human and natural communities involved. Topics include definition and importance of natural resources, resource management styles and policies, and planning for resource conservation. Conservation biology is introduced as a tool for developing sustainable resource use policies. **(2 students)**

Environmental Engineering (ENGR 472)

This course is for engineering and environmental science students interested in environmental engineering. Water, wastewater and air treatment are emphasized. Students must be proficient in mathematics, chemistry and thermal sciences. Quantitative relationships are derived for characterizing water quality, designing biological and physical treatment processes, and modeling environmental systems. Systems are described by mass and energy balances that relate pollutant removal efficiency to process input parameters. **(2 students)**

Hydrogeology (GEOL 460)

Basic concepts of subsurface water as a part of the hydrologic cycle. Topics include storativity and permeability in porous media, principles of flow, computer applications, groundwater exploration, and mapping and environmental aspects of groundwater. **(2 students)**

Environmental Issues (GEOG 310)

Courses cover environmental issues such as air pollution,

MCM 1: PUBLIC EDUCATION AND OUTREACH

forest and wildlife management, water, resource management, soils and land use, and energy and the environment (among other topics). Courses examine the interface between humans and environmental systems while addressing the impact of social, economic and political systems and activities on the environment. **(5 students)**

There were eleven total academic courses with 628 students enrolled in during the 2025-2026 academic year that focused on stormwater and stormwater-related topics. There are other environment related courses available in Biology, Chemistry, Earth Science, Engineering, Geographic Science, Geology, Integrated Science and Technology, and Writing, Rhetoric, and Technical Communication programs.

In addition to the courses listed above there were several capstone undergraduate projects that focused on stormwater related topics, such as the biochar filter stream project highlighted in the previous page photos and the capstone project displayed in the photos here. This capstone project involved the installation of floating treatment wetlands (FTWs) in ponds on campus to monitor any water quality changes as the plantings grow in the treatment wetland cells to see how and if the FTWs remove nutrients/pollutants from the ponds.

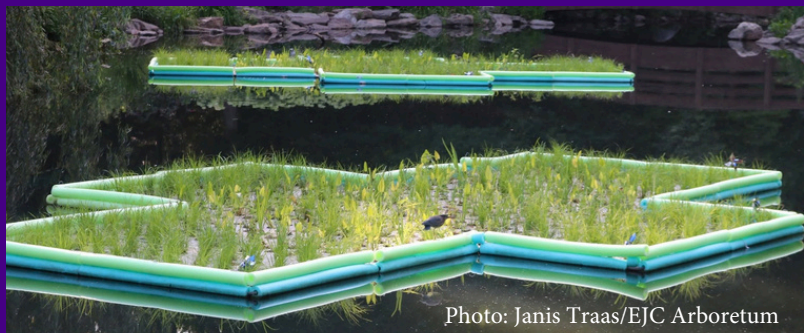


Photo: Janis Traas/EJC Arboretum

EDUCATIONAL SIGNAGE

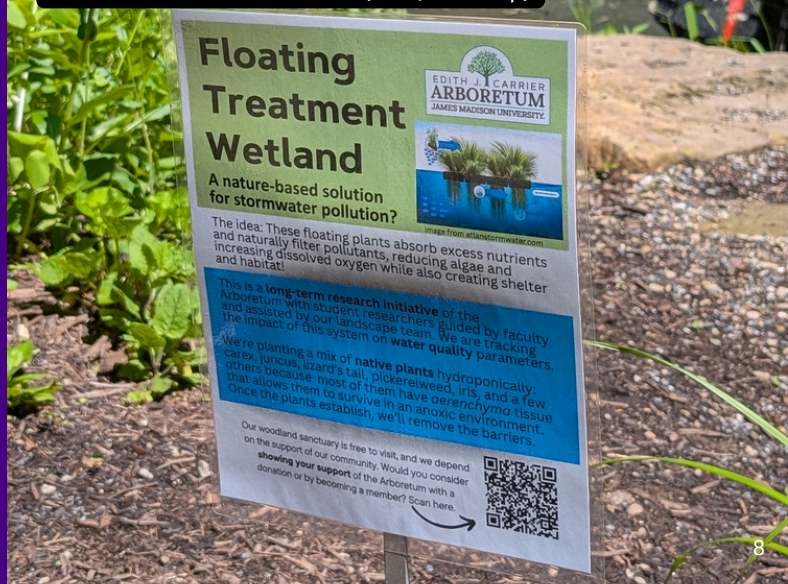
Educational signage along with storm drain marking is conducted to assist in educating the public on the purpose of stormwater best management practices and to inform that what goes in a storm drain eventually makes its way to our local waterways.

No new educational signs were installed on campus this past program year. We are still in the process of updating our riparian buffer signage and replacing these along campus streams.

Construction was completed in this program reporting year for two large capital building projects, with the anticipation of installing several new storm drain markers on the stormwater inlets in the new program year.



Undergraduate student capstone project installing floating treatment wetlands at the E.J.C. Arboretum pond and CISAT wet pond to determine nutrient reductions (JMU/Ali Sloop).



MCM 1: PUBLIC EDUCATION AND OUTREACH

E.J.C ARBORETUM IS A HUB FOR WATERSHED EDUCATION FOR THE SURROUNDING SCHOOLS

The MWEE program was implemented for the third school year focusing on watershed education through a partnership between the E.J.C Arboretum and Harrisonburg City Public Schools STEM program. The program is a learner-centered, inquiry and action framework that is used nationwide and provides educators a roadmap for teaching content in a more engaging way. This type of hands-on learning helps students to understand their impact and realize their personal power to make changes in their local community, which in turn has the potential to affect all habitats and species living downstream.

Staff at the E.J.C. Arboretum and the City's STEM Director continued their efforts to get all 4th grade students out to the arboretum to participate in this MWEE program. Students rotated through different field stations and activities where they learned about stormwater runoff, types of non-point source pollution, soil erosion, how pollution affects the watershed and the ecosystems within the watershed, and then activities they can do at their own homes to reduce stormwater runoff and pollution. JMU stormwater staff and JMU

student volunteers were partners in helping to facilitate field stations and activities. In addition to these MWEE field trips, Rockingham County Public School classes and private schools partnered with the arboretum's education staff for watershed education focused field trips at the arboretum.

In total, 548 students, 87 adults, 41 JMU students volunteers and 12 community volunteers were a part of these watershed education programs in the 2025-26 school year.



Date	Education and Outreach Event Name	Event Summary
July 2025	Resilient VA - Tour of EC Hillside	Tour during Resilient VA Conference of EC Hillside sustainability features/projects
August 2025	Dukes Make A Difference Aboretum Stormwater Tour	Hike through arboretum with new students as part of Weeks of Welcome to highlight stormwater features and the arboretum's resources for students
August 2025	Watershed Education Tour	Tour for transfer students to learn about the Arboretum and related hydrology and career paths
September 2025	Meeting with JMU STEM Director	Director met with us to incorporate local watershed and stormwater issues into K-12 STEM exercises for after school programs
September 2025	East Campus Stormwater Tour	Tour for JMU's Environmental Management Club (EMC) of notable East Campus BMPs and overview of JMU's Stormwater Programs
October 2025	QuadFest	Homecoming event on the Quad - stormwater plinko activity about pollution prevention
October 2025	4th Grade MWEE field trips	MWEE for 4th grade classes at EJC Arboretum
April 2026	EarthFest - JMU Dining	Tabled Stormwater Program Info with Pollution Prevention Plinko Board at DHall Courtyard

MCM 2: PUBLIC INVOLVEMENT AND PARTICIPATION

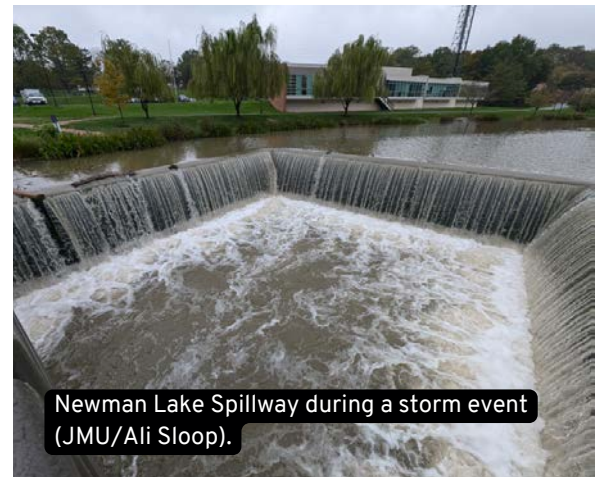


East Campus tour of solar facility and native meadow (JMU/Ali Sloop).

ENVIRONMENTAL GROUPS AND COMMITTEES

Faculty and staff participate with local organizations and environmental advisory committees such as Soil & Water Conservation Districts, stormwater advisory committees, and environmental performance standards advisory committees. JMU also maintains membership in environmental organizations such as the Virginia Municipal Stormwater Association (VAMSA) and the Central Shenandoah Planning District Regional Stormwater Network to connect and collaborate with the planning district, other municipalities, engineers, and regulatory agencies.

Organization or Committee Name	Web Link
City of Harrisonburg Environmental Performance Standards Advisory Committee	harrisonburgva.gov/epsac
City of Harrisonburg Stormwater Advisory Committee	harrisonburgva.gov/swac
Virginia Municipal Stormwater Association	vamsa.org
Shenandoah Valley Soil & Water Conservation District	svswcd.org
Dam Maintenance Committee	
Education and Awards Committee	
Finance and Personnel Committee	
Central Shenandoah Planning District Regional Stormwater Network	cspdc.org



Newman Lake Spillway during a storm event (JMU/Ali Sloop).

STORMWATER MANAGEMENT WEBSITE

Through the FM Engineering and Construction's stormwater website, which can be found at this [link](#), documents such as this annual report, the full University's MS4 Program Plan, TMDL Action Plans, stormwater related policies and procedures, and other relevant information are available for access. An email and phone number and a new online pollution reporting tool is available for the public to report anonymously potential illicit discharges, spills to the MS4, complaints regarding land disturbing activities, or other potential stormwater pollution concerns. The public may provide input on the University's MS4 program plan or TMDL action plans listed on the website at any time. No public input or comments were received regarding the MS4 program or any TMDL action plans in this reporting period.

Page Description	Page Views
Stormwater Main Page	425
MS4	251
IDDE	129
Land Disturbing Activities	287
Education & Outreach	128
Web Links	93
FAQ	93
Total	1406

MCM 2: PUBLIC INVOLVEMENT AND PARTICIPATION

STUDENT WATER QUALITY TESTING

Two sections of ISAT 320 (Fundamentals of Environmental Science and Technology I) were offered in the fall with a total of 39 students. This course included a 6-week water project that incorporated surveys of water quality, fish and macroinvertebrate communities, and physical habitat within the North River watershed. Students performed water quality sampling of tributaries within the North River watershed, including Blacks Run. Parameters measured include specific conductivity, pH, dissolved oxygen, nitrogen, phosphorus, and fecal coliform/E. coli counts. In addition, students performed biological and physical habitat assessments of macro-invertebrates and fish communities. This class increases the awareness of local water quality issues within the student body, and any

concerns observed during testing can be reported to the JMU stormwater team or the City for follow-up. This water testing is not for monitoring of stormwater discharges or control measures, but for educational purposes of basic water quality and is to be considered as a “citizen monitoring group”.

STREAM CLEAN-UP EVENTS

Newman Lake has a watershed of approximately 4 square miles and is fed by Sibert Creek, a tributary of Blacks Run. As part of JMU’s efforts to keep the campus clean, JMU staff from the FM Environmental Services Department regularly pick up trash and debris within the heart of campus and along the streams and lake.

In addition to the constant efforts on campus, JMU staff and students typically participate in Earth Day and provide a large group of volunteers to assist the City of Harrisonburg with efforts for the annual Blacks Run Clean-Up Day. This event increases awareness among students and staff of the opportunity to improve local water quality, how to identify illicit discharges, and report illicit discharges to the City or JMU for further investigation. The 26th annual Blacks Run Clean-Up Day was on April 11th and had approximately 488 volunteers that gathered three tons (6,000 lbs) of trash plus 16 tires from streams on campus and in the city.

The combination of all activities implemented to provide educational outreach through a website, educational signage, speaking engagements, clean-up events, and involvement on committees allows for many beneficial activities for improving water quality.

JMU students cleaning up a stream during Blacks Run Clean Up Day in April 2026 (JMU/Olive Santos).



JMU students participating in Blacks Run Clean Up Day in April 2026 (JMU/Olive Santos).



JMU student organization collecting trash along Sibert Creek on campus (JMU Video Adventure Club).



MCM 3: ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDDE)

MS4 MAP

JMU maintains a GIS map with a corresponding database that contains the locations and attributes of the storm sewer system, structural best management practices, and MS4 outfalls that the university is responsible for within their municipal jurisdiction. The MS4 map and corresponding database have been updated to reflect any changes to the MS4 occurring on or before June 30 of the reporting year.

There were no additional MS4 outfalls installed for this reporting period.

NOTIFICATIONS OF INTERCONNECTIONS WITH ADJACENT MS4's

James Madison University's MS4 system interconnects with the City of Harrisonburg, Rockingham County, and the Virginia Department of Transportation (VDOT). Both Harrisonburg and VDOT are MS4's and have previously been notified and are aware that our systems interconnect. JMU will continue to notify adjacent MS4's of any new interconnections established or discovered.

No new interconnections were made with adjacent MS4s, and no notifications were received from adjacent MS4s.

IDDE POLICY & PROCEDURES

The University has implemented a campus wide IDDE Policy 4310 to establish methods for controlling the introduction of pollutants into the MS4. This policy and an in house document titled, *JMU Stormwater Program Guide* (available by request), includes protocol for field screening, notification of spills and illicit discharges, tracking, enforcement, and training with the goal of eliminating unauthorized discharges.

A total of 116 inspections were conducted on the 116 outfalls within JMU's jurisdiction. All of the University's outfalls are inspected annually during dry weather per our protocol and University Policy 4310. No illicit discharges were observed during the annual outfall inspections.

JMU operates a spill response team as denoted in the university's Spill Prevention, Control, and Countermeasure (SPPC) Plan. JMU's SPCC was updated in August 2024 and is currently undergoing another revision with the addition of new USTs and ASTs and to remove references to a JMU HAZWOPER team. The JMU HAZWOPER team has been dissolved and replaced with a JMU spill response team.

The JMU spill response team's efforts are an important part of ensuring JMU's campus streams and storm system stay free of potential pollutants and illicit discharges. Spills happen and this team's efforts are integral in keeping these spills out of the University's MS4 and local waterbodies.

Eighteen pollution observations and/or spills were investigated/documentated by stormwater and FM staff. Six of these 18 revealed that an illicit discharge entered the storm sewer system or a waterbody on campus. Eleven illicit discharges were prevented by the cleanup efforts of the JMU Spill Response Team, FM staff, Bioscience staff and faculty, and Fixed Assets/Warehouse staff.

Thank you to the JMU campus community for reporting outside spills as soon as they happen to assist with quicker and easier clean ups and for reporting pollution concerns across campus.

The following page summarizes the six illicit discharges that occurred on campus in this reporting year.



Nitrate/nitrite testing strips utilized by JMU stormwater staff for initial IDDE investigations in the field (Photo: JMU/Ali Sloop).

ILLICIT DISCHARGES SUMMARY REPORT 2025-2026

	Date Discharge Observed	Description of Incident and Location	How was investigation resolved?	Any Follow-Up Activities?	Date Closed
#1	7/14/2025 9:44	Staff observed sediment laden runoff running down a curb and gutter from Potomac Hall - a regulated construction site. Sediment had washed onto sidewalks and the roadway from a storm event the previous evening. JMU FM Landscaping staff were out pressure washing the sediment off paved surfaces that had left the permitted site. Sediment laden water entered an unprotected storm drain and traveled to Newman Lake. An unknown amount of sediment laden water entered Newman Lake.	The project contractor and JMU FM Landscaping staff on site were contacted to stop current pressure washing operations and ensure dry methods of sediment cleanup and removal were being utilized and that inlets downstream of operations that are receiving sediment laden runoff had erosion and sediment control measures installed to filter the runoff from the washing. Sediment remaining on paved surfaces and outside of the construction site were removed with dry methods.	An email and phone call were placed with the Project Manager for the construction site and with FM Landscaping Manager to communicate about the illicit discharge. Info on stormwater policies, policy on the standard operating procedure for pressure washing, and the University's illicit discharge policy were provided to both parties. Documentation of dry method cleanup was provided	7/14/2025
#2	8/7/2025 12:13	Concrete washout and sediment from an unregulated steam line project by Godwin Hall was observed running off a cross parking lot. The contaminated runoff had entered a curb inlet and entered C5 Lot Bioretention observed by staff conducting an annual BMP inspection. The runoff from the construction project bypassed the erosion and sediment control (ESC) measures installed as part of that land disturbing project.	The JMU project manager and JMU power plant staff associated with the project were contacted and asked to have the contractor clean up the concrete washout and debris that entered the storm drain system and remediate the bioretention facility where sediment and concrete material and washout entered the soil media and ponding area. ESC measures on inlets that drain to the bioretention facility were asked to be maintained and reinstalled properly to prevent further illicit discharges.	The project manager for the unregulated construction site was reminded of JMU's Land Disturbing Policy and IDDE Policy and asked to share these with the contractor performing the work. The contractor completed the cleanup work and provided photos of the work and remediated bioretention facility and reinstalled ESC measures on 8/8/26.	8/8/2026
#3	8/13/2025 14:49	In the asphalt lot NW of Paul Jennings Hall, beside the trash building a Harrisonburg City Public Transit driver reported an oil spill to JMU PD. JMU PD then called JMU Work Control Center. Less than 1 gallon of hydraulic oil spilled - suspected to be from JMU trash compacting truck, vehicle #1089. The spill was not contained immediately as a rain storm occurred this same afternoon. The JMU spill response team was notified the next morning.	JMU spill response team that responded the following morning observed no signs of cleanup actions. Oil sheen spots still on spill area. A heavy rain occurred the previous afternoon that lasted several hours. Remaining oil was cleaned up using dry methods and absorbent materials. Oil was believed to have gotten into the storm drain system during the rain event the previous afternoon. Stormwater staff investigated downstream manholes and outfall from the affected inlet and did not see signs of oil from the spill.	JMU FM Recycling and Integrated Waste Management staff noted that the incident was likely caused because the oil tank was overfilled by an outside company doing repairs on the trash compacting truck. The JMU Garage was able to pump out extra fluid. JMU Recycling staff made a note to check reservoir when future repairs are done by an outside company.	8/14/2025
#4	1/29/2026 13:47	Penske Truck leaked an estimated 50 gallons of oil (diesel fuel) on sidewalk and service drive near Parking Lot A. Diesel fuel flowed across permeable pavements, asphalt roadway, and into curb and drop inlets, making its way to Sibert Creek where it empties into Newman Lake. A Penske employee reported the spill to their environmental contractor who initiated oil spill reporting requirements. The local DEQ office, NRC, and the EPA were notified. Local DEQ staff notified	Penske utilized their environmental contracts for cleanup of the diesel fuel. Snow and ice conditions and snow removal operations in the area extended the final resolution of the cleanup to JMU and DEQ's satisfaction. Multiple trips by environmental cleanup contractors occurred on campus to replace boom oil absorbent socks in affected drains and to cleanup areas affected after snow and ice melt in Sibert Creek and Newman Lake.	A full report of the cleanup effort and final water quality testing results for Sibert Creek and Newman Lake and cost of cleanup is available upon request via email to stormwater@jmu.edu or by calling 540-568-3174. The DEQ local office staff received the final report for the incident on March 12, 2026 and the case was closed.	3/12/2026
#5	3/9/2026 13:11	Dewatering operations from a regulated construction project discharged sediment laden water onto a roadway and into a storm inlet (curb cutout). JMU stormwater staff discovered the discharge upon exiting an adjacent regulated construction project. The discharge occurred on Drive Drive, from University Boulevard to just before the power plant building on the roadway.	The VESMP authority (the City of Harrisonburg) and the City project manager and project superintendent on site were contacted about the discharge from their site. The dewatering operation was stopped and the dewatering hose that was leaking and dewatering bag were moved to a grassed area in order to filter the discharge and remove the sediment laden water from the roadway.	The City project manager asked the project superintendent to clean up the sediment on the roadway using dry methods and to remove sediment that had accumulated against inlet protection and in storm inlet and replace the inlet protection. Photos of the cleanup work were provided to JMU stormwater staff on 3/9/2026.	3/9/2026
#6	3/18/2026 14:58	Discharge from a regulated construction project flowed down Driver Drive and entered curb cut from University Boulevard. No dewatering operations were occurring, groundwater was being displaced from roadway utility work and backfilling operations. The groundwater was mixed with sediment and other material and was a dark gray color with no odor. JMU stormwater staff observed the discharge upon exiting an adjacent regulated construction project.	The VESMP authority (the City of Harrisonburg) and the City project manager and project superintendent on site were contacted about the discharge from their site. They were requested to clean up utilizing dry methods the discharge/material on the roadway and at downstream ESC measures at curb inlet. And to consider installing an ESC measure along the curb to filter any further discharge from their operations before it exited their site.	The project manager asked the project superintendent to direct discharge from their operations to a filtration/ESC measure and to clean up the material on the roadway that exited their project site. Photos of the cleanup work were provided to JMU stormwater staff the following day.	3/19/2026



A regulated construction site on campus (JMU/Chelsea Thomas).

STANDARDS & SPECIFICATIONS

JMU initially received approval from the Department of Conservation and Recreation (DCR) to operate its own erosion and sediment control (ESC) program under a set of annual standards and specifications on July 6, 2009. While the responsibility of the stormwater program has been transferred from the DCR to the Department of Environmental Quality (DEQ), JMU continues to maintain approved standards and specifications as requested by the Department. Responding to amendments to regulations, stormwater management (SWM) was introduced into the standards and JMU received combined approval from DEQ for Standards and Specifications (S&S) for ESC and SWM on May 28, 2014; the University continues to implement these standards.

On April 1st, 2025 updated standards and specifications utilizing the Virginia Stormwater Management Handbook's Appendix J template were approved by DEQ with a formal letter of approval.

These standards layout the framework for the administration and implementation of projects within the University concerning erosion and sediment control, and stormwater management.

Certification requirements are listed for appropriate personnel along with the structure for plan review and approvals, construction inspections, variances and exceptions and long-term maintenance.

LAND DISTURBING ACTIVITIES POLICY

JMU is responsible for ensuring all regulated land disturbing activities have adequate documentation before construction activity begins and that construction activities follow approved plans, JMU's S&S for ESC and SWM, and regulatory requirements. The purpose of this policy is to layout the procedures for regulatory compliance concerning all regulated land-disturbing activities at the University.

The policy includes definitions of relevant terms, the individuals responsible for implementation of the policy, enforcement protocols for non-compliance issues and illicit discharges, and procedures for both non-regulated and regulated activities. The *Land Disturbing Activities Policy* was originally approved in July 2009, and is updated on an annual basis. This policy was updated in November of 2025 to incorporate comments and recommendations from the July 2025 audit of our MS4 program by the DEQ.

MCM 4: CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

REPORTING PERIOD SUMMARY

The project table shows the active construction projects throughout the reporting period along with the VESMP permit number, if applicable, and the disturbed acreage associated with the project. These projects were conducted in accordance with the current department approved standards and specifications for erosion and sediment control and stormwater management.

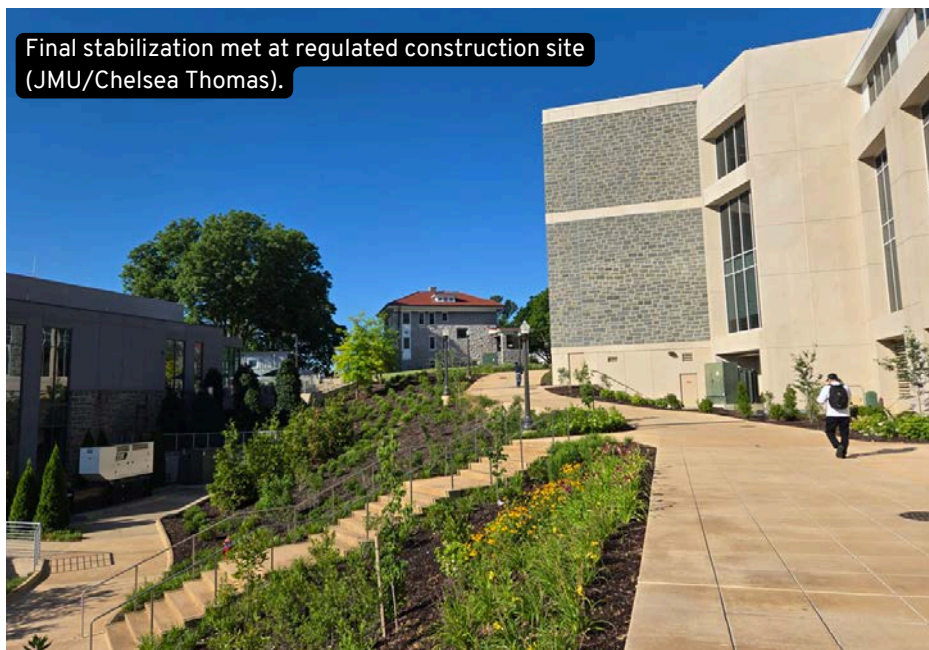
Several JMU Facilities Management staff hold the DEQ certifications due to their job duties and responsibilities either as a campus SWPPP Facility representative, heavy machinery operation for land disturbing projects, duties related to BMP maintenance or overseeing projects that require compliance with ESC and/or SWM. The table below lists these staff and their certifications.

Land Disturbing Projects in 2025-26	VESMP Permit	Disturbed Acreage
Carrier Library Expansion and Renovation	VAR10S5314	2.55
South Main Spoils Site	VAR10Q431	6.20
Village Housing - Ikenberry/Potomac Hall	VAR10S560	3.00
D1 Parking Lot - Paving	N/A	0.83
East Campus Power Plant Phase 2	VAR10V340	1.81
Total Acreage:		14.39

DEQ Certification	Employee	Certificate #	Date Expires
Responsible Land Disturber	Atkins, Clay	RLD31364	2/21/2028
Responsible Land Disturber	Dinges, Kevin	RLD34922	1/9/2029
Responsible Land Disturber	Jones, Robert (Scott)	RLD41745	4/7/2029
Dual Combined Administrator	Kauffman, Abe	DCA0330	7/11/2029
Responsible Land Disturber, Qualified Personnel	Khamphavong, John	RLD37789, QP04010	9/11/2029, 9/11/2029
Responsible Land Disturber	Lucas, Ricky	RLD34730	12/18/2028
Responsible Land Disturber	McNett, Josh	RLD05596	12/7/2028
Responsible Land Disturber	Morris, Justin	RLD05600	12/7/2028
Administrator, Responsible Land Disturber, Qualified Personnel	Naftel, Brian	DCA0517, RLD15890, QP03486	10/2/2029, 8/03/2029, 5/22/2029
Responsible Land Disturber	Puffenbarger, Patrick	RLD23542	12/6/2028
Dual Combined Administrator	Sloop, Alison	DCA0582	8/18/2028
Dual Inspector	Thomas, Chelsea	DIN2210	3/1/2028



Active construction at regulated construction site (JMU/Chelsea Thomas).



Final stabilization met at regulated construction site (JMU/Chelsea Thomas).

A total of 171 construction site inspections were conducted over the reporting period on five active projects. Alleged deficiencies observed on-site were noted in inspection reports. Five of the 171 inspections resulted in corrective actions for the contractor to address. These actions were addressed by the contractor and did not require further enforcement action. Regional DEQ VESMP staff conducted N.O.T. final inspections at two sites in the last reporting period.

Thank you to the contractors and project managers on these regulated project sites for your efforts! Copies of inspection reports are kept on file and are available upon request.

MCM 5: POST-CONSTRUCTION STORMWATER MANAGEMENT

JMU is required to operate a post-construction stormwater management program as part of permit and legislative requirements.

STORMWATER MANAGEMENT FACILITIES POLICY

Structural stormwater best management practices (BMP's) are sometimes required to be installed for the mitigation of construction projects or for pollution reduction credits related to watershed clean-up efforts such as the Chesapeake Bay Total Maximum Daily Load (TMDL) and our local Blacks Run TMDL. These BMP's must remain in place as designed and be maintained in perpetuity to function as intended.

The purpose of the policy is to establish procedures for the design, installation, acceptance, inspections, and maintenance of stormwater facilities or BMPs installed on campus. The stormwater management facilities policy was originally approved in 2009 and is updated on an annual basis. In addition to this policy, the *JMU Stormwater Program Guide* (available upon request), details the stormwater BMP procedures for inspections and maintenance.



Bioretention at Potomac Hall after first growing season (JMU/Chelsea Thomas).

For this reporting period, two new BMPs (1 Jellyfish underground stormfilter and 1 underground detention) were installed on campus as part of the Carrier Library Expansion and Renovation project. One other large capital project on campus will be adding a total of two additional BMPs (Filterrass or Tree-in-Box) in late 2026. All new BMP's installed as part of a project under a Construction General Permit have been, or will be, provided to the DEQ as part of the project and operator permit's Notice of Termination.

A total of 128 inspections were performed on JMU's 115 structural BMP's. All maintenance work completed on the structural BMP's were typical maintenance items. JMU reported electronically stormwater management facilities inspected in this reporting period using the DEQ BMP Warehouse in accordance with Part III B. 5.



Land conversion forest buffer inspection (JMU/Chelsea Thomas).



Inside a Jellyfish underground stormfilter (L) and Tree in a Box (R) during stormwater BMP inspections. (JMU/Chelsea Thomas).

MCM 6: POLLUTION PREVENTION AND GOOD HOUSEKEEPING

NUTRIENT MANAGEMENT PLANS

The University currently implements several Nutrient Management Plans (NMPs) that cover the lawn and landscaped areas of the University that receive nutrient applications. The plans outline the rates and frequencies that nutrients may be applied and covers best management practices regarding the application of these nutrients. By following this plan it can be ensured that nutrients are applied in a manner that will minimize their impact on stormwater quality. The table below lists the University's active and DCR approved nutrient management plans.

NMP Name	Acreage	Start Date	Expiration Date
JMU Main Campus NMP	218.87	5/20/2024	5/20/2027
JMU Forest Hills NMP	3.79	2/10/2025	2/11/2028

SWPPP's FOR HIGH PRIORITY FACILITIES

Several facilities at JMU meet the criteria listed in the general permit as high-priority facilities and are considered to have a high potential for discharging pollutants. These facilities are required to maintain and implement a stormwater pollution prevention plan (SWPPP) to provide a summary description of the facility and activities, description of potential pollutants and sources, procedures for reducing and preventing pollutant discharges and procedures for inspections and maintenance. There were no modifications needed for existing SWPPP locations. The following is a list of existing facilities that have been identified as high-priority facilities with a high potential for discharging pollutants:

Facility Name	Type of Facility
Arboretum Storage Yard	Erodible material storage
ECPP Landscape Building	Equipment, vehicle, fueling and material storage
Memorial Hall Maintenance Shop	Maintenance shop and storage
R2 Lot Storage Yard	Materials and salt storage
S. Main St. Facilities: HVAC	Maintenance shop and storage
S. Main St. Facilities: Recycling	Recycling and waste storage
S. Main St. Facilities: Salt & Material	Erodible material and salt storage
S. Main St. Facilities: Transportation	Vehicle storage, fueling, and maintenance
S. Main St. Facilities: K Lot Material	Material and mulch storage
UPARK Maintenance Shop	Maintenance shop
USB and USB Annex	Equipment, vehicle, fueling, maintenance, and material storage



Salt storage area SWPPP facility inspection (JMU/Ali Sloop).

Certification Type	# of Staff
Certified Fertilizer Applicators	9
Commercial Pesticide Applicators	5
Registered Technicians	25
Nutrient Management Planner	1
Licensed Trapper	1

Facilities Management staff hold and maintain certifications for pesticide and fertilizer applications. This helps to ensure that chemicals are being applied by trained staff and according to the plan and labels.



Recycling SWPPP facility inspection (JMU/Ali Sloop).

INTEGRATED PEST MANAGEMENT

The University has an Integrated Pest Management (IPM) program which seeks to control pests with a minimal use of pesticides while maximizing effectiveness and cost efficiency. The application of both fertilizers and pesticides will be conducted in accordance with the Virginia Department of Agriculture and Consumer Services (VDACS) rules and regulations and by certified employees and/or contractors that will apply fertilizer or pesticides on campus.

MCM 6: POLLUTION PREVENTION AND GOOD HOUSEKEEPING



E&S control measures along the Newman Lake shoreline (JMU/Ali Sloop).

DAILY OPERATIONAL PROCEDURES

As a MS4 permittee, JMU is responsible for preventing, or minimizing to the maximum extent practicable, any discharges to the storm sewer system, or waterways, that is not entirely composed of stormwater runoff. A “*Daily Operational Procedures for Stormwater Control Best Management Practices*” policy was created in 2015 to implement written procedures for certain activities such as (but not limited to) road, street, and parking lot maintenance; equipment maintenance; anti-icing and deicing operations, and the application, storage, transport, and disposal of pesticides, herbicides, and fertilizers. The policy and procedures are re-evaluated on an annual basis, and updates were made to the policy this reporting period to ensure compliance with a permit deadline for a new standard operating procedure for operations involving exterior improvements. These procedures are utilized as part of Facilities Management staff training and is an effective way to ensure that employees are aware of proper procedures associated with operations and the impacts on local waterways.

TRAINING PLAN

A “Stormwater Pollution Prevention/IDDE” presentation and guidebook have been developed for use with Facilities Management (FM) employee training. During new employee orientation for FM personnel, a presentation is given, introducing them to basic stormwater information, pollution prevention, good housekeeping measures, related policies and procedures, and how to recognize and report illicit discharges. Refresher trainings will be provided no less than once per 24 months through the use of a presentation, guidebook, or via in-person facilitated trainings. New FM employee training is provided with FM orientation which typically occurs on a monthly basis. Through new employee orientations, 81 new employees received initial training about stormwater management and pollution prevention for this reporting period. Every two years a refresher training is provided to FM employees and was last completed in March and April of 2024 to 357 FM staff. This program year the training took place in March 2026. The training was online and approximately 158 employees out of an estimated 550 FM staff (28%) completed the training. Multiple emails were sent out to supervisors of FM staff in order to push completion of training by FM staff.



Field training at Newman Lake for JMU staff (JMU/Ali Sloop).

TMDL ACTION PLANS

BLACKS RUN TMDL

Blacks Run is located in the City of Harrisonburg and receives run-off from the City, JMU, VDOT and Rockingham County, then eventually flows to Cooks Creek. A TMDL was developed in 2002 for Blacks Run and Cooks Creek but did not issue waste load allocations (WLA) to the jurisdictions in the watershed. A revision to the local TMDL has been completed and approved by the EPA on July 10, 2019. As such, an Action Plan was developed and submitted to DEQ on May 1, 2026. The DEQ has approved the action plan, and the final version is available on the JMU stormwater website (jmu.edu/stormwater). The BMP and Milestone Activity Table details the anticipated Implementation schedule for the plan on campus.

BMP/Milestone Activity	Schedule	Estimated lbs P Removal Annually
Newman Lake Improvements & Aquatic Bench	2016-2023	45
2023-2028 Permit Cycle		
Triangle Meadow – Land Use Conversion	2023	0.46
East Campus Forest Buffer	2023	6.14
Oversized BMPs at Village Phase 1	2026	0.63
Oversized BMP at Carrier Library	2026	1.77
University Boulevard Reforestation	2027/28	6.25
Total		60.25
2028-2033 Permit Cycle		
BMP Retrofit	TBD	TBD
Oversized BMP from capital project	TBD	TBD
Land Use Conversion	TBD	TBD
New BMP - Bioretention	TBD	TBD
New BMP – Grass Swale	TBD	TBD
Estimated Total		7.00
2034-2040 Permit Cycle		
Oversized BMP from capital project	TBD	TBD
New BMP - Bioretention	TBD	TBD
Land Use Conversion	TBD	TBD
New BMP - Stream Restoration	TBD	TBD
Street Sweeping (Annual Practice)	TBD	TBD
Storm Drain Cleaning (Annual Practice)	TBD	TBD
Estimated Total		10.75
Total Estimated Phosphorus Removal by 2040		78



East Campus meadow area in bloom (JMU/Ali Sloop)



Great Blue Heron by the Newman Lake aquatic bench. (JMU/Ali Sloop).

TMDL ACTION PLANS

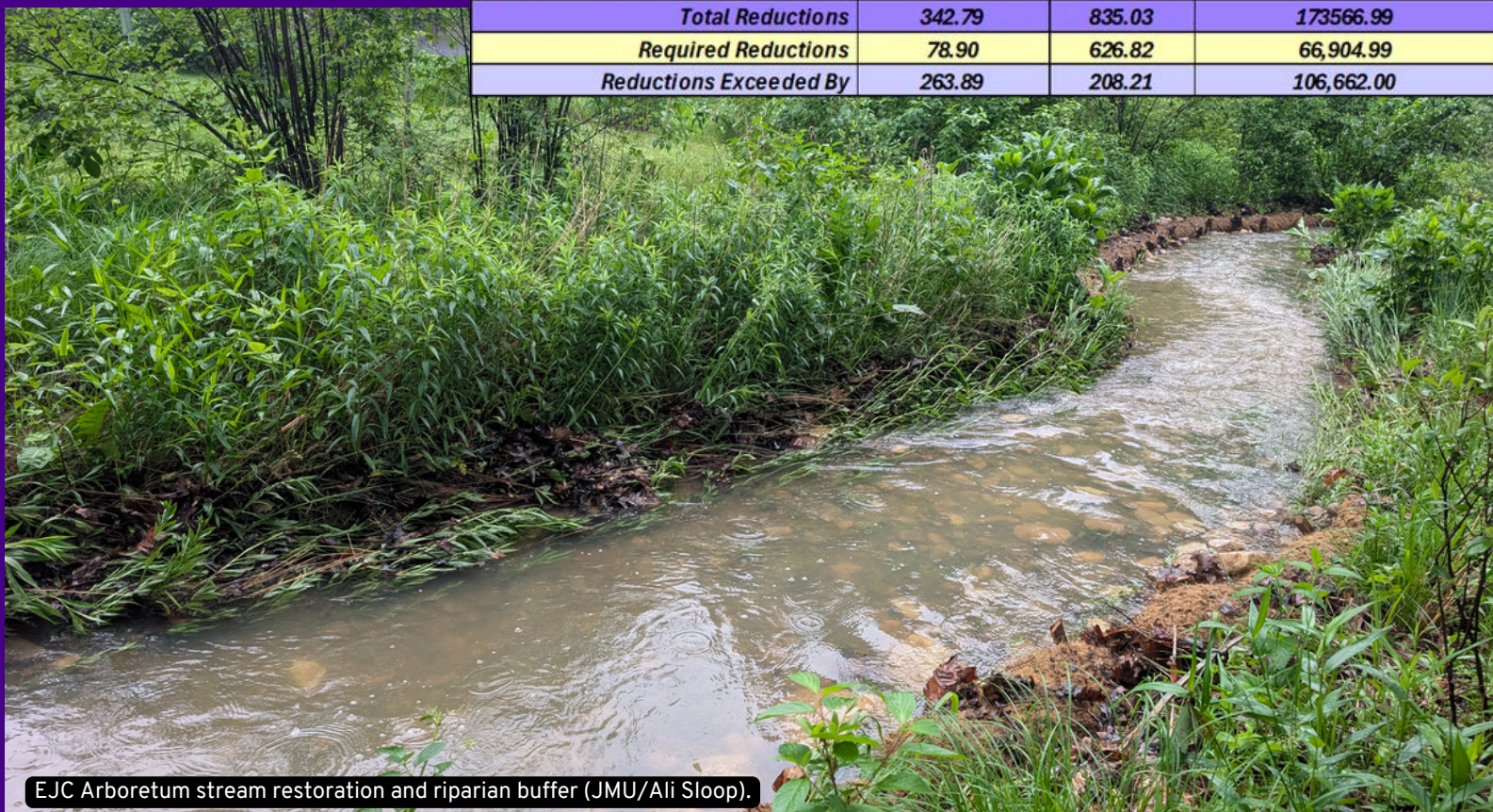
CHESAPEAKE BAY TMDL

The Chesapeake Bay Total Maximum Daily Load (TMDL) was established to create implementation plans to reduce pollutants entering the Bay. The pollutants of concern were listed as phosphorus, nitrogen, and sediment, and more specifically, total suspended solids (TSS). For JMU, those pollutant reductions per year were calculated to be 78.90 lbs/yr of phosphorus, 626.82 lbs/yr of nitrogen, and approximately 66,905 lbs/yr of TSS.

Stream restoration has become a popular choice for meeting the Bay goals, and that practice was chosen to be implemented throughout campus streams to meet those goals and to be an educational tool for students and the public. Nearly 3,700 linear feet of stream has been restored on campus along with allowing a vegetated buffer to grow on most stream banks. In addition to stream restoration work, nearly 53,000 square feet of land has been converted from pervious (turf areas) to a grass buffer (unmanaged grass). The EJC Arboretum's stream restoration with constructed wetland cells was installed in 2016, assisting the University in far surpassing the total required reduction goals for the Chesapeake Bay TMDL.

No new BMP's were installed this reporting period, and none are currently planned to be implemented in the near future. No comments were received for the action plan. JMU's complete Chesapeake Bay TMDL Action Plan can be viewed online at jmu.edu/stormwater.

Description of Nutrient Reduction Practice	Total Removal (lbs/yr)		
	Phosphorous (TP)	Nitrogen (TN)	Total Suspended Solids (TSS)
East Campus Stream Restoration	69.74	71.03	45,895.20
East Campus Land Use Change		2.75	
Siebert Creek Restoration - Segment A	27.63	29.47	18,231.23
Siebert Creek Restoration - Segment B	33.80	36.09	22,283.14
Siebert Creek Restoration - Segment C	47.91	47.45	31,446.04
Siebert Creek Area Land Use Change		4.31	
Siebert Creek Bioretention	1.87	13.02	1,551.38
EJC Arboretum Stream Restoration with Constructed Wetlands	161.84	630.91	54,160.00
Total Reductions	342.79	835.03	173,566.99
Required Reductions	78.90	626.82	66,904.99
Reductions Exceeded By	263.89	208.21	106,662.00



EJC Arboretum stream restoration and riparian buffer (JMU/Ali Sloop).



Stormwater
Management

EJC Arboretum pond with floating treatment wetlands and riparian buffer (JMU/Ali Sloop).