MUNICIPAL SEPARATE STORM SEWER SYSTEM PERMIT

2025 ANNUAL REPORT

FOR THE LEXINGTON CAMPUS OF THE

University of Kentucky®



General Permit Annual Compliance Report

Phase II MS4

Kentucky Division of Water

2025 KYG20 GENERAL PERMIT ANNUAL COMPLIANCE REPORT

Phase II Stormwater MS4
Kentucky Division of Water

For questions regarding this form, contact:
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NOTE:

- In order to comply with KPDES sMS4 permits, annual reports must be submitted to the Kentucky Division of Water.
- Please type or print in ink.
- Please answer all questions **thoroughly** and return the form by the due date.
- Return this form and any required addenda through the eForms Portal.

https://dep.gateway.ky.gov/eForms/default.aspx?FormId=50

- Due April 15, 2026.

PART A: GENERAL INFORMATION – MS4 OPERATOR

1. Report Completed By: University of Kentucky
(MS4 Operator — i.e., name of permit holder)

2. Permit Number: **K Y G 2 0 0 0 5 2** **AI # 1104** **4. Population: 66,420 (38,383 Students, 28,037 Employees)**

5. Mailing Address
Street Address: 355 Cooper Drive

☐ City ☐ County ☒ Other	**Of:** Lexington, KY	Zip: 40506	County: Fayette

PART B: GENERAL INFORMATION – CONTACT PERSON

6. Contact Person Name (please print): Kevin Lewis

7. Contact Person Title: Water Quality Compliance Manager

8. Phone Number: 859-257-0093

9. Facsimile Number (if applicable): 859-323-6274

10.E-mail Address (if applicable): kevin.lewis@uky.edu

PART C: CONTROL MEASURE ACTIVITIES

11. For the following items, please provide a summary of control measure activities related to sMS4 performed during the previous year. List any updated measurable goals from the Stormwater Quality Management Plan (SWQMP), compliance activities, Best Management Practices (BMP) installed or initiated, and updated or developed regulatory mechanisms with effective dates.

A. Public Education and Outreach:

Provide a summary of your public education/outreach efforts during 2025. For each material/activity, give a brief description, the pollutant of concern, the target audience, and the number of materials distributed/attendees.

During 2025, the MCM1 and MCM2 programs continued their overhaul. As part of program restructuring, Environmental Quality Management (EQM) has taken responsibility for managing MCMs 1 and 2. The program will also be streamlined as part of the upcoming SWQMP development for the new permit. The primary goals of 2025 were to look for additional outreach and education opportunities while continuing current activities and to revise and strengthen MCMs 1 and 2 to create a more structured, defined, and focused program. This was accomplished by providing specific annual goals, creating new opportunities, and coordinating efforts between the various parties already providing outreach, education, and participation opportunities at UK. EQM will continue to work with stakeholders assisting in MCM 1 and 2 efforts, and will communicate with folks in Sustainability, Extension, and Faculty in various colleges to create opportunities for stormwater education as well as content for the broader education of campus.

SWQMP Task	Description of the Material/Activity	Pollutant of Concern	Target Audience	Number Distributed/ Attendees
The following efforts took place in 2025 to strengthen the education, outreach, and participation program.				
1.A	Employ interns to assist TFISE in education and outreach activities–A Water Quality Compliance Specialist was hired in Q2 of 2024 to assist with the Stormwater Management Program, including restructured MCMs 1 and 2. The Water Quality Compliance Specialist is responsible for managing campus resources to meet the requirements of the scaled down program. Two interns were hired via the Sustainability Internship Program to assist with MCM 1&2 program improvements and to conduct outreach, education, and public participation activities. The internships began in August 2025 and will continue until May 2026. The flyer advertising the internship position and an outline of projects and events that the interns contributed to in 2025 are available in **Appendix A.** Budget Development–A budget for MCMs 1 and 2 was developed and approved (see the following and the discussion for MCM 2 for more information) in 2018. This budget included funding for the establishment of internships (two for fall, two for spring, and two for the summer) to assist with accomplishing the Outreach, Education, and Participation program tasks. This budget may be reviewed as program planning progresses.	Non-Point Source, Urban Runoff Pollutants, Loss of Riparian Habitat, Illicit Discharges	Students, Staff, Faculty, Visitors	Campuswide
The following efforts are related to the update and maintenance tasks associated with the Stormwater Website.				
1.B	Stormwater Website Update and Maintenance–A significant accomplishment during 2021 was the completion of the EQM website update, which includes a section specifically devoted to the UK Stormwater Program. The Stormwater Website includes detailed information regarding UK's Stormwater Program, including operations and construction-related stormwater requirements. Located at https://www.uky.edu/env/stormwater, this website has been designed to serve as an educational tool, providing detailed information regarding each MCM and UK's permit compliance efforts. Key components of the website related to MCM 1 include the interactive MS4 map, illicit discharge reporting system, and educator resource pages, discussed in greater detail in the following along with various measurable goals for subsequent MCM tasks.	Non-Point Source, Urban Runoff Pollutants, Loss of Riparian Habitat, Illicit Discharges	Students, Staff, Faculty, Visitors	Campuswide

	In 2025, the website underwent a mandatory Drupal Migration. As a result, site functionality was impacted, and Google Analytics was temporarily lost with no ability to pull past usage data. Moving forward, we intend to get analytics functioning in 2026 along with other planned website repairs and updates. The website will also be updated with additional information and resources as they become available. Limited analytics for the Stormwater Website from 2025 are included in **Appendix A**.			
1.B.1	Interactive MS4 Maps- • MS4 System Map–UK's GIS assisted EQM in the update and maintenance of this map that is accessible from the stormwater website. Efforts are ongoing to improve the mapping and include additional information. Future efforts may include the addition of construction site information as well as a database of post-construction BMP information or links to the Compliance Go system. • UK Environmental Storm Drain Marking Program–This system is updated on an as needed basis and automatically as drain assessments/marking events are completed. In 2025 the Stormwater Interns completed the assessment of 198 drains and applied 67 drain markers. Mapping was updated post verification of these efforts and newly constructed inlets were added Drain markers were also redesigned in 2025 to include a QR code that directs people to the stormwater website. More information on the Storm Drain Marking Program is available in section B, and a map and report of assessed drains are included in **Appendix B.**	Non-Point Source, Urban Runoff Pollutants, Loss of Riparian Habitat, Illicit Discharges	Students, Staff, Visitors	Campuswide
1.B.2	Illicit Discharge Reporting System–The website allows for reporting of illicit discharges within the MS4 via the Illicit Discharge Reporting Tool. EQM worked with UK GIS to develop a smart reporting tool that provides a fillable form and allows the collection of additional data using features from smart devices including GPS location and the ability to attach photographic documentation. The effectiveness of this tool will be tracked through the number of reported instances and is expected to increase as the new tool is promoted via planned outreach and education. Additional Illicit Discharge Detection and Elimination (IDDE) efforts are further discussed in MCM 3 and in **Appendix C**.	Illicit Discharges	Students, Staff, Faculty, Visitors	Campuswide
1.B.3	Educator Resource Page Development–A location for Educator Resources is included on the UK Stormwater Program website where resources are organized and posted for distribution. This location on the website is updated as needed with additional information.	Non-Point Source, Urban Runoff Pollutants, Illicit Discharges	Students, Faculty	Campuswide
1.B.4	Social Media- Development of EQM's updated social media program began in 2022 and included multiple internal meetings and a peer evaluation of other universities to determine the most beneficial usage of social media as well as platform selection. Accounts were created for both Facebook (UK-Environmental-Quality-Management@Facebook) and X (@UK_EQMD).The program will be managed by the EQM Administrative and Technology Support Specialist and an intern may be used to assist in content creation. Because of turnover in the Administrative and Technology Support Specialist position as well as the Water Quality Compliance Specialist (WQCS), the social media program was temporarily put on hold. In 2025, EQM discussed collaborating with Sustainability by providing Stormwater related content to post on their active sites. Posts from the UK Sustainability Facebook account related to stormwater are available in **Appendix A.**	Non-Point Source, Urban Runoff Pollutants, Loss of Riparian Habitat, Illicit Discharges	Students, Staff, Faculty, Visitors	Campuswide

The following materials were developed and/or distributed in 2025.				
1.C	Stormwater Website Educator Resource Page–This location on the Stormwater Website has become a clearinghouse for materials and other resources that have been developed for distribution. It will continue to be updated as additional resources become available.	Non-Point Source, Urban Runoff Pollutants, Illicit Discharges	Students, Faculty	Campuswide
1.C.4	A Wards Stormwater Floodplain Model was purchased in 2019 for outreach and education events. This model provides a visual and hands-on simulation of the role floodplains play in a watershed and the impact of human activity. In 2025, the model was used at the following events: • UK Sustainability Festival at Greg Page- September 18th, 2025 • Arbor Day Arboretum Event - October 11, 2025 • UK Sustainability Showcase - October 15, 2025 Photos of the model in use at these events are available upon request or in related sections of **Appendix A.**	Non-Point Source, Urban Runoff Pollutants, Loss of Riparian Habitat	Students, Staff, Faculty, Visitors	Public
1.C.4	KWRRI Watershed Academy–In 2017, the Kentucky Division of Water provided 319 Nonpoint Source Grant funding to KWRRI to develop six initial training modules for the Kentucky Watershed Academy. The six core modules address The Clean Water Act & Related Water Quality Laws, Water Quality Basics, Dealing with Data, Land Use Impacts & Related Best Management Practices, Likely Partners, and Effective Communications. These modules provide a strong foundation for watershed coordinators and other water quality professionals to better understand and navigate the wide range of challenges and opportunities they will inevitably confront in their daily efforts to improve water quality in Kentucky. Materials available include presentations, interactive group or individual activities, and supplemental reading materials and guides. The presentations are available through the KWRRI website as well as the KWRRI YouTube Channel.	Non-Point Source, Urban Runoff Pollutants, Loss of Riparian Habitat	Students, Staff, Visitors	19,052 views, 1,871 hours of watch time
1.C.3	Alumni Drive Stream Restoration Project Outreach and Education–The stream restoration project along Alumni Drive was originally completed in 2019, and efforts are continuing to create education and outreach opportunities. Educational signage was installed in 2021 and continues to provide project information to the public. In 2025, the site was used for teaching and research by classes, professors, and outreach events. Specifically, BAE 532 (Introduction to Stream Restoration) used the restoration in the spring semester of 2025 as part of the curriculum (available upon request). The stream was also the site of multiple Water Week events and a 4H teen conference session in 2025. Additional hydrologic and water quality monitoring has been conducted at the site for the last several years, and the site is used for BAE recruitment tours.	Non-Point Source, Urban Runoff Pollutants, Loss of Riparian Habitat	Students, Staff, Visitors	BAE 532 Class - 19 Students 4H Teen Conference - 16 Attendees
1.C.4	Activity Information Sheet Development–Updates have continued on several of the Activity Information Sheets. New sheets were developed for a variety of activities and are in various stages of review or have been completed. New sheets include Concrete Washout, Preventing Common Discharges from Construction Sites, Boring and Drilling Slurry, Construction Entrances, Dewatering, Wet Saw Cutting, Pressure Washing, Mulch Storage, Outdoor Sanitary Sewer Overflows, Parking Structure Cleaning, Indoor Sanitary Overflows, Preventing Common Discharges, and Illicit Discharge Detection and Elimination. These will be available on the Stormwater Website.	Non-Point Source, Urban Runoff Pollutants, E.coli	Students, Staff, Visitors	Widely Available
1.C.4	Pet Waste response for Athletics Facilities–In 2025, UK Athletics hosted "Bark in the Park" events on April 4th-6th and August 14th. This event allows fans to bring their dogs to a UK sporting event and informs them about proper disposal of pet waste. Outreach efforts included providing information to any pet owner that entered the park, signage about mandatory waste collection and disposal, and providing waste collection bags around the event.	Non-Point Source, Urban Runoff Pollutants, E.coli	Students, Staff, Visitors	All Attendees

1.C	Sustainability Strategic Plan 2.0–Amendments to the final draft continued for the update to the Sustainability Strategic Plan (SSP 2.0). In 2025, Goal 33, "Leverage third-party systems and reviews to demonstrate leadership in environmental excellence" was updated to include a statement about UK's designation as a Tree Campus USA by the Arbor Day Foundation. Additional information about SSP 2.0 is included in Section E, information on the five guiding principles is available at https://sustainability.uky.edu/guiding-principles, and a copy of this draft plan update is included in the 2023 Annual Report.	Non-Point Source, Urban Runoff Pollutants, Loss of Riparian Habitat, Illicit Discharges	Students, Faculty, Staff, Visitors	Campuswide
1.C.4	Urban Extension Publications–In November 2024, KWRI posted a curated list of urban extension publications dealing with urban water quality related issues at https://kwri.uky.edu/cooperative-extension-publications. This resource remained available in 2025.	Urban Runoff Pollutants	Students, Staff, Visitors	Widely Available, Website saw 9,269 visitors in 2025
1.C.4	Triple-Bottom Line Analysis–In November 2024, KWRI published the Kentucky Triple Bottom Line Analysis of Conservation Practices at https://kwri.uky.edu/tbl. This tool ranks urban, rural, and stream and ditch practices in terms of environmental, economic, and social factors to produce a quantitative score. With simple pictures and descriptions, this resource allows for local leaders and interested community members to prioritize practices for their community. This resource remained available in 2025.	Urban Runoff Pollutants, Loss of Riparian Habitat	Students, Staff, Visitors	Widely Available, Website saw 9,269 visitors in 2025
1.C.4	Kentucky Erosion Prevention and Sediment Control Interactive Guide–In September 2024, the Kentucky Erosion Prevention and Sediment Control Interactive Guide was published at https://www.kyms4.org/epscguides. This interactive guide depicts an example residential construction site with interactive links to the Kentucky Division of Water ESPC factsheets associated with each of these BMPs. This interactive guide is intended to provide an overview of how all the practices work together on a site. This resource remained available in 2025.	Urban Runoff Pollutants, Illicit Discharges	Students, Faculty, Staff, Visitors	Widely Available, Website saw 1,063 visitors in 2025
1.C.4	Interactive guide for Permeable Pavement–In September 2024, the interactive guide for Permeable Pavement was published at https://www.kyms4.org/postconstructionbmpguides. This post-construction BMP education guide provides a wealth of information concerning the components of permeable pavement, 360-degree photo example from UK's campus, design calculations and guidance, and inspection and maintenance schedules and forms. This resource remained available in 2025.	Urban Runoff Pollutants	Students, Faculty, Staff, Visitors	Widely Available, Website saw 1,063 visitors in 2025
The following events were hosted or supported by UK in 2025 to involve the public and engaged student groups.				
1.D	UK's Pick it Up (Litter Elimination) Campaign was continued throughout the year. Launched in 2014, the goal of this campaign is to eliminate litter on campus and prevent the action of littering. This effort includes signage across campus and decals placed on top of all outdoor landfill-bound receptacles, including 500 outdoor trashcans.	Non-Point Source, Urban Runoff Pollutants	Students, Staff, Visitors	Campuswide
1.D	The following Green Infrastructure Tours were held on campus in 2025: • In 2025, UEM provided tours of the Stormwater Harvesting System for multiple groups and classes throughout the year. Photos and more information are available in the November/December edition of the UEM Wire provided in **Appendix A.** • Sections of the NRE 365 class participated in a walking tour led by Dr. Amanda Gumbert of campus stormwater infrastructure with a specific focus on green infrastructure and stream restoration.	Non-Point Source, Urban Runoff Pollutants, Loss of Riparian Habitat	Students, Staff, Visitors	UEM Hosted Students NRE 365 Hosted 11 Attendees
1.D	Campus Sustainability Showcase–This event was held on October 15, 2025 and showcases sustainability work across campus. The 2025 showcase included presentations from the 2025 Sustainability Challenge Grant Recipients, undergraduate and graduate research, student organizations, and community engagement. More information is available at https://wholesumky.org/?p=8852, and event flyers and a sign in sheet are available in **Appendix A.**	Non-Point Source, Urban Runoff Pollutants	Students, Staff, Visitors	100 Attendees

1.D	Water Week 2025–Water Week is sponsored by the UK College of Agriculture, Food and Environment, the City of Lexington, and local watershed groups. It was held from March 22nd to March 30th to celebrate the importance of water and how to protect it. Additional information and a list of associated events is included in **Section B.**	Non-Point Source, Urban Runoff Pollutants, Loss of Riparian Habitat	Students, Staff, Visitors	Campuswide
1.D	Tree Week–This year was the seventh annual Tree Week, which was held from October 10th to October 19th, 2025, and is Kentucky's premier annual celebration of urban and community forestry. Presented by the UK's Urban Forest Initiative, the celebration included more than 260 events in 23 communities across Kentucky, including Hazard, Berea, Georgetown, and Paducah, as well as multiple unique hosts in Lexington. Additional information regarding Tree Week can be found at the event website: https://ufi.mgcafe.uky.edu/treeweek.	Non-Point Source, Urban Runoff Pollutants, Loss of Riparian Habitat	Students, Staff, Visitors	Widely Available
1.D	The Watershed Game–An interactive tool that helps individuals understand the connection between land use and water quality. Participants learn how a variety of land uses impact water and natural resources, increase their knowledge of BMPs, and learn how their choices can prevent adverse impacts. Participants apply plans, practices, and policies that help them achieve a water quality goal for a stream, lake, or river. KWRRI purchased "The Watershed Game" Local Leader Versions for the Stream Model and Lake Model as well as the classroom version of the Stream Model in 2021. These resources are available for use by faculty or staff who are interested. There are copies of the Local Leader Version, Lake Version, and Classroom Version available for borrowing.	Non-Point Source, Urban Runoff Pollutants, Loss of Riparian Habitat	Students	Available Upon Request
1.D	Water Resources Annual Symposium–Held on September 12, 2025 at Central Bank Center in downtown Lexington, this annual event features sessions and poster presentations from researchers, personnel from local, state, and federal agencies, students, volunteer groups, NGOs, and members of the public conducting water-related work across the commonwealth. In 2025, the symposium had 42 speakers and 30 poster presentations, with multiple addressing stormwater topics. The event agenda, overviews of presentations and sessions, and a list of award recipients are available in **Appendix A.**	Non-Point Source, Urban Runoff Pollutants	Students, Staff, Visitors	183 Visitors
1.D	Kentucky Stormwater Training Program Grant– In October 2023, a Stormwater Outreach Strategy Committee was formed, comprising of 20 representatives of Kentucky Division of Water, MS4s of various sizes, the UK Water Quality Compliance Manager, and KWRI. UK EQM Personnel continued participation in 2025. The committee met four times in 2025 to develop a Kentucky Statewide Outreach Strategy through the following: • Conducted barrier and bridges analysis of strategies • Developed background analysis for 10 pollution-generating activities • Prioritized 4 messages for further strategy development • Facilitated the MS4 Limelight Series as part of KSA Quarterly meetings • Presented a draft of a new online training: Fundamentals of Erosion Prevention and Sediment Control Workshop to KDOW and KSA • Continued content creation for an Illicit Discharge Detection and Elimination Interactive Workshop through testing of an ArcGIS toolbox for priority area delineations, development of an IDDE citizen reporting template, and completion of an interactive gaming exercise for source tracking.	Non-Point Source, Urban Runoff Pollutants Illicit Discharges	Students, Staff, Faculty, Visitors	Widely Available
1.D.1	Water Professionals Student Chapter–The Water Professionals Student Chapter at UK holds events throughout the academic year for the AWWA/WEA Student Chapter. It discusses topics related to the fields of sustainability and water resources engineering, careers in the water or wastewater industries, the water resources profession, or environmental engineering and related professions. It also provides opportunities for	Non-Point Source, Urban Runoff Pollutants, Loss of	Students, Faculty, Visitors	6+ student members

	students to meet with local water professionals. In 2025, the team participated in the following: Summer Engineering Exploration Kamp (SEEK) - June 19, 2025: The team ran interactive water demonstrations for 20 K-12 and high school students to spark interest in water careers and improve awareness of water and water quality concepts. Civil Engineering Exploration Day (CEED) - July 7, 2025: 45 high school students learned about water resources topics by working in teams to design, build, and test a pipe network as part of an educational game. Water Professionals Conference (WPC) - July 27-29, 2025: The conference was attended by 3 faculty and 5 students from UK. Dr. Ormsbee (UK) and Dr. Hoagland (UT) co-presented “Ten Critical Metrics for Effective Utility Management” which highlighted multiple years of work through ACTAT.	Riparian Habitat		
1.D	Arbor Day Celebration - UK EQM Participated in UK’s Arbor Day Celebration at the Arboretum on October 11th, 2025. The arboretum hosted tree-related programs such as crafts and plantings, and a variety of exhibitors, including the UK Entomology Club, the Lexington Children's Museum, and the UK Horticulture Club. The event schedule, flyers, and additional information is provided in **Appendix A.**	Non-Point Source, Urban Runoff Pollutants, Loss of Riparian Habitat, Illicit Discharges	Faculty, Staff, Students, Visitors	1380 Visitors
1.D	Sustainability Festival - Organizations from campus and the community develop interactive activities for students and families to engage with. This annual event was held on September 18th, 2025. Photos are available in **Appendix A.**	Non-Point Source, Urban Runoff Pollutants, Loss of Riparian Habitat, Illicit Discharges	Faculty, Staff, Students, Visitors	180 Visitors
The following Publications and Articles were created for campus-wide distribution.				
1.E	WholeSum Blog–WholeSum is a platform designed to inspire, inform, and encourage the UK community to engage in sustainability. To do this, they have highlighted six areas of focus: UK operations, sustainability tips, community, research, academics, and activism. The blog can be found at https://wholesumky.org/. Several blog posts touch on stormwater impacts, including the following: • Applications Open for 2025-2026 Sustainability Internship Program – February 18, 2025 • Resiliently Rooted Art Showcase and Competition – 3/4/25 • Using campus as a classroom: Students explore UK’s energy infrastructure – April 22, 2025 • UK Facilities Management launches new on-campus composting system – April 29, 2025 • UK’s Utilities and Energy Management team receives grand award for stormwater harvesting system – May 29, 2025 • Meet the 2025-2026 sustainability internship cohort – September 11, 2025 • 2025 Sustainability Showcase celebrates campus changemakers – October 16, 2025 Copies of the blog posts are available on the website.	Non-Point Source, Urban Runoff Pollutants, Loss of Riparian Habitat, Illicit Discharges	Students, Staff, Faculty, Visitors	Widely Available

1.E	UK Facilities Newsletter–Created by Shane Tedder, Sustainability Coordinator for UK, this newsletter is distributed to all facilities personnel. The audience is primarily the Facilities Management Division. In 2025, content was provided in the following issues: • Behind the Scenes: Students Tour UK's Energy Systems - Issue #764 (March 19, 2025) • Utilities and Energy Management Honored for Stormwater Harvesting System - Issue #774 (April 18, 2025) • Facilities Management Launches On-Campus Composting System - Issue #776 (April 23, 2025) • Celebrating Student Innovation at the Sustainability Internship Program Symposium - Issue #781 (May 5, 2025) These issues are included in **Appendix A** and additional issues can be found at https://view.lifecycle.uky.edu/?vawpToken=V3BLRSLM2LVEZNOLEVZNOGRX2Q.10191.	Non-Point Source, Urban Runoff Pollutants	Staff	Around 700 distributed
1.E	UEM Newsletter (UEM Weekly Wire/The Wire) – This newsletter reports on UEM activities, including stormwater and sanitary efforts. Distributed via e-mail, this publication reaches approximately 100 Utilities and Energy Management personnel, plus key stakeholders. In 2025, it was converted to a monthly newsletter. 14 of the issues covered stormwater related topics; a few examples are available in **Appendix A**. All copies of these issues are available upon request.	Non-Point Source, Urban Runoff Pollutants, Illicit Discharges	Staff	130+ distributed
1.E	Facilities Management Training Newsletter–This monthly newsletter provides training information to Facilities Management personnel in the form of course announcements, reminders, and tips. As part of MCM 1 and 2 improvements, EQM will be periodically providing stormwater-related content for this publication. In 2025, content was provided in the following issues included in Appendix A: • April Edition: Water Quality Training Reminder • September Edition: Water Quality Training Reminder Issues are included in **Appendix A**.	Non-Point Source, Urban Runoff Pollutants, Illicit Discharges	Staff	754 distributed
1.E	UKNow Articles–The following UKNow articles were published relating to stormwater or water quality and are included in **Appendix A**: "2025-26 UK Sustainability Leadership and Internship Opportunities" (March 11, 2025) "'Trees can strengthen communities': Canopy Con 2025 reimagines urban green spaces and more" (March 24, 2025) "Using campus as a classroom: Students explore UK's energy infrastructure" (April 18th, 2025) "UK Facilities Management launches new on-campus composting system" (April 22, 2025) "Learning beyond the classroom: UK students turn sustainability lessons into action" (April 25th, 2025) "UK's Utilities and Energy Management team receives grand award for stormwater harvesting system" (May 28, 2025") "Lewis Honors College to transform courtyard into pollinator space" (September 5th, 2025)	Non-Point Source, Urban Runoff Pollutants, Illicit Discharges	Students, Staff, Faculty, Visitors	Campuswide
1.E	The Kentucky Water Research Institute supports the research of others through collaborative partnerships and grants. In 2025, several of these research projects were related to water quality and stormwater subjects. A list of journal articles, technical reports, and presentations given by KWRI staff directly funded by KWRI are listed with links to sources in **Appendix A.**	Non-Point Source, Urban Runoff Pollutants, Loss of Riparian Habitat, Illicit Discharges	Students, Staff, Faculty, Visitors	Widely Available

Update Staff IDDE Training and Create Method to Ensure Training Is Conducted Annually				
1.F	Staff IDDE training has been incorporated into the General Stormwater Training, developed in 2022, to be taken by employees annually. IDDE information has also been added to the Stormwater Website. A detailed Illicit Discharges page is available as an education and training tool and contains such information as how to identify and report illicit discharges as well as a pictorial guide to the most common illicit discharges found on campus. An IDDE Basics Fact Sheet is also included on the Stormwater Training Webpage and is available for use as a training aid.	Non-Point Source, Urban Runoff Pollutants, Loss of Riparian Habitat	Staff	363 Employees
Update Individual Departmental Stormwater Training and Improve Delivery System and Participation				
1.G	General Stormwater Training–A general stormwater training was developed in 2022 and is available through UK's online platform. This training that includes general reminders about stormwater protection and illicit discharge reporting is scheduled to be taken by all relevant new employees as well as all applicable existing employees annually. In 2025 the training was assigned to all Medical Center custodial staff, the bulk of whom completed the training in early 2026. Additional information regarding the General Stormwater Training is included in **Section F.**	Non-Point Source, Urban Runoff Pollutants, Loss of Riparian Habitat	Staff	363 Employees
1.G	For departmental specific training, each division or department is responsible for assessing activities performed by employees and creating/providing departmental specific training to cover those activities. These trainings are provided by supervisors during departmental staff and safety meetings. The Stormwater Training webpage is a resource for supervisors to use in the creation of this departmental training. This resource defines the available training types at UK, provides access to currently available training, and provides training resources for supervisors in the form of Fact Sheets that discuss BMPs for campus activities that have the potential to impact stormwater. These Fact Sheets are all in the process of being updated and converted to Activity Information Sheets with a focus on stormwater protection. Some of these conversions have been completed and are available upon request.	Non-Point Source, Urban Runoff Pollutants, Loss of Riparian Habitat	Staff	Widely Available
1.G	SPCC/GPP Annual Training–A combined Spill Prevention, Control, & Countermeasure and Groundwater Protect Plan training was developed in 2022 and made available for staff to take via UK's online platform in order to meet annual training requirements. Additional information regarding the SPCC/GPP Training is included in **Section F.** Participation was analyzed in the spring and again in the fall. Training requirement reminders were provided to the Facilities Training Coordinator as well as department directors.	Non-Point Source, Urban Runoff Pollutants, Loss of Riparian Habitat	Staff	140 Attendees
LFUCG MS4 Program Coordination				
1.I	EQM and UK staff continued regular meetings with LFUCG to coordinate programs and provide updates. This was achieved through attendance and participation with LFUCG Stormwater Stakeholder Advisory Committee Meetings held quarterly, as well as through participation in additional trainings that were held throughout the year. In 2025, UK began quarterly collaboration meetings with LFUCG. UK participated in the following: UK EQM/LFUCG Collaboration Meetings– A list of participants for this meeting is available in **Appendix A.** • October 21, 2025 LFUCG Stormwater Stakeholder Advisory Committee Meetings–Minutes for these meetings are available at: https://www.lexingtonky.gov/stormwater-stakeholder-advisory-committee. Copies of the meeting agendas are available in **Appendix A.** • March 7, 2025 • September 5, 2025 • December 5, 2025	Non-Point Source, Urban Runoff Pollutants, Loss of Riparian Habitat	Staff	N/A

	LFUCG Trainings: • Erosion Protection and Sediment Control - October 27, 2025 • Construction Industry Workshop (MS4UM) - December 19, 2025			

What is the primary pollutant(s) of concern for the MS4 Public Education & Outreach Program? Why was this pollutant(s) chosen?

The receiving waters are impaired under a variety of parameters. The suspected sources are Non-Point Source pollutants from urban runoff from a high-density area and loss of riparian habitat. This includes anything that the University can discharge other than stormwater, like pollutants generated from staff and contractor activities in addition to illicit discharges from steam/chilled water and aging sanitary sewer infrastructure.

What behavior changes is your Public Education Program seeking among the target audience(s)?

Being a nontraditional MS4, UK's "public" has a different demographic as compared to a typical municipality. UK's "public" includes faculty, staff, students, and visitors. Based upon the activities of each on campus, it has been determined that staff have the greatest ability to impact stormwater. As a result, education and outreach efforts are focused on this group. The goal of this program is to increase staff's awareness that their actions can cause stormwater pollution, that they need to report and eliminate stormwater issues when they are observed, and that stormwater pollution is prohibited. Ultimately, staff's actions are primarily governed through UK's policies and procedures, and education is typically done through employee training.

With that being said, since 2015, efforts have been made to develop stronger relationships with faculty and to begin educating and working with students regarding stormwater on campus. Plans are to continue this effort as UK moves forward with the MCM 1 and 2 programs. Having two streams on campus provides UK with outdoor classroom and hands-on training opportunities for UK's students.

What is the mechanism for measuring the understanding and adoption of the targeted behaviors among the targeted audience(s)? When was the most recent measurement performed? What were the results?

Stormwater Survey–An updated survey was developed based on the original survey from the first permit cycle. The survey was sent to approximately 10,000 e-mail addresses in May 2021. Survey results were received in July 2021 and have impacted the approach to stormwater-focused outreach. More details for this can be found in the 2021 Annual Report.

How have these measurements been used to direct education and outreach resources more effectively? How has the Public Education and Outreach Program been altered due to these measurements?

Throughout the permit cycle, efforts have been made to improve the stormwater training. This includes detailed instructions for the use of the IDDE reporting tool and a focus on personnel briefings targeted at staff activities. Public outreach in the form of UKNow articles have also focused on these reporting elements and the protection of stormwater through common activities and other outreach efforts described in the section above. In addition, interns were hired in 2025 specifically to improve the MCM 1&2 program. This includes reviewing the stormwater survey and directly addressing program shortcomings. These efforts will continue in 2026 as well as the 26/27 academic year.

What is your budget for MCM #1?

MCM 1 efforts are completed with assistance from multiple UK departments. As a result, the budget to accomplish this measure exists within each individual department. The responsibility to monitor permit compliance for the UK Stormwater Program falls under UK's EQM. EQM's overall budget is funded by an environmental service surcharge applicable to all UK departments. This surcharged-based funding creates a stable platform for program development. As a result, monies are allocated on an as-needed basis.

A specific budget was originally created for MCM 1 to assist KWRRI and TFISE in the development of a more robust program. This budget has been reassessed as changes have been made to the program and its management.

The original recurring annual budget for this program was $56,000, excluding one-time costs. The budget is now assessed annually using this as a baseline. See the following chart for more details:

2018 - 2023 SWQMP Estimated Budget									
Task (#)	Task/Expense Discription	Min Cost ($)	Task Max Cost ($)	Task Year	Reoccurrence	Number of Years Multiplier	Total Min Cost ($)	Total Max Cost ($)	Funding Department
1.A	Development of Education, Outreach and Participation Program - Program administration costs, materials, interns		40000	Annual	Annual	5	200000	200000	EMD
1.B	Update and Maintain Stormwater Website - Website Redesign	500	15000	Two	One-Time	1	500	15000	EMD
1.B.1	Development of Interactive MS4 Map (part of website improvement)	2000	30000	Three	One-Time	1	2000	30000	EMD
1.B.2	Development of Illicit discharge Web Reporting Feature	500	2000	Two	One-Time	1	500	2000	EMD
1.B.3	Development of Educator Resource Web Page		200	Three	One-Time	1	200	200	EMD
1.B.4	Development of Social Media Account Web Page		100	Two	One-Time	1	100	100	EMD
1.C	Development and Distribution of Public Education Materials		1000	Two	Annual	4	4000	4000	EMD
1.C.1	Extension of Outreach, Education, and Participation Program to Visitors		1000	Three	Annual	3	3000	3000	EMD
1.C.1.a	Development and Distribution of Tailgater RV Illicit Discharge Prevention Awareness Materials		500	Three	Annual	3	1500	1500	EMD
1.C.3	Development and Distribution of Local Water Quality Impairment Awareness Materials		500	Four	Annual	2	1000	1000	EMD
1.C.4	Development of Stormwater Curriculum and Education Materials		5000	Two	Annual	4	20000	20000	EMD
1.D	Participation in/Facilitation of Special Events for Stormwater Awareness		5000	Annual	Annual	5	25000	25000	EMD
1.D.1	Involvement of Student Organizations in the Stormwater Program - Activity Participation & Incentive Program		2000	Annual	Annual	5	10000	10000	EMD
1.F.1	Development of Illicit Discharge Identification and Reporting Video		500	Four	One-Time	1	1000	1000	EMD
1.H	Update and Conduct Campuswide Stormwater Survey		500	Two	One-Time	1	500	500	EMD
1.H.1	Conduct Follow-up Campuswide Stormwater Survey		500	Four	Every 2-4 years	1	500	500	EMD
1.J	Development of Stormwater Professional Consortium		1000	Two	Annual	4	4000	4000	EMD
1.K	Development of Stormwater Steward Certification Program (StormCats)		500	Four	One-Time	1	500	500	EMD

Attach documentation of all public education/outreach activities held in 2025. This should include (as applicable):

Educational Materials
- Materials distributed.
- Web addresses for online materials if the activity was online.

Educational Activities
- Documentation of the method for notifying the public of educational activities (flyers, social media posts, etc.)
- Documentation of the activities (meeting notes, minutes, agendas, pictures, etc.)
- Documentation of outreach (sign in sheets, pictures, attendance counts, etc.)

Documentation of Measurement(s) of Program Efficacy
- Results of measurement(s) of the changes in understanding and adoption of the targeted behaviors among the targeted audience(s.)

The following documentation of public education/outreach activities held in 2025 is included in Appendix A:

- Stormwater Intern Flyer and Progress Update
- Stormwater Website Analytics
- Sustainability Facebook Posts
- Sustainability Showcase
- Water Resources Annual Symposium Proceedings
- Arbor Day
- Sustainability Festival
- UK Facilities Newsletters
- UEM Weekly Wire
- Facilities Training Newsletters
- UKNow Articles
- KWRI Sponsored Publications
- LFUCG and UK MS4 Collaboration Meeting
- LFUCG Stormwater Stakeholder Advisory Committee Meeting Agendas

B. Public Involvement and Participation:

Provide a summary of your public involvement and participation efforts during 2025. Describe any events or activities advertised to the public by the MS4 in 2025 through which the public may be involved in the stormwater management program. For each activity give a brief description, the method of advertisement to the public, who hosted/led the activity, and the results of the activity (SWQMP changes, wastes collected, number of participants, etc.):

SWQMP Task	Description of the Activity (Include date, location, and purpose)	Method of Advertisement	Who Hosted	Results of Activity
Storm Drain Marking Program				
2.A	As a part of the effort to update the Storm Drain Marking Program, work began on a Marking Database and Program Update in 2019. Over the past few years, the Environmental Storm Drain Collector has been created along with technical support documents, marker installation instructions, and a presentation on drain marking and inspection for class instruction. The updated approach uses a mobile-based platform to create inspection reports and documentation. Using this, participants can locate, document, and track marked storm drains. A map showing the progress of the program with an opportunity to volunteer has been created and is included on the Stormwater Website. A map showing drains assessed in 2025 is included in **Appendix B.** The storm drain Marking Tech Support Document was updated and added to the Stormwater Website in 2025.	N/A	Internal Project	Easier documentation and tracking for participants marking storm drains
2.A.1	In 2025, interns were hired to continue drain assessments and marking. During the fall semester, 198 drains were assessed and 67 were marked. One outcome of the drain assessments was that the interns reported several Illicit Discharge concerns to be investigated by EQM. Additionally, drain markers were redesigned in 2025 to include a QR code that directs people to the stormwater website. A map of assessed drains, a report of illicit discharges, photos of drains being marked, and an image of the updated drain marker are available in **Appendix B.**	Stormwater Website	University of Kentucky	198 drain marking assessment entries were completed
2.A.3	An advertising and awareness campaign targeted at improving program participation by faculty, staff, students, and visitors will continue to be developed over the permit cycle. Training materials and videos have been added to the Storm Drain Marking portion of the website.	N/A	Internal Project	Training materials included on website
The following activities involving students, faculty, and staff in stormwater activities occurred in 2025.				
2.B	Water Week 2025– Water week was hosted from March 22nd to March 30th to celebrate the importance of water and how to protect it. Activities included the 6th Annual Reforest 5K, litter cleanups, hiking, workshops, and informational sessions. Multiple events were held on UK's campus including a bioblitz at the Alumni drive stream restoration site, a cleanup of the Farm Road rain garden, and a riparian buffer cleanup of the Kilrush Food Forest. Event information is available annually through https://www.lexingtonky.gov/water-week as well as various media outlets and social media. A copy of the 2025 event list is available in **Appendix B**.	LFUCG Website, UK Martin-Gatton College of Food and Environment Website, University Email, Local News	The University of Kentucky partnered with KWRI, TFISE, and LFUCG to host event.	The public was informed of the importance of water and how to protect it
2.B	UK Sustainability Challenge Grants– The Sustainability Challenge Grant program is designed to engage multidisciplinary teams from the UK community in the creation and implementation of ideas that will promote sustainability by simultaneously advancing economic vitality,	Website, Social Media, UK Now	University of Kentucky	Grant Recipients were chosen

	ecological integrity, and social equity. In 2025, five teams of UK students, faculty, and staff were selected to receive Sustainability Challenge Grants. One of the grants funded in 2025 was awarded to KWRI to develop the Digital Stormwater Learning Lab: An Innovative Framework for Stormwater Monitoring, management, and Education. The tool is a web-based platform that integrates interactive 3D models, 360° tours of campus stormwater control measures, simplified storm simulations, and learning modules. The Lab will connect students to the University's sustainability investments, translate real monitoring data into clear lessons, provide workforce training, and promote MS4 outreach. The project proposal is available in **Appendix B.**			
2.B	Kentucky Stormwater Association Limelight Series–KWRI worked with the Kentucky Stormwater Association to host the Limelight Series during two of the Kentucky Stormwater Associations Quarterly meetings each year. This series is intended to train MS4 Coordinators statewide by highlighting successful efforts of other MS4s in the state. Two Limelight Series presentations were given in 2025: March 12th - "Long-term Post-Construction Management". 72 participants were present. December 17 - "Leveraging Partnerships". Over 90 participants were present. More information on these presentations is available on request. Videos of all Limelight presentations are available at https://www.kyms4.org.	KSA Website and Announcement	University of Kentucky through KWRI partnered with Kentucky Stormwater Association	The public was informed on a variety of topics listed in the activity description.
2.B	Alumni Drive Tree Planting–On April 2nd, 2025, Kenton Sena and 25 students from his classes planted 10 sizable trees in the traffic island along Alumni Drive. This project was funded by the Crabtree-Cornell fund, an LG&E Plant for the Planet grant, and the Student Sustainability Council. Photos and more information are available in **Appendix B**, in UK Now articles in **Appendix A**, and at https://www.youtube.com/watch?v=4BsBUQntJBg.	Class Assignment	University of Kentucky	Trees planted to improve stormwater quality
2.B	University Drive Restoration Project–Lewis Honors College Faculty member, Kenton Sena, and his HON 152 class developed a project to remediate erosion along University Drive adjacent to Lewis Hall in 2022. The idea was to test the effects of engineering solutions for improved infiltration and planted solutions for soil development, mulch retention, soil health, and soil microbial community diversity. The project included plantings completed by volunteers as well as UK Grounds staff. UK Grounds staff completed the planting in 2023 with an additional 2,000 sedges and a few dozen shrubs. In 2025, a paper on the University Drive project was published at https://reclamationsciences.kglmeridian.com/view/journals/rcsc/2/1/article-p39.xml. The class also collaborated with UK Grounds in 2025 to establish a pollinator garden in the landscape outside Lewis Honors College to improve infiltration to deeper-rooted plants. Students and volunteers participated in garden preparation on September 8th and 9th and planting on October 8th and 9th. Photos and more information can be found in a UKNow article included in **Appendix A** and at https://facilities.uky.edu/news/uk-grounds-helps-honors-students-bring-pollinator-garden-concept-completion.	Non-Point Source, Urban Runoff Pollutants, Loss of Riparian Habitat	Students, Faculty, Staff, Visitors	Around 30 Students and volunteers
2.B	With the stream restoration project along Alumni Drive completed in 2019, efforts are continuing to create education, involvement, and participation opportunities with various classes. As mentioned in MCM1, in 2025, several classes and professors used the stream restoration for teaching and research.	Class Assignment	University of Kentucky	Research and learning opportunities

2.B	Stormwater Harvesting Senior Design Projects - One group of the Biosystems Engineering senior design class used the CUP Water Harvesting system as the basis for their year-long project of designing a similar system at Cooling Plant #2 and building a prototype. The team was responsible for researching the process, evaluating a design, and developing their own implementation approach for the project. More information about this project is available at https://sites.google.com/view/cooling-plant-2-rwr/home and a poster submission with their plan and findings is included in **Appendix B**.	Class Assignment	University of Kentucky	Learning opportunities for students studying engineering.
2.B	WRD 204 Technical Writing Collaborative Field Report Assignment–WRD 204 offers instruction in writing for students involved in science and technology. In 2025, an interview was conducted between the students and EQM. Copies of the interview questions and answers are provided in **Appendix B**.	Class Assignment	University of Kentucky	Learning opportunities for students studying engineering.
2.B	NRE 400 Poster Presentation - Mason Mefford (former Stormwater Intern) gave a presentation about his internship experience on April 10th, 2025. His final poster and a photo of the presentation is available in **Appendix B**	Class Assignment	University of Kentucky	Research and Learning opportunities
2.B	In 2025, Nathan Weber from UK EQM gave a presentation to 20 NRE 201 students, a natural resources and environmental science class at UK. The lecture gave an overview of all aspects of water quality management at the university, including UK's stormwater infrastructure, mapping resources, the basics of what an MS4 is, watersheds of campus, and post construction BMPs on campus. Following the lecture, students completed a lab assignment where they conducted field inspections on five stormwater BMPs on campus: Garrigus and Cooper House pervious pavers, Gluck south detention basin, Garrigus green roof, and Farm Rd. CATchment basin. A copy of the presentation, lab assignment, and photos are available in **Appendix B.**	Class Assignment	University of Kentucky	Research and Learning opportunities
Procedures for notifying students, faculty, and staff of stormwater activities.				
2.B.1 2.B.2	The website includes a "Get Involved" section that provides information for students, faculty, and staff regarding the various opportunities available to engage in stormwater activities. Individual activities also provide notifications to targeted groups through a variety of methods to promote attendance at their events.	Website, social media, class announcements, news, flyers, and a variety of other outlets	University of Kentucky	Information was provided for students, staff, faculty, and visitors about opportunities to be engaged in stormwater activities.
Consider development of brief pre and post survey for activity participants.				
2.C	The inclusion of a survey for activity participants is being handled on a case-by-case basis.	N/A	N/A	N/A

If applicable, describe any events or activities in which the public is involved in the development or review of your stormwater management program.

All the events, activities, and projects previously noted were initiated by students, faculty, and staff and were related to the continued development of UK's stormwater management program. Additionally, UK has a Stormwater Stakeholder Advisory Committee that is made up of staff from various campus departments including Athletics, Environmental Management, Utilities and Energy Management, Facilities Management, Capital Projects Management, the Office of Sustainability, and the College of Agriculture. Formed in 2010 to address on-campus stormwater issues, the members of this committee assisted in the creation of and work to accomplishing the tasks set forth in UK's SWQMP. Among the group's many responsibilities are the enforcement of the stormwater policies and procedures as well as the development of new policies and procedures, when required, for the continued improvement of the UK Stormwater Program and the protection of water quality.

EQM staff also met with representatives of the Friends of Wolf Run to discuss program activities and potential improvements.

How can the public find information about the SWQMP?

At the Stormwater Stakeholder Advisory Committee meetings, the representatives from UK's faculty and staff that assist in the implementation of the UK Stormwater Program report on their department or group's progress towards the tasks listed in the SWQMP. The updates shared are recorded as meeting minutes and distributed to provide progress updates. These updates are also incorporated into the task tracking spreadsheet that is a shared document between all stakeholders providing ongoing access to the program status.

UK's public can access information regarding UK's Stormwater Program through the Stormwater Website that includes detailed information in the following sections: Program Information, Stormwater 101, Protecting Our Streams, Educational Resources, Getting Involved, Training, Illicit Discharges, Construction, Post Construction BMPs, and Maps. EQM also responds to requests for information as needed.

What is your budget for MCM #2?

As mentioned in MCM 1, a specific budget has been created for MCM 2 to assist in the development of a more robust program. This estimated budget covers specific tasks and direct costs only. Additional funding can be provided on an as-needed basis. This budget is due to be reassessed as changes made to the program and its management are realized. It should also be noted that because MCMs 1 and 2 are being managed together, a significant portion of the MCM 1 budget also benefits MCM 2.

The current recurring annual budget for the MCM 2 portion of this program is $6,000, excluding one-time costs. Refer to the following chart for more details:

2018 - 2023 SWQMP Estimated Budget									
Task (#)	Task/Expense Discription	Min Cost ($)	Task Max Cost ($)	Task Year	Reoccurrence	Number of Years Multiplier	Total Min Cost ($)	Total Max Cost ($)	Funding Department
2.A.1	Development of Marked Stormdrain Inventory - Intern and Tracking Mechanism		6000	Two	One-Time	1	6000	6000	EMD
2.A.2	Development of Interactive Stormdrain Marking Map and Webpage Integration		3000	Two	One-Time	1	3000	3000	EMD
2.A.3	Development of Stormdrain Marking Program Advertising/Awareness Campaign		1000	Three	Annual	3	3000	3000	EMD
2.B	Sponsorship/Creation of Public Stormwater Activity Participation Events		5000	Annual	Annual	5	25000	25000	EMD

Attach documentation of all public involvement/participation activities held in 2025. This should include (as applicable):

- Advertisements to the public of each activity (flyers, social media posts, etc.)
- Documentation of the activities (meeting notes, minutes, agendas, pictures, etc.)
- Documentation of participation (sign in sheets, pictures, attendance counts, waste collection amounts, etc.)

The following documentation of public involvement/participation events held in 2025 is included in Appendix B:

- Storm Drain Marking Assessment Report and Mapping
- Water Week 2025
- KWRI Sustainability Challenge Grant Proposal
- Alumni Drive Tree Planting
- BAE 403 Central Utility Plant Senior Design Class Submittal
- WRD 204 Technical Writing Collaborative Field Report Assignment
- NRE 400 Stormwater Intern Presentation
- NRE 201 Lab Assignment

C. Illicit Discharge Detection and Elimination:

Did you have any reported/discovered illicit discharges for 2025? If so, describe the incidents including the investigation procedures and the elimination.

3.E The use of the MS4 Web software for IDDE tracking began in 2012 and was used through July of 2024 when the software was retired. UKIT has developed a stormwater-related complaints GIS tracking tool, discussed below, that has been used for tracking over the last several years. For the 2025 reporting period, there were a total of 68 illicit discharge or stormwater complaints reported and resolved. Output from the reporting tool and a detailed report of each is included in **Appendix C-1**.

How can the public notify the MS4 of spills or illicit discharges?

3.C The Stormwater Website allows for reporting of illicit discharges within the MS4 via an Illicit Discharge Reporting Tool. This smart reporting tool provides a fillable form and allows the collection of additional data using features from smart devices including GPS location and the ability to attach photographic documentation. The effectiveness of this tool will be tracked through the number of reported instances and is expected to increase as the new tool is promoted via planned outreach and education. The drain marking medallion was recently updated to include a QR code that connects directly to this tool and also includes a phone number for quicker spill reporting.

If a spill or release of a chemical, petroleum-based product or a hazardous substance occurs at UK, EQM provides an around-the-clock on-call service that can be called upon for assistance. However, if an incident does occur, UK staff are trained through the SPCC Program in the correct method of handling substances, responding quickly to small spills, and regulatory requirements for reporting. Additional information regarding the SPCC program is included in Section F.

In those instances that the volume exceeds a small manageable amount, EQM is prepared to respond and assist. EQM may be contacted during regular business hours at its main line, 323-6280, or after hours by dialing 911 from any on-campus phone or by contacting the UK Police at 257-UKPD (8573). Additional information can be found on the Spill Plans and Response Page of the Stormwater Website.

How is this reporting mechanism advertised to the public?

A link to the reporting tool is included on the main page of the Stormwater Website though a large button at the top. The Stormwater Website also contains a specific section on the reporting of Illicit Discharges as well as a Fact Sheet that covers Illicit Discharge Basics, one of which is reporting. The General Stormwater Training provided to staff includes how to find the tool and instructions for usage. The tool/website is also directly linked to a QR code include on the recently updated storm drain markers that are placed on storm drains throughout campus.

Do you have a written IDDE Plan in place?

3.B
3.B.1
3.D EQM originally created its IDDE Field Protocol Plan in 2011 and updated the plan in March 2015. The plan included sections on Field Screening and Inspection, Identifying Illicit Discharges, Indicator Parameters, Steps to Remove Illicit Discharges, Enforcement Procedures, and Recordkeeping. A new updated version was finalized for formal adoption in 2022. IDDE is also covered in the basic stormwater training for employees and includes instructions on the use of the latest version of the IDDE reporting mechanism.

3.B.2 Planning efforts have also begun on the development of a sanitary sewer overflow protocol document to supplement the IDDE plan as a part of the Stormwater Operations Manual development. Following the review and finalization of this document, copies of the procedures will be distributed, and training provided as needed.

The Monitoring Plan was updated in 2023 to meet the requirements stated in Section 2.5 of the MS4 Permit. Previously updated in 2015, the updates include a brief narrative of the permittee's proposed monitoring program, a map of the Urbanized Area showing the outfalls including names of the receiving streams, information on the water quality status of the local receiving streams based on the latest 303d list, an Inspection Checklist for visual monitoring of the outfalls, including basic information, documentation to verify performance of the visual monitoring, standard operation procedures, and any reference materials cited. The updated Monitoring Plan is available for review upon request.

Have you completed the mapping of the storm sewer system? If not, what is the percentage of the storm sewer system that has been mapped? What is your timeline to complete the mapping?

3.A This task was completed at the very outset of UK's submittal of its Notice of Intent and SWQMP in April 2010. There are five outfalls that have been identified and noted as WR-1, WR-2, WR-3, WH-1, and WH-2, along with two stream segments (Big Elm Fork and an Unnamed Tributary to West Hickman). Both stream segments are located adjacent to Alumni Drive, one at the eastern end toward Tates Creek Road, and the other at the western end toward Nicholasville Road.

Because of the unprecedented level of construction on campus in recent years, a major update to this map was completed in fall 2016. At that time, a standing work order was created with UK's GIS department so the map could be updated on a more regular basis. An interactive map for the Stormwater Website (available at https://www.uky.edu/env/stormwater/maps) was developed in 2021. Efforts are now made to update the map on an ongoing basis, as needed. This includes, but is not limited to, utility location, impervious surfaces, and stormwater management infrastructure locations. Copies of the overall and impervious area maps are available on UK's website and are included in **Appendix C-2.**

3.A.1 It should also be noted that a more comprehensive stormwater infrastructure map has been developed by UK as part of its online interactive Utility map. This map contains all UK stormwater infrastructure and is updated regularly to include changes to the system as they occur. UKIT has a process to collect and inform staff of map ongoing updates. In 2025, updates were made to utility mapping based on completed projects, and facilitated the review process with University stakeholders to ensure updates were accurate. Projects included Pence Hall Renovation, PS8 Expansion, and University Drive.

How many major outfalls discharge from your MS4? Of these, how many were dry-weather screened during 2025? How many illicit discharges were detected via dry-weather screenings in 2025?

3.B.4 Staff have routinely made efforts to inspect outfalls on an annual basis even though the previous SWQMP required once per permit term. The new SWQMP reflects this effort and now requires annual inspection of UK's major outfalls. Inspections during 2025 are reflected in the following table:

Total Number of Major Outfalls	Major Outfalls Dry-Screened in 2025	Illicit Discharges Detected by Dry-Screening in 2025
5	5	0

Do you document dry-weather screenings with, at minimum, completed inspection checklists and photographs?

Copies of the dry-weather outfall screenings are included in **Appendix C-3**.

Have you reviewed the most recent 303(d) list for updated information on the water quality attainment status of the local MS4 receiving waters?

The Monitoring Plan was updated on July 5, 2023, and included updates based on the combined 2018/2020 303(d) list. On July 7, 2023, the EPA approved the 2022 Integrated Report that included an updated 303(d) list. Shortly after this update, the 2024 303(d) list was issued. This new information has not been formally included in the monitoring plan, but the updated 2024 Integrated Report has not added new listings or delisted any local MS4 receiving waters. See more information in the answers to questions 18 and 19 in this report.

Have municipal field staff been trained on the identification and reporting of illicit discharges into the MS4? When did this training occur and who received it?

Training for the identification and reporting of illicit discharges is included in the general stormwater training that is completed annually by selected staff. More information about this training can be found in **Section A**.

What is your budget for MCM #3?

With the development of the SWQMP and the associated program improvements, a budget for certain MCM 3 tasks has been developed. This budget covers the estimated expenses of tasks with direct costs. All other tasks and associated indirect costs will be absorbed by the division responsible for task completion.

The current recurring annual budget for this program is $53,500, excluding one-time costs. Refer to the following chart for more details:

2018 - 2023 SWQMP Estimated Budget									
Task (#)	Task/Expense Discription	Min Cost ($)	Task Max Cost ($)	Task Year	Reoccurrence	Number of Years Multiplier	Total Min Cost ($)	Total Max Cost ($)	Funding Department
3.A	Regular Updating of the MS4 and Utility Maps		500	Annual	Annual	5	2500	2500	EMD/Utilities
3.A.1	Addition of the Bell 2017 Stormsewer Assessment to the Utility map		1000	Two	One-Time	1	1000	1000	Utilities
3.B.5	Assessment (sampling) of Dry Weather Flow In the Stormsewer System	5000	20000	Two	Annual	4	20000	80000	EMD
3.B.5.a	Assessment of the Manchester Street Culvert (Investigation and Sampling)	5000	20000	Two	Annual	4	20000	80000	EMD
3.E	Illicit discharge tracking program (MS4 Web License Fee)		3000	Annual	Annual	5	15000	15000	EMD
3.F	Conducting Thermal Imaging Scans of Campus for Illicit Discharge & Heating/Cooling Leak Detection		15000	Two	Every 2 years	2	0	30000	Utilities
3.F.1	Repair of Heating/Cooling System Leaks	5000	10000	Annual	Annual	5	25000	50000	Utilities
3.G	Connection of Remaining Greenhouses to Sanitary Sewer	10000	20000	One	One-Time	1	10000	20000	Facility Operations

Additional IDDE Efforts:

In addition to the efforts mentioned previously, UK has also continued or completed the following in 2025:

3.B.5 Campus Dry Weather Flow Assessments

- Currently, no additional dry weather flow assessments have been warranted based on the targeted illicit discharges being addressed.

3.F Evaluate Thermal Imaging

- An updated thermal imaging scan was completed in 2023 with the goal of identifying heating and cooling leaks as well as sanitary sewer overflows. UK Utilities has been using it to complete repairs around campus and for comparison with the 2017 data. Future scans will be performed on an as-needed basis and will be re-evaluated in conjunction with future UK Utilities planning efforts.

3.F.1 Locate, Prioritize, and Minimize Heating/Cooling System Leaks

- The UK Utility Infrastructure Master Plan was completed in 2016 and provided an assessment on the campus energy and utility systems. The purpose of the plan was to evaluate necessary improvements and provide a tool to prioritize and budget for large capital projects.
- Maintenance and repair of the system are completed on an as-needed basis with active leaks being addressed immediately. A list of the completed repairs is included in **Section F** of this report.

3.H Minimize Cigarette Butts Entering Storm Drains

- Cigarette butt litter is an area of concern and is discussed regularly by the Tobacco Free Committee. Ambassadors visit high concentration areas frequently and engage folks, with discussions on cigarette butt litter. Grounds crews frequently sweep and vacuum butts out of storm drains. These are the BMPs that have been put in place to reduce cigarette butt litter.

Tailgating and Charcoal Disposal

- In response to ongoing issues with inappropriate disposal of charcoal following athletic events, Athletics sent out a reminder to season ticket holders via email with information regarding the appropriate procedure and location for disposal of used charcoal. A copy of the email is available upon request.

Please attach:

- Updated inventory of all MS4 receiving waters including the water quality attainment status and pollutants of concern for each. This should include information from Kentucky's 2024 303(d) list.
- Documentation of the discovery, investigation, and elimination of all illicit discharges in 2025.

- Checklist or form used for outfall dry-weather screening.
- Example documentation of a completed dry-weather screening including, at minimum, a completed inspection checklist and photograph(s.)
- Documentation of any public reports of spills or other illicit discharges (e.g. public reporting log).
- Documentation of all training for municipal field staff on the identification and reporting of illicit discharges conducted in 2025.

The following documentation is attached in the appendices referenced above.

- **Appendix C-1–**Illicit Discharge and Stormwater Complaint Reports
- **Appendix C-2–**UK MS4 Boundary Map & Surface Calculations
- **Appendix C-3–**Major Outfall Inspection Reports

D. Construction Site Stormwater Run-off Control:

Are you permitting land disturbances for one acre or larger, or smaller than one acre if part of a larger common plan of development or sale?

4.B As in the past, contractors are not issued a permit from UK because they are being directly employed by UK. This gives UK direct control of their actions. However, to encourage future compliance with all projects, UK has added task 4.B in the SWQMP to develop an alternative to permit issuance as part of the project review process. To accomplish this task, the Project Checklist, UK Design Standards, and UK Contract Language were updated in 2019 to require the submittal and approval of stormwater information as well as the approval of the SWPPP and obtainment of KYR10 permit coverage before sitework can begin.

Article 11.3 of the General Conditions of the Contract for Construction states that "The Contractor, on projects disturbing one acre or more, or projects less than one acre that are part of a large common development plan, including grading, clearing, excavation, material laydown, or other earth moving activities, shall assure full compliance with the requirements of the KYR10 and shall:

- 11.3.1–File a Notice of Intent (KPDES Form eNOI-SWCA) with the Kentucky Division of Water and copy the UKCPM Project Manager and Water Quality Manager prior to the start of any excavation, grading, or site development work.
- 11.3.2–Develop a Stormwater Pollution Prevention Plan (SWPPP) based on the Erosion Prevention and Sediment Control Plan (EPSC) as a minimum design standard. Ensure all requirements of KYR10 are fully addressed in the SWPPP. Once the SWPPP is written, forward a copy to the Capital Projects Project Manager and to the Water Quality Manager for approval. Work cannot begin until SWPPP is approved, and permit coverage obtained."

The latest copy of Article 11.3 in its entirety can be found at the following website address: https://www.uky.edu/cpmd/design-standards/division-00---procurement-and-contracting-requirements-group

The UK Design Standard 334000S01 provides additional stormwater requirements for consultants and contractors. The latest copy of these standards can be located here: Divisions 30 - 39 - Site and Infrastructure Subgroup | Capital Project Management (uky.edu)

How many permits were issued by the MS4 in 2025 for land disturbances one acre or larger, or smaller than one acre if part of a larger common plan of development or sale?

While no permits were issued (see response to previous question), SWPPPs, Executive Summaries, and/or project plans were reviewed for the following 17 projects that had the potential to impact stormwater:

- Silva Cell Parking Lot
- Whitehall Renovation
- New EQMC
- Chandler Expansion
- PS7/Johnson Center Expansion
- Ag North Temporary Lot
- Arboretum Visitors Center Expansion
- Health Education Building
- Ag Research 2
- Cancer Center Electrical Vault
- Parking Structure Maintenance
- Lee Todd Data Center
- Tobacco Research Parking Expansion
- UEM P3 Central Utility Plant
- Gatton Expansion
- Kirwan-Blanding Phase II
- Chandler UST Relocation

It should be noted that UK staff review all projects regardless of size and require EPSC plans/SWPPPs when necessary for the protection of stormwater. UK is undergoing yet another unprecedented construction boom. There are currently a total of 87 construction projects within the MS4 totaling 6.9 billion dollars. A map showing the location of these projects is included in **Appendix D-1**.

Does the MS4 or its designee perform plan reviews for land disturbances of one acre or larger, or smaller than one acre if part of a larger common plan of development or sale? Is there a standardized form that is used to review plans?

4.A
4.E.1 UK personnel review all construction projects, regardless of size, and require EPSC Plans/SWPPPs when necessary. LFUCG stormwater requirements have been adopted by UK, and as a result, EPSC Plans, Project Narratives, New Development or Redevelopment Executive Summaries, and SWPPPs are required for projects 1 acre or larger. Since 2023, UK has utilized their contract with Strand Associates, Inc to provide additional technical review of construction projects. This is a result of the retirement of staff and the significant increase in the number of construction projects on campus as discussed throughout this report.

Each item is reviewed by using a modified version of the LFUCG submittal checklist. Updated review and inspection checklists specific to the needs of UK have been created as part of the Stormwater Operations Manual – Guide to the Stormwater Construction Program. To improve project review efficiency and reduce submittal errors, effort was put forth in 2024 to draft standard design notes for designers to include on plans and updated draft review component checklists were created. These checklists are being provided to designers to ensure complete submittals and are also being utilized by reviewers to streamline/standardize the review process. Project comments are also now cataloged through the use of a Bluebeam Studio in addition to the checklists. While this additional step has created some difficulties related specifically to stormwater reviews, UK project managers believe the communication process between designers and stakeholders has been improved.

4.H Formal Procedures for Small Construction Projects–The majority of construction projects handled by UK Facilities occur in the interior of structures. Exterior projects typically consist of concrete sidewalk, curb, and gutter replacements. While a formal submittal checklist has not been developed for this process, EHS/EQM are notified of all project through a Master Project List. Necessary personnel have access to this list and can review smaller projects on an as needed basis. Further refinement of this process will be included in the construction stormwater process manual described above.

How many plan reviews for land disturbances of one acre or larger, or smaller than one acre if part of a larger common plan of development or sale, were conducted in 2025?

4.E As noted previously, all projects are reviewed regardless of size. As a requirement of the LFUCG stormwater manual, if there is an increase in impervious area, water quantity controls are required regardless of the size of the disturbed area. Therefore, designers are required to submit information for review and approval. With that being said, as noted above, 17 projects were reviewed during 2025. Information from these plan reviews has been tracked in a project review spreadsheet and will be included in ComplianceGo as integration with the new system is completed. This information is available upon request.

At what frequency are inspections occurring at active construction sites with land disturbances of one acre or larger, or smaller than one acre if part of a larger common plan of development or sale? How many inspections were conducted in 2025 at such sites? (Do not include inspections sites with land disturbances to which this criteria does not apply.)

4.D Inspections at active construction sites typically occur on a monthly basis; however, more frequent visits often take place. Compliance Go is used to complete site inspections and maintain documentation in its online database. To improve inspection quality, a review of each inspection report is completed by the Water Quality Compliance Manager prior to finalization. Moving forward, additional improvements are planned to implement additional functionality available through the Compliance Go system.

In 2025, in addition to ongoing compliance inspections, Strand Associates was brought in to perform site audits on four construction sites as a result of sediment tracking and other concerns. This included the Parking Structure 7 Expansion Project, New EQMC Building, Cancer Center Building, and Cancer Center Parking Garage projects. The findings from these audits are available upon request.

How many inspections in 2025 resulted in enforcement actions? Fines collected?

4.D.2 No construction site inspections resulted in enforcement actions.

Describe the escalating enforcement strategy utilized by the MS4 to respond to issues of non-compliance on applicable sites.

UK relies on contract language and design standards to direct the actions of contractors performing work. This escalating enforcement policy allows UK to hire a third party to remediate all BMP deficiencies and pass the cost onto the permittee of the KPDES Permit. In 2025, more formal draft escalating enforcement procedures were developed using LFUCG's policies as a basis which will be shared with stakeholders for review and comment in 2026.

Describe the training program for MS4 staff involved in the review of erosion and sediment control plans or Stormwater Pollution Prevention Plans. What qualifications do you require for plan reviewers to perform these tasks?

Kentucky Erosion Prevention and Sediment Control (KEPSC) is required by UK staff for plan review. EQM and CPM staff continually engage in workshops and trainings on changes being considered by LFUCG as noted throughout the report. EQM staff attend both the annual LFUCG Division of Water Quality Erosion and Sediment Control Training and the LFUCG MS4um. These events provide training and reminders about proper construction BMP installation along with documentation requirements. Additionally, EQM is developing a construction stormwater process manual as a single document that describes the project approach as it relates to stormwater and consolidates all the adopted requirements and documentation to assist staff in performing reviews.

Plan reviews are completed by EQM staff to provide comments back to the project manager and design team. Where additional expertise is required, plan reviews are completed by a licensed professional engineer at Strand Associates, Inc.

Describe the training program for MS4 staff involved in inspections of construction site erosion and sediment controls. What qualifications do you require for site inspectors to perform these tasks?

4.F Kentucky Erosion Prevention and Sediment Control (KEPSC)–UK personnel completed the "KEPSC Inspector Qualification Training" provided by the Kentucky Transportation Center on March 21, 2023 (the Water Quality Compliance Manager) and August 28, 2024 (the Water Quality Compliance Specialist). CMP staff responsible for regular inspection of construction sites completed the EPA CGP Site Inspector Training Course. EQM staff are due to complete the KEPSC recertification in 2026 and the CMP inspector will be completing the KEPSC certification in 2026 as well.

Erosion Prevention and Sediment Control (EPSC)–UK personnel completed the "DWQ Capital Projects Erosion and Sediment Control Training" provided by the LFUCG Division of Water Quality on October 27th, 2025 (the Water Quality Compliance Manager). The training certificate is included in **Appendix G.**

Describe any training given to operators/contractors in 2025? How often is training for operators/contractors conducted?

4.G
4.G.1
4.G.2
4.G.3
4.G.5 At the beginning of each project CPMD, and EQM staff notify designers of the project stormwater design standard requirements based on the project parameters. This typically includes the submittal of an EPSC Plan, SWPPP, and Executive Summary/Project Narrative. Before construction begins, CPMD staff attend a preconstruction meeting where stormwater requirements are discussed with the contractors. CPMD also provides compliance assistance and guidance during each of its site visits.

Contractors working at UK have several ongoing projects on campus. This leads to varying degrees of familiarity and understanding of UK's stormwater requirements. The level of instruction they require differs from contractors who may not work with UK as often. In response to this, EQM and CMPD staff make themselves available for questions that may arise during projects. In addition to project and site meetings, e-mail instruction is regularly provided.

Regarding specific training for contractors, UK has adopted LFUCG stormwater standards. Each year, LFUCG provides training for area contractors on its stormwater requirements and any updates that may have taken place. This year's MS4um, previously known as the Construction Industry Workshop, took place on December 19, 2025. Presentations and flyer are included in **Appendix D-2**.

More formal training information has been incorporated into the construction section of the Stormwater Website, including KYR 10 requirements, SWPPP development and requirements, and site inspection requirements. Further plans are to include a training program to educate contractors and designers on stormwater requirements and UK's

review process. The contractor training module development will take place in later years of this permit term or during the next permit cycle.

What is your budget for MCM #4?

As previously stated, UK's Stormwater Program is part of the EQM's overall budget, which is funded by an environmental service surcharge applicable to all UK departments. For this reason, funding for the program is very stable. A current budget is not specified for this MCM as monies are allocated on an as-needed basis. In 2025, over $25,000 was spent on project review assistance through Strand Associates. This MCM also uses a portion of UK's Capitol Projects Management Division's budget as the Construction Stormwater Inspector and individual Project Managers are funded through this department and are involved (directly or indirectly) in the management of stormwater on construction sites.

Please attach:

- Documentation of all site operator training that occurred in 2025. This should include copies of any training materials given to site operators or the web address of any online materials. For formal trainings, include the date and location the training was held, who conducted the training, sign-in sheets for participants, an agenda or brief description of the training, and copies of or links to any training materials used. For one-on-one trainings, include a log of when the training occurred, who was present, and a general description of topics discussed.
- Documentation of training received by MS4 staff in 2025 on the review of erosion and sediment control plans of Stormwater Pollution Prevention Plans.
- Documentation of training received by MS4 staff in 2025 on the inspection of construction site erosion and sediment controls.
- A sample copy of the permit used by the MS4 for land disturbances of one acre or larger.
- A sample copy of the form used to review plans for land disturbances of one acre or larger, if applicable.
- A sample copy of the construction site inspection form used by the MS4, if applicable.

The following documentation is included in the appendices:

Appendix D-1–Active Construction Map

Appendix D-2–MS4UM flyer and presentations

E. Post-construction Stormwater Management in New Development and Redevelopment:

Describe how the MS4 is implementing the post-construction stormwater management in new development or redevelopment requirements in your MS4; including the 80% stormwater treatment standard and the process for project review, approval, and enforcement.

5.A UK has adopted the design standards used by LFUCG in its Stormwater Manual as the recommended standard for UK projects. The Stormwater Manual can be located at the following web address: https://www.lexingtonky.gov/new-development. LFUCG uses the 90th percentile storm event (see Chapter 10) as its water quality standard. UK has also adopted the use of LFUCG's Executive Summary–Stormwater Management Plan for Re-Development and New Development to be completed for each re-development and new development project (copies can be found at the previously provided website address). Post-construction stormwater requirements are discussed with each design team as part of the project review process.

5.B UK has established contract language for construction managers and general contractors that require them to incorporate post-construction stormwater quality treatment into their design plans for all construction projects disturbing one acre or more. Enforcing these requirements through contract stipulations can be accomplished in an escalated fashion in that there are amounts of retainage that UK can withhold from any monthly progress payment or nullify any progress payment in whole or in part as necessary.

5.A.2 The need for the development of a Stormwater Master Plan for campus was added as Task 1.1 of the UK Sustainability Strategic Plan, and the potential scope is part of ongoing discussions. Currently in its seventh year, the Sustainability Strategic Plan underwent an update (SSP 2.0) and includes references to the UK Stormwater Program along with the goal to develop and adopt a Stormwater Master Plan as a main element. The final draft of SSP 2.0 includes Guiding Principle #5, Goal 1, "Demonstrate excellence and innovation in water conservation and stewardship." This update has priority actions to report annually on UK's water footprint, prioritize harvesting and infiltration of stormwater from construction projects by targeting diversion of at least 50 percent of stormwater on future projects, working towards adopting a stormwater master plan, and developing a baseline for water use per square foot by building use, and targeting annual improvements with a 10 percent over time. Development of a standalone Stormwater Master Plan is still under consideration to support planning for more centralized projects and a holistic perspective on the campus to allow for the further definition of best practices for campus. No formal timeframe has been developed for a decision, but considerations will continue to be given as ongoing discussions continue through the permit cycle.

5.A.1 Initial efforts were previously made toward finalizing a Memorandum of Understanding with LFUCG. Through ongoing discussions, it has been determined that the current relationship between LFUCG and UK is working and a MOU is not needed at this time. This can be revisited in the future, if needed.

In 2025, CPMD conducted several "Lessons Learned" Final Project meetings where recently completed projects were reviewed for weaknesses, issues, and deficiencies to improve the project review and construction process and prevent future issues from occurring. Stormwater-related feedback was provided. Projects reviewed by the PM included Jacobs Science Renovation, Delta Gamma, Bosworth Renovation, and Wildcat Wheels. A copy of the minutes for one of these meetings is included in **Appendix E-1.**

How many and what types of projects were reviewed for new and redevelopment considerations in 2025? What types of BMPs were installed or planned to be installed by the end of construction activities at applicable sites?

As noted in Part D, project plans were reviewed for 17 projects. Projects generally included new construction, renovation, and utility improvements to support campus activities. BMPs included extended detention basins, underground detention, pervious pavement, green roofs, and hydrodynamic separators.

Describe the training of staff in 2025 on the fundamentals of long-term stormwater-quality treatment management BMPs and in how to review such BMPs on construction plans. Who reviews construction plans for these BMPs for the MS4? What qualifications do you require for plan reviewers to perform these tasks?

5.B.1 EQM staff attend the annual LFUCG Workshop with the Engineering, Development, and Construction Industry, now referred to as the MS4um. This workshop provides an opportunity to learn about BMP implementation along with reminders about proper BMP design and documentation requirements. As mentioned in Section D, plan reviews are completed by EQM staff to provide comments back to the project manager and design team. Where additional expertise is required, plan reviews are completed by a licensed professional engineer at Strand Associates, Inc®.

Describe the training of staff in 2025 on how to inspect post-construction BMPs for long-term protection, operation and maintenance. Who inspects installed post-construction BMPs for the MS4? What qualifications do you require for BMP inspectors to perform these tasks?

In 2023, EQM staff and Strand completed the updates to the Post-Construction BMP Operation and Maintenance Manual. This manual provides information about the different types of post-construction BMPs found on campus, including background on their purpose, required operation and maintenance tasks, general guidance on how to complete necessary maintenance, and inspection protocols to promote a proactive response to BMP condition. Further, this information was applied to each post-construction structural BMP on campus though the development of the Preventative Maintenance Plan matrix that identifies what operation and maintenance tasks need to be completed and how frequently to complete them. More information about the Post-Construction BMP Operations and Maintenance Manual and Preventative Maintenance Plan matrix are included in Section 6.

Is the MS4 requiring long-term maintenance agreements for stormwater quality BMPs at new development and redevelopment projects?

UK's BMP maintenance is provided by one of two entities on campus: UK Utilities (UEM) or Grounds. All underground BMPs fall under the responsibility of Utilities while all aboveground BMPs fall to Grounds. UEM maintains BMPs on an as-needed basis while Grounds maintains many BMPs as part of routine campus maintenance. A list of BMP maintenance performed in 2025 is included in **Appendix E-2**. The FEMA project basins and stream restorations along Alumni Drive are currently being maintained via contract with EcoGro. The annual report for these areas is included in **Appendix E-3**.

5.D Over the past several years, UK has developed a public-private partnership with Greystar in the building and maintaining of new campus residence halls. Part of this partnership is the agreement that Greystar build and maintain the storm sewer system related to each of its on-campus properties. Each project has been required to meet stormwater requirements and, as a result, has post-construction stormwater BMPs that are the responsibility of Greystar to maintain. However, at this time, UEM has decided to take over ongoing maintenance of Greystar-installed BMPs following the recommended maintenance described in the UK-developed Preventative Maintenance Plan.

Describe the process for ongoing post-construction BMP inspections. With the goal of inspecting all such BMPs within the permit term. How many total post-construction BMPs are in the MS4? How many were inspected in 2025? Did any inspections discover a need for maintenance or repair by the owner? Did any enforcement actions result from these inspections? If your MS4 conducts a BMP owner self-inspection program, describe that program and how you maintain oversight.

5.C The post-construction inspection process begins with Notice of Terminations (NOT) Inspections that are completed as a part of the closeout process for each project. A NOT Inspection was completed by EQM and CMPD staff for the following projects in 2025:

- Memorial Coliseum - Completed June 27, 2025
- PS8 Expansion - Completed July 22, 2025

Following the inspection of 100 percent of the BMPs on campus in PY2, the program has returned to inspecting a minimum of 20 percent of aboveground BMPs and 100 percent of belowground BMPs annually. This is beyond what is technically required for permit compliance. The following is a summary of the BMP inspections that were completed in May and June of 2025. Inspection summary reports were prepared for both aboveground and underground BMPs. Copies of the reports are available upon request.

Total Number of Post-Construction BMPs	Post-Construction BMPs Inspected in 2025	Number of Post-Construction BMPs Requiring Maintenance or Repair	Number of Resulting Enforcement Actions
161	65	8	0

Describe any changes to local ordinances in 2025 to accommodate green infrastructure alternatives.

No changes to regulatory authority documents that impact green infrastructure alternatives were made in 2025.

What is your budget for MCM #5?

Post-Construction Stormwater is primarily implemented and maintained by four UK Departments: EQM, CPMD, Grounds, and Utilities, with each having its own independent budgets. EQM provides services such as consultation and inspection to UK regarding Post-Construction through an environmental service surcharge that is applied to all UK departments. As a result of this surcharge, EQM's budget is relatively stable and is used to support Post-Construction activities on an as-needed basis.

CPMD is responsible for the installation of BMPs as part of new construction. The budget for this department is in the millions of dollars, although only a small portion of that is dedicated to post-construction BMPs. Each project managed by CPMD has a specified budget that impacts the level of stormwater controls that can be installed for post-construction purposes. Once installed, ongoing maintenance of these BMPs is handled by Grounds or Utilities.

10.A UK Grounds is responsible for any aboveground BMPs, such as the FEMA detention basins, campus rain gardens, green roofs, or pervious pavement.

Utilities is responsible for any BMPs below the surface, such as the multiple underground detention basins on campus or any manufactured treatment devices (hydrodynamic separators, snouts, or baffle boxes). A portion of this division's budget is dedicated to stormwater system maintenance, including post-construction BMPs. This portion is likely to increase as the previously mentioned preventative maintenance program is developed.

During the development of the SWQMP, two direct costs were factored into the budget for MCM 5. They include the following:

2018 - 2023 SWQMP Estimated Budget

Task (#)	Task/Expense Discription	Min Cost ($)	Task Max Cost ($)	Task Year	Reoccurrence	Number of Years Multiplier	Total Min Cost ($)	Total Max Cost ($)	Funding Department
5.A.2	Development of Stormwater Masterplan	10000	50000	Two, Three, Four	One-Time	1	10000	50000	CPMD
5.D	Conduction of Routine Underground BMP Inspections	10000	20000	Annual	Annual	5	50000	100000	EMD or Utilities
5.D	Operation of Preventative Maintenance Program for Post-Construction BMP's			Annual	Annual	5			Utilities/Grounds

Because the Preventative Maintenance Program is still being implemented, no cost has yet been assigned to this task. Completion of the Preventative Maintenance Program development and associated maintenance costs as determined by the parties responsible for operation and maintenance will aid in this assessment.

Please attach:

- Documentation of MS4 staff training in post-construction stormwater management. This should include the date and location the training was held; who conducted the training; an agenda or brief description of the training; and copies of training certificates.
- A sample copy of the long-term maintenance agreement being implemented.
- A sample copy of a post-construction BMP maintenance inspection checklist used by your MS4 or for owner self-inspection, as applicable.
- A log of post-construction BMP owner self-inspection documentation oversight by your MS4, if applicable.

The following documentation is included in the appendices:

Appendix E-1– Wildcat Wheels Lessons Learned Meeting Minutes

Appendix E-2– Stormwater Quality Device Maintenance

Appendix E-3– EcoGro Natural Areas Stewardship Report

F. Pollution Prevention and Good Housekeeping for Municipal Operations:

The permittee must develop and implement a municipal Operation and Maintenance (O & M) program that includes a training component for municipal staff with the goal of preventing or reducing pollutant runoff from municipal operations. Please describe the progress the Pollution Prevention/Good Housekeeping Program has made in 2025.

The following Pollution Prevention and Good Housekeeping Activities occurred in 2025.

O&M:

6.A
- Stormwater Operations Manual–During this permit term, UK has been working on the development of a comprehensive Stormwater Operations Manual (Task 6.A) that will include all policies, procedures, and BMPs used to meet the MS4 permit requirements. Ongoing efforts include the development of additional sections and materials for inclusion in this manual as described below.

6.A.1.a
- Preventative Maintenance Program–EQM staff and Strand completed the initial version of the Preventative Maintenance Plan (PMP) for all UK-owned BMPs in 2023. The format of the PMP is a matrix listing all O&M tasks for each post-construction BMP on campus and identifying the frequency and timing of each task. These documents were shared with representatives from Utilities, Facilities, and Grounds to provide a forum to answer questions and initiate the process of entering the tasks into UK's work order system. Once O&M tasks are completed, confirmation should be sent back to EQM to allow for follow-up inspections to be completed. Because of the number of tasks and the effort to integrate them into the work order system, implementation is expected to take place over time. The initial stages of implementation continued in 2025.
- BMP Maintenance–In 2025, UEM performed cleaning of BMPs, including 21 Water Quality Units. A list of maintenance actions is included in **Appendix E-2**. Additionally, a new BMP at PS8 was added to the maintenance task list, the Stadium View Coal Pile BMP was remediated.

6.A.3
- Rainwater Harvesting and Monitoring–Based on past inspections of the rainwater harvesting systems O&M and current use, it has been determined that this topic needs additional discussion and planning. These efforts will include clarification of responsibilities through informing and training on O&M, needs, usage, and the LFUCG requirements associated with their operation. The procedures for rainwater harvesting system monitoring and reporting have been included in the BMP O&M Manual.
- Central Utility Plant Stormwater Harvesting–This system continues to be used to harvest water from a stormwater culvert for use in cooling at the Central Utility Plant. The system came online initially in July of 2023.
- As previously mentioned, because of the complexity of the vegetation installed as part of the FEMA project, Big Elm Fork restoration, and Alumni Stream restoration, EcoGro was hired to maintain these areas. This partnership began in 2016 and continued through 2025. Maintenance takes place periodically throughout the year. EcoGro's annual report is included in **Appendix E-3**.

6.E
- Steam and Chilled Water Infrastructure Priority List–As previously mentioned, the UK Utility Infrastructure Master Plan was completed in 2016 and evaluated necessary improvements to provide a tool to prioritize and budget for large capital projects. Maintenance and repair of the system are completed on an as-needed basis with active leaks being addressed immediately. The following is a partial list of repairs that were completed in 2025 with a total cost of approximately $74,500.
    - Condensate Leak Outside UHS
    - Good Barn Pipe Break
    - Barnhart Leak Repair
    - Huguelet Drive Broken Valve
    - Hospital Drive Vault Broken Fitting Repair
- The Pick It Up campaign was continued once again. Developed to support the work Grounds perform daily, the goal of this program is to passively promote a litter-free campus through the placement of additional receptacles and signage promoting trash disposal and recycling. Additional information about this task is included in Section A.
- Stormwater-related Infrastructure Maintenance and Repair Tasks–UEM made stormwater repairs to a problem area along University Drive in the vicinity of Cooling Plant 1 and Hospital Drive. These repairs were performed to alleviate flooding during heavy rain events and consisted of correcting an offset at an inlet and

fixing a sagged pipe. Storm sewer repairs had a total cost of approximately $67,000. Invoices are available upon request.

- Sanitary Sewer-related Infrastructure Maintenance and Repair Tasks–Repair and replacement with a cost of approximately $78,500 were completed in 2025. This includes repair of a backup at Alumni Gym, repairs at Pence Hall, and replacement of sanitary sewers at the Shawneetown apartments and 660 S Limestone. Repair and replacement of sanitary lines on campus has a direct impact on the reduction of potential water quality impairments.
- Domestic Water-related Infrastructure Maintenance and Repair Tasks–Repairs with a cost of approximately $73,000 were completed in 2025. This includes repairs at the Agriculture Science Center, the Alumni Drive roundabout, the Combs Cancer Research Building, Patterson Office Tower, and two locations along Patterson Drive. Addressing leading domestic water lines on campus has a direct impact on water quality.
- The following are updates on ongoing Water Quality Incentive Grants that have been awarded to UK by LFUCG.
    - Room to Breathe–Tree Soil Cell Retrofit ($360,000)–This is a 2022 infrastructure grant that is intended to help fund the installation of “tree cells” that will allow trees to be planted in campus hardscapes to grow to maturity and maximize stormwater interception. The latest design of the project included up to 12 trees with additional soil volume and pervious pavers. Bids for the project came back significantly higher than expected so an alternate project is being considered.
    - Shawneetown Stream Restoration ($316,000)–This was a 2023 infrastructure grant that would have implemented improvements to the drainage way and swale located along University Court at UK’s boundary adjacent to Baptist hospital and numerous residences that ultimately discharge to Big Elm Fork. The goal of the project was to prevent the stormwater from running in the roadway and to rehabilitate the grass swale to reduce erosion, improve inlet flow, and improve overall channel flow. Unfortunately, because of barriers to implementation, the project was cancelled and the grant was returned.
    - Athletics Complex Stormwater Improvements ($322,000)–This is a 2024 infrastructure grant based on the previously completed Feasibility Study. Previous developments to the project location removed a grass swale and directed flow to an underground conveyance system. However, later improvements to the Athletic complex reintroduced flow to the area which was previously a grass swale. This portion of flow is currently missing the stormwater conveyance system and causing damage to a downstream infiltration basin. Additionally, the excess moisture in the project location has led to the loss of recently installed tree canopy. This project will reintroduce a vegetated swale to this location and direct this portion of flow back to the underground conveyance system, allowing for the continued operation of the infiltration basin and the reintroduction of tree canopy along the mixed-use trail. In 2025, the grant and accounting setup processes neared completion, with the project set to begin in 2026. The grant application is included in **Appendix F-1.**
    - Hope Lodge Stormwater Improvements ($43,034)– This is a 2024 infrastructure grant based on the previously completed Feasibility Study. This study identified the area surrounding the Hope Lodge as an area with numerous stormwater concerns. Preliminary investigations found the concerns to be primarily due to runoff from the nearby Montclair neighborhood. This project would further narrow down proposed design elements, scope of work, and costs required to reduce localized flooding and improve stormwater conveyance. In 2025, the grant and accounting setup processes neared completion, with the project set to begin in 2026. The grant application is included in **Appendix F-1.**
    - Reforested Stormwater Basins ($37,000) - This is a 2025 infrastructure grant issued to faculty. This project aims to assess the feasibility and benefits of reforesting stormwater basins in Lexington and to share findings with the community. The study will monitor infiltration rates and water storage of the soil in both forested and mowed stormwater basins and green spaces and determine if the volume displaced by extra biomass of forested basins is worth the benefits they provide. The grant application is provided in **Appendix F-1** and a detailed description of the project can be found at https://scholars.uky.edu/en/projects/reforested-stormwater-basins-a-help-or-hindrance-to-stormwater-ma/.

6.A.4

- UEM began developing a Dig Permit Policy & Procedure Document in 2020. This document governs any trenching, excavation, or digging operations on campus. The original purpose was to prevent injury, avoid damage to property, and to ensure uninterrupted utility service. After review, EQM recommended that Stormwater Protection be added to create the policy and procedures surrounding stormwater protection during emergency and unplanned events. Additional updates have been made to the document relative to the utility location process, with plans for finalization once that is complete.
- EQM continued working to update the information included in the Environmental Handbook Fact Sheets, now known as Activity Information Sheets, which address activities performed on campus that have the potential to impact stormwater and provide BMPs to protect water quality. These will be included on the website, as appropriate, and in the Stormwater Operations Manual. Drafts are available upon request.
- In 2025, EQM hired a new Hazardous Materials Manager. Their responsibilities will include management of all ASTs, USTs, the SPCC program, and all Environmental Assessments. Since SPCC is part of the stormwater program, the new Hazardous Materials Manager will also be added to the Stakeholder Committee.

Pollution Prevention:

- UK has procedures in place whenever special events occur on campus. Event Services Coordinators from the Event Management Office contact staff from multiple UK departments to determine whether there are any issues, problems, concerns, or regulatory requirements that pertain to the event in question. The following are examples of unique events that occurred that needed to be assessed for stormwater pollution potential.
    - Holi Celebration at Memorial Hall Green
    - Colored Powder Event on Memorial Lawn
    - SAB Pigs in a Pasture
    - Sigma Nu Paint Wars
    - Pumpkin and Polls Pumpkin Painting
    - Big Boo Bash
    - Alpha Kappa Psi Pumpkin Painting Event
    - Pre-dental Society Pie a Team Captain

6.D

- Gluck Pond Waterfowl Management Efforts–Grounds introduced habitat manipulation in 2019. As a result of UK's goose management efforts, goose populations were reduced to a manageable level without the assistance of the USDA to remove geese in 2025. However, the vegetation around the pond was overtaken by weeds. When the weeds were removed, the issue with geese returned. New vegetation has established in the area and now that the plants have grown back, the goose population has decreased. Now, plantings need to be reconsidered for aesthetics.

Good Housekeeping:

- Stormwater Stakeholder Meetings were held in 2025 on April 4th, July 25th, and October 24th. Meeting minutes and presentations are provided in **Appendix F-2**.
- Storm Drain Assessments–Storm drain assessments were performed in 2025 by the water quality interns. More information about these assessments is available in Section B. Copies of the assessment results and map are included in **Appendix B**.
- Campus Street Sweeping
    - While not a formal task within the SWQMP, the operation of the sweeper is an important part of UK's Good Housekeeping and Pollution Prevention approach. UK originally purchased a street sweeper in 2017, with a targeted operation schedule of 5 days each week, for a total of 40 hours per week, with an extra focus on the areas around the coal piles. However, ongoing maintenance issues hampered the ability to meet the operations goal. Street sweeping has now been contracted while administration determines the best option moving forward. Contract operations began in 2024 and include an updated operating schedule.

6.A.1.a

- Strand Associates has been providing additional assistance in the completion of SWQMP tasks since 2019. This contract was extended through June 2025. To date, Strand has assisted in tasks including, but not limited to, the following:
    - Post-Construction BMP Inspection Reports
    - Outfall Inspection Reports
    - SWQMP Update and Schedule Modifications
    - IDDE Plan Update
    - Stormwater O&M Development
    - Fact Sheet Updates
    - BMP Operations and Maintenance Plan Update
    - Preventative Maintenance Plan Development
    - General Stormwater Training
    - Groundwater Protection Plan Update
- In an effort to maintain stormwater program assistance services, EQM issued an MS4 Permit Compliance Assistance Request for Proposals (RFP) in April 2025. The contract resulting from this RFP extends these services through June 30, 2035. Upon completion of the proposal and selection process, Strand Associates was selected to continue providing services through the new contract term.
- Compliance Go–Due to the retirement of the MS4 software, a new compliance tracking software was required. In the first half of 2024, a variety of platforms were evaluated, and a recommendation was made to EQM to transition to Compliance Go. Through the middle of 2025, the existing data was exported out of MS4 Web and archived for future reference. Asset attributes were imported into Compliance Go and new inspection forms and processes were developed. Construction Site Inspections began immediately after MS4 Web was retired, and implementation of new forms and protocols continued through 2025 including SPCC and GPP inspections. Annual inspections for post-construction BMPs performed in 2025 used this new system with forms and protocols being adjusted as needed. Onboarding efforts will continue through 2026.
- In-Vessel Composting System–In 2024, a new in-vessel composting system was installed on south campus in the Physical Plant Division's storage area off Stadium View Drive. The composter is fed with pre-sorted food waste generated on campus mixed with a bulking agent such as wood chips, chopped weeds, or leaves. The material is processed in the vessel through auger mixing and positive aeration to produce compost. Once the process is complete, the compost material is transferred to a covered concrete pad until it is used as mulch around campus. This process continued throughout 2025. The implementation of this system and process required an assessment of regulatory requirements and environmental impacts. This system has been incorporated in the requirements for the updated Groundwater Protection Plan, which will be recertified in 2026.
- Sinkhole Management–A sinkhole opened in Woodland Glenn near the Hydrodynamic Separators adjacent to the Woodland Glenn V dormitory. Addressing this surface failure included resistivity testing, exploration of the throat thought excavation, testing the infiltration rates, and installing a geotextile-lined aggregate backfill to allow continued infiltration while allowing the soil backfill to stay in place. Grounds performed site improvement and stabilization efforts in Woodland Glenn post sink hole remediation efforts in 2025.
- Bioretention Maintenance–Due to excessive sediment infiltration from materials being stored upstream, EcoGro was contracted to remediate the Stadium View Bioretention Basin in 2025. This included addressing the upstream issues as well as removing four tons of debris from the basin.
- Six rain gardens along Limestone/Avenue of Champions were given to the University in 2025.The rain gardens have since been maintained by Utilities. Photos are available in **Appendix F-3**.
- BMP Maintenance - UEM continued with their routine annual Water Quality Unit cleaning efforts. A list of the locations and cleaning dates is provided in **Appendix E-2.**
- Removal of coal boilers at Central Heating Plant - Coal boilers, a coal hopper, and a coal pile were removed from the Central Heating Plant. This resulted in reduction of pollutant loading and allowed for the removal of a storm drain BMP. Remaining BMPs at the coal pile are being left in place until the final closeout of the location.

Has a comprehensive assessment of the pollutant discharge potential for all municipally-owned facilities been conducted? If not, indicate a status and planned completion date.

The following assessments have been completed to date regarding pollutant discharge potential.

- CEC was hired in 2010 to assess all campus buildings with floor drains for their potential to cause an illicit stormwater discharge. More than 200 UK buildings were identified to have floor drains. After screening out those that were not located within the MS4 boundaries and those that were known to be connected to sanitary sewer, the hospital cafeterias were excluded. Three priority buildings were identified that needed further investigation or repairs:
    - The greenhouses near Veterans and Hospital Drives
    - Cooling Plant No. 1
    - The College of Agriculture Motor Pool
- In October 2011, the storm drains under Cooling Plant No.1 were rerouted to sanitary sewer. During approximately the same time frame, dye testing was conducted at the Ag Motor Pool and showed that the floor drains were already directed to the sanitary sewer. Further investigations found that the greenhouses were indeed directed to the storm sewer system. In 2016, construction was completed redirecting Greenhouses 1, 3, 5, 7, 9, and 11 to the sanitary sewer system.
- An inventory of facilities and maintenance activities on campus was conducted in 2010. In 2012, this inventory was updated, and 57 facility inspections were conducted. An additional 11 facilities were inspected in 2013.
- In 2015, UK commissioned the creation of a Utility Infrastructure Master Plan. Completed in January 2016, the goals of this plan are to:
    - Identify existing energy and utility system capacities
    - Identify deficiencies and inefficiencies
    - Account for future growth over the next 20 years
    - Recommend improvements

  The campus energy and utility systems being included in this plan are: heating, cooling, electrical, domestic water, sanitary sewer, and stormwater. Primary objectives have been developed for each of these utilities. The primary objectives for stormwater include:
    - Completing a detailed condition analysis of the existing system
    - Building a hydraulic model and conducting a capacity analysis of the existing system
    - Identifying deficiencies in the system
    - Providing recommendations that can be used to determine where future growth can best be accommodated
- In 2017, Environmental Audits of all UK Utility Plants were performed in order to assess environmental compliance at each location. These audits included a thorough inspection to determine any potential impacts to stormwater.
- In 2024, UK worked with Terracon to update the Spill Prevention Control and Countermeasure plans that cover the major operational divisions on campus. This included a restructuring of the manuals into the following five areas:
    - Campus Facilities Management
    - Martin-Gatton College of Agriculture, Food, and Environment Facilities
    - Medical Center Facilities Management
    - Good Samaritan Hospital
    - Utilities and Energy Management

  Each area has been assessed for stormwater discharge potential related to petroleum products and is required to be inspected monthly and annually. Plans have been certified by the engineer and are available upon request.
- The Peterson Garage floor drains were reassessed in 2019 to confirm their connection to the sanitary sewer system, rather than to storm sewer. Further evaluation, including a review of the record drawings, confirmed the drains are connected to sanitary sewer.
- The Groundwater Protection Plan for campus was rewritten in 2019. As part of the update process, the regulated activities at UK with the potential to impact groundwater were assessed, the locations and activities

inspected, and the plan updated to reflect current BMPs. A copy of the updated plan was included in the 2019 Annual Report. In 2022, inspection checklists were created for each activity covered under the plan, inspections of all activities were performed, and an updated draft of the plan was developed. The plan was further updated in 2025 with additional covered activities being added. The plan will be finalized and recertified in 2026. Inspections are completed annually and inspection summary reports are provided to stakeholders. Copies of the inspection checklists and draft plan are available upon request.

Have BMPs been installed/implemented to address the pollutant discharge potential for all municipally-owned facilities?

As mentioned above, the Spill Prevention Control and Countermeasure plans and Groundwater Protection Plan cover the requirements for both structural and non-structural BMPs at UK facilities.

Is the Operation and Maintenance Program/Plan written? If it is not written, indicate a status and planned completion date.

- UK originally created an Environmental Protection Handbook in 2013 to serve the needs of main campus operations. This document contains Fact Sheets for a variety of campus activities that have the potential to impact stormwater. The Fact Sheets within this handbook have been updated and converted to Activity Information Sheets that will be housed on the stormwater website and are available for use in personnel briefings.

  UK has also developed several additional policy manuals including:

  - Grounds Stormwater Policies and Procedures
  - PPD Contractor Handbook
  - Post-Construction BMP O&M Manual
  - UK Landscape Guidelines
  - PPD Dewatering Bag SOP
  - Stadium and Parking Garage Washdown SOPs

  These additional manuals are discussed in more detail and can be accessed on the University Operations and Stormwater portion of the Stormwater Website.

- A Hazard Mitigation Plan has been developed to reduce risks from natural and human-caused hazards. Completed in 2023, the document consists of a mitigation strategy and a suite of actions based on a comprehensive risk assessment and input from a wide range of University stakeholders. Several of the mitigation actions proposed by this plan have the potential to impact the stormwater program. They include conducting campus karst assessments and monitoring karst activity, maintaining the Tree Inventory, securing funding for and the development of a campus stormwater masterplan to address stormwater flow/volume, securing funding and for the development of a sanitary sewer master plan, documenting and mapping indoor shut off valves and equipment, and performing thermal imagery flyovers in order to identify and eliminate utility leaks. More information can be found on the Hazard Mitigation Plan website.

6.A.5

- Policy for Unknown Spill Cleanup–The procedures for response, notification, and proper cleanup of unknown spills are covered within the UK IDDE Field Protocol Plan, EQM Stormwater Website, and UK General Stormwater Training. It is also covered in the updated Activity Information Sheets to be used in staff training.

- O&M manuals are required to be provided for each post-construction stormwater BMP installed with new construction.

- During this permit term, UK has been working on the development of a comprehensive Stormwater Operations Manual (Task 6.A) that will include all policies, procedures, and BMPs used to meet the MS4 permit requirements. As previously mentioned, there are various SOPs and policies that protect stormwater throughout campus. The goal of this task is to integrate all existing information into one manual, update that information, and create new policies and procedures to improve permit compliance.

  As part of this manual, the existing O&M manual has been updated to include specific maintenance requirements for each BMP on campus. These requirements are all included in the Preventative Maintenance Plan matrix listing all O&M tasks for each post-construction BMP on campus and identifying the frequency and timing of each task to be entered into UK's work order system. Because of the number of tasks and the effort to integrate them into the work order system, implementation is expected to take place over time.

Certain maintenance tasks may be assigned to outside contractors for completion. The development and implementation of this manual will be an ongoing effort throughout this and subsequent permit cycles.

Provide a general summary of how your Operations & Maintenance Plan provides for the inspection of structural and non-structural BMPs at municipal facilities (as described in KYG200000 section 2.2.6.3.) This summary should include the frequency of inspections, who is responsible for conducting the inspections, and what written documents are referenced for inspection criteria.

Two plans exist that govern UK facilities and operations: the SPCC and the GPP. Each of these plans require routine inspections of facilities and activities. The SPCC plan targets oil handling and spills associated with facilities. Stormwater inspections are now being conducted at each utility plant in conjunction with monthly SPCC inspections. As previously mentioned, there are SPCC plans for the five major operational areas of campus:

- Campus Facilities Management
- Martin-Gatton College of Agriculture, Food, and Environment Facilities
- Medical Center Facilities Management
- Good Samaritan Hospital
- Utilities and Energy Management

Each area has been assessed for stormwater discharge potential related to petroleum products and is required to be inspected monthly and annually. All plans have been certified by an engineer. Annual inspections were completed for all tanks and drums included in each of the five SPCC plans in 2025. Inspection summary reports were provided to stakeholders in the first quarter of 2026. Copies of the SPCC plans are available upon request.

The UK Groundwater Protection Plan was updated in 2019. This included inspection schedules, specifying the type of equipment and storage systems inspected, examples of general issues that may occur, and the required frequency of the inspections. A copy of the plan was included in the 2019 Annual Report. The GPP covers activities that take place on campus that may impact groundwater. These activities include:

- Pesticide or fertilizer application for institutional lawn care.
- Storage, treatment, disposal, or handling of hazardous waste, solid waste, or special waste in drums, or other containers.
- Commercial storing or related handling in bulk quantities of raw materials, intermediate substances or products, finished products, substances held for recycling, or other pollutants held in tanks, drums, or other containers (or in piles).
- Storing or related handling of deicing agents at a central location.
- Application of related handling of deicing materials.

In 2022, new annual GPP compliance checklists were developed for each activity associated with the plan and utilized for the annual compliance inspections. In 2025, work continued on a complete document overhaul of the GPP to incorporate necessary updates and new AIS's into the plan. Recertification of the updated plan will be completed in 2026. Annual inspections of the locations specified in the plan were also completed in 2025.

Describe any training presented to staff on pollution prevention/good housekeeping in 2025. What municipal staff activities are covered by this training?

The following trainings were provided relating to pollution prevention and good housekeeping in 2025.

6.B

- General Stormwater Employee Training–The online general stormwater training is available for all necessary staff to take annually. The Facilities Training Coordinator assigns this training to employees. The Stormwater Website also has a training section that provides information to aid supervisors in creating training to be conducted during safety and staff meetings on a routine or as-needed basis. Supervisors can assess those staff that perform activities capable of impacting stormwater and determine whether training is needed or has been received. Supervisors can develop or update training as necessary to discuss stormwater protection during job-related activities. General Stormwater Training documentation is available in **Appendix F-4**.
- Comprehensive SPCC and GPP Web Based Training–Training was developed in 2022 and made available for use via the University's online training platform. The Training Coordinator has assigned this training to employees in the following departments: Campus PPD, Medical Center PPD, Utilities and Energy Management, and Grounds. The training includes SPCC topics such as: General Awareness, What is an SPCC Plan and the Definition of Oil, Contents of the SPCC Plan, Applicable Laws and Regulations, UK

Specific Oil Handling and Oil Spill Response Procedures, Inspection Requirements, Discharge Control and Cleanup, a Review of Spill Pathways in the Area, as well as Groundwater Protection topics such as: Plan Contents, Applicable Regulations, and Plan Practices and Responsibilities. More detail about the training can be found in the 2022 Annual Report. SPCC and GPP Training Documentation is included in **Appendix F-5**.

- Stormwater Website Training Page–The updated Stormwater Website has a Training Page that includes a variety of training resources for Staff and Contractors related to preventing or reducing pollutant runoff from UK operations. Resources on this page have been previously mentioned throughout the various sections of this report and include Available Stormwater Training, Fact Sheets to support Departmental and Activity Specific operations, IDDE, SPCC and GPP Training, and Construction Stormwater Training. As additional materials are developed, they will be added to the website.

What is your budget for MCM #6?

EQM provides consultation and services to UK regarding Pollution Prevention and Good Housekeeping through funding provided by an environmental service surcharge applicable to all UK departments. As a result of this surcharge, EQM's budget is relatively stable and is used to support O&M needs on an as-needed basis. Depending upon the activity, need, or project, additional funding sources from other UK departments (e.g., PPD, Athletics) may be used.

With the development of the 2018 to 2023 SWQMP, an estimated budget was created for those tasks with associated direct costs. The following chart provides the potential costs for several MCM 6 tasks:

2018 - 2023 SWQMP Estimated Budget

Task (#)	Task/Expense Discription	Min Cost ($)	Task Max Cost ($)	Task Year	Reoccurrence	Number of Years Multiplier	Total Min Cost ($)	Total Max Cost ($)	Funding Department
6.A	Development of Stormwater Operations Manual		50,000	Year 5 completion	One-Time	1	50000	50000	EMD
6.A.1.b	Increased Recurring Maintenance Costs Based on Completed O&M Manual			Annual	Annual	5			Utilities/Grounds
6.C	Coal Pile Pollution Prevention Assessments and Upgrades	2000	15000	Four	One-Time	1	2000	15000	Utilities
6.D	Gluck Pond Alternative Management for Geese (Landscaping)		20000	Year 4 completion	One-Time	4	80000	80000	Grounds
6.D	Assessment of Waterfowl Impact and Management Program	4000	20000	Annually	Annually for permit term	5	20000	100000	Grounds

Please attach:

- Documentation of municipal staff training events. This should include the date and location the training was held, who conducted the training, sign-in sheets for participants, an agenda or brief description of the training, and copies of or links to any training materials used.
- A sample copy of an inspection checklist/document for a structural or non-structural BMP at a municipal facility.
- Any other documentation you feel would help describe how your Pollution Prevention and Good Housekeeping for Municipal Operations program is managed.

The following documentation is attached in the appendices referenced above.

Appendix F-1–LFUCG Water Quality Incentive Grant Applications

Appendix F-2–Stormwater Stakeholder Meeting Minutes

Appendix F-3– Limestone/Avenue of Champions Rain Garden Maintenance Photos

Appendix F-4–General Stormwater Training Documentation

Appendix F-5–Spill Prevention & Control Countermeasures Training Documentation

PART D: MISCELLANEOUS INFORMATION

Provide any data regarding the following indicators (if applicable). Attach separate sheets as necessary, and indicate, as appropriate, the rationale behind not using a listed indicator.

12. Small MS4 Training

One person responsible for permit implementation is to receive at least 12 hours of documented training annually, related to furthering MS4 goals and objectives. List the person that received this training in 2025 and attach documentation for the training they received.

Kevin Lewis, Water Quality Compliance Manager for UK, is responsible for permit implementation and attended/ participated in the following trainings:

- KSA Quarterly Meeting (March 12th – 1 hr)
- KSA Quarterly Meeting (December 17th – 2 hrs)
- KSA Annual Conference (July 9th-12th – 9 hrs)
- Webinar: Capturing Stormwater - Green Infrastructure for Small Systems (September 18th – 1.5hrs)
- LFUCG Annual EPSC Training (October 17th – 1 hrs)
- LFUCG Annual Engineering, Development, and Construction Industry Workshop (MS4UM) (December 19th – 3 hrs)
- LFUCG SSAC Meeting (March 7th -- 2 hrs)
- LFUCG SSAC Meeting (September 5th -- 2 hrs)

Certificates for these activities, if available, are included in **Appendix G**.

13. Stormwater Quality Management Plan

a.) Have there been any changes to the urbanized area covered by the MS4? If yes, is this reflected by updates to the SWQMP? Have you provided an updated MS4 Map to the KDOW?

UK routinely acquires properties adjacent to the MS4 boundary that are subsequently absorbed into the MS4 area. These properties are typically older houses that are retained until such time as UK decides to develop them and are typically rented or remain vacant until that time. Contractors provide basic maintenance for these assets. As properties are acquired and sales are final, UK's Real Estate Services Division communicates the new acquisitions to GIS, who updates the UK map. The main UK map can be found on the Facilities Management website: http://www.ppd.uky.edu/map/ and contains a base layer entitled "UK Owned" that displays the main campus boundary, including all the latest additions. The MS4 map is based on this boundary and is updated annually/as needed. Because of the routine incremental increase in the MS4 Boundary, the "UK Owned" map is the most up-to-date source of property information. This is facilitated through the procedures outlined in the previously discussed MS4 Boundary Expansion Process developed though Task 3.A.2.

b.) Are there any proposed changes to the goals or BMPs in the SWQMP?

Most of 2018 was spent assessing the previous SWQMP, strengths and weaknesses of UK's MS4 program, and developing a robust SWQMP to strengthen compliance with the permit, improve UK operations, and improve campus water quality. This includes a total of 106 tasks, 80 of them new for the permit cycle, and a total of 225 measurable goals.

The original SWQMP extended to the end of PY5 on April 30, 2023. Following expiration, the conditions and requirements of this version of KYG20 Permit remain in effect until DOW reissues the permit. As such, progress has continued with ongoing tasks and towards the completion of tasks that are not yet completed to the satisfaction of UK. As shown in the SWQMP summary table in **Appendix H**, all ongoing and incomplete tasks are noted for continuation until such time as a new KYG20 permit is issued and a new SWQMP is developed.

14. Discuss any problems encountered during this period (include any BMP changes in response to problems encountered). Include any overall program weaknesses and your plan for addressing those.

Since implementation began for UK's aggressive SWQMP, several challenges have been identified that have resulted in extended time frames for tasks to allow the full effort to be completed. As mentioned, these include lessons learned

on the time taken to complete tasks, the impact of the existing workload of stakeholders, the impact of personnel changes, and the volume of construction projects currently in progress at UK. Rapid growth is leading to numerous major capital projects with aligned schedules. These major projects require review and tracking for both construction and post-construction BMPs along with documentation. Increased volume of plan reviews and reduced staff to support them have, in some instances, shifted focus away from further progress on some SWQMP tasks and have required outside assistance. While EQM maintains responsibility for project reviews, significant assistance with these reviews has been contracted to Strand Associates, Inc. These efforts continued through 2025 as construction continues to progress with a total of 87 construction projects totaling 6.9 billion dollars.

MCMs 1 and 2 have been an ongoing struggle during the permit term. Starting with the abandoned partnerships with TFISE and KWRI, the program has gone through a variety of personnel changes. Also, the outreach survey was completed in 2021 but has not been effectively used to direct messaging to the public. However, this program has finally begun to see significant improvement following the hiring of the current EQM Water Quality Compliance Specialist. Interns from the Sustainability Internship Program are now being leveraged to further develop the Outreach, Education, and Public Participation programs and find new opportunities to reach the public. Additional improvements are also planned for the Stormwater Website that was completed in 2021.

MCM 3 saw many improvements over the permit term including the development of an Illicit Discharge Reporting Tool. Unfortunately, it has been difficult to get the public to use the tool to report discharges. Efforts were made to improve awareness by adding a QR code with a link to the reporting tool on the drain markers that were redesigned in 2025, however, additional tools will need to be developed to further improved outreach and education.

MCM 4 has been a big focus over the last couple of years with the significant increase in the volume of construction activity on campus. Recurring issues with submittals, construction entrances, and construction-related illicit discharges has led to a variety of improvements. These improvements include revisions to the EPSC Plan, SWPPP Narrative, and Drainage Submittal review checklists, development of standard notes for EPSC Plans, and ongoing work on contractor education through the development of Activity Information Sheets in direct response to recurring issues.

MCM 5 has been a program focus area for the entire permit term starting with the baseline review and catalog of all post-construction BMPs and associated data in 2019. The current construction activity has further increased the focus on this area because of the additional BMPs that have been installed and issues with the timely submittal of documentation and appropriate KYR10 permit closeout. In response, a formal NOT inspection process has been developed with an agenda and checklist to clarify both permit and UK requirements. Moving forward, an ongoing focus on post-construction BMP maintenance will be important to protect the investment that UK has made in protecting water quality.

MCM 6 covers a substantial number of activities that occur on campus through Facilities, Utilities, and Grounds. The biggest struggle in this area is that stakeholders and staff don’t always realize how their activities are impacting stormwater and the steps they can take to protect it. The previously completed annual Stormwater Training was intended to fill these gaps, but other issues have developed that need to be addressed. Additional Activity Information Sheets have been developed in response to recurring issues, but additional training and awareness initiatives will need to take place through improved MCM 1 outreach and education efforts.

Overall, efforts are underway to streamline program activities to develop efficiencies under current staff and time constraints while continuing to advance the program. Efforts will continue to be made to respond to recurring issues that are identified on campus.

15. Identify any new funding source(s) for implementing this permit.

In 2024, two Stormwater Quality Incentive Grants were received from LFUCG totaling approximately $365,034 for the Athletics Complex Stormwater Improvements and Hope Lodge Stormwater Improvements projects. The projects are described in greater detail above in Section F.

In 2025, another Stormwater Quality Incentive Grant totaling $30,698 was received from LFUCG for a study on planting pocket forests in stormwater basins. More information on this study is available in Section F.

Also in 2025, KWRI was awarded a Sustainability Challenge Grant totaling $49,566.66 from UK Sustainability to develop a digital twin model of a Post-Construction BMP for use as an educational tool for faculty and to monitor long-term performance. More information on this grant is included in Section B.

Through the previous planning grant, UK is actively planning for the pursuit of additional grant opportunities to leverage towards water quality and program improvements.

16. Provide a summary of complaints received and the follow-up actions taken in reference to storm water quality issues.

The number of complaints received is discussed in **Section C** of this report, and all complaints and illicit discharge reports from 2025 are included in **Appendix C-1**.

17. Implementation status:

a. Are the six minimum control measures being implemented within the compliance schedule and SWQMP timetables?

☐Yes ☒No*

* If no, submit revised compliance schedule and SWQMP Timetables.

As previously noted in questions 13 and 14, while a significant amount of work has been completed on tasks both in and outside the original scope of the SWQMP, several tasks have implementation schedules that are being expanded to allow for the full effort to be completed.

b. Do you foresee any problems which may affect full implementation of all the measures?

☒Yes ☐ No*

* If yes, explain:

The 2018 to 2023 SWQMP is comprehensive, ambitious, and requires assistance from multiple stakeholders to be completed. While every effort will be made to complete all assigned tasks and measurable goals within the assigned time frame, the possibility remains that tasks may not be completed by the goal specified in the plan. A tracking spreadsheet has been developed to monitor progress, and routine update meetings will be held to assess efforts. Time frames have been and will continue to be adjusted annually as necessary.

18. Do you have any impaired streams? If so, impaired for what pollutant? List all impaired Waters of the Commonwealth which receive discharges from the MS4, as well as the cause of impairment for each.

Areas of UK's MS4 drain to Town Branch, Wolf Run, and West Hickman Creek. Based on the KDOW 2024 303(d) list, segments of West Hickman, Wolf Run, and Town Branch, along with many of their tributaries, are impaired. None of these impaired stream segments or tributaries are within UK's boundary, with the exception of Big Elm Fork (listed as Vaughn's Branch UT 0.0 to 1.85).

Newly listed in 2016, the section of Big Elm Fork that begins at the outlet of the Greg Page underground detention basin and continues to the WR-1 Outfall at the corner of Alumni Drive and Nicholasville Road does not support aquatic life and partially supports swimming, fishing, wading, and boating because of specific conductance, E. coli, and Fecal Coliform impairments. The data used to make this determination was collected in 2011 and 2012. It is important to note that since that time, the entire watershed has undergone a major redesign due to the efforts of the FEMA Flood Mitigation Project as well as the rerouting and redesign of Alumni Drive. Also, in 2016, an illicit discharge to this watershed was discovered coming from a storm drain line in the Shawneetown area. Caused by wastewater intrusion from a nearby sewer line, the problem was identified and eliminated in 2017. Since that time, follow-up samples have shown a sharp decrease in E. coli concentrations. With remaining numbers still above the water quality standard, investigation and remediation efforts in the area are still underway. As mentioned in previous annual reports, all brick manholes in the Shawneetown area have been sealed, tree roots have been removed from the sewer lines, and documents have been prepared to support remaining line repair and replacement. In 2025, following a sanitary sewer overflow from the LFUCG sewer line, further investigation identified suspected infiltration of sanitary into storm and a leaking manhole. Approximately 200 linear feet of 6-inch sanitary sewer was replaced to address these issues.

19. TMDL–Do you have a TMDL in your MS4? For which stream segments? What is the impairment?

There are two TMDLs associated with UK's MS4: The South Elkhorn Creek Fecal Coliform and E. Coli TMDL and the Kentucky Statewide TMDL for Bacteria Impaired Waters.

The South Elkhorn TMDL includes the following stream segments associated with UK: section 0.0 to 4.4 of Wolf Run Creek and section 10.8 to 12.1 of Town Branch Creek. These stream segments are not located within the boundary of UK's MS4; however, UK is located within the overall watershed represented by the TMDL.

The 2019 statewide TMDL addressing the numerous bacteria-impaired waterbodies found throughout Kentucky includes Big Elm Fork (listed as Vaughn's Branch UT 0.0 to 1.85). Even though a TMDL has yet to be developed for Big Elm Fork's other impairments, UK is addressing them through tasks included in the SWQMP. Task 8A requires BMPs to be implemented, including sewer line evaluation and repair, sealing brick manholes, evaluating RV grey and blackwater discharge during tailgating events, monitoring, and waterfowl management, to name a few.

20. Have there been any improvements in receiving water quality due to watershed activities in 2025?

Outfall dry-weather screenings have not revealed any illicit discharges or apparent degradation to water quality. Since water quality sampling is not a requirement of the permit, there is no quantitative data to show improvements. However, as mentioned throughout the report, efforts toward addressing pollutants of concern, like the water harvesting system, resources put towards significant sewer line repairs, and updates to the SPCC and GPP, it is anticipated that attention to these and other programs has had positive improvements toward water quality in the receiving waters.

21. What can the Division of Water do to assist you with program compliance?

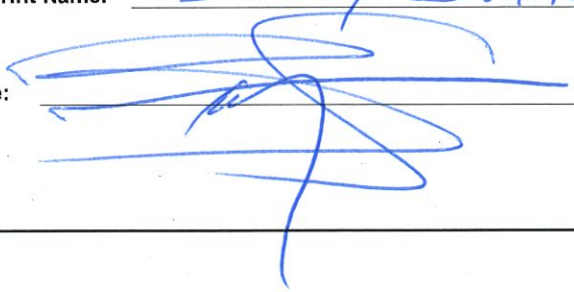
Nothing at this time.

PART E: CERTIFICATION AND SIGNATURE

► **The individual completing this report, listed in "PART A: GENERAL INFORMATION – MS4 OPERATOR" must sign the following certification statement:**

"By signing this annual report, I hereby 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 that 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."

Type or Print Name: Darry Swanson

Signature: 

Date: 4/10/2026
(mm/dd/year)

APPENDIX A

Public Education and Outreach

Included Documentation

Stormwater Intern Progress Update & Flyer

Stormwater Website Analytics

Sustainability Facebook Posts

Sustainability Showcase

Water Resources Annual Symposium Proceedings

Arbor Day

Sustainability Festival

Facilities Management Newsletters

UEM Weekly Wire

Facilities Training Newsletters

UKNow Articles

KWRI Sponsored Publications

LFUCG and UK MS4 Collaboration Meeting

LFUCG Stormwater Stakeholder Advisory Committee Meeting Agendas

APPENDIX A

Public Education and Outreach

Stormwater Intern Progress Update & Flyer

University of Kentucky
Environmental Health
and Safety Division
Environmental Quality Management

Stormwater Intern Progress Update – February 2026

1. **Stormwater Outreach Give Away Item Selection and Design**
   - Both interns selected purposeful items & drafted graphic designs to promote the Stormwater Program – currently in review
2. **Public Event Participation – 3 Events in 2025**
   - Participated in public events to promote stormwater awareness and encourage participation. Updated & distributed stormwater awareness & EQMD materials, demonstrated the Ward's stormwater model.
     i. Sustainability Festival @ Shawneetown – 150 ppl reached - Sarah
     ii. Sustainability Showcase – 100 ppl reached - Sarah & Briana
     iii. UK Arbor Day @ Arboretum – 1,380 ppl reached – Sarah & Briana
3. **Stormwater Awareness Presentation & SDMP Field Day Development**
   - Both interns assisted in developing a 1-hour Sustainable Office Certification Program education & participation event (15-slide PPT; 45-minute field instruction).
   - Status: Initial event was postponed for Summer or Fall 2026 cohort cycle(s).
4. **Storm Drain Marking Program (SDMP)**
   - 193 Drains assessed in Fall (Sarah 108, Briana 85). To resume in spring.
   - Both interns identified areas in Zones 1-6 that may not be appropriate for marking based on campus optics (i.e. Admin red zone or Memorial Coliseum).
     - Zones 7-17 will be assessed this spring.
     - Sarah to chart zones by late March for mapping updates.
   - Both interns researched student organizations for volunteer recruitment; contact list to be updated in directory.
   - Briana tasked to review/update SDMP training materials. Due March 13th.
   - Both interns will coordinate a Water Week public participation activity.
     - Sarah tasked to create an event flyer for campus distribution, March 1st. Briana tasked to update training, March 13th.
     - Both will prerecord interview with campus radio station, "Green Talks".
5. **Briana Sustainability Internship Program (SIP) Independent Project** – due late April.
   - Developing a promotional video and transcript to publicly share on Stormwater webpage - how pollution impacts local waterways and how to identify/report illicit discharges.
6. **Sarah SIP Independent Project** – due late April.
   - Developing an AFE 100 education module (18-slide PPT, training summary/activity event) to teach new/1st year CAFE students about general stormwater awareness and the UK MS4 stormwater program. Will be administered by CAFE instructors annually.
7. **Stormwater Webpages Updates**
   - Briana will update the "Educational Resources" page
   - Both interns to update at least one project on "Protecting our Streams" page.

8. **Public Outreach, Education, and Public Participation Program Development**
    - Both interns are assisting to strengthen the public outreach, education, and participation program by creating draft framework to update the Stormwater Quality Management Plan. To be completed in late April.
        i. Completed by 1/30/26 - Research campus pollutants of concern & pollution generating activity. Table created.
        ii. *In-progress* - Compile/identify stakeholder audiences based on pollutant generating activities. Profiles created; needs review.
        iii. Tasked - Draft education message by audience. Identify the existing/new outreach approach. Include projected costs, target completion dates, distribution method, potential collaborators, evaluation techniques, & evidence of completion
        iv. Tasked - Draft outline to document items i-iii.

NOW HIRING 2025-26

STORMWATER & OUTREACH

$15.55 AN HOUR



- Assist in developing communication strategies and improve outreach efforts on UK campus.
- Recruit volunteers and coordinate water quality outreach opportunities on campus.
- Engage campus stakeholders to educate about pollutant concerns and prevent pollution to local streams.
- Survey stormwater drains throughout campus.
- Learn about state and federal regulatory compliance requirements in the implementation of the University's MS4 Phase II permit.



APPLICATIONS DUE MARCH 30



APPENDIX A

Public Education and Outreach

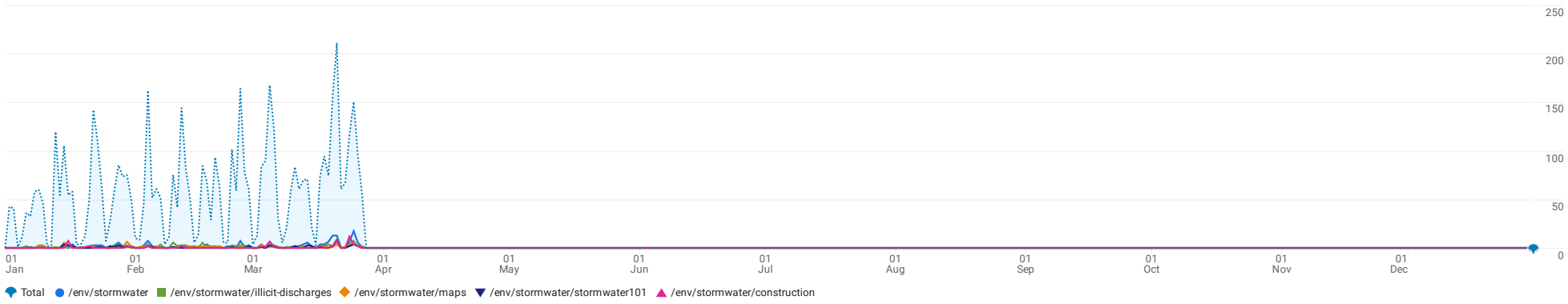
Stormwater Website Analytics

Pages and screens: Page path and screen class

Add filter

Views by Page path and screen class over time

Day



Plot rows | Search... | Rows per page: 50 | Go to: 1 | 1-50 of 147

		Page path and screen class	Views	Active users	Views per active user	Average engagement time per active user	Event count All events	Key events All events	Total revenue
☑		Total	5,175 100% of total	1,447 100% of total	3.58 Avg 0%	1m 26s Avg 0%	15,188 100% of total	0.00	$0.00
☐	1	/env/	663 (12.81%)	260 (17.97%)	2.55	26s	1,839 (12.11%)	0.00 (–)	$0.00 (–)
☐	2	/env/hazardous-waste/e-trax	539 (10.42%)	269 (18.59%)	2.00	43s	1,966 (12.94%)	0.00 (–)	$0.00 (–)
☐	3	/env/hazardous-waste	262 (5.06%)	144 (9.95%)	1.82	32s	671 (4.42%)	0.00 (–)	$0.00 (–)
☐	4	/env/waste-management	203 (3.92%)	123 (8.5%)	1.65	21s	536 (3.53%)	0.00 (–)	$0.00 (–)
☐	5	/env/hazardous-waste/hazardous-waste-management-training	196 (3.79%)	120 (8.29%)	1.63	46s	592 (3.9%)	0.00 (–)	$0.00 (–)
☑	6	/env/stormwater	178 (3.44%)	64 (4.42%)	2.78	55s	495 (3.26%)	0.00 (–)	$0.00 (–)
☐	7	/env/employee	128 (2.47%)	80 (5.53%)	1.60	51s	363 (2.39%)	0.00 (–)	$0.00 (–)
☑	8	/env/stormwater/illicit-discharges	109 (2.11%)	75 (5.18%)	1.45	1m 21s	431 (2.84%)	0.00 (–)	$0.00 (–)
☐	9	/env/spill-plans-and-response	102 (1.97%)	61 (4.22%)	1.67	34s	288 (1.9%)	0.00 (–)	$0.00 (–)
☐	10	/env/additional-services/shipping-dangerous-goods-training	98 (1.89%)	58 (4.01%)	1.69	1m 00s	338 (2.23%)	0.00 (–)	$0.00 (–)
☐	11	/env/water-quality	97 (1.87%)	47 (3.25%)	2.06	1m 16s	248 (1.63%)	0.00 (–)	$0.00 (–)
☐	12	/env/uk-healthcare-waste	93 (1.8%)	52 (3.59%)	1.79	34s	256 (1.69%)	0.00 (–)	$0.00 (–)
☐	13	/env/wastewater/greaseinterceptorprogram	80 (1.55%)	60 (4.15%)	1.33	35s	288 (1.9%)	0.00 (–)	$0.00 (–)
☐	14	/env/other-waste-designations/non-regulated-waste	79 (1.53%)	71 (4.91%)	1.11	51s	272 (1.79%)	0.00 (–)	$0.00 (–)
☑	15	/env/stormwater/maps	79 (1.53%)	42 (2.9%)	1.88	28s	295 (1.94%)	0.00 (–)	$0.00 (–)
☐	16	/env/other-waste-designations	65 (1.26%)	52 (3.59%)	1.25	44s	148 (0.97%)	0.00 (–)	$0.00 (–)
☐	17	/env/drinking-water/common-drinking-water-quality-issues	62 (1.2%)	50 (3.46%)	1.24	49s	227 (1.49%)	0.00 (–)	$0.00 (–)
☐	18	/env/stormwater/post-construction-bmps	62 (1.2%)	41 (2.83%)	1.51	41s	197 (1.3%)	0.00 (–)	$0.00 (–)
☐	19	/env/stormwater/program-information	62 (1.2%)	19 (1.31%)	3.26	53s	142 (0.93%)	0.00 (–)	$0.00 (–)
☑	20	/env/stormwater/stormwater101	58 (1.12%)	34 (2.35%)	1.71	1m 01s	151 (0.99%)	0.00 (–)	$0.00 (–)
☑	21	/env/stormwater/construction	55 (1.06%)	18 (1.24%)	3.06	2m 36s	144 (0.95%)	0.00 (–)	$0.00 (–)
☐	22	/env/regulated-medical-waste	54 (1.04%)	31 (2.14%)	1.74	57s	141 (0.93%)	0.00 (–)	$0.00 (–)
☐	23	/env/report-environmental-incident	52 (1%)	43 (2.97%)	1.21	19s	138 (0.91%)	0.00 (–)	$0.00 (–)
☐	24	/env/stormwater/training	49 (0.95%)	30 (2.07%)	1.63	1m 14s	261 (1.72%)	0.00 (–)	$0.00 (–)
☐	25	/env/other-waste-designations/universal-waste	45 (0.87%)	36 (2.49%)	1.25	33s	133 (0.88%)	0.00 (–)	$0.00 (–)
☐	26	/env/pharmaceutical-waste	44 (0.85%)	21 (1.45%)	2.10	1m 36s	108 (0.71%)	0.00 (–)	$0.00 (–)
☐	27	/env/stormwater/program-information/swqmp	43 (0.83%)	19 (1.31%)	2.26	58s	106 (0.7%)	0.00 (–)	$0.00 (–)
☐	28	/env/team-organization	43 (0.83%)	22 (1.52%)	1.95	53s	94 (0.62%)	0.00 (–)	$0.00 (–)
☐	29	/env/groundwater/spcc	41 (0.79%)	22 (1.52%)	1.86	32s	128 (0.84%)	0.00 (–)	$0.00 (–)
☐	30	/env/permit-required-operations/educational-resources	41 (0.79%)	25 (1.73%)	1.64	27s	129 (0.85%)	0.00 (–)	$0.00 (–)
☐	31	/env/additional-services	40 (0.77%)	24 (1.66%)	1.67	14s	93 (0.61%)	0.00 (–)	$0.00 (–)
☐	32	/env/employee/maridely-loyselle-pe-dtm	40 (0.77%)	29 (2%)	1.38	40s	120 (0.79%)	0.00 (–)	$0.00 (–)
☐	33	/env/stormwater/storm-drain-marking-program	40 (0.77%)	19 (1.31%)	2.11	55s	95 (0.63%)	0.00 (–)	$0.00 (–)
☐	34	/env/other-waste-designations/pcb-containing-equipment	39 (0.75%)	35 (2.42%)	1.11	51s	136 (0.9%)	0.00 (–)	$0.00 (–)
☐	35	/env/stormwater/program-information/annual-reports	39 (0.75%)	14 (0.97%)	2.79	30s	116 (0.76%)	0.00 (–)	$0.00 (–)
☐	36	/env/air-quality	37 (0.71%)	20 (1.38%)	1.85	1m 36s	98 (0.65%)	0.00 (–)	$0.00 (–)
☐	37	/env/special-waste-disposal-requests	37 (0.71%)	31 (2.14%)	1.19	18s	84 (0.55%)	0.00 (–)	$0.00 (–)
☐	38	/env/groundwater/class-v-injection-wells	35 (0.68%)	22 (1.52%)	1.59	35s	111 (0.73%)	0.00 (–)	$0.00 (–)
☐	39	/env/hazardous-waste/hazardous-waste-management-compliance-assistance	34 (0.66%)	21 (1.45%)	1.62	12s	73 (0.48%)	0.00 (–)	$0.00 (–)
☐	40	/env/other-waste-designations/used-oil	34 (0.66%)	29 (2%)	1.17	39s	111 (0.73%)	0.00 (–)	$0.00 (–)
☐	41	/env/groundwater	33 (0.64%)	15 (1.04%)	2.20	27s	78 (0.51%)	0.00 (–)	$0.00 (–)
☐	42	/env/hazardous-waste/hazardous-waste-minimization	33 (0.64%)	18 (1.24%)	1.83	24s	71 (0.47%)	0.00 (–)	$0.00 (–)
☐	43	/env/wastewater/wastewater-101	33 (0.64%)	23 (1.59%)	1.43	41s	103 (0.68%)	0.00 (–)	$0.00 (–)
☐	44	/env/asbestos	32 (0.62%)	18 (1.24%)	1.78	1m 34s	75 (0.49%)	0.00 (–)	$0.00 (–)
☐	45	/env/stormwater/educational-resources	32 (0.62%)	15 (1.04%)	2.13	42s	78 (0.51%)	0.00 (–)	$0.00 (–)
☐	46	/env/groundwater/groundwater-protection-plan	31 (0.6%)	19 (1.31%)	1.63	1m 04s	85 (0.56%)	0.00 (–)	$0.00 (–)
☐	47	/env/stormwater/program-information/kpdes-sms4-pemit	31 (0.6%)	19 (1.31%)	1.63	35s	99 (0.65%)	0.00 (–)	$0.00 (–)
☐	48	/env/clinical-lab-waste	30 (0.58%)	19 (1.31%)	1.58	25s	67 (0.44%)	0.00 (–)	$0.00 (–)
☐	49	/env/employee/brian-butler-0	30 (0.58%)	24 (1.66%)	1.25	13s	77 (0.51%)	0.00 (–)	$0.00 (–)
☐	50	/env/about-us	28 (0.54%)	25 (1.73%)	1.12	28s	72 (0.47%)	0.00 (–)	$0.00 (–)

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APPENDIX A

Public Education and Outreach

Sustainability Facebook Posts

UK Sustainability
February 27, 2025 ·

💧Ever wonder how UK manages stormwater? Want to build your professional skills with an applied sustainability experience and connect with new audiences? Apply to be the Stormwater Outreach intern for the 2025-2026 SIP Cohort!🌎✨

The Stormwater Outreach Internship offers a unique opportunity to lead outreach, education, and engagement efforts focused on improving water quality and stormwater compliance on campus.

This internship includes networking, conducting stormwater drain assessments, and hands-on work. This internship is ideal for students passionate about sustainability and environmental education who are eager to engage with diverse audiences and make a tangible impact on campus water quality.

Interns are paid $15.55/hour for 8-10 hours of work per week.

Click the link to apply: https://uky.az1.qualtrics.com/jfe/form/SV_bDB3gPGLSCIGWyi



Boost this post to get more reach for **UK Sustainability**. Boost post

You, UK Recycling and 4 others

Like Comment Share

UK Sustainability
March 18, 2025 ·

Join UK's Cooperative Extension Service's Water Quality team for Water Week events on campus next week!



UKNOW.UKY.EDU

Join city of Lexington, UK Extension to explore local creeks during Water Week 2025

Boost this post to get more reach for **UK Sustainability**. Boost post

1

Like Comment Share

Comment as Carlie Laughlin

You're commenting as Carlie Laughlin.

UK Sustainability
July 3, 2025 ·

"It's important to protect the waters that provide us drinking water," said Amanda Gumbert, extension water quality specialist in the Department of Forestry and Natural... **See more**



UKNOW.UKY.EDU

'Putting all the pieces of Extension together': Water conservation practices in full display at local farm

Boost this post to get more reach for **UK Sustainability**. Boost post

2 1 share

Like Comment

Comment as Carlie Laughlin

You're commenting as Carlie Laughlin.

APPENDIX A

Public Education and Outreach

Sustainability Showcase

2025 Sustainability Showcase and Research Poster Competition



Oct 15, 2025, 5:30 – 7:30 PM

Healthy Kentucky Research Building: Map - Details

Celebration, Community-Oriented, General/Public, Recognition

This year's Showcase will be hosted in the Healthy Kentucky Research Building on Wednesday, October 15th from 5:30-7:30pm. The event is free, open to the public, and refreshments will be provided.

The Showcase is a celebration of the incredible sustainability work happening across campus - from research and student initiatives to operations and community engagement. Join us to connect with passionate students, faculty, and staff who are shaping a more sustainable future at UK. Highlights include:

- Presentations from the FY2025 Sustainability Challenge Grant recipients
- Displays from UK's sustainability-focused student organizations, working groups, and initiatives
- A juried student poster competition, in partnership with the Office of Undergraduate Research
- Brief remarks on the "State of Sustainability" at UK
- The announcement of the FY2026 Challenge Grant recipients
- UK's Annual Sustainability Awards

‹ Back to Events

Vincent Stanley - Director of Philosophy at Patagonia

Celebration of National Recycling Day

Careers in the Environment: Environmental Sectors Career Fair

2025-2026 Sustainability Showcase Sign-In

Shelby Foxworth	
Hannah Smith	
Dawn Bryant	
Kristy McMillan	
Leslie Anaskevich	
Henry Walkie	
Carlie Laughlin	
Faye Knowsman	
Sophia Thomas	
Julie Sharpe	
Sophia Zhou	
Omar Hamid	
Mani Shahzad	
Grant Fischer	
Evan Stover	
Owen Walker	
Ashton Martin	
Jacob Most	
Bree Walton	
JORDAN PITEMISTER	
Tracey Miller	
Cassandra Theis-Vogl	
Jada Walker Griggs	WFUCG Sustainability.
Lucy Taliaferro	SSC
Rebecca Hutchinson	

2025-2026 Sustainability Showcase Sign-In

Shane Tedder	
Misa Devries	Sustainability Future Leaders
Megan Cook	UK Recycling
Sarah Huller	EQM
Bhuvanesh Kolar	Pharmacology
Lynn Rocke Phillips	UFT
Charles Petty III	UFT
Emmerson Willhoite	FGS
Isabella Butler	
Briana McKee	EQM
AJ Hopkins	
Yoko Kusunose	PSAC
Adrianna Fairey	SIP
Catherine Bongiovi	
Chase Lobaldo	
Baron Stotz	KDOW
Cindy Finnegan	UK Horticulture
Emily Bergeron	College of Design
Erin RA Andersen	UK SIP / UofI
Shawn Lavin	
James Smalley	KWKI
Brittany Pixley	KWKI
Joey Daniels	
Avery Swift	

Hossam El-sheikh Ali	CAFE.
Mikey Sims	SIP
Devon Maiden	
Brayden Nichols	SIP

Annual Sustainability Showcase
October 15, 2025
Healthy Kentucky Research Building Atrium | 760 Press Avenue
5:30pm – 7:30pm

AGENDA

5:00pm……Doors open

5:35pm……Welcome and instructions

5:35pm……Mingling session

6:25pm……Award Ceremony

7:15 – 7:30pm……Post-show mingling

Serenity Wright – MC

Jennifer Allen Photographer

Speakers

Lauren Cagle

Jesi Bowman or Chad Risko

Shane Tedder

Awards presenters*:*

Jesi Bowman - Poster

Carlie Laughlin - SOCP

SCG Steer Com – SCG

Distinguished Partner – Shane

Champions – Shane + Carlie

Legacy - Shane

2025 FALL SUSTAINABILITY SHOWCASE | RUN OF SHOW

PRE-AWARD CEREMONY | 60 minutes

5:35pm | Brief welcome and announcements – Serenity/Cagle/

Serenity to welcome the group and thank them for coming. The annual Sustainability Showcase is presented by the Tracy Farmer Institute for Sustainability and the Environment, the Office of Sustainability, and the Office of Undergraduate Research. I'd like to welcome the Director, Lauren Cagle.

Cagle, welcome to HKRB on behalf of VPR

Back to Serenity: Just for a quick run of show...The initiatives featured tonight fall into four general categories:

1. *The Student Sustainability Poster Competition sponsored by the Office of Undergraduate Research*
2. *Sustainability Challenge Grant projects that are wrapping up*
3. *Projects funded by the Student Sustainability Council*
4. *Campus Partners that are leading ongoing Sustainability-related work*

The showcase of these initiatives will be followed by an award ceremony at 630 featuring this year's challenge grant recipients and the annual sustainability awards.

The evening will conclude with closing remarks from UK's Director of Sustainability, Shane Tedder.

As we get ready to formally launch the poster competition, I want to turn the mic over to Jesi for guidelines and information regarding the People's Choice award.

Serenity to welcome Jesi:

Explain on Peoples Choice voting works on the posters - "The People's Choice Award recognizes one undergraduate poster and one graduate poster as the crowd favorites. At each poster, you will see a QR code tacked to the bottom right hand corner. Please scan the QR code and fill out the form to cast your vote now! The People's Choice Award nominations will close at 6:00 PM and the winners will be announced at the award ceremony."

Back to Serenity- Encourage people to network and learn and enjoy the food. Thank UK Dining for the spread

5:35pm | Exhibit Hall Mingling session (looping powerpoint to match digital screen and music)
6:20pm | Announce 5-minute warning before award ceremony – Serenity - Shane to flash lights before announcement - Stop Music and open award deck at podium (Carlie)

AWARD CEREMONY

6:25 pm | Welcome and introduction – Serenity

- Welcome attendees and introduce yourself (go into your full UK history)
    - Clothing.
    - Start with a moment of gratitude-Sitting amongst giants-Field elm- I could lay down inside the tree and be stretched out fully
    - Dad- 4 siblings
    - 2 time graduate
    - Now lead the TRUST Hub
- Thank sponsors and organizers
    - Office of Undergraduate Research, UK Sustainability and the Tracy Farmer Institute for Sustainability and the Environment, Shout out to UK Catering for the food and mocktails.

- Explain award flow and process
    - Awardees come to podium when their name is called; exit right for pictures
        - We would like individual, and group shots of the poster contest winners and Sustainability Champions.

    - Order of awards
        - Sustainable Office Certification Program
        - Student Poster Contest

        - 2025 Sustainability Challenge Grant Winners
        - Inaugural Distinguished Partner Award
        - 2025 Sustainability Awards

    -

??pm | Sustainable Office Certification Program – Serenity (Carlie to Present)

- We begin the awards with recognizing the fall Sustainable Office Certification cohort who will be receiving their certificates tonight. This scorecard-based program partners with offices across campus to evaluate and promote day-to-day sustainable behaviors through education, encouragement, and reflection. Offices can achieve four levels of recognition: Bronze, Silver, Gold, and the highest honor, Wildcat. Offices - once called, please step to the front to accept your certificate.
    - First, unable to attend tonight, we recognize Kirk Laird and the UKIT Leadership Suite, achieving Gold, and Sandra Dunn and the Institute of Research for Technology Development and Engineering Technology, achieving Gold
    - Brittany Pixley and the Kentucky Water Research Institute, achieving Gold
    - Marty Jacks and Human Resources Employment – STEPS, achieving Gold

??pm | Student Awards – Serenity (presented by student ambassadors Evan Stover and Katie Christiansen)

- *UK Sustainability and the Office of Undergraduate Research partnered to offer an opportunity for students in all majors to submit their sustainability-related research as a poster for a general audience. Judges with relevant expertise have reviewed these posters and selected 1st and 2nd place winners for both undergraduate and graduate categorie*s. THANKS JUDGES. Also, earlier tonight, our audience had a chance to select two People's Choice winners.

Prizes

- 1st Place = $250
- 2nd Place = $150
- People's Choice Award = $100

- The two **undergraduate student** poster winners are
    - *1st Place: Katelyn Straw*
    - *2nd Place: Nikhil (Nickel) Kumar*

******PAUSE AS RECIPIENTS CROSS STAGE AND EXIT FOR PHOTOS******

- The two **graduate student** poster winners are
    - *1st Place: Rosbelly (rosebelly) Rios*
    - *2nd Place: Odian osen Ewah*

******PAUSE AS RECIPIENTS CROSS STAGE AND EXIT FOR PHOTOS******

- This year's people's choice award winners are
    - *Name and poster (undergraduate): Katie Neglia*
    - *Name and poster (graduate): Seth Thompson*

******PAUSE AS RECIPIENTS CROSS STAGE AND EXIT FOR PHOTOS******

*All award winners please rejoin for a group photo

2025 Sustainability Challenge Grant – Serenity (steering committee to present)

- Background of program
    - The Sustainability Challenge Grant (SCG) program, now in its 11th year, is designed to engage multidisciplinary teams from the University community to foster scholarly and creative research projects that promote

sustainability and advance fields of study, while simultaneously advancing economic vitality, ecological integrity, and social equity.

- The program is funded by a partnership between the EVPFA, the TFISE, the Provost, the Vice President for Research, and the Student Sustainability Council
- Since the program's inception 11 years ago, 71 projects have been awarded well over 2.5 million to pursue a wide range sustainability-driven projects on campus and beyond. This year, thanks to program sponsors, $165,000 has been awarded to five new teams
- The work of the five teams funded last year is highlighted around this room.

- Announce awardees (title of projects; team members' names and departments) (any members please come forward to be recognized and take team photo)
- Before I announce this year's winners, I'd like to give a shout out to our Challenge Grant Steering Committee:
- Courtney McCarthy, SCG Program Co-Founder and Assistant Director of the Center for Applied Energy Research
- Carlie Laughlin, Sustainability Program Coordinator
- Lauren Cagle, Executive Director of the Tracy Farmer Institute for Sustainability and the Environment
- Bob Jewell, Co-Chair of the President's Sustainability Advisory Committee and Associate Director of the Center for Applied Energy Research
- Yoko Kusunose, Co-Chair of the President's Sustainability Advisory Committee and professor of Agricultural Economics
- Shane Tedder, Director of Sustainability, SCG program co-founder, and Assistant Director of the Tracy Farmer Institute for Sustainability and the Environment
-
- And also to all of our technical reviewers. 25 reviewers assisted this year. If you were one of them please raise your hand.

- And now to our awardees. As a reminder please come up when your name is called to receive you award and stay for a photo. As I read off these awards, please note the exciting interdisciplinary composition of these teams.
    - Healthy Futures Through Heritage: Adaptive Reuse for Rural Kentucky Clinics
        - Emily Bergeron, Associate Professor, Department of Historic Preservation
        - Travis Rose, Senior Lecturer, Department of Historic Preservation
        - Joe Brewer, Director of Technology and Facilities, College of Design
        - Lindsey Fay, Associate Professor, School of Interiors
    - SOS (Save our Seeds): An Appalachian Heritage Seed Project
        - Cindy Finneseth, Assistant Professor, Department of Horticulture
        - Shawn Wright, Extension Associate Senior, Department of Horticulture
        - Kenton Sena, Senior Lecturer, Lewis Honors College
        - Rebekah Radtke, Associate Professor, School of Interiors
        - Matt Strandmark, Education Archivist & Appalachian Studies Academic Liaison, UK Libraries
    - Living Materials, Moving Spaces
        - Hannah Dewhirst, Assistant Professor, School of Interiors
        - Ingrid Schmidt, Assistant Professor, School of Interiors
        - Jordan Hines, Senior Lecturer, School of Architecture
        - Susie Thiel, Associate Professor and Chair, Department of Theatre and Dance
    - Ugly Produce Project: A Living Lab to Reduce Food Waste and Advance Sustainability Education
        - Yeonjung Kang, Assistant Professor, Department of Retailing and Tourism Management
        - Muzhen Li, Assistant Professor, Department of Retailing and Tourism Management
        - David Johnson, Assistant Professor, Department of Dietetics and Human Nutrition

Sara Maksi, Assistant Professor, Department of Dietetics and Human Nutrition

Helen Turner, Associate Professor and Director, School of Interiors

Krista Jacobsen, Associate Professor, Department of Horticulture, Faculty Director, Sustainable Agriculture and Community Food Systems

Digital Stormwater Learning Lab: An Innovative Framework for Stormwater Monitoring, Management, and Education

James Shelley, Research Communications Specialist, Kentucky Water Research Institute

Steve Evans, Associate Director, Kentucky Water Research Institute

Lindell Ormsbee, Professor, Civil Engineering

Lee Moser, Extension Associate Senior, UK-Cooperative Extension Service

Sahar Alameh, Assistant Professor, Department of STEM Education

Diana Byrne, Assistant Professor, Department of Civil Engineering

Kevin Lewis, Water Quality Compliance Manager, Environmental Quality Management

Kenton Sena, Senior Lecturer, Lewis Honors College

Tracey Miller, Assistant Professor, Department of Landscape Architecture

Alan Fryar, Professor, Department of Earth and Environmental Sciences

Tiffany Messer, Associate Professor, Department of Biosystems and Agricultural Engineering

??pm | Inaugural Distinguished Partner Award – Serenity (Shane to Present)

- This is the first year for this award and it is intended to honor a partner from the private sector who has made significant contributions to the University's Sustainability efforts.

- The inaugural distinguished campus partner award goes to Coca Cola and receiving the award tonight on behalf of Coke are Esther Moberly Sr. Sustainability Manager for Coca-Cola Consolidated, and Jake Slager, Director, Colleges & Universities for the Coca-Cola Company.
- Since 2017, as part of their pouring rights contract with the University, Coca Cola has provided $25K annually in support of sustainability through their Student Influence Program. So much has been accomplished through this partnership including
    - Providing thousands recycling kits to fans tailgating at Kroger Field each season.
    - Installing 10 solar umbrellas across campus
    - Funding the design and construction of a pocket park and
    - The establishment of the Campus Woods Urban Sawmill project.
- Congratulations and thank you to our distinguished partner.

?? pm | Sustainability Champion Awards – Serenity (Shane and Carlie to Present)

- Award description
    - The sustainability champion award program, now in its fourth year, celebrates UK faculty and staff members who have made significant contributions to Sustainability at the University of Kentucky in recent years.
    - Talk about the awards themselves (hold one up). The awards are medallions cut from the branch of a massive Osage Orange or Hedge Apple that still lives in the east bowl of the W.T. Young Library. UK's Arborist team cut the medallions, UK Sustainability Intern Mikey Sims and his mentor Sophia Thomas from UK's Product Design Program milled and engraved them. The back of each medallion memorializes the campus tree where it came from…
    - There are five recipients this year. Special thanks to those who thoughtfully nominated this year's recipients.

- Dr. Ashton Potter, Executive Director of The Food Connection, – Nominated by Ryan Lark
    - “Dr. Potter’s work and leadership at The Food Connection over the past three years has elevated the University towards its land-grant mission, modeled environmental excellence, one of the guiding principles of UK’s Sustainability Strategic Plan, and further established the University of Kentucky as a national leader in sustainability and farm-to-institution initiatives."
- Dr. Kenton Sena, Senior Lecturer in the Lewis Honors College, Nominated by Dr. Chris Barton
    - "Dr. Sena really understands the dynamics of college teaching. He is excited, energetic and engaging in his teaching approach. He does a wonderful job of keeping the students interested and involved. In a short period, Kenton has developed five courses, including a class on Restoration Ecology. Not only is Kenton an excellent lecturer, but his background allows for him to offer a wide variety of courses and educational experiences that are unique to his College."
- Ryan Lark, Zero Waste Specialist, - Nominated by Dr. Lauren Cagle
    - "Ryan has not only stewarded existing recycling efforts, but has also established many waste reduction and diversion initiatives which have collectively brought UK closer to its zero waste goals. His cross-campus engagement with faculty, students, and staff has brought zero waste into focus for many members of the campus community, and it is due to Ryan’s indefatigable willingness to try out-of-the-box ideas, and build successful collaborations"
- Dr. Lauren Cagle, Associate Professor of Writing, Rhetoric, and Digital Studies, and Director of the Tracy Farmer Institute for

Sustainability and the Environment, - Nominated by Georgia McNamara

- "Cagle has a long history of partnering with campus units and community organizations to bring her scholarly expertise to bear on sustainability-related projects. From directing the ENS program for two years to co-founding the Kentucky Climate Consortium and organizing the first Kentucky Climate Symposium, she has worked tirelessly to expand access to environmental knowledge and promote thoughtful and inclusive conversations on our changing climate."

- William Varney III, title, Nominated by Shane Tedder
  - "Will Varney joined the Wildcat Wheels staff in 2014 during his first year on campus. He now serves as the University's first full-time Bike Shop Manager. Over the past decade, Will has literally gotten thousands of people on bikes. Within the past year, Will helped organize and host the inaugural North American Campus Bike Summit, helped Wildcat Wheels celebrate it's 20th anniversary, and spearheaded the opening of the new Wildcat Wheels Bike shop earlier this semester. Will is also a dedicated mentor and has had a positive impact on the dozens of student employees at Wildcat Wheels throughout his career."

******PAUSE AS RECIPIENTS CROSS STAGE AND EXIT FOR PHOTOS******

??PM | Yanarella Levine Legacy Award – Serenity (presented by Shane, Dick and Ernie)

- About the award – Established in 2023 in honor of Dr. Ernie Yanarella and Dick Levine. These two gentlemen laid the foundation for so much of the phyical and intellectual work happening today. Dick and Ernie, who are in

attendance tonight to help present this award, were also the inaugural recipients. The namesakes of the award cofounded the UK Center for Sustainable Cities in 1987 and served as its co-directors for many years. They were both founding members of the University's President's Sustainability Advisory Committee, co-authors of the University's first Sustainability Policy, and championed the creation of the UK Office of Sustainability and the hiring of its first Sustainability Coordinator. The impacts of their vision and effort on our campus, across the commonwealth, and across the globe cannot be overstated.

- There were three outstanding nominations for the 2025 Yanarella Levine Legacy Award. With the inaugural year notwithstanding, only one Legacy award will be given annually. A selection committee carefully reviewed the nomination statements to make what was truly a challenging decision. The other two nominees will remain in the pool for consideration in future years.

- Tonight, we honor the fourth member of our campus community to receive the award. Dr. Ibrahim Jawahir, founder and director of the Institute for Sustainable Manufacturing – Dr. Jawahir was nominated by Dr. Fazleena Badurdeen and we ask that Fazleena come forward to join us in the presentation of the award.

- Fazleena shared that: For more than three decades at the University of Kentucky, Professor I. S. Jawahir has built a far-reaching legacy in sustainable manufacturing—one that advances UK’s mission on campus and resonates across academia and industry worldwide. As James F. Hardymon Chair in Manufacturing Systems and Founding Director of UK’s Institute for Sustainable Manufacturing (ISM), he has transformed sustainability from aspiration into strength: a research, education, and outreach engine that develops solutions, prepares the workforce, and convenes global partners around responsible production.

- Prof. Jawahir established ISM as a multidisciplinary institute with the explicit mission to “develop and advance sustainable manufacturing principles and practices in Kentucky, the nation and the world.” Through ISM, he has led multi-university and cross-college teams, mentored 26 postdoctoral researchers and more than 150 graduate students

- His work is supported by more than $75M in funding from federal agencies and industry. His leadership has enhanced education and workforce development, as well as innovation and technology transfer in sustainable manufacturing.

- Prof. Jawahir’s scholarly record reflects sustained and transformative impact. He has authored foundational works on sustainable machining and product design for sustainability, published 185+ journal papers (from over 480 publications), secured five U.S. patents, and delivered 84 keynote/plenary addresses and 160+ invited talks globally.

- Through institution-building, field-leading scholarship and editorship, sustained global leadership, and unwavering commitment to students, colleagues and collaborators he has made sustainability a signature of the University of Kentucky.

- In his acceptance letter, Dr. Jawahir shared that “I must tell you that my journey on sustainability began when I was a teenager. I received the first place in a nationwide essay competition in my home country, Sri Lanka in 1967 for my article emphasizing the need for protecting the environment for societal wellbeing. This was about 20 years before the UN's charter on sustainable development was introduced. During my undergraduate and graduate studies, I subconsciously touched on different aspects of sustainability in my research work, but they were all fragmented and did not make much impact in my published work. My actual and serious scientific

journey on sustainability began only in the mid 1990s and I must give full credit to Richard Levine for this.

- I was returning from a a trip from Rome, Italy with Richard sitting next to me in the long transatlantic flight. His life story and the tremendous contributions to sustainable living with his lifelong experience in designing and building sustainable houses and structures, inspired me to think deeper and focus on my own academic discipline of manufacturing to achieve sustainability. I read some of his publications that he was kind enough to send me after the trip. This was the origin for the discipline called "Sustainable Manufacturing" which I helped to formulate, develop and promote nationally and globally. Congratulations Dr. Jawahir.

- Brief acceptance remarks

Serenity returns to the mic to introduce Shane to wrap up the evening with the 2025 State of Sustainability Address – A man you may all know.....A man who got stuck with his SECOND choice for an Emcee tonight....Shane “He who moved the rocking chairs so we could sit by the tree” Tedder

APPENDIX A

Public Education and Outreach

Water Resources Annual Symposium Proceedings

2025 Kentucky Water Resources Annual Symposium



September 12, 2025

Central Bank Center – Lexington, KY

Kentucky Water Research Institute

Brought to You By:
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US Geological Survey
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This symposium was planned and conducted as a part of the state water resources research institute annual program that is supported by Grant/Cooperative Agreement Number G21AP10631-03 from the United States Geological Survey (USGS). The contents of this proceedings document and the views and conclusions presented at the symposium are solely the responsibility of the individual authors and presenters and do not represent the official views of the USGS or of the symposium organizers and sponsors. This publication is produced with the understanding that the United States Government is authorized to reproduce and distribute reprints for government purposes. Mention of trade names or commercial products does not constitute their endorsement by the USGS.

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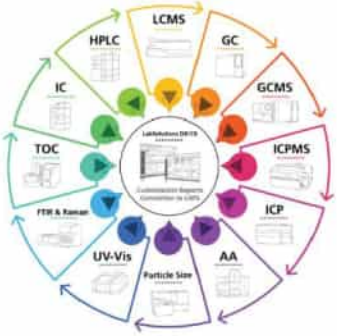
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Plenary Session

USGS Flood Monitoring, Tools, and Partnerships

Peter J. Cinotto, Acting Director, United States Geological Survey (USGS)
Ohio-Kentucky-Indiana Water Science Center



Pete is the Acting Director of the US Geological Survey's Ohio-Kentucky-Indiana Water Science Center (OKI WSC) and, in this role, he oversees all OKI WSC operations across the three-state region; he also, typically, has numerous ancillary duties that include serving on various scientific committees and(or) as a project chief for local- and National-scale projects. Pete has a diverse background in earth sciences spanning over 30 years and, prior to relocating to Kentucky in 2007, he worked in the private sector (oilfield services), USGS National Water Quality Laboratory, USGS Georgia WSC, and USGS Pennsylvania WSC. Pete has also served as Acting Director for the Dakota WSC (North and South Dakota) and the New Mexico WSC.

Agenda

2025 Kentucky Water Resources Annual Symposium

September 12, 2025

Central Bank Center, Lexington, Kentucky

Registration (Coffee Break) (8:00 a.m. - 8:30 a.m.)

PLENARY SESSION (8:30 a.m. - 09:20 a.m.)
Location: Meeting Rooms 10 & 11

8:30 *Welcome, Introductions, and KWRI Updates,* Jason Unrine, Director, KWRI.

8:40 *USGS Flood Monitoring, Tools, and Partnerships,* Peter J. Cinotto, Acting Director, USGS Ohio-Kentucky-Indiana Water Science Center.

9:10 Q & A.

SESSION 1 (9:20 a.m. - 10:40 a.m.)
Location: Meeting Rooms 12, 13, & 14

	Track 1A - Room 12— Flooding Moderator: Donna McNeil	**Track 1B - Room 13— PFAS- Occurrence, Toxicity and Treatment** Moderator: Emily Byers	**Track 1C - Room 14— Nutrients and Watershed Management I** Moderator: Andrea Drayer
9:20	*Overview of the Historic February & April 2025 Floods including Usage of the New NWS Flood Inundation Mapping in Kentucky*, Andrea Schoettmer, NOAA/NWS.	*Deep Eutectic Solvents as an Eco-friendly Alternatives in the Fabrication of Polymeric Membranes for Water Treatment Applications*, Odianosen Ewah, Chemical and Materials Engineering, UK. +	*Six Year Record of Nitrate Isotopic Ratios Suggest Soil Nitrogen and Denitrification Control Seasonality: Evidence From a Karst Aquifer and Meta -Analysis for Tracer-Aided Numerical Modelling*, Brenden Riddle, Civil Engineering, UK. +
9:40	*Don't Change the Channel: Untangling Drivers of Appalachian Flooding*, Meredith Swallom & Jason Dortch, KGS, UK.	*Membrane-supported Catalytic Strategies for PFAS Detoxification*, Subrajit Bosu, Chemical and Materials Engineering, UK. +	*Development of a Concept Model of the Causes of Cyanobacterial Algal Blooms on the Ohio River*, Jordan Spears, Civil Engineering, UK. +
10:00		*Toxicity Assessment of Hexagonal-Boron Nitride and PFAS Through Behavioral and Lipid Accumulation Assays Towards Caenorhabditis Elegans*, Lucca Madeo Cortarelli, Plant and Soil Sciences, UK. +	*Water Quality Monitoring at McConnell Springs, Lexington, KY (2010-2025),* David Price, Division of Water Quality, LFUCG.
10:20	*Spatiotemporal Shifts in Extreme Streamflow Events Across the Kentucky River Watershed*, C. Andrew Day, Geographic and Environmental Sciences, UL.*		*Reimagining Watershed Planning: An Interactive Approach for the Glenns Creek Watershed*, Adam Shelley, Kentucky Water Research Institute, UK.

* Denotes project supported by USGS 104b grant funds.

+ Denotes a student project.

BREAK (10:40 p.m. - 11:00 a.m.)

SESSION 2 (11:00 a.m. - 12:00 p.m.)
Location: Meeting Rooms 12, 13, & 14

	Track 2A - Room 12— Flooding Moderator: Emily Byers	Track 2B - Room 13— Utility Planning Moderator: Donna McNeil	Track 2C - Room 14— Restoration Moderator: Andrea Drayer
11:00	*Stormwater Management Using an Integrated Flood Modeling Approach for FEMA Floodplain Mapping in Urban Karst Watersheds,* Jason Polk, Center for Human GeoEnvironmental Studies, WKU. *	*Drinking Water Shutoffs in Kentucky,* Rebecca Shelton, Appalachian Citizens' Law Center.	*Evaluating Urban Stream Restoration Success: Assessing the Impact of Urban Reforestation Efforts on Water Quality and Aquatic Systems in the Inner Bluegrass,* Ben Brammell, Science and Health, Asbury, Kenton Sena, Lewis Honors College, UK. *
11:20	*Karst Groundwater Flow Profile for Jennings Creek, Kentucky for Flood Management,* Noah Jennings & Logan Sileo, Center for Human GeoEnvironmental Studies, WKU. *+	*Doing Community-Engaged, Collaborative, Action-Oriented Research on Small Rural Water Systems in Central Appalachia: LiKEN's Approach, Values and Methodological Framework,* Deborah Thompson & Madison Mooney, LiKEN.	*Incorporation of a Kentucky Trade Association for Ecological Restoration,* Chuck Davis, Beaver Creek Hydrology, Kentucky Ecological Restoration Association.
11:40	*Urban Karst Flood Hazard Mitigation at Fairview Plaza, Bowling Green, Kentucky, USA,* Quade Miles, Center for Human GeoEnvironmental Studies, WKU. *+	*WaterWorks: A Serious Gaming Platform for Effective Water Distribution System Training,* Brent Vizanko, Civil Engineering, UK.	*Insights from Kentucky Stream Restoration Professional Interviews,* Noah Lane, Biosystems and Agricultural Engineering, UK. +

AWARDS LUNCHEON (12:00 p.m. - 1:00 p.m.)
Location: Meeting Rooms 10 & 11

SESSION 3 (1:00 p.m. - 2:20 p.m.)
Location: Meeting Rooms 12, 13, & 14

	Track 3A - Room 12— Climate Moderator: Steve Evans	Track 3B - Room 13— Water Quality Moderator: Brent Vizanko	Track 3C - Room 14— Remote Sensing/Drones Moderator: Chuck Davis
1:00	*Measuring Extreme Weather and its Effects on Agricultural Productivity in the United States,* Steven Buck, Agricultural Economics, UK.	*Tiny Troubles in Karst: Landuse and Transport of Microplastics in South-Central Kentucky,* Katie Norman, Earth, Environmental, and Atmospheric Sciences, WKU. +	*Semiautomated Approach for Mapping Complex Sinkholes in the Pennyroyal Karst Plain Using Lidar and Machine Learning,* Desireé Cunningham, Kentucky Geological Survey, UK.

(Session 3 continued on next page)

(Session 3 continued from previous page)

SESSION 3 (1:00 p.m. - 2:20 p.m.)
Location: Meeting Rooms 12, 13, & 14

	Track 3A - Room 12— Climate Moderator: Steve Evans	Track 3B - Room 13— Water Quality Moderator: Brent Vizanko	Track 3C - Room 14— Remote Sensing/Drones Moderator: Chuck Davis
1:20	*Mapping the Landscape: A National Inventory of University -Based Climate Entities*, Myranda Hentges, Biosystems and Agricultural Engineering, UK. +	*Community-Engaged Research Approach for Disinfection By-Product (DBP) Risk Mitigation in Rural Appalachian Kentucky Households*, Abelline Fionah, Civil Engineering, UK.	*Analysis of Soil Loss in Western Kentucky Agricultural Watersheds using sUAV-Based LiDAR and Multispectral Imaging*, Leighia Eggett, Plant and Soil Sciences, UK.
1:40	*Emergent Vegetation (Typha spp.) Synergistically Enhances Methane Emissions in Small, Peri -Urban Wetlands Dominated by Floating Vegetation (Lemna, Wolffia spp.)*, Nathan Earl, Biology, UL. *+	*The Impact of Extreme Weather Events on Drinking Water Quality in Kentucky*, Munib Inam, Agricultural Economics, UK. +	*The Greatest Threat(s) to Prairie Pothole Wetlands*, Brett Werner, Centre College.
2:00	*Effects of Duckweed (Lemna and Wolffia spp.) on Decomposition Rates in Small, Peri-Urban Wetlands*, McKenzie Goodwyn, Biology, UL. *+	*Disinfection Byproduct Concentrations at Point of use in Rural Drinking Water Systems Impacted by Elevated Bromide Concentrations*, Emily Byers, Kentucky Water Research Institute, UK.	*Division of Water Drone Program- Collecting Data Via Unmanned Vehicles*, Wesley Turner, Watershed Management, KDOW.

POSTER SESSION (2:20 p.m. - 3:30 p.m.)
Location: Meeting Room 9

SESSION 4 (3:30 p.m. - 4:40 p.m.)
Location: Meeting Rooms 12, 13, & 14

	Track 4A - Room 12— Groundwater Moderator: Steve Evans	Track 4B - Room 13— Sediment Moderator: Brent Vizanko	Track 4C - Room 14— Nutrients and Watershed Management II Moderator: Chuck Davis
3:30	*Investigating Groundwater Dynamics in Barbados using Forensic Hydrology and Dye Tracing Techniques*, Autumn Singer, Crawford Hydrology Laboratory, WKU.	*A New Model for the Characterization of Concentration-Discharge Hysteresis loops Based on Self-Organizing Maps*, Arlex Marin-Ramirez, Civil and Environmental Engineering, UL. +	*Development of the Kentucky Watershed Watch Data Portal*, Doug Curl, Kentucky Geological Survey, UK.
3:50	*Application of Stable Isotopes to Estimate Ohio River Infiltration and Groundwater Contributions to Radial Collector Wells in the Alluvial Aquifer, Louisville, Kentucky, 2019–20*, Surya Freeman, OH-KY-IN WSC, USGS.	*Sediment Transport Dynamics in a Complex Fluviokarst System, South-Central Kentucky*, Sarah Arpin, Kentucky Geological Survey, UK. +	*Partnering Up for Planning*, Haileigh Arnold, Watershed Management Branch, KDOW.

(Session 4 continued on next page)

(Session 4 continued from previous page)

SESSION 4 (3:30 p.m. - 4:40 p.m.)
Location: Meeting Rooms 12, 13, & 14

	Track 4A - Room 12— Groundwater Moderator: Steve Evans	Track 4B - Room 13— Sediment Moderator: Brent Vizanko	Track 4C - Room 14— Nutrients and Watershed Management II Moderator: Chuck Davis
4:10		*Seasonal Variation of the Stream's Sediment Transport Regime Using Sensor Networks in the South Elkhorn Watershed*, Melissa Beckman, Civil Engineering, UK. +	*Clearing the Way: A Framework for Supporting Local Efforts in Aquatic Trash Removal*, Nathan Alexander, Nonpoint Source Section, KDOW.
4:30	*A Half-Century Ahead of Its Time: R.B. Anderson's Remarkable 1925 Hydrogeologic Analysis of the Mammoth Cave System for the Louisville Gas and Electric Company*, Chris Groves, Department of Earth, Environmental, and Atmospheric Sciences, WKU.	*Predicting Sediment Transport by Coupling Sediment Connectivity with the Unit Sediment Graph: Method Develop and Watershed-Scale Application* , Nabil Al Aamery, Civil Engineering, UK.	*Kentucky Waterways Alliance Green River Tire and Access Identification*, Elijah Miller, Kentucky Waterways Alliance.

Student Awards (4:50 p.m. - 5:00 p.m.)
Location: Meeting Room 9

Adjourn (5:00 p.m.)

Poster Session (2:20 p.m. - 3:30 p.m.)

1. *Critical Mineral Recovery from E-Wastes Using Nanocomposite Membranes*, Tridwip Sen, Chemical and Materials Engineering, UK. +
2. *Exploring the Effect of Single-Layer and Polydopamine-bonded Bilayer PVDF-HFP and Polysulfone Membrane via Green Solvents for Wastewater Treatment*, Eesh Kulshrestha, Chemical Engineering, UK. +
3. *Water Workforce Training Center,* Sahar Alameh, College of Education, UK.
4. *Investigating Headwater Contributions to Downstream Discharge: Insights From a Process-based Hydrologic Model*, Ridwan Mohammed Nur, Civil and Environmental Engineering, UL. +
5. *Unraveling the Role of Model Structure to Simulate Streamflow in Appalachian Headwaters using the MARRMoT Framework,* Franklin Kondum, Civil and Environmental Engineering, UL. +
6. *Comparative Evaluation of Satellite and Field-Based Soil Moisture in Eastern Kentucky's Appalachian Headwater System*, Anju Thapa, Civil and Environmental Engineering, UL. +
7. *Investigation of Rainfall-Induced Slope Failure Using Physical Models,* Mir Ali Hosseini, Civil and Environmental Engineering, UL.+
8. *Evaluating the Effects of Ecological Restoration on Amphibian Communities in Lotic Systems in the Inner Bluegrass Region of Kentucky,* Ethan Hoogerheide, Biological Sciences, EKU. *+
9. *Reconstructing Hydrography in Eastern Kentucky Mine Lands,* Demetrio Zourarakis, College of Agriculture, UK.
10. *Predictive Modeling of Total Trihalomethanes in the Martin County Water System: A Comparison of Linear and Machine Learning Approaches* , George Fordjour, Civil Engineering, UK. +
11. *Life Cycle Assessment (LCA) of Green Infrastructure: Urban Tree Soil Cells*, Kimia Khanlari, Civil Engineering, UK. +
12. *Integrated Research and Education to Assess Sustainability of a Mobile Water Treatment System for Emergency Response in Kentucky,* Isaac Oluk, Civil Engineering, UK. *+
13. *Quantifying Soil Moisture Impacts on Sediment Transport and Hysteresis in Karst: A Dual-Sensor-Based Modeling Study with Mentored Undergraduate Research Support,* Leonie Bettel, Civil Engineering, UK. +
14. *Carbon Isotopic Ratios of Benthic Algae Show Impacts to Fluvial Sediment Carbon Seasonality in South Elkhorn Creek, Lexington, Kentucky,* Joseph Ammons, Civil Engineering, UK. +
15. *Hydrologic Modeling to Predict Flash Flood Events and Uncertainty in the Appalachian Region in Future Decades,* Sarah Holt, Civil Engineering, UK. +
16. *Investigation of Turbulence Parameters in a Karst Cave System in the Inner Bluegrass Region, Kentucky, USA,* Matthew Lynch, Civil Engineering, UK. +
17. *What's in the Air and Water? Understanding Per- and Polyfluoroalkyl Substances (PFAS) and Potential Vapor Intrusion Risks in Kentucky*, Ariel Robinson, Civil Engineering, UK. +
18. *Filtering the Future: Evaluating Constructed Wetlands in Rural Water Treatment,* JuLeah Edie, Biosystems and Agricultural Engineering REU, UK. +
19. *Water Quality Modeling and Variability Among Nested Watersheds in Eastern Kentucky Data Deserts* , Amanda Beall, Biosystems and Agricultural Engineering REU, UK. +
20. *Analyzing Factors of Harmful Algal Blooms in Old Lake: A Geospatial Study with Implications for Distilleries,* Avery Krahwinkel, Biosystems and Agricultural Engineering REU, EKU. +
21. *Restoration Without Reconstruction: Hydraulic Function in Urban Riparian Areas,* Abigail Davidson, Biosystems and Agricultural Engineering, UK. +
22. *Modeling Subsurface Sediment Transport Through Macropores in Heterogenous Fine-textured Soils: Importance of Preferential Flow Dynamics and Macropore Connectivity*, Ayesha Sadia, Biosystems and Agricultural Engineering, UK. +
23. *Reforested Stormwater Basins: A help or a hindrance to stormwater management in Lexington, KY?,* Noah Howie & Jacob Crabtree, Biosystems and Agricultural Engineering, UK. *+
24. *Storm Event Nitrate Source Tracking Using $\delta^{15}N$ and $\delta^{18}O$ at Edge-of-Field Water Quality Monitoring Stations in Western Kentucky,* Scott Furlong, Earth and Environmental Sciences, UK. *+
25. *The Role Soil Spatial Complexity and Resource Patterning Play in Greenhouse Gas Emissions From Mineral Soil Wetlands,* Delaney McCoy, Biological Sciences, MSU, & Nadia Castillo, Earth and Environmental Sciences, MSU. *+
26. *Analysis of Soil Quality Dynamics under No-Till and Conventional Tillage Practices*, Durga Bastola, MSU. +
27. *Examining Long Term Trends of Precipitation-Based Climate Indices for Kentucky River Basin,* Jasmin Saric, Mechanical and Civil Engineering, PUNW. +
28. *Preliminary Investigation on Stream Flow Variations in the Black Canyon Complex, Roppel Section of the Mammoth Cave System*, Ljubomir Veljan Risteski, Earth, Environmental, and Atmospheric Sciences, WKU. +
29. *Effects of Organic and Inorganic Fertilizers on Soil Properties and Tomato Yield,* Navdeep Singh, WKU.
30. *Rapid and Field-ready System for Fecal Matter Contamination Detection in Water Resources*, Soroosh Torabi, Mechanical and Aerospace Engineering, UK.

* Denotes project supported by USGS 104b grant funds.

+ Denotes a student project.

Past Recipients of Institute Awards

William Barfield Award for Outstanding Contributions in Water Resources Research

Alan Fryar (2025)
Jason Polk (2024)
Christopher D. Barton (2023)
Lindell Ormsbee (2022)
Carmen Agouridis (2021)
Chris Groves (2020)
Jimmy Fox (2019)
Susan Hendricks (2018)
Jim Kipp (2017)
Stephen F. Higgins (2016)
Dibakar Bhattacharyya (2015)
James C. Currens (2014)
Art Parola (2013)
Andrew Ernest (2012)
James Dinger (2011)
Alice Jones (2010)
Sylvia Daunert (2009)
Gail Brion (2008)
David White (2007)
Wes Birge (2006)
Don Wood (2005)

Lyle Sendlein Award for Outstanding Contributions in Water Resources Practice

Donna McNeil (2025)
David Hamilton (2024)
Roger Recktenwald (2023)
Peter Goodmann (2022)
Kurt Mason (2021)
Richard Walker (2020)
Jack Stickney (2019)
Barry Tonning (2018)
Lynn Jarrett (2017)
Steven K. Hampson (2016)
Richard Warner (2015)
Derek R. Guthrie (2014)
Sandra Gruzesky (2013)
Michael Griffin (2012)
Linda Bridwell (2011)
Greg Heitzman (2010)
Susan Bush (2009)
Steve Reeder (2008)
Bill Grier (2007)
Jack Wilson (2005)

Robert A. Lauderdale Award for Outstanding Contributions in Water Quality

Steven Evans (2025)

Tom “Fitz” FitzGerald (2024)

Tom Biebighauser (2023)

Christopher Lorentz (2022)

Russ Turpin (2021)

John Webb (2020)

Maggie Morgan (2019)

Charles Martin (2018)

Amy Sohner (2017)

Paulette Akers (2016)

Dale Reynolds (2015)

Brian C. Reeder (2014)

H. David Gabbard (2013)

Henry Francis (2012)

Amanda Gumbert (2011)

Malissa McAlister (2010)

Bruce Scott (2009)

Ken Cooke (2008)

Judith Petersen (2007)

Eddie Foree (2006)

APPENDIX A

Public Education and Outreach

Arbor Day

Exhibitor Registration

Please fill out the form below, scan and send via email to **hannah.wells@uky.edu**

Organization/Group/Club Name:	UK Environmental Quality Management
Contact person:	Nathan Weber
Contact person's email address	nathan.weber@uky.edu
Person who will attend on Arbor Day on behalf of your organization/group/club	Nathan Weber Briana McAtee Sarah Huller
Email address of person who will attend Arbor Day	Briana: briana.mcatee@uky.edu, Nathan W. Sarah: sarah.huller@uky.edu nathan.weber@uky.edu
Cell phone number of person who will attend Arbor Day	Nathan: 859. 351.9469

1. All Exhibitors will receive 1 table and 2 chairs. Please bring a table covering if you want one. The Arboretum does not provide table coverings.

2. I have a pop-up tent (no larger than 10 X 10) that I will bring for my exhibit/booth on Arbor Day
☐ YES ☑ NO We would like to request a tent, please.

3. I am flexible and can bring an exhibit for whatever time works best for The Arboretum
☐ YES ☐ NO

3. I will bring an exhibit in the Slot 1 time frame (10:30 AM to 2 PM) ☑ YES ☐ NO

4. I will bring an exhibit in the Slot 2 time frame (2 to 5 PM) ☐ YES ☐ NO

5. I will bring an exhibit for the entire day (10:30 AM to 5 PM) ☐ YES ☐ NO

Arbor Day schedule *(subject to change):*

8:30 AM – Plant exchange – people bring items to the exchange at the overflow parking lot

9 – 9:30 AM - Plant exchange occurs

10 AM – Opening ceremony (Arbor Day Proclamation, Tree Campus and City awards, and Sponsor Recognition).

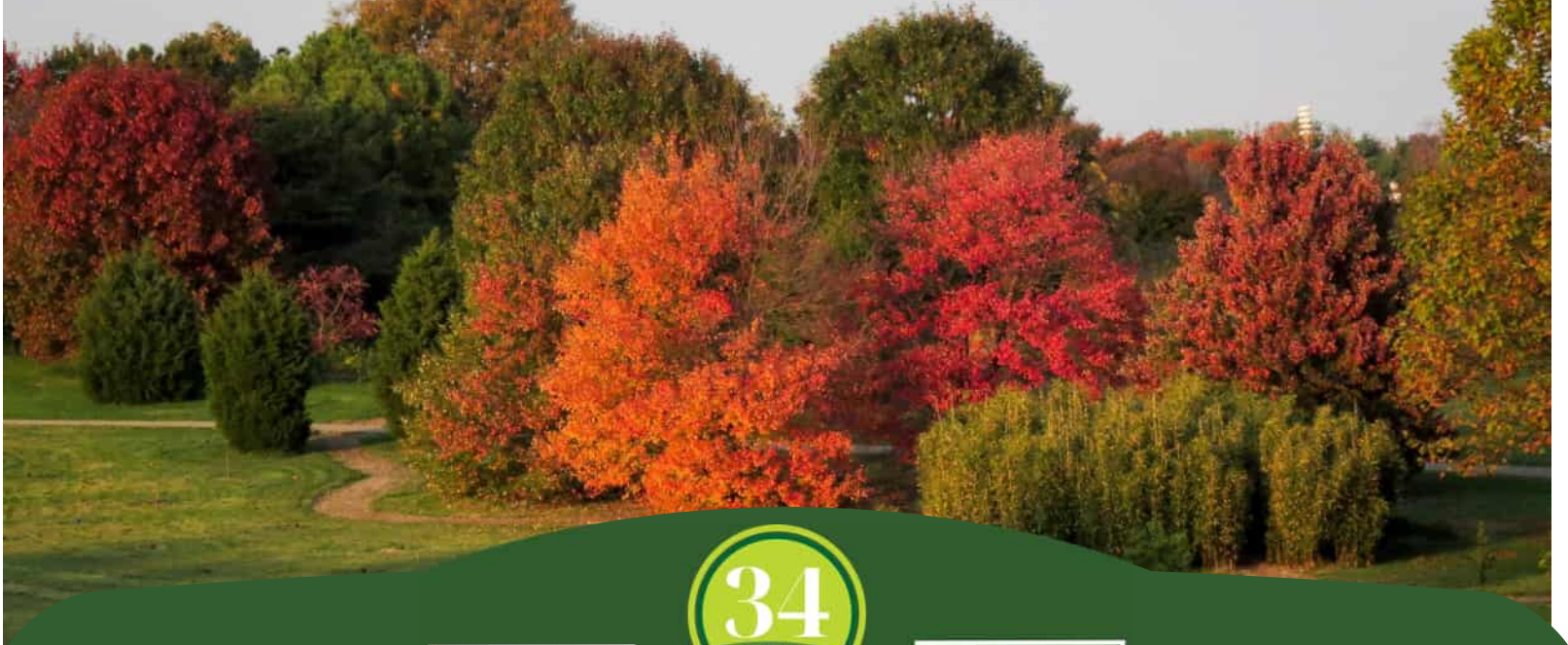
10:30 AM (approximate time) – Kentucky Children's Garden opens after the Proclamation and Recognition Ceremony.

10:30 AM to **2 PM –** Slot 1 for exhibitors

11 AM - Help plant the Arbor Day tree

2 to 5 PM - Slot 2 for exhibitors

5 pm – Exhibits close and Arbor Day ends.



34 THE ARBORETUM

día del árbol

Sabado 11 octubre 2025

8:30 – Intercambio de Plantas y Semillas | Traer plantas y artículos relacionados con el jardín (libros, semillas, herramientas, decoración, etc.) Al estacionamiento con césped desbordado a las 8:30 de la mañana. El intercambio comienza a las 9:00 y durar 30 minutos. No se requiere pre-inscripción. Todos son bienvenidos.

10 AM – Programa de Apertura |Proclamación del Día del Árbol, Reconocimiento de Tree City USA, Tree Campus USA, y Healthcare Campus USA

10:30 AM a 5 PM – Jardín de Niños de Kentucky | (Entrada **GRATIS** hoy, gracias **AL PATROCINADOR Kentucky Utilities) |** ¡Diviértanse con nosotros en el jardín! Disfruta de artesanías, juegos, burbujas gigantes, y ¡Aprende todo sobre **Los Árboles!**

11 AM – Plantación del Árbol a lo largo del camino de entrada del Arboretum |Ayúdanos a plantar el árbol del Día del Árbol, donado por **Dave Leonard.**

Durante el dia: encuentra a expositores de la Universidad de Kentucky y de la comunidad, incluido los clubes de la entomología y de la horticultura de la universidad de Kentucky, Glean Kentucky y mas!

The Arboretum
State Botanical Garden of Kentucky
UNIVERSITY OF KENTUCKY AND LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT

500 Alumni Dr., Lexington, KY
(859) 257-6955
https://arboretum.ca.uky.edu

LG&E and KU Foundation

Martin-Gatton College of Agriculture, Food and Environment
University of Kentucky.

From: Wells, Hannah E.
Subject: THANK YOU! - Arbor Day Celebration
Date: Wednesday, October 22, 2025 9:55:11 AM

Thank you all for your help to make our Arbor Day Celebration a success! We had a total of 927 visitors in the Kentucky Children's Garden throughout the day and 1,380 visitors to the general Arboretum and booths.

Your participation helped make the day extra special and it was wonderful seeing so many engaged visitors!

Please let me know if you have any comments or suggestions for how we can do even better next year! Also, please send us any pictures that you may have taken during the event.

Thank you for a wonderful day!

Hannah Wells (she/her)
Education Coordinator

Kentucky Children's Garden
The Arboretum, State Botanical Garden of Kentucky
Martin-Gatton College of Agriculture, Food, and Environment
500 Alumni Drive
Lexington, Kentucky 40503
(859) 257-9339
(email) hannah.wells@uky.edu
(website) https://arboretum.ca.uky.edu

APPENDIX A

Public Education and Outreach

Sustainability Festival

Sustainability Festival



Sep 18, 2025, 5:30 – 7:00 PM

Greg Page field: Map

UK's annual Sustainability Festival will take place at Greg Page fields near the soccer pitch and playground on Thursday, September 18 from 5:30-7:30pm. Exhibitors from campus and the community will come with interactive activities for our students, faculty, staff, and their families to engage with! Expect to see groups such as Water Quality, UK Recycling, Entomology, Mycology Club, Campus Kitchen, Live Green Lex, and more!

‹ Back to Events

Vincent Stanley - Director of Philosophy at Patagonia


NO DUMPING












WILDCAT
1


KENTUCKY
1
Environmental
Management

APPENDIX A

Public Education and Outreach

Facilities Management Newsletters

Facilities Management

The FM Daily

March 19, 2025– Issue 764

Facilities Management is a service organization composed of units that plan, construct, manage, operate and maintain the physical assets (buildings, grounds and utility systems) of the University. Our mission is to provide a physical environment in which staff, faculty and students can achieve excellence in teaching, learning, research and public service.

FACILITIES MANAGEMENT PROFESSIONALS HELP UK:

GRADUATE STUDENTS & CARE FOR PATIENTS

Behind the Scenes: Students Tour UK's Energy Systems

Facilities Management is providing students with a dynamic learning experience through hands-on opportunities. As part of a WRD 204: Technical Writing course, students recently toured two of the university's heating and cooling plants. The course helps students develop technical writing skills through real-world projects.

One of the course assignments requires students to research various sustainability initiatives on campus by going out into campus to see firsthand how things work. This semester, a group of students are focused on the energy systems that heat, cool, and power the university. During the tour of the central plants, led by Britney Ragland, associate director of Utilities and Energy Management (UEM), and Carter Whitton, utilities systems engineer, students gained insight into how resources like natural gas and water are used to regulate campus temperature and how the campus's storm water harvesting system contributes.

"Seeing this process in action provides a foundation for students to discuss topics like energy saving initiatives in buildings, storm water harvesting, or the university's goals to reduce emissions on campus," said Holly Osborn, lecturer in the Department of Writing, Rhetoric, and Digital Studies.

> "These tours open student's eyes to what it takes to keep the campus running, including an appreciation for the people who are on staff 24 hours a day to provide heating, cooling, and electricity so they can be successful in their studies.
>
> ~Britney Ragland, associate director of Utilities and Energy Management

Britney, Carter, and other members of the UEM team have provided numerous tours to hundreds of students over the past five years.

"The Utilities Team enjoys sharing our utility plants and electrical infrastructure with student groups because it gives them a tangible, rounded, and real-world example of what they are learning. It prepares them more fully for the careers they are walking into," Ragland said.



Britney Ragland and Carter Whitton talked to students about the university's energy systems.



Students toured one of the heating plants on campus.



Carter explained how resources are used to regulate campus temperature.



The tour also included a stop at a cooling tower.

Facilities Management

The FM Daily

April 18, 2025– Issue 774

FACILITIES MANAGEMENT PROFESSIONALS HELP UK:

GRADUATE STUDENTS & CARE FOR PATIENTS

Utilities and Energy Management Honored for Stormwater Harvesting System

We are thrilled to announce that our Utilities and Energy Management team was honored with a Grand Award at the 2025 Engineering Excellence Awards by the American Council of Engineering Companies of Kentucky. This recognition celebrates the team's innovative work on the Central Utility Plant (CUP) Stormwater Harvesting System, a project that started in 2017 and came online in the fall of 2023 with the support of partner Bell Engineering and a Stormwater Infrastructure Grant from the LFUCG.



From left, Cara Boggess, Graham Gray, Bob Pickerill, and Megan Hogan accepted the award.

The goal for the system is to capture 25 million of the 170 million gallons of stormwater that flow to the Wolf Run watershed annually through a large culvert near the plant. This harvested water is then utilized in UK's district energy system cooling towers, reducing the need for purchased domestic water. The CUP cooling plant alone uses more than 45 million gallons of water each year, and the stormwater harvesting system significantly helps offset that usage, making a meaningful impact on our campus's water footprint.

> "This system helps us offset domestic water usage on campus, reduces downstream stormwater runoff, and can help areas that are flood prone. If we can keep this water on campus, reuse it, and return it to the environment, we've benefitted our local watershed, and reduced our footprint in the local water system.
>
> ~Britney Ragland, associate director of Utilities and Energy Management

The project also has an educational component with senior design teams from mechanical, civil, and biosystems engineering, as well as two engineering interns, conducting studies on various aspects of the system.

This award highlights our continued commitment to sustainability, innovation, and collaboration. Congratulations to everyone involved in making this project a success!

Open Enrollment is April 28 - May 16!

Open enrollment is quickly approaching. This year's open enrollment period will be April 28-May 16.

This is your annual opportunity to personalize your benefits for the year ahead. There are several benefits plan updates this year. If you are considering changing your health insurance plan or just want to learn more information about your plan options including health, dental, vision, flexible spending accounts and more, our HR team is here for you.

HR benefits representatives will be hosting in-person open enrollment consultations **Tuesday, April 22 from 7 to 9 a.m.** in the Peterson Building on the first floor. Please visit the HR open enrollment website, hr.uky.edu/oe, to learn more about your plan options now.

Facilities Management

The FM Daily

April 23, 2025– Issue 776

FACILITIES MANAGEMENT PROFESSIONALS HELP UK:

GRADUATE STUDENTS & CARE FOR PATIENTS

Facilities Management Launches On-Campus Composting System

Earth Day was yesterday but Facilities Management continues to celebrate a major sustainability milestone: a new, on-campus composting system that transforms food waste into nutrient-rich compost right here on campus.

Coordinated by UK Recycling, UK Grounds, and UK Sustainability, the innovative system uses aerated, in-vessel technology to turn food scraps into compost in weeks cutting down on transport costs, emissions, and time. It's already improving efficiency and supporting the university's goal of becoming zero waste by 2030.



The compost will be used across campus by the Grounds team to support healthier soil and better stormwater management.

From forks to flowerbeds, we're turning waste into opportunity—one compost pile at a time.

> "What makes it unique is the level of control we have over the composting process. This allows us to handle more material more efficiently—right here on campus.
>
> ~Ryan Lark, Zero-Waste Specialist



Check out the video & UKNow story

Shout Out!

Special shoutout to Jacob Hampton, a digital media and design senior, who created a video showcasing the project as part of his UK Recycling internship this semester. His work helps tell the story behind the people—and purpose—of composting at UK.



Happy Administrative Professionals' Day! Thank you for all you do!

Facilities Management

The FM Daily

May 5, 2025 – Issue 781

FACILITIES MANAGEMENT PROFESSIONALS HELP UK:

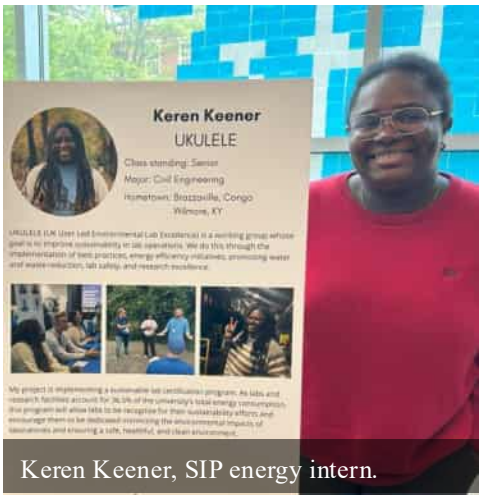
GRADUATE STUDENTS & CARE FOR PATIENTS

Celebrating Student Innovation at the Sustainability Internship Program Symposium

The Sustainability Internship Program (SIP) Symposium spotlighted the incredible work of student interns who championed sustainability efforts across campus throughout the academic year. From drafting a Green Lab Certification program to launching a social media campaign connecting sustainability with key UK departments like Athletics, these independent projects demonstrated creativity, leadership, and impact. Highlights included revitalized planter boxes at UK HealthCare, a Green Event Certification initiative with UK Catering, and the *Resiliently Rooted* art showcase. Led by Facilities Management, the SIP program places students with campus partners, empowering them to turn their passion for sustainability into real-world action.



SIP recycling interns Olivia Smith, Holly Cason, and Henry Walke with Ryan Lark, zero-waste specialist.



Keren Keener, SIP energy intern.

> “The Sustainability Internship Program is more than just an internship - it's a chance for students to shape UK's future while building the necessary skills to become the next generation of environmental leaders.
>
> ~Carlie Laughlin, sustainability program coordinator



Ella Sides, SIP sustainability intern, Carlie Laughlin, sustainability program coordinator, Abbey McNely, SIP sustainability intern, and Shane Tedder, director of facilities services and sustainability.

Students Tackle Stormwater

Mechanical Engineering seniors recently showcased their capstone project—an innovative stormwater pre-filtration system—developed in collaboration with Facilities Management’s Utilities and Energy Management team. The project gave students valuable, hands-on experience while helping solve an issue the UEM team is facing in the stormwater harvesting system.



APPENDIX A

Public Education and Outreach

UEM Weekly Wire

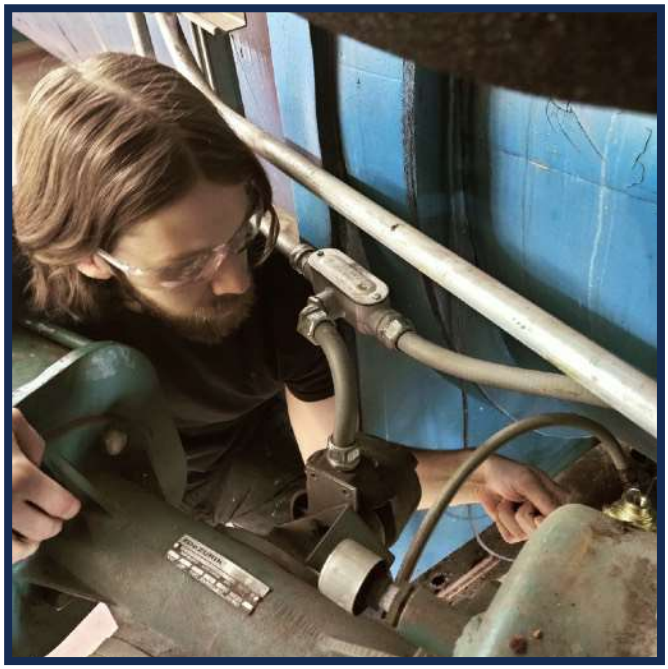
University of Kentucky March 14th, 2025

Facilities Management

UEM Weekly Wire









Top L: *Tommy Smith inspects chilled water piping from CW312 toward Cooper Drive for leaks.* ***Top R:*** *Gary Helton installs safety barrier above breaker in Substation 3 prior to maintenance.* ***Bottom L:*** *Chris Pelat replaces a chilled water valve solenoid at Cooling 1.* ***Bottom R:*** *Charles Moberly, Eric Conner, and a Ware technician tune boilers #3 and #4 on oil and gas.*

Accomplishments

Distribution

- Welcomed new hire Makens Meristil!
- Completed (4) 811 utility locates.
- Set up fence panels on the corner of Complex and Hospital drive for storm sewer inlet repair
- Identified unknown pipes on Transcript Dr.
- Filled chilled water supply lines from Seed House basement up to CW312. Used ground mic to listen for leak in the grass area next to Cooper Dr.
- Filled chilled water supply and return lines from CW099 to new Pence Hall chilled water vault. Tested chilled water lines and after pressure test was completed, turned chilled water on to Chemistry-Physics and the quad.
- Filled chilled water supply and return lines from CW098 to new Pence vault. Opened main valves in new vault to get redundancy back to campus and restore chilled water to Kastle Hall and Engineering Annex.
- Used inspection camera on 18" chilled water supply line from CW312 to Cooper Dr. to try and identify break in the pipe. Also worked with Buchanan to use crawler to assist with identifying break.
- Stayed after hours and excavated chilled water supply line from CW312 to the "T" that feeds Barnhart. Turned chilled water on from Seed House basement to assist with leak detection. Used hydro-excavation to pothole closer to Cooper Dr. Turned water back off after water leak was still undetermined.
- Fixed high pressure steam leak on 2" union in Memorial Coliseum on the line feeding CATS.
- Replaced broken storm drain inlet at Cooling 1 Substation with Buchanan.

Production

- **CUP**: Planning and scheduling the installation of the new flow sensors for chillers 5 and 6 on Monday. Collaborated with Finney to establish a game plan and timeline for installation of the new gear box on tower 5 fan. A big thanks to John Nord's team for helping plan and kickstart the installation process for the new air compressor, along with moving power for the old air compressors, which will be kept for backup. The new SPPC plan has been distributed to operators, and we've completed the update of yearly SPPC training.
- **Med Center**: Installed new gas valve on boiler 3. Worked with Ware to tune boilers 3 and 4 on gas and fuel oil from low to high fire. Eliminated all the safety deficiency items identified during the EHS safety audit. Brushed evaporator tubes on chiller 4. Cleaned up stored materials between boilers 1 & 2. Repaired the condenser tank level control valve.
- **Central Heating**: Switched DA tanks to repair a section of the vent and replace the metering valve, and switched back after repairs were made. Concrete pad was poured on top of the coal truck hopper. Five operators completed the FM Tridium Operator Training. Provided good training during the DA switching, and during the steam monitoring required while Med Ctr Plant was tuning their gas boilers through their entire load range. Welcome new employees Seth DeBoard and Jarrett Webb.
- **Cooling 1**: Started running chillers due to warm weather, which leads to springtime trouble shooting. Continued to work with controls group to troubleshoot the NAE control module and replacement. Replaced broken solenoid on chilled water valve #9. Painted section of A-side plant floor.
- **Cooling 2**: Finished tube shooting on chillers 2 & 3 and put them back together. New drain valve was installed on the 5-kton cooling tower sump. Changed the oil in the 4 tower fan gearboxes for the 5-kton chillers. Chiller 4

condenser tubes were shot, evaporator opened to shoot tubes.

High Voltage

- Completed (8) 811 locates this week
- Completed 5-year breaker testing and maintenance for breakers 3-1, 3-2, 3-3, 3-4, 3-9, and the main bus tie breaker.
- Completed the annual relay tests for breakers 3-T2, 3-12, 3-20, 3-21 and 3-22.
- Repaired broken bus disconnect latch on breakers 3-2 and 3-4 found during testing.
- Repaired spring mechanism inside breaker 3-2 found during testing.
- New duct bank install continued near Singletary Center for the Arts.
- Pumped out water from E411-E, pump repairs scheduled for next week.
- Assessed condition of E121, scheduled repairs when parts come in to replace pump, installed new lighting and outlets.
- Took down power to Sanders Brown for a scheduled outage to allow contractors working on the renovation project to install new fuses in secondary gear.
- Repaired drain lines in E907-9.
- Pumped water from E501-1 (located inside HEB job site).
- Disconnected wiring and removed conduit to old air compressors on second floor in CUP.

Engineering & Admin

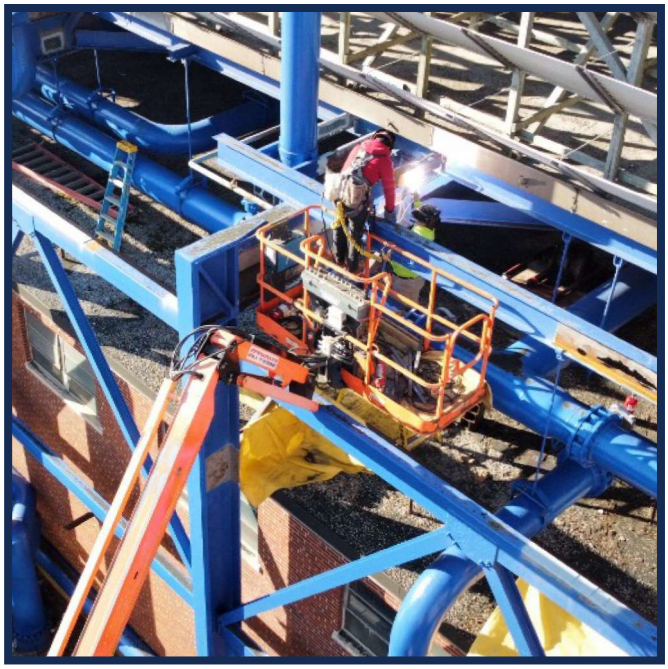
- Bi-monthly Energy Program update meeting led by Cenergistic with various success stories of energy conservation around campus.
- Review of Spill Prevention, Control, & Countermeasures plans with supervisors and provided an updated plan & binder for each location.
- Led tour of Central Heating & Cooling 2 for WRD 204 Technical Writing students.



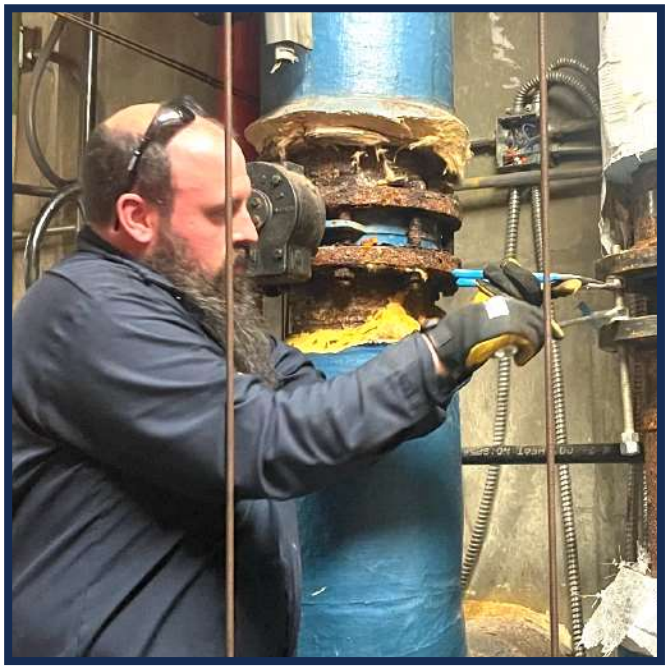


Top: *Shelby King, Bryan Poe, and Marcelo Campos reinstall breaker cover after maintenance.*
Bottom: *Matt True, Eric Conner, and Joe Cafego replace oil gun gaskets.*

UEM Weekly Wire









Top L: *Steel repair for the Med Center Cooling Plant's tower is ongoing.* ***Top R:*** *Shelby King terminating wires in new substation breaker 3-13.* ***Bottom L:*** *Adam Drury with the Distribution Team replacing the old chilled water main valves in Singletary ahead of a pressure test.* ***Bottom R:*** *Shoutout to two of CUP's night operators, Chad Templeton (L) and Joshua Combs (R).*

Accomplishments

Distribution

- Completed (5) 811 utility locates.
- Identified unknown pipe on Panama Canal.
- Worked with GIS to identify chilled water end of mains on Panama Canal.
- Discovered buried sanitary sewer manhole outside of ER entrance at PAV A.
- Isolated high-pressure steam in two fans steam tunnel to B300 mechanical room at Med Plaza. Removed and plugged two bypass lines and installed new isolation valve, strainer, and unions on PRV line. Energized steam back to the mechanical room after work was completed.
- Picked up and loaded bags of Gilsulate for contractors at Mines & Minerals job site.
- Removed 8" chilled water supply/return valves in Singletary and installed new 250# valves.
- Oversaw filling of chilled water supply/return lines from new Panama Canal vault into Singletary. Verified pressure test and bled pressure back off the line.

Production

CUP

- Coen's Don Davis tuned boilers 2 & 3. Made some adjustments to the fire eye system.
- Received shipment of new fire-safe cabinets which will store all paint and aerosol cans.
- Installed new workstation computers for the operators in the plant.
- Night shift has been cleaning around plant.
- More testing of iPad to track hourly boiler logs
- Jerry working with Andrea to keep EPA info updated for inspector and using Sharepoint

Med Center

- Finishing up metal repair and painting of the big tower support steel.
- Shut boilers off and moved personnel to cover night shift at Cooling 1.
- Replaced display module and readjusted scanners on boiler #3.
- Organized welding work area.
- Installed new PPE dispensers.
- Repaired High Level Alarm on DA Tank.

Cooling 1

- Began changing oil on condenser tower gear boxes, tower 4 completed, 1-3 remain.
- Worked with Controls' Kayce Gosney to resolve remaining plant controls issues and alarms. Now ready to run for the season.
- Electricians replaced faulty breaker on chiller #8 condenser pump.

Central Heating

- Assisted CUP with burner tuning.
- Made lid for sump in basement of Cooling 2.
- Removed temporary fence panels from new concrete work. (Thanks, Tommy Smith for lending the panels.)
- Met with members of the construction crew to discuss demolition of boilers 4 & 5.

Cooling 2

- Finished changing oil in all pumps and tower fan gearboxes.
- Changed oil and filters in plant air compressors.
- Repaired the drain on CH2 evaporator.
- New employees doing a great job completing online and in person trainings.

High Voltage

- **Congrats to Gary Helton for passing his Kentucky Master Electrician's Exam!**
- Replaced sump pump, drain line and check valve in E405.
- Pumped out E907-2, made repairs to drain lines and pump.
- Inspected new duct bank from E301 to Pence.
- Supervised installation of new duct bank at new Cancer Center parking structure site.

- Wired up AC and DC to new breaker 3-13. Terminated CT/Trip Lock and Differential connections to the breaker and substation.
- Worked with Ron Mercer and Jake Badstibner to test new breaker 3-13 relays.
- Worked with ABB technician testing new breaker 3-13 for initial factory setup.
- Cleaned E411, replaced pumps in both normal and emergency vaults.
- Repaired low voltage system in E205-2 (new light switch, lamps and GFCI outlets)
- Repaired Substation #3 fence.
- Routed and secured cables for new chiller #6 transformer.

Engineering & Admin

- Meet & Greet with new KU Account Manager, Joe Howard.
- Carter Whitton spent time working with the KY EPA on our annual inspection and follow up discussions
- Review of Hospital Site underground camera footage for utility condition verification.
- Kickoff of Central Heating Coal Boiler demolition.
- Graham Gray attended the ACEC Engineering Excellence Awards on behalf of UK with Bell Engineering and brought home a nice award.
- Discussion with University of Rhode Island on their P3 experience with steam operations.







Top: *Eric Conner fixing a high level alarm float on the coal-side DA Tank at Med Center.*
Middle: *Jon Minton stocking up the new flammable storage cabinet at CUP.*
Bottom: *Jerry Phillips tidying up the CUP Plant.*









Top L: *In partnership with Bell Engineering, UEM received an engineering excellence award for UK's CUP Stormwater Harvesting Project.* ***Top R:*** *David Derenge and Chris Pelat performing gearbox oil changes on the tower at Cooling 1.* ***Bottom L:*** *Britney Ragland represented UK Facilities Management at an Alumni Career Panel and Job Fair at Southwestern High School in Somerset, KY.* ***Bottom R:*** *Bryan Poe secures cables in chiller #6 transformer at Cooling 2.*

UEM Weekly Wire









Top L: *Mike Smith and Will Asher remove visi-break junctions in E604.* ***Top R:*** *Bryan Poe maps out a duct bank diagram for the Chandler Expansion project.* ***Bottom L:*** *Jack Baysore adjusts low pressure steam pressure.* ***Bottom R:*** *Eric Conner and Robbie Hannabach adjust flame scanners on boiler #3.*

Accomplishments

Distribution

- Completed (5) 811 utility locates.
- Replaced rusted 1/4" nipple and gate valve on chilled water line in Panama Canal.
- Filled chilled water supply/return lines from POT tunnel to Singletary center.
- Oversaw excavation and installation of new condensate line from HPS108 to HPS107. Verified pressure test after line was installed.
- Oversaw filling of chilled water supply/return lines from Plant Science utility tunnel through CW095 up to Gluck. Verified pressure test and flushed lines inside the vault and building.
- Filled chilled water supply/return lines from Panama Canal up to Stuckert and King Alumni to get chilled water back to those buildings.
- Isolated and locked out 20" chilled water supply/return valves in CW095.
- Installed new 2" sump pump in King Alumni mechanical room.

Production

CUP

- Continued safety team progress by ordering parts to prevent open fall zone around DA.
- Cleaning plant to prepare for tour on 4/9.
- Worked with ChemTreat to restore condenser control board operation via remote access.
- Ordered new floodlight for rear of cooling towers to help illuminate Substation 3.

Med Center

- Restarted Heating side of plant after weekend shutdown using boiler #4 on Monday morning.
- Started chiller #1 for first time of the season after its tube cleaning and eddy current test.
- Fixed drain valve on DA tank.
- Ran chillers #5 & #6 for first time of season.

Cooling 1

- Sunday afternoon chiller #5 pump blew a seal. Operator David Derenge quickly isolated the pump and started another chiller.
- Worked with Bray valve technician to troubleshoot tower automatic valve issues.
- Repaired B-side pump room air handler controls and put back in service.

Central Heating

- Repaired leak on BFW line from a broken chemical injection point.
- Made a new strainer basket for CP2's #12 condenser water pump.
- Helped Distribution by pumping out Limestone tunnel (Knuckle pit).

Cooling 2

- Chiller #1/#2 condenser water supply and return bypass line was completed.
- Finished chiller #4 tubes and reassembled.
- Cleaning up some clutter on new side.

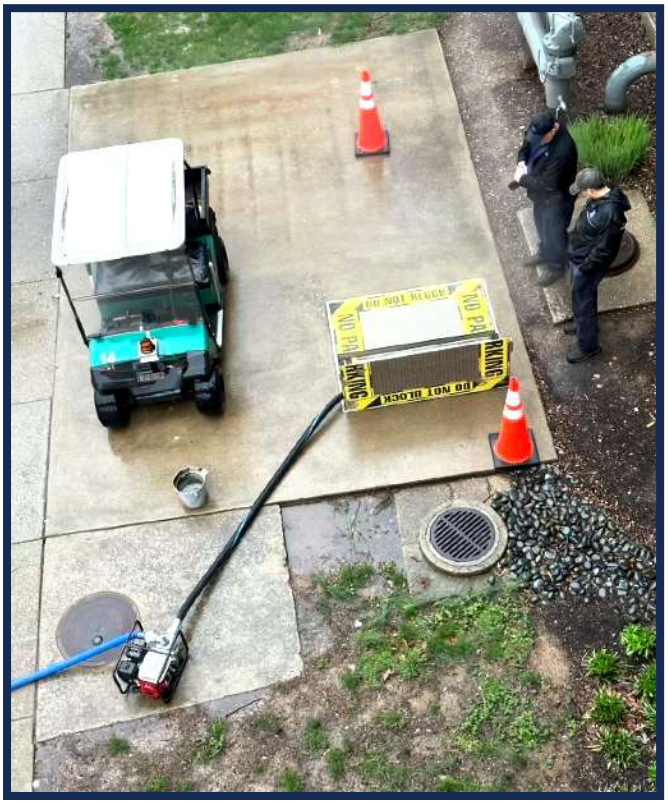
High Voltage

- Performed scheduled outage Sunday afternoon of Boone Tennis Center.
- Gathered & input monthly meter readings.
- Removed elbows from stack in E604.
- Reconnected elbows from E601 to E605, removed visi-break junctions from E604.
- Diagrammed duct bank and cable layouts for E413, E413A, E412, E411, E913, E912.
- Performed scheduled outage of Parking 7 to allow contractor to land elbows in E605 for the new feed to Boone Tennis Center.
- Energized new feed to Boone Tennis Center.
- Performed scheduled outage of Maxwell Place to allow contractors to move feed to new switchgear in MIK.
- Performed scheduled outage of Little Library and Lafferty Hall to allow old switch in E303 to be taken out of service, then connected existing circuit to new switch PM33. Energized new feed and checked phasing at PM33.
- Inspected new duct bank installation for Singletary Center.
- Repaired sump pump drain line in E303.

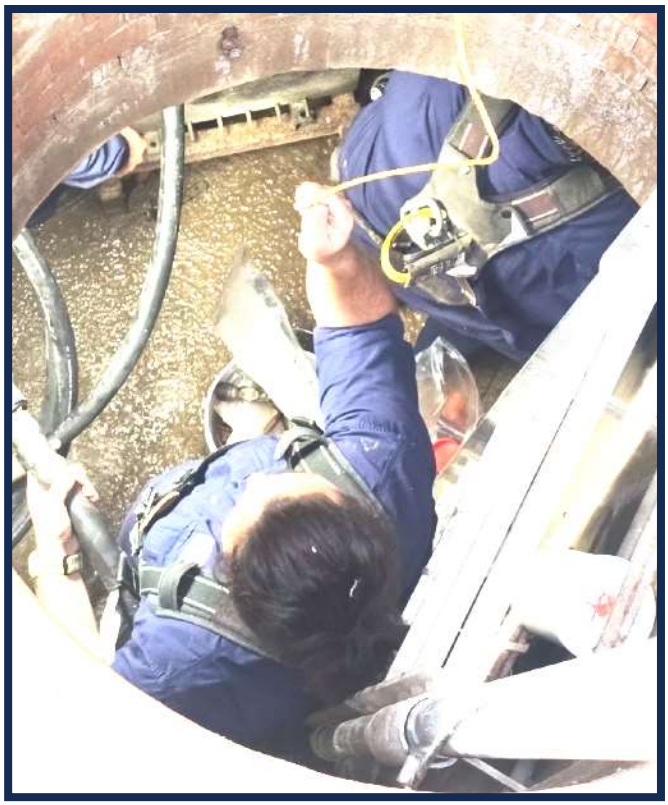
- Checked critical switch vaults on rain routes.
- Replaced sump pump in E606.
- Traced 12kV lines at E801, E802, and E803.
- Repaired light and replaced GFCI in E202.

Engineering & Admin

- Initial development of March chilled water and steam billing.
- Participation in the Stormwater Stakeholder meeting to review annual report and permit needs.
- Review of draft CAD drawings for high voltage infrastructure.
- Met with ABB healthcare applications engineer about upcoming hospital expansion and automatic switchgear retrofits/upgrades.
- Received recaps of AssetWorld conference from IWMS core team attendees and discussed utility space/asset classifications for initial test instance data set.
- Reviewed program agreement terms with KU's energy demand conservation partner Enel for possible UK re-enrollment this fall.







Top R: *Chris Keely and Anthony Hall pump floodwater out of Limestone tunnel.*
Bottom R: *Limestone tunnel vents steam from the floodwater coming in contact with hot steam pipes.*
Left: *Gary Helton and Shelby King connect new feed for switch PM33.*

Facilities Management

UEM Weekly Wire









Top L: *Bryan Poe repairs a sump pump.* ***Top R:*** *Sod installation mostly complete at Singletary duct bank and Panama Canal projects.* ***Bottom L:*** *Chris Keely and Steve Booth working together to break loose a 12" butterfly valve.* ***Bottom R:*** *Jacob Hoard unloading the economizer coil for CUP Boiler #1.*

Accomplishments

Distribution

- Filled chilled water supply and return lines from CW095 through CW093 up to CW092. After vault lines were filled, supplied chilled water to Good Barn.
- Picked up fence panels from Mines & Minerals and Hospital Dr. set them up at Kastle Hall.
- Oversaw excavation and repair of 4" sanitary sewer line outside of Kastle Hall.
- Verified pressure test on 8" high-pressure steam line in Panama Canal.
- Worked on TPC training.
- Isolated domestic water feed to Boone Tennis Center after contractor broke the water line. After repairs were made, turned water back on to the building.
- Isolated and locked out steam valve to Matthews and Memorial Hall from HPS019. Bled steam down for abatement work to be completed inside the building
- Pumped out HPS109, replaced sump pump.
- Pumped out HPS208, replaced sump pump.

Production

CUP

- The new tubes for Boiler 1 Economizer have arrived and installation is in progress.
- Controls Team is getting the new Chiller 2 interface connected to UK network.
- Continuing to complete the safety checklist.
- The new air compressors are on site, and we are working with the mechanical contractor for installation.
- Completed checks on all system pumps and chiller pumps, and we are ready for the heavy cooling loads coming this summer.
- Continued digital hourly log trial for plant readings.

Med Center

- Repaired steam control valve actuator or Med Hospital Hot water Heater B in basement.
- Repaired the diaphragm on one of the low-Pressure PRVs that feed steam to the gas side deaerator.
- Continued shooting the evaporator tubes on chiller 4.
- Repaired guard shields for several of the feedwater pump couplings.
- Brought plant back up and online when Central plant was shut down by the electrical problem on 4-17-2025.

Cooling 1

- Welcomed new hire Steven Ward to Cooling Plant 1.
- Chiller 10 lost its oil heat and recirculation control module. Johnson Controls was in on Friday and is going to repair the module next week.
- Continued pump and motor service for A-side of plant.
- Continued tower gear box oil changes.

Central Heating

- Worked with HV team and FM Central Electricians to restore emergency power availability and restore Central's house power after the bearing water tank leak caused a total plant power loss.
- Replaced the bearing tank supports.
- Worked with contractors on the boiler Demo Project.
- Added isolation valves and replaced water separators to boilers 1 & 2 fuel skid control air supply.

Cooling 2

- Gave tour of Cooling Plant 2 and Central Heating plant to Professor Farzad Taghaddosi' s Thermodynamics II Engineering class.

- Worked with Central Service electricians to get chiller #2 running, after discovering the no power error code problem that was preventing startup.
- Repaired 1K side cooling tower blowdowns.
- Attempted to free a seized 12" butterfly valve on CH4 CHW supply line.
- Installed hoist beam weight capacity signage per EHS safety walk through recommendation.

High Voltage

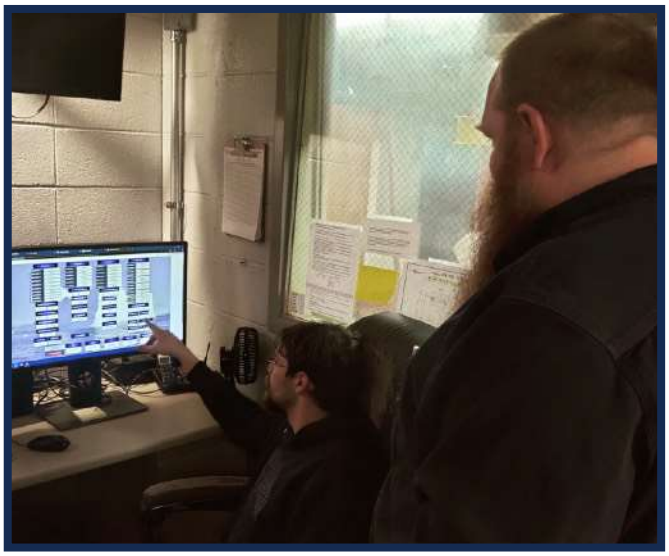
- Contractors completed splices at E907-3.
- Reworked the low voltage feed in E605, and connected to the feed in new vault E605-1.
- Removed elbows from switch in E912 to let contractor splice these with new cables running back to Substation 3.
- Replaced and installed racking for new cables to feed Boone Tennis Center in E605.
- Replaced sump pump in E906.
- Contractor completed terminations in Substation 3 at breaker 3-1.
- Inspected cable racking in several vaults following the new cables from breaker 3-1.
- 811 locate at Farm Rd. and Barnhart bldg.
- Completed monthly substation checks.
- Prepared substations to be sprayed for herbaceous material.
- Repaired sump pump in E907-2 and E912.
- Responded to loss of power at Central Heating after hours on Thursday due to water leak. Isolated plant loads and restored emergency power to Taylor Ed, Peterson, Parking 5, and Cornerstone.

Engineering & Admin

- Submission of steam and chilled water billing for March
- Ongoing P3 discussions around technical and legal needs
- Review of second draft of updated metering standards and recommendations
- Review and submission of 2024 MS4 Stormwater Annual Report







Top: *Jack Baysore, Robbie Hannabach, and new hire Colton Howard working on low-pressure PRV valve.* ***Middle:*** *Steve Booth and Ivana Pizarro removing sheared woodruff key on Chiller 4 valve.* ***Bottom:*** *David Derenge training Steve Ward on Cooling 1 controls*











Top L: *Anthony Hall and Jarrett Webb adding isolation valves to B1 and B2 control air supply.*
Top R: *Jack Baysore and Cody Hopewell installing foam safety protection.*
Middle L: *The FM Electric shop and High Voltage team working to restore power to Central Heating after a leak.*
Middle R: *New chemical reagent storage area with plexiglass doors installed. Looking good!*
Bottom L: *The first economizer tube installed at CUP's boiler 1.*

UEM Weekly Wire









Top L: *Steven Hughes and Graham Gray visit with Electrical Engineering Senior Design team over their "Save Our Squirrels" substation project.* ***Top R:*** *William Asher updates cable inventory while waiting for a fresh wire delivery at Vaughan warehouse.* ***Bottom L:*** *Eric Conner and Carter Whitton working on flash tank at MCHC.* ***Bottom R:*** *The mud drum at Central Heating Coal Boiler #4 undergoing demolition.*

Accomplishments

Distribution

- Completed (4) 811 utility locates
- Replaced plugged high-pressure steam trap in PAV A tunnel
- Tested high-pressure steam traps in PAV A and CCC tunnel
- Installed new 1/4" gauge line in PAV A tunnel
- Opened and equalized three-way valve arrangement in PAV A tunnel after contractors completed steam line re-work for new water line
- Fabricated and installed pipe rack at the generator building
- Checked various air handlers in penthouses for potential chill water leak
- Isolated and locked out high-pressure steam valve in Plant Science tunnel. Bled steam down in HPS096, HPS095, HPS098, and the Gluck building for contractor outage to tie in new piping
- Installed new 3/4" trap line in Panama Canal

Production

CUP

- Welcomed new employee Nathaniel Gay who started at the plant on Monday.
- Refreshed yellow safety paint around plant.
- Working with Kaylee Adams on the plant digital logging system.
- Bulk Salt delivery.

Med Center

- Flash tank pressure relief valve opened on tunnel trap system leading to inspection of components, cleaned strainer, verified swing check valve for proper operation.
- Opened master trap to find bucket had separated from valve linkage, reattached, and closed trap.
- Installed new pressure gage. System operation restored. Installed new air filters in basement AHU.
- Began trouble-shooting basement ventilation fan, installed new drive sheave on new motor with new belt.
- Repaired sump over-flow by adjustment of ring on float switch to start pump earlier. Cleaned up all standing water in ash basement. Cleaned air compressor pre-filters.

Cooling 1

- Finished replacing filter elements on Tower VFD drives.
- Carlton Shelton celebrating 10 years of service.
- Inspected and tested sand filter backflush valves for chilled water leakage.

Central Heating

- Added a bypass line to the plant air dryer to have the ability to service the dryer without interrupting plant operations.
- Added a trap line to the HPS pipe connecting B2 to the header.
- Organized some of the shelves and discarded unneeded items.

Cooling 2

- Moved more DP gauge lines for easier access.
- Assisted the senior Mechanical Engineering design team relocate their stormwater harvesting prototype.
- Worked on a few items brought up by the EHS safety team.

High Voltage

- 811 Locates : Washington/Gladstone, Press/ Virginia Ave, Limestone/Gazette, Farm Rd./ University Dr.
- Boone Tennis Center scheduled outage to install CT's at the transformer.
- Monthly electric meter readings collected and input for billing.
- Crews worked all week to secure newly installed cables in vaults E113, E114, E301 and

E302. Completed a total of (9) elbow terminations in vaults E301 and E114. (3) splice terminations made to join new cable and existing cable in manhole E113.

- Worked with contractor to remove 1000'+ of old cables, freeing up conduits for future use.
- Meeting with FMMC and contractor to prepare for upcoming conduit camera inspections inside the footprint of the planned Chandler expansion.
- Removed and replaced sump pump in E301.
- Unloaded and organized 5500' of new cable in wire cage.
- Inspected and diagnosed faulty transformer at CUP Generator bldg. Moved loads in panel around until replacement transformer can be installed.

Engineering & Admin

- Ongoing internal P3 project discussions around technical, legal, and financial components of the project.
- Preliminary revisions to the RFP for Natural Gas Advisory services.
- Visited with CUP to review opportunities to transition to digital plant logging.

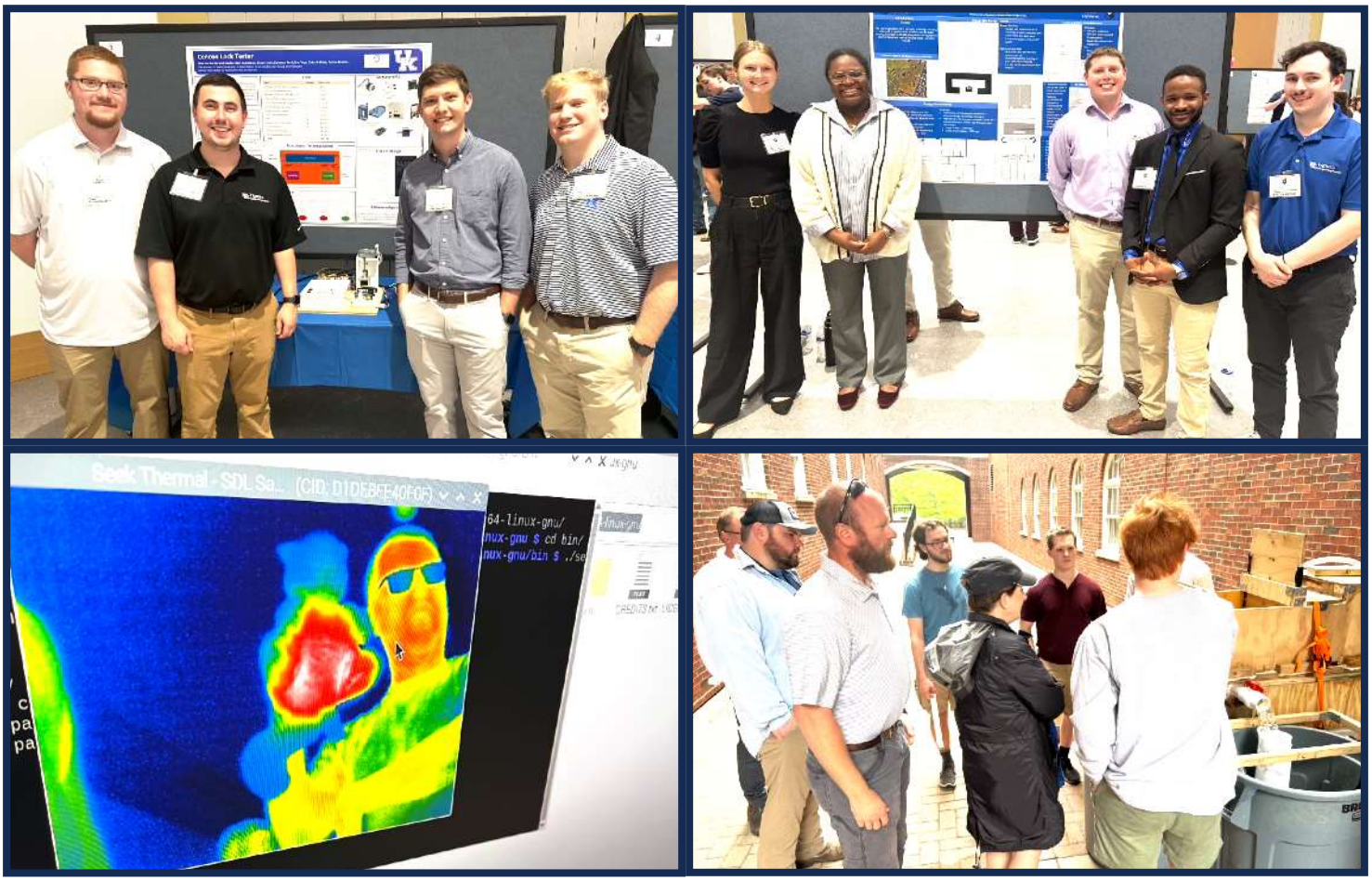


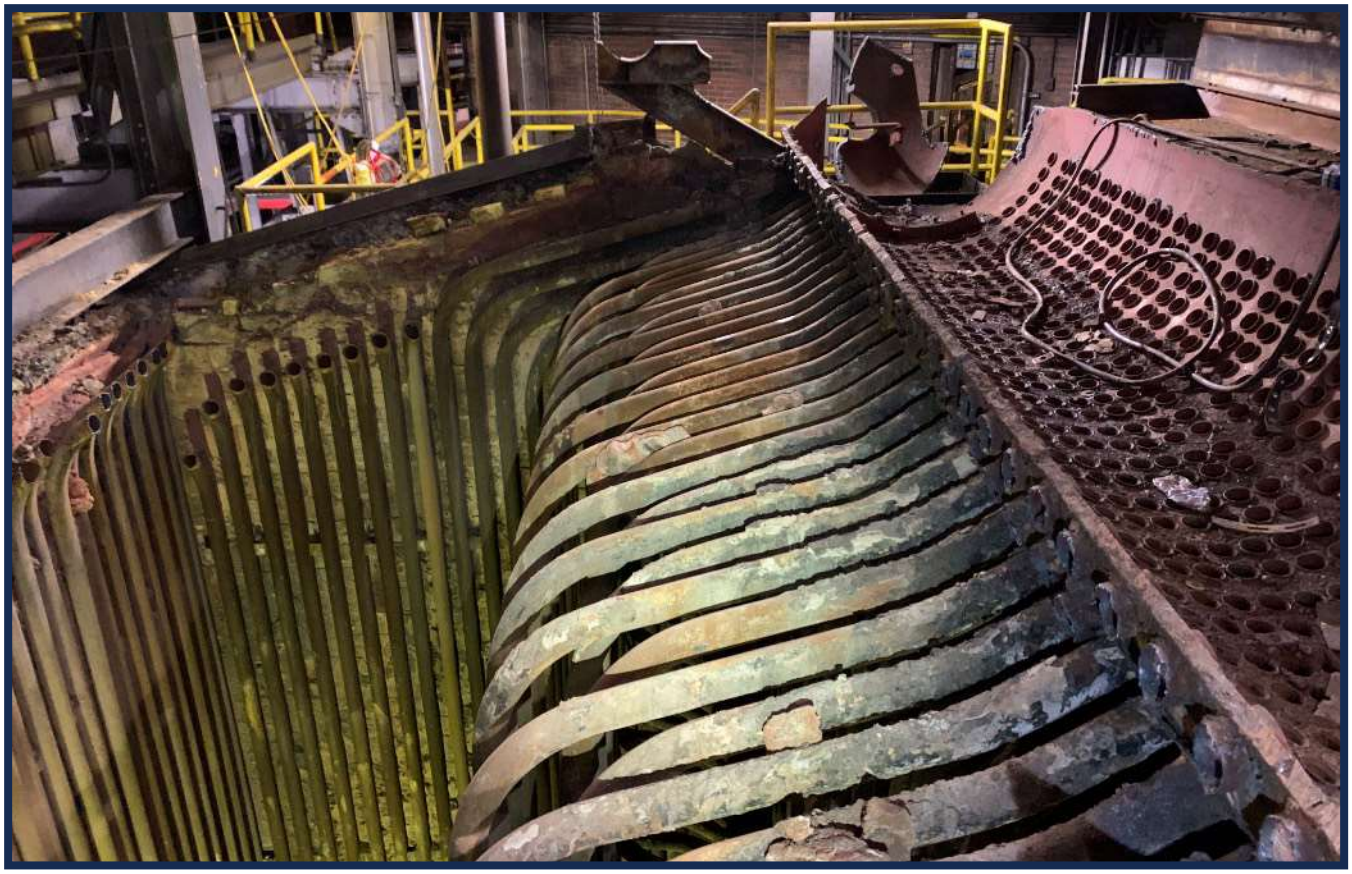
Top: *Orion Saunier, wife Lauren, and big brother Charles welcomed Evangeline Rozanna to the world on May 1st. Congrats on the sweet new baby girl!!*

Happy Work Anniversaries to Carlton Shelton (10 years) and Mike Smith (5 years). We appreciate your service and commitment to the University of Kentucky!



Engineering Senior Design projects wrapped up just before finals week and FM has representation on several teams. Groups from Biosystems & Ag Engineering (top left) and Electrical Engineering (top right) studied projects sponsored by UEM. Additionally, UEM interns Jake Badstibner (below left, 2nd from right) and Keren Keener (below right, 2nd from left) presented their senior projects with their teams. At the bottom left, Steven Hughes and the stuffed squirrel named Earl demonstrate the thermal imaging camera as part of the Electrical project. At bottom right, Shane Tedder, Jacob Hoard, Carter Whitton, and Mary Vosevich watch a demonstration from the Mechanical Engineering Senior Design project on Stormwater Harvesting pre-filtration.





***Top**: Central Heating Boilers #5 fire box and steam drum cut in half as part of the ongoing demolition.*
***Bottom:** Orion Saunier captured a full rainbow stretching across the sky above Cooling Plant #2.*



Facilities Management

UEM Weekly Wire









Top L: *Gary Helton and Scott Barnes install capacitor board for chiller #5 at Cooling 2.* ***Top R:*** *JCI's Bradley Ewalt checks #5 chiller ramp with Chris Keely and Paul Zierer.* ***Bottom L:*** *Jacob Badstibner, Joshua Cave, and Ron Mercer observe as Gary Helton checks chiller #5 starter ahead of first seasonal startup.* ***Bottom R:*** *Ash conveyor trestle being cut out by demolition contractor at Central Heating.*

Accomplishments

Distribution

- Completed (4) 811 utility locates.
- Responded over the weekend to potential steam leak on Hospital Dr. Discovered flooded chilled water vault CW310. Pumped vault out and found chilled water leak on 24" flange. Isolated pipe between CW310 to CW311 and got water to quit.
- Ran new 3/4" condensate drain line on receiver at Nutter Training Center after backup issues.
- Pumped out HPS229. Removed old 1-1/2" sump pump and installed new 2" pump.
- Fixed steam leak on 1" dirt leg valve in HPS095.
- Isolated 8" domestic water line on Hospital Dr. for contractors to make another tie into the new 16" main running in the Pav A tunnel.
- Completed Area 1 high-pressure steam trap survey.
- Fabricated new 7' pit ladder.

Production

CUP

- Alpha continued progress on boiler economizer replacement.
- Electricians ran new wire for air compressors.
- Painted and cleaned DA area.
- Trane scheduled to be in next week to start work on chiller #2.

Med Center

- Worked on plant exhaust fan, took measurements for rebuilding fan housings.
- Opened plant windows to facilitate heat removal, covered stuck open windows on lower level with plexiglass to keep animals out.
- Swapped out condenser water pump strainer on chiller #3B with a clean strainer.
- Received new steam control valve and took it up to second level to prepare it for installation.
- Prepared to block off parking spots for Precision Cooling Towers to start cooling tower basin sealing project.
- Removed salt brine from basement floor ahead of hot water outage and condensate piping repair this Sunday evening.
- Unloaded shipment of tower basin sealer.

Cooling 1

- Surplus picked up old equipment for recycling.
- New hire Steven Ward completed spill training.
- Repaired isolation valve on chiller #1.

Central Heating

- Cut and added isolation valves to separate the bearing cooling lines on the north and south side of the plant.
- Assisted Cooling 2 with a chilled water pump removal.
- Had boiler #1's VFD programmed and tested with a boiler start up.
- Filled surge tank to test make-up control valve after controller had to be relocated.

Cooling 2

- Replaced solenoid valve that operates the 5K-ton cooling tower blowdown.
- Pulled chiller #3 chiller water pump to repair a leak at the housing.
- Started chiller #5. While preparing to start chiller #6, found a faulty valve positioner on the interstage valve.
- Thanks for the assist from High Voltage on the 5K-ton chiller start up!

High Voltage

- Pulled cutouts feeding Ag Distribution Center and old Med Center Storage and supervised contractor erecting new pole.
- Energized and started chiller #5 at Cooling 2.
- Attended IWMS meeting.
- Completed (4) 811 locates.

- Continued work running conduit for new air compressors at CUP.
- Completed monthly substation checks.
- Performed outage for contractors at HEB.
- Provided wire and assisted in new wire pull from E313 to E314. Coordinated this work with Ave. of Champions closure to prevent disruption to Student Center parking lot.
- Assisted contractor in testing cable at PM43.
- Re-landed elbows on switch 6 at PM43.
- Assisted in Arc Flash study.

Engineering & Admin

- Review and planning meeting for IWMS implementation of inspection logs and preventative maintenance lists.
- Energy Program update meeting with Cenergistic and key stakeholders.
- Discussion with CPMD, FM Campus, and UEM on needed updates to utility outage process & form.
- Completed of first draft feedback of new and improved utility meter standard, with additions for steam meters for buildings as well as domestic water and natural gas specifications.
- Congratulations to intern (and soon-to-be full timer) Jake Badstibner on his graduation with an Electrical Engineering degree!!!



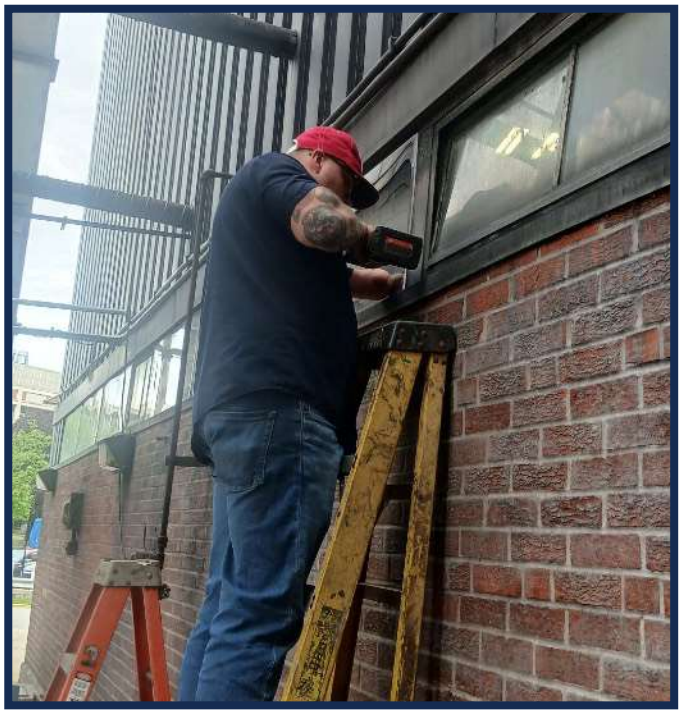
Top R: *Avenue of Champions is closed for two weeks for a significant milling and repaving project.* ***Bottom R:*** *Steam piping gets encased in concrete before the road resurfacing takes place.* ***Bottom L:*** *View from near newly-renovated HMC.*















Top L: *Jack Howard, Eric Conner, and Jack Baysore unpacking a new Steam PRV at MCHC.*
Top R: *Henry Huffines training Steven Ward on SPCC at C1.*
Mid R: *Steven Ward showing off his new baby girl, Aubrie. Congratulations!!*
Bottom R: *Jack Howard and Jack Baysore pigeon-proofing the Med Center plant.*

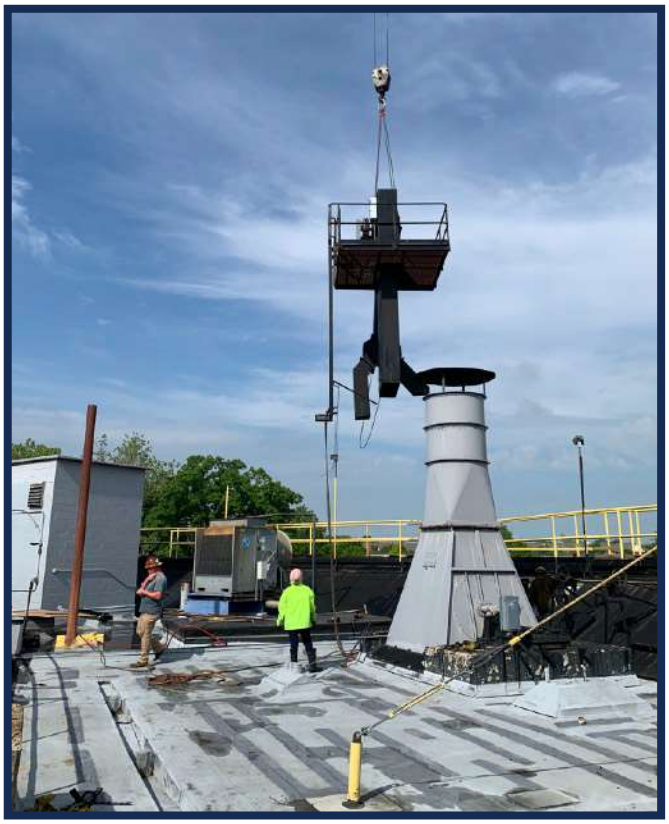


A crane plucks off the ash conveyor (top L), stacks (top R), and breeching (bottom L) atop Central Heating. At left, Mike Duffy had a front row seat to watch the work happen.









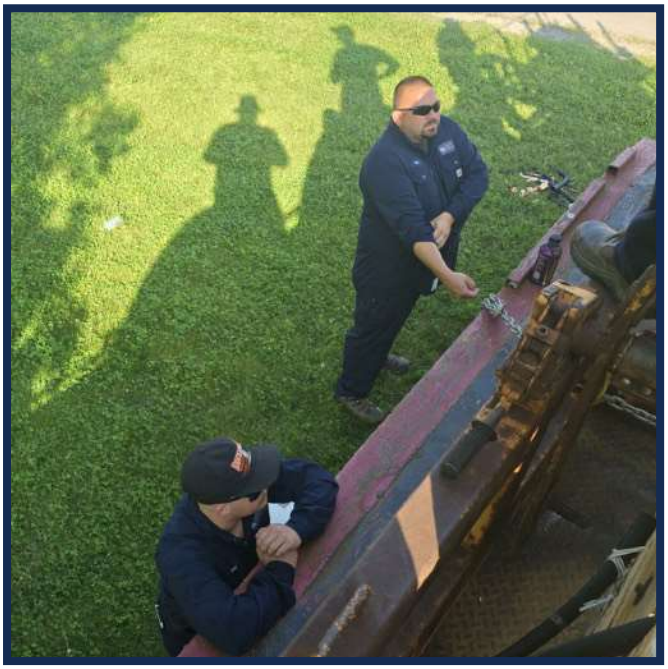
This week was a big one for the outside demolition on Central Heating plant, featuring a large crane used to pull heavy equipment off the roof.

UEM Weekly Wire









Top L: *Chris Keely and KFI's Drew Cavacini conduct final punch list of the Central Heating boiler demolition project.* ***Top R:*** *Gary Helton replaces sump pump in E305.* ***Bottom L:*** *Roy Rowlett guides SeeSnake into conduit.* ***Bottom R:*** *Will Asher and Mike Smith supervise wire removal.*

Accomplishments

Distribution

- Completed (5) 811 utility locates.
- Energized high-pressure steam from HPS217 through HPS044 and into HPS034 after insulation was completed in HPS044.
- Inspected domestic water line pressure test at Ag Research job site.
- Isolated CWS/CWR lines in Mines and Minerals mechanical room due to leak in an air handler in the penthouse. After leak was repaired, turned water back on to the building.
- Installed new pumps/motors on condensate receiver in College of Nursing mechanical room.
- Fixed broken domestic water meter lid at Good Sam Medical Office Building.
- Scheduled KY American Water to isolate 12" domestic water valve on Cooper Drive that feeds Good Barn, BCTC, KTR, and Plant Science for overnight water outage at Ag Research. After valve was isolated, bagged off (6) UK-owned fire hydrants and notified Delta/ fire department.
- Oversaw nighttime outage for Ag Research domestic water tie in. After completion, removed trash bags and flushed (6) fire hydrants. Also worked with Area 3 to fix issues with backflows in Plant Science mechanical room.
- Worked in Plant Science mechanical room to flush coils on air handler 2 after reports of warm temperatures.
- Worked with contractor over the weekend to clean out storm sewers around KY Clinic and Sanders Brown.
- Worked with Buchanan over weekend to clean out (21) stormwater filtration devices across campus.
- Fixed Bilco hatch at 800 Press Ave. parking lot.
- Fixed meter lid at Kappa Phi Kappa house.
- Fabricated (2) ladders for high voltage.

Production

CUP

- Continued cleanup of rear lot.
- Installation of the chemical feed lines for small DA is nearing completion.
- Trane: Part 1 of chiller #2 repair still ongoing (gasket and seal replacement).
- Trane: Part 2 of chiller #2 repair has started (rebuilding circuit 1 vanes).
- Cleaned and flushed coils on all plant AHUs.
- Met with Steve Drury and IRI roofing in preparation of #2 DA repair (warranty assessment before DA project starts).
- Met with Finney, American Crane, and Roof Specialist to finalize the proposal for #2 DA repair.
- Stayed diligent in keeping chillers operating properly and at optimum efficiencies over some very hot days this week.
- Working with JCI/YORK on optimizing oil levels in chillers 4, 5, & 6.

Med Center

- Worked with Precision to balance tower fan blades on tower fan #4.
- Got the new 4” PRV station for the gas-side deaerator working properly.
- Re-established steam to PRV station to H46.
- Put temporary siphon system on system pump #2 to protect its bearing.
- Finished tube shooting and scaffold teardown.

Cooling 1

- Troubleshot chiller #10 and got power back to its control panel.
- Kept machines up and running through extreme heat this week.
- Finished screening of outside doors.

Central Heating

- Installed (2) 8” flange blinds to the lines that used to feed B4 & B5 FD turbines.
- Cleaned up all chemical bulk tanks and spill containments.

- Cleaned cooling coils on air compressors and air dryer.

Cooling 2

- Replaced a section of cast iron drainpipe for the floor drains.
- Assembled a mobile workbench.
- Organized the pipe fittings stock.

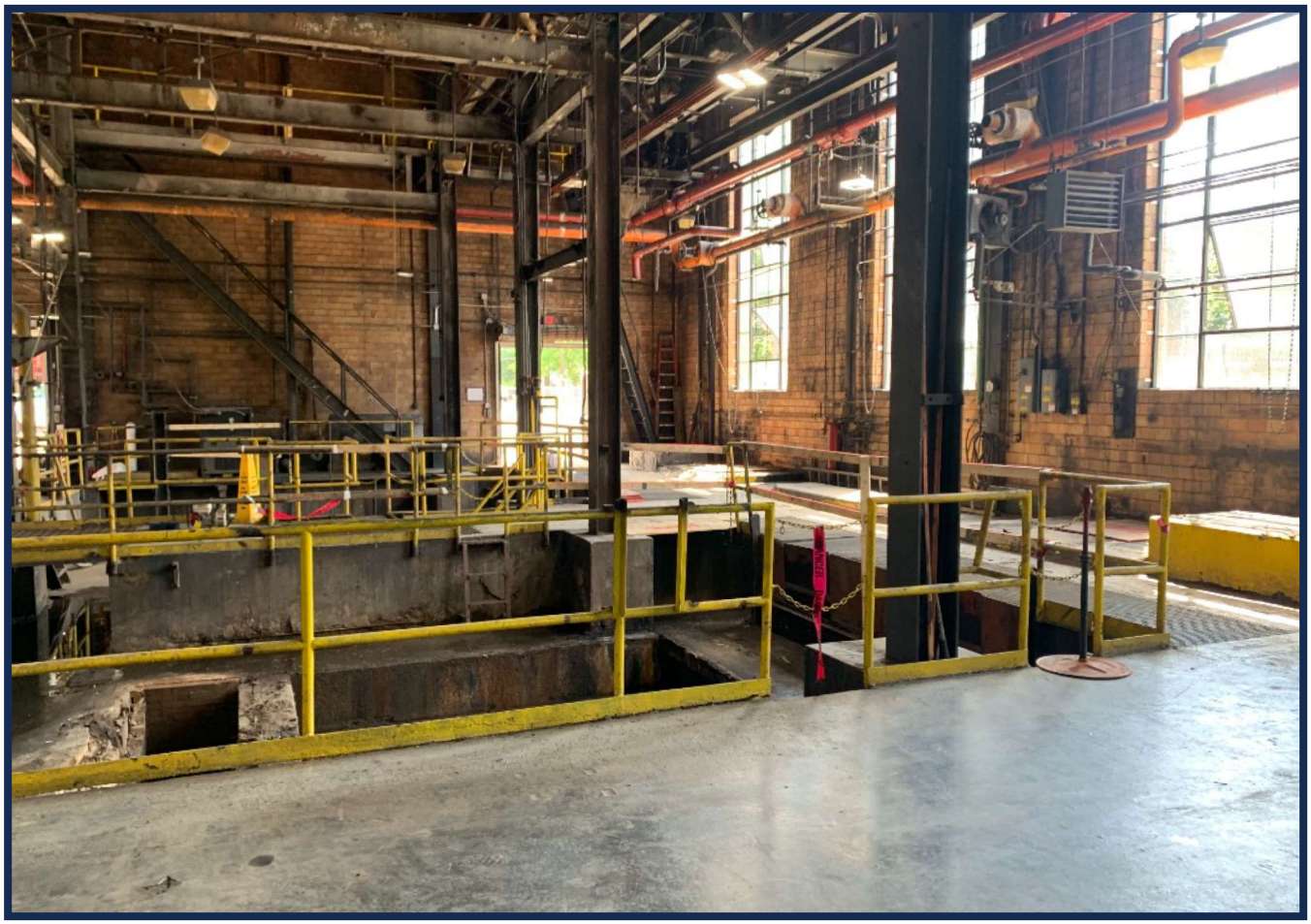
High Voltage

- Completed (6) 811 utility locates.
- Supervised new wire pull to replace old wire from E705 to E804.
- Ran SeeSnake to check conduit condition from E705 to E801, E801 to E802, E802 to E803, and E803 to E804.
- Replaced bad sump pump in E305.
- Investigated conduits ranging from E705 to E804 for cause to failed/snagged wire pull.
- Loaded, unloaded, and organized wire for and after new wire pull.

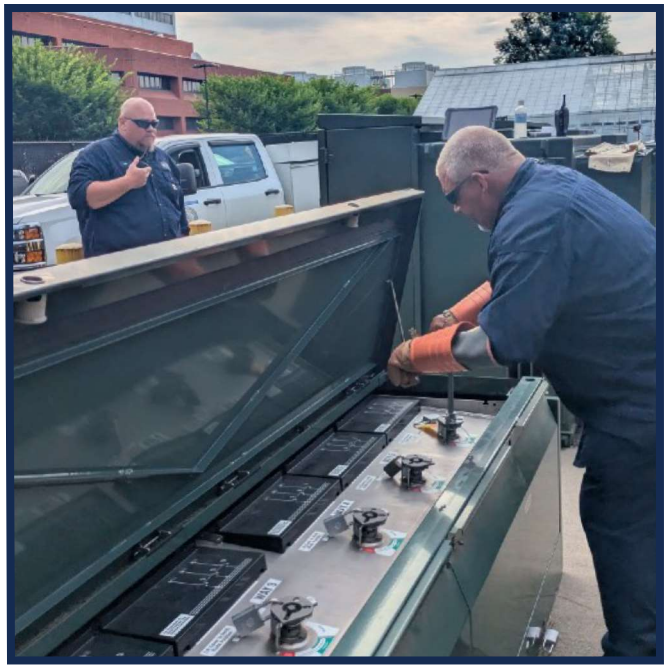
Engineering & Admin

- UEM Leadership meeting to update teams on current P3 progress and other time sensitive matters.
- Project planning meeting with key KU representatives to discuss relocation of 69kV lines in advance of Chandler Expansion and plant project.
- Reviewed RFP questions and developed addendum for Natural Gas advisory services
- Support for capacitor bank troubleshooting and repair to keep power factor near unity.

Below: *Central Heating's coal boiler demolition contractors are now finished.*



UEM Weekly Wire









Top L: *Scott Barnes operates a switch at PM43.* ***Top R:*** *Cooling 1's Steven Ward collects water meter data.* ***Bottom L:*** *Cooling 1's chiller #1 condenser pump going back together.* ***Bottom R:*** *Cooling 1's chiller #9 compressor drive motor's freshly machined shaft.*

Accomplishments

Distribution

- Completed (7) 811 utility locates
- Repaired leaking recirculating line on condensate receiver in Mechanical Engineering
- Removed concrete sidewalk covers to inspect storm sewer lines outside of Roselle Hall
- Scheduled domestic water outages to Thomas Hunt Morgan, and Small Animal Lab to replace water meters in the pits
- Tested high-pressure steam traps in HPS012. Opened 8" steam valve to equalize steam line and opened 6" condensate valve
- Tested high-pressure steam traps in HPS063. Opened 8" steam valve to equalize steam line
- Verified pressure tests on 24" chill water supply and return lines at Ag Research job site
- Responded to sanitary sewer flowing into storm sewer inlet at Shawnee Town. Discovered multiple sanitary sewer manholes backed up on the main trunk. Contacted LFUCG and worked with contractor to clear blockage and camera storm and sanitary sewer pipes
- Oversaw domestic water outage with KY American on Sports Center Drive to repair broken fire hydrant and capping of old water line

Production

CUP

- John Bouchard & Son was in to go over air compressor maintenance program.
- In the process of ordering new pop-off valves for the DA.
- Replaced electric motor on AHU-5.
- Replaced Check valves on transfer pumps.

Med Center

- Plant personnel cleaned pipe trench and the drain in it for Air Tank water blowdown.
- Trench plate covers were painted Safety Yellow.
- Added foam padding to edges of platform ladder anchor that were installed during the safety audit.
- Blocked off parking spaces above the Fuel Oil Underground Storage Tanks for the Annual safety inspection performed by DJ Enterprises.
- Worked with contractors to valve off, isolate and drain chill water system pump #2 to install new split seal to repair leak.
- Assisted contractor with installation of a drain valve on the water feed to the softeners, so it can be used to drain the water lines during Saturday's water outage for the Hospital.
- More painting done on Chiller #5 along with insulation repair.
- Distributed 2025 Chiller Operating Guidelines.

Cooling 1

- Chiller 1 condenser pump reassembly by City Electric.
- Chiller 9 compressor drive motor shaft repair.
- Tower makeup valve adjustments.

Central Heating

- Removed abandoned cooling water lines.
- Cleaned the transfer pump mezzanine area.
- Cleaned roof drains.
- Recycled scrap copper.
- Removed old plywood from the building.

Cooling 2

- Cleaned area around the cooling towers.
- Cleaned pipes and pumps around chill water pumps 5 and 6.
- Checked VFD filters.
- General cleaning and organizing in the plant.

High Voltage

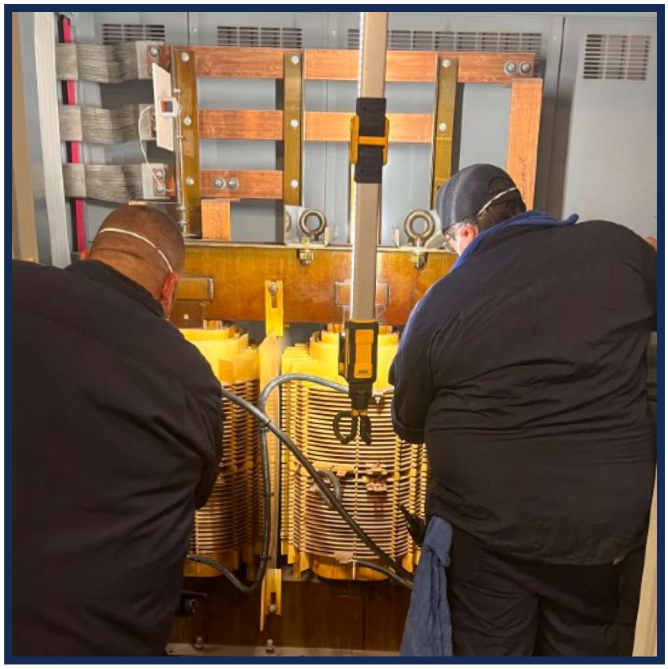
- Completed (11) 811 utility locates.

- Moved temporary transformer from MIK project site back to storage in Substation 3.
- Worked with KU to complete switching at 7 locations across campus for various projects.
- Inspected possible duct bank uncovered at AG Research bldg. job site.
- Met with KU and UK arborists to discuss tree trimming needed near overhead lines on South Campus. Plan set up, scheduling necessary outage.
- Performed scheduled power outage Wednesday morning for Woodland Glen 5, contractors making repair to secondary switchgear.
- Removed failed air handler motor for CUP plant operators office Wednesday, picked up and installed replacement motor Thursday.
- Met with Dixon Electric to inspect cable pulling equipment.
- Attended Outage Follow-up Safety Review meeting.
- Spare transformer inventory updated.
- Inspected duct bank from E104 to E104-1 in front of the Service Bldg.

Engineering & Admin

- Planning discussion for Asset Preservation (AP) funds for utility infrastructure
- Outage report development and safety review with High Voltage team and Occupational Health and Safety in response to July 2nd outage
- P3 planning and design review sessions, including kickoff of architectural review for site
- Review of utility plant construction standards for necessary edits

UEM Weekly Wire









Top L: *Mike Smith and Shelby King clean the Smith/Ingels Hall transformer.* ***Top R:*** *Kelly Cronk takes chiller readings at CUP.* ***Bottom L:*** *Cooling 1's Steven Ward fixes tower sump leak.* ***Bottom R:*** *William Asher valiantly untangles Old Glory at Bradley Hall.*

Accomplishments

Distribution

- Completed (7) 811 utility locates.
- Fixed leak on condensate receiver in HPS030.
- Isolated high-pressure steam valve to Bowman Hall in HPS030 due to leak.
- Isolated high-pressure steam to HPS033 from HPS053 due to steam leaks in the vault.
- Pumped out CW311 and installed new pump.
- Investigated storm sewer manholes outside of Chemistry-Physics after excessive water began to run through the piping.
- Inspected thrust block on chilled water supply and return lines at Ag Research job site.
- Met with outage coordinators at Pav A hospital utility tunnel to discuss upcoming domestic water outage to tie-in water line from the tunnel.
- Verified water meter readings on irrigation system at Nutter field house.

Production

CUP

- Worked with Finney to start replacement of sewer line leaving the building.
- Worked with Finney replacing flow switches with pressure switches starting Monday.
- Chiller #2 is in the process of getting put back into service.
- Fire safety training for plant employees.
- Started using iPad logging.

Med Center

- Received new CC-400HF Hi-Flo Coil Cleaner Goodway machine.
- Recalibrated conductivity probe on cooling tower controller to reduce make-up water usage.
- Prepared old boiler chemical for pick up by Environmental Quality Management.
- Fabricated new floor drain anti-clog screens for trough drains.
- Repaired damaged CWS pump insulation after seal repairs.
- Went over Safety Audit improvements with Ethan Sheridan of EHS.
- Replaced sight glass on boiler #4.

Cooling 1

- Rebuilt leaky plumbing on delivery system for condenser water treatment system.
- Addressed small leak on tower sump.
- Reconnected electric motor on chiller #1 condenser pump, put chiller back into service.
- North side of plant gravel lot returned to grass after supporting multiple years of construction projects.

Central Heating

- Took boiler #1 offline for preventative maintenance and inspection.
- Unbolted center baffle plates for tube inspection.
- Cleaned the water collection area of DA #2 while it is opened for inspection.
- Installed some blind flanges on the secondary air tank and on the feedwater lines that went to the coal boilers.
- Did the quarterly run time swap of feedwater pumps. Took feedwater pump offline and put pump 2 online. Preventative maintenance was performed on pump 1.
- Surge tank room on the roof was organized and cleaned up.
- Roof drains were inspected and cleaned.

Cooling 2

- Cleaned the floors on the old side and new side of the plant.
- Cleaned distribution pump piping.
- Repaired a condenser water strainer on the chemical feed controller.
- Inspected cooling tower cell 2A and figured out the issue with it. Looking to have it repaired in the next few weeks.

High Voltage

- Completed (6) 811 utility locates.
- Completed scheduled power outage at Grehan bldg. for contractors to remove old power feed to Pence Hall.
- Completed scheduled power outage for Baldwin/Smith/Ingles dorms to allow contractors to install new power feed to new Kirwan/Blanding dorm.
- During scheduled outage, completed PM's on transformers feeding Baldwin, Smith and Ingles dorms.
- Crew responded to early morning call of a light pole knocked down in the Orange Lot.
- Cable pulled in from PM16 to E115 , E115 to E303-2 and E303-1 for new redundant power feed to Chem Phys.
- Cable pulled in from E802 to E801 and E705, and E803 to E804, part of a project to upsize feed to Kroger Field and south campus.
- Attended Fire Safety training this week.
- Crews investigated a call from Pav A staff of water leaking from HV electrical duct in basement ceiling. Found condensation dripping from junction box. Blocked off conduits in manhole feeding into Pav A junction box.
- William Asher with urgent corrective action to untangle "Old Glory" at Bradley Hall

Engineering & Admin

- Bi-monthly Energy Program update meeting highlighting success stories and areas for improvement.
- Utility Provider update meeting to share ongoing campus work with Kentucky American, Columbia Gas, and others.
- Ongoing P3 review sessions for technical design, legal, and financial matters
- Kickoff meeting with EOC to discuss Emergency & Contingency planning efforts for utilities outages.

Below: *Former construction area at Cooling 1 now sodded and beautiful again.*



UEM Weekly Wire









Top L: *Bryan Poe and Gary Helton assist contractor with wire pull from E303-1 into the Chemistry-Physics switchgear.* ***Top R:*** *Central's Austin Brown cleans boiler #1 firebox.* ***Bottom L:*** *Hez Davis fixes leak on tower #4 at Cooling 1.* ***Bottom R:*** *Jack Baysore and Jack Howard repair sight glass.*

Accomplishments

Distribution

- Completed (10) 811 utility locates.
- Worked with contractor to set new water meter pit at greenhouses behind Kroger Field.
- Isolated high-pressure steam in KTR tunnel for steam outage to pressure test new piping at Ag Research job site.
- Responded over the weekend to domestic water leak on Patterson Dr/Administration Dr. Isolated valves and got water to stop. Worked into the night with contractors to install spool piece. After work was completed, turned water back on to affected buildings and flushed water after the backflows.
- Repaired sump pump discharge line in CW310 and got pump running again.
- Inspected Area 4 condensate receivers.
- Replaced bad 3/4" high-pressure steam trap and trap line in KTR utility tunnel.
- Flushed bottom coil of AHU 2 in Plant Science with citric acid.
- Verified pressure test on HPS, PDR, and HPR lines at Ag Research job site.
- Energized high-pressure steam in KTR utility tunnel up to KTR building.

Production

CUP

- Pressure switches were installed on chillers #5 &#6 to help with the Helios tube cleaning system.
- AHU #1 and AHU #3 belts have been replaced and realigned.
- Chiller #2 is back online running, waiting on controls to get system online.
- New sanitary sewer line install was completed.

Med Center

- Worked with ChemTreat to do a shock treatment to the cooling tower system.
- Installed new injection quill in the Bleach chemical line port.
- Cleaned Bleach Pump suction line inlet screen.
- Cleaned cooling coil with new coil cleaning machine on AHU #1 of chiller basement.
- Installed new filters in the cleaned unit. Greased sump pump bearings.
- Consolidated old chemicals for pick-up by Environmental Quality Management. Checked Coal stockpile.

Cooling 1

- Chiller #9 reassembled and back in service after drive motor bearing replacement.
- Chiller #5 condenser pump seal replacement by City Electric.
- Tower #4 sump #2 leak repaired.

Central Heating

- Getting boiler #1 ready for annual inspection.
- Replaced isolation valves and trap line on boiler #1 mud drum heater loop.
- Installed safety relief valve on #2 DA.
- Reinstalled water tray inspection door and bottom manway lid on #2 DA.

Cooling 2

- Work continues on the floor drain piping project.
- Operators did great running plant in hand while Tridium server issues were worked out.

High Voltage

- Completed (7) 811 locates.
- Inspected and replaced faulty sump pump in E202, cleaned sump well and replaced light switch assembly.
- Lubricated ventilation fan in E115 and cleared debris out of vents.
- Began annual cleaning of Kroger Field transformers, was able to complete cleaning of south-side transformer, but due to issues

with generator, north-side transformer has been scheduled to be cleaned next week.
- Loaded up wire for contractor to perform new wire pull from E303-1 to Chem-Phys gear, pull now complete, terminations to follow.
- Covered all exposed cable ends in vaults E705, E801, E802, E803, and E804.
- Re-racked cables in E115 that were moved for new cable pull
- Splices completed in E115.
- Inspected drain line in E301 that was repaired and rerouted by contractors.

Engineering & Admin

- Ongoing technical, legal, and financial review sessions for P3 project.
- Stormwater Stakeholder meeting to review updates and areas of focus related to MS4 permit.
- Visit with Larry Schuster from Cenergistic to review campus and plant opportunities for improvement.
- "Bump In the Night" meeting to discuss opportunities for improvement in electrical systems

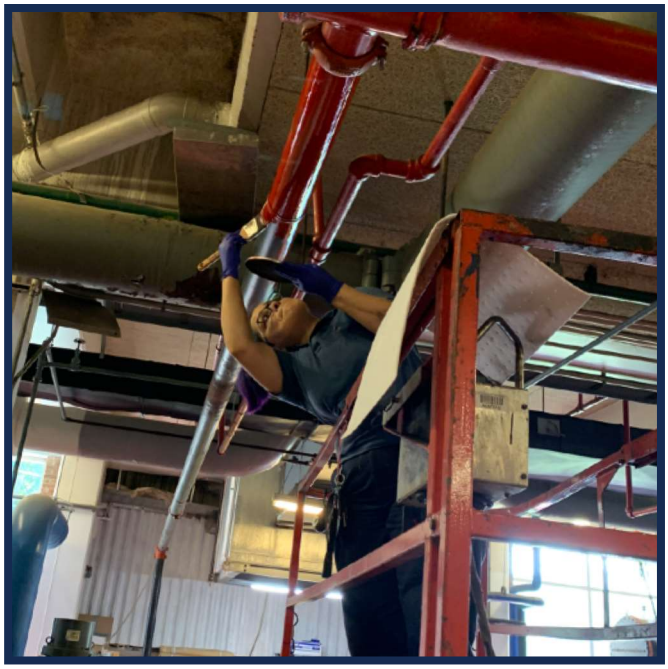


Top: *Steven Ward prepping Condenser pump 5.* ***Bottom L:*** *Scott Barnes clears debris from vent at E115.* ***Bottom R:*** *Shelby King and Gary Helton clean south transformer at Kroger Field.*





UEM Weekly Wire









Top L: *Ivana Pizarro paints a replaced section of fire sprinkler pipe.* ***Top R:*** *Chris Stewart, Bryan Poe, Mike Smith, and Scott Barnes clean transformer at Kroger Field.* ***Bottom L:*** *Eric Conner cleans electrical room condenser coil using coil cleaning machine.* ***Bottom R:*** *Colton Howard tightens leaky packing on boiler blow down valve.*

Accomplishments

Distribution

- Completed (7) 811 utility locates.
- Collected GIS points for Buell Armory and Frazee Hall domestic water lines.
- Worked with contractor to stage extra perma-pipe from Ag Research at Vaughn Warehouse
- Pumped out CW200 and checked for power in the vault.
- Unclogged 1 1/2" sump pump discharge line in CW310 and installed new check valve.
- Valved off 16" domestic water main in the PAV A tunnel and drained the water line for upcoming pipe re-work.
- Picked up fence panels from Administration/ Patterson Drive water leak site after repair of asphalt/sidewalk was completed.
- Installed new condensate motors on condensate receiver in Erikson Hall.
- Inspected all high-pressure steam vaults.

Production

CUP

- Worked with Finney and Citco to repair bleach fill line and fill port.
- Plans for additional bathroom are in design and bid phase.
- Repaired sump pump check valve that had a leaking seal.
- Worked with lightning suppression system contractor to develop plan for the new DA install.

Med Center

- Worked with contractor to replace the motor on the electric room condenser unit and thoroughly cleaned its condenser coils.
- Fixed steam totalizer on gas boiler #4.
- Tightened leaking packing on boiler #3 blow down valve, stopped leak.
- Received load of softener salt and filled salt tanks with water.
- Filled plant truck with fuel.
- Checked coal stockpile for trash.
- Gave Central Heating a bag of Refractory.

Cooling 1

- Henry Huffines attended CBMI all week.
- Chiller #9 main bearing troubleshooting and motor testing.
- B-side pump room air handler troubleshooting and fuse replacement by David Derenge.

Central Heating

- Switched to #2 DA tank to inspect #1 DA tank.
- Continuing work on boiler #1 for annual inspection.
- Paul Zierer attended CBMI.

Cooling 2

- Painted some piping in the plant.
- Turned off chiller #5 to inspect the compressor motor.
- Completed some PM on the old-side air handler.

High Voltage

- Completed (8) 811 utility locates.
- Monday evening crews completed Kroger Field north-side transformer PM.
- Cable terminations and racking completed for the new Chem-Phys circuit.
- Met with Todd Thacker to coordinate upcoming Chem-Phys outage.
- Hi-pot tested new Chem-Phys cables from PM16 to switchgear in basement.
- Documented rotation readings for upcoming outage at Chem-Phys.
- Worked on cleaning manhole vents, documenting vents that need new screens.
- Located low voltage lighting circuits in the parking lot behind Memorial Coliseum for upcoming lighting upgrade.
- Monthly meter readings collected and entered on spreadsheet for billing.

- William Asher and Roy Rowlett saved an orphaned baby rabbit from traffic on Virginia Ave, re-homed in a safer area of campus.

Engineering & Admin

- Hosted Technical Session #3 with KIP P3 team along with ongoing legal, technical, and financial sessions.
- Utility & Energy contingency planning session with EOC.
- Natural Gas Advisor RFP interview sessions.
- Monthly UEM & Controls Huddle to update on current projects and future needs.
- Exploratory meeting with CPMD and Cenergistic on capturing KU rebates.
- Strategic planning discussions with EQM on sanitary sewer needs near Shawneetown.



Top: *Roy Rowlett performs other duties as assigned (baby rabbit rescue and re-homing mission).*
Bottom L: *Roy isn't the only superhero roaming our campus during the summer heat.*
Bottom R: *Bryan Poe and Chris Stewart secure cables and grounds for testing at PM16.*





Facilities Management

THE WIRE | UTILITIES & ENERGY MANAGEMENT







NEW HIRE WIRE!

Left: UEM Electrical Intern Jake Badstibner recently joined the team as a full time Utilities Systems Engineer, supporting the High Voltage substations and 12kV distribution network. August was a big month for Jake as he also married the love of his life, Lindsey. Congratulations Jake!!

Center: CUP welcomes new employee, Michael Derenge! Michael graduated from the University of Kentucky with a B.A. in Art Studio with a focus in drawing. Previously, he managed mail rooms, print shops, and eventually got into being a technician working on industrial printers before coming to UK.

Right: This month, Dan Dalton joined the team as a Utilities Systems Engineer supporting Production and Distribution. Dan started his career with the Coast Guard and most recently worked for the Mastronardi Produce Greenhouse in Richmond. He and his wife Ashley have a one year old son, Eli. Welcome to the team!

Highlights

Heating Season Prep Underway: Central Utility Plant #4 (CUP) operators took down Boiler #1 and spent time cleaning it up for the coming heating season. High pressure steam boilers produce steam at 366 degrees and 150psi and must be inspected annually to ensure continued safe and reliable operation. To the right, Will Tyree is closing up the boiler door after a successful inspection. Central Heating plant also had a successful inspection on Boiler #1. UK's district energy system currently has 9 steam boilers on campus, with plans to add 3 more in the coming 5 years.



P3 Update: UEM team members are working with Kentucky Infrastructure Partners (KIP) to develop a new heating and cooling plant in support of campus growth. The plant design is well underway and can house up to three 100,000 lbs/hr steam boilers, ten 3,000 Ton chillers, and 10 total emergency generators. This plant will sit between the future Chandler Hospital Expansion and Substation 1 and is planned to be open by Spring 2029 in support of the Chandler Expansion fit out. The current architectural rendering is pictured here with Chandler expansion in the background.The photo at right is from a recent design session and pictured (l to r) are Dan Bransom of KFI Engineers, Mike Duffy, UEM Production Manager, Drew Cavacini, formerly a UEM intern with KFI Engineers, Kevin Locke, AVP Capital Planning, and Carter Whitton, UEM Manager of Distribution.









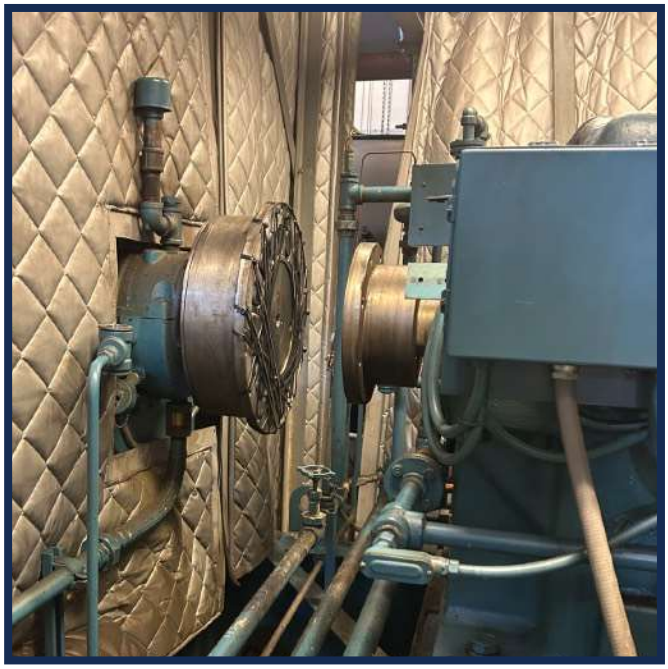






Top L: Steven Ward cleans up around Cooling 1 in advance of the first home football game.
Top R: Colton Howard, Robbie Hannabach, and Jack Baysore cleaning storm drains outside Med Center Heating & Cooling.
Middle L: Cory Chenault maintaining CUP's equipment through regular cleaning and upkeep.
Middle R: Spencer Parker doing PM work on the #2 air compressor at Central Heating.
Bottom L: Henry Huffines cleaning up and spraying bird repellent after chasing pigeons away from Cooling #1's Towers.

Cooling 2 Chiller #6 Test & Startup





Cooling 2's 5000-ton chiller #6 motor was disconnected from the rest of the unit for an electrical "bump" test. The chiller's 12kV motor-starting autotransformer was recently replaced after a failure last year, and this test was to ensure that the new transformer was wired with the correct rotation. The motor was momentarily energized to a fraction of its nominal speed and visually confirmed to be spinning in the correct direction. The coupling piece was then re-attached and the chiller was fully started up for the first time via the new autotransformer.





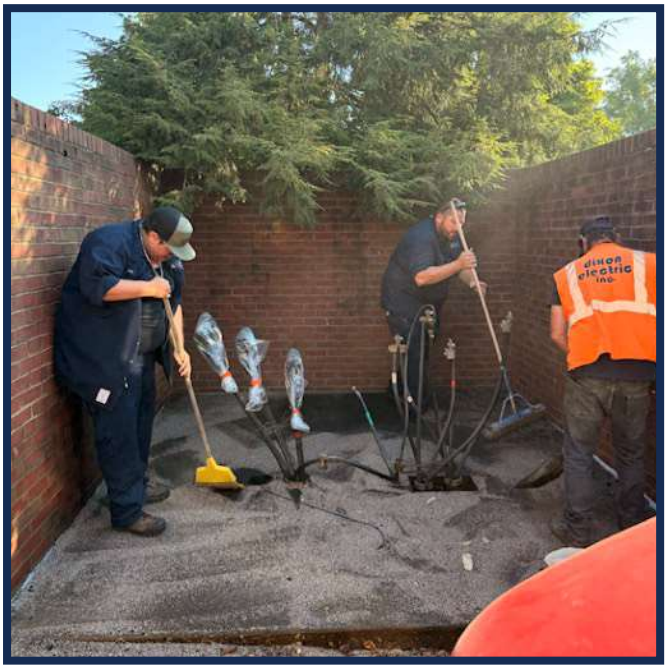
Boone Faculty Club Transformer Leak





A passer-by spotted fluid leaking from the pad-mount transformer at Boone. This turned into a textbook “see something, say something” success story. High voltage crews made plans to swap out the transformer the very next morning with a spare from inventory. FMC managers and Delta Center collaborated on optimal outage scheduling and communication to stakeholders. The swap went off without any hiccups, over an hour more quickly than originally estimated. Thanks to all involved!



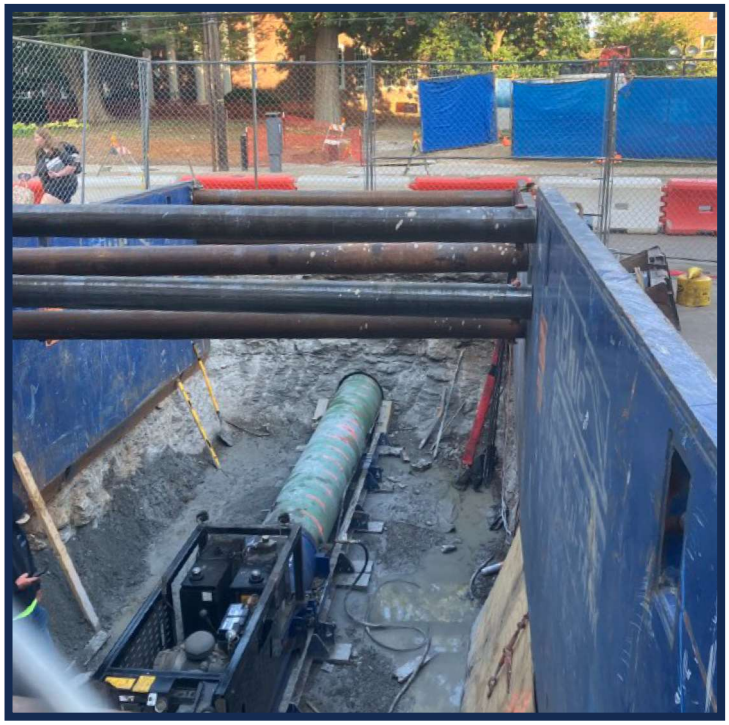


Distribution Improvements



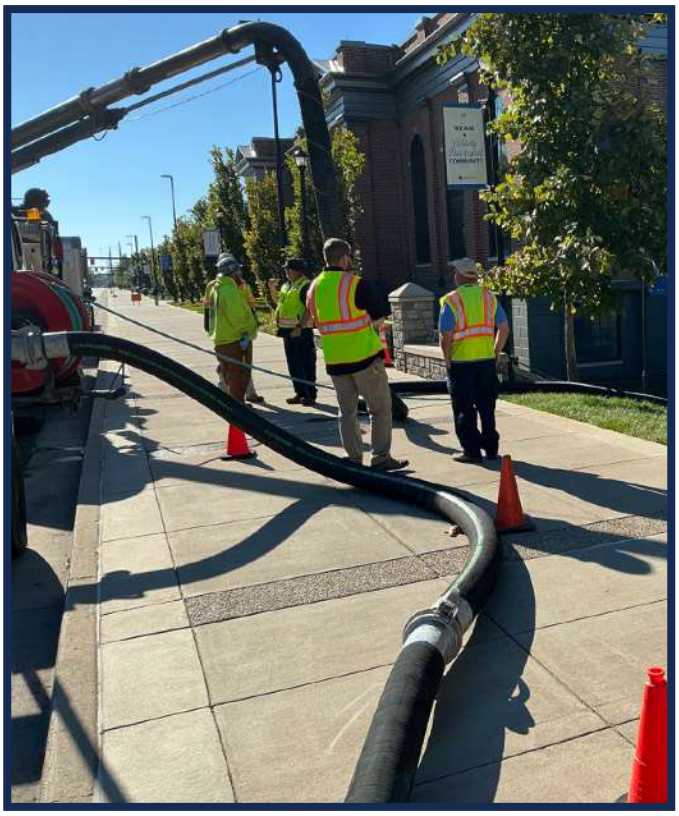
South Campus Connections: On August 12th, UEM Distribution team members finished energizing the new 10" high pressure steam and 6" steam condensate lines (shown at left) that were relocated to make way for Ag Research. The process to energize the over 1200' of new piping took more than 12 hours, split over two days, to safely bring the piping up to the 150 psi operating steam pressure. The completion of this piping gives back the redundancy of the south campus loop to all of the buildings on our steam system south of Cooper Drive. Similarly, a new set of 18" chilled water lines was also completed recently and will be fully energized over the next few weeks to complete the south campus chilled water loop.

South Upper Sanitary: A new 12 inch sanitary line is being installed beneath S. Upper Street to replace an aged and undersized 8 inch line ahead of the Central Heating Boiler upgrade. Crews worked to excavate a pit approximately 8 feet deep (through many layers of rock) to allow for a boring rig to be mounted and begin tunneling just over 60 feet under the street. The setup can bore a 20 inch hole at a rate of about 1 foot per hour through the solid limestone rock. This allows both lanes of S. Upper to remain open for the duration of the project.



Facilities Management

THE WIRE | UTILITIES & ENERGY MANAGEMENT





UEM Distribution Keeps It Flowing

Top L: The UEM Distribution team supporting exploration and cleanup efforts on a sanitary sewer line along Avenue of Champions near the Student Center. A blockage was found that caused a massive backup within Alumni Gym during the record-breaking rainfalls on October 7th.

Top R: Tommy Smith, Dan Dalton, and Carter Whitton reviewing the steam valve work happening in the "Knuckle Pit" along Limestone near the north Campus Pedestrian Bridge. UEM Distribution is replacing some flanged valves to eliminate the possibility of gasket leaks – one of these valves is addressing a current leak. The team will be completing the replacement project next spring & summer.

Highlights









Top: A brilliant rainbow across the sky above Cooling Plant #2 on October 6th.

Mid L: Energy & Sustainability Intern Henry Walke shared UKULELE lab efficiency resources with guests at the Lab Safety Fair on Halloween at HKRB.

Mid R: Ron Mercer recently celebrated 25 years at the University of Kentucky. We're glad to have you, Ron! He noted one of his favorite projects with UK was the installation of the substation capacitor banks which save $100k+ monthly on UK's electricity bill.

Bottom R: UEM High Voltage Journeyman Electrician Gary Helton said "I Do" to his new wife, Rachel. Congratulations to the happy couple!

Coal Pile Consolidation

The two coal boilers at Central Heating were recently removed from service to make way for an upgraded natural gas boiler. As a result, the coal storage pile along S. Upper Street was no longer needed. Production crews worked to consolidate the remaining 581 tons of inventory into the Medical Center Plant storage pile on Stadium View Drive. This coal reserve is in place as a resiliency plan in case of interruption of the primary heating fuels of natural gas or fuel oil. Shoutout to Paul Zierer, Chris Keely, Eric Connor, Jack Baysore, Joe Cafego & Matt True for their coordination to accomplish this feat. Also thanks to Grounds for helping clean up the aftermath to preserve stormwater quality.









Top: Chris Keely loading the remaining coal inventory into a dumptruck for transfer.

Bottom L: Jack Baysore and Eric Conner installing batteries and preparing the payloader for handling the coal at the MC Heating storage site.

Bottom R: The Med Center pile in good shape after the addition of the Central Heating inventory.

Production Plant Updates





Cooling 1: The plant begun the winter shutdown procedures, including bringing up plant steam, preparing chillers for service, and draining the appropriate outdoor water lines. The tower 4 cell 1 automatic drain valve actuator was replaced. A basement storage room was also cleaned out for new shelving and painting. *(Photo Top Right: David Derenge, Steven Ward)*

Central Heating: The coal stockpile beside Cooling 2 was transferred to the Med Center H/C stockpile. Central Heat, Cooling 2, & Med Center H/C employees worked for 4 days to transfer 581.19 tons of coal. It took 3, 22-ton triaxle dump trucks, 3 payloaders, a backhoe, and a skid steer to get through several mechanical issues to move the coal. A huge shoutout to garage employees and grounds for helping make this a success.

Cooling 2: Winter maintenance to Chiller 5 has begun. The condenser and evaporator tubes will be brushed, oil and filters will be changed, there are a few valves that will be replaced. Brushing the tubes in the condenser and evaporator ensures that there are no blockages or tube fouling. Tube blockages or tube fouling reduces the efficiency of heat exchange. This means it costs more money to try and keep the CHW output setpoint of 40 °F. If there is enough blockage or the tubes are fouled enough the chiller will not be able to keep this setpoint, so the tonnage is reduced.

Med Center: Worked with Central Heating & Cooling 1 staff to move the S. Upper Coal stockpile. Regular maintenance and inspections continued, including a site visit with EQM's Nathan Weber for an SPCC inspection. *(Photo Top Left: Rocky Moberly, Eric Conner, Nathan Weber)*

Central Utility Plant: CUP team was all hands on deck to get the temporary DA tank set up and functioning for the winter season. Additional repair work on the Boiler #1 economizer and control relays were also addressed.





The CUP temporary DA tank trailer is hooked up and ready for heating season.

High Voltage Halloween Week Haunt



Over Fall Break, KU performed some scheduled maintenance on the Substation 2 transformer. This required UK's High Voltage team to shift all load to other campus substations, which went off without a hitch and without any power outages required! True to the season, it wasn't without a good scare. After KU finished their maintenance, their 69kV switch would not close properly, and was broken after attempting to operate. Thankfully, during the second day of the break (Tuesday), KU was able to approve an outage for their transmission line, fix the switch with parts from inventory, and get UK's transformer back up and running with daylight still to burn. Load was then shifted back to the substation as if nothing had ever happened—just a day later than scheduled. Thanks to KU for their quick recovery, Cooling 2 staff for their flexibility, and the High Voltage team for staying cool under pressure!

Facilities Management

THE WIRE | UTILITIES & ENERGY MANAGEMENT





Quarter 3 Service Awards & New Employees



Facilities Management holds a quarterly Service Award Luncheon for those employees celebrating a milestone in their employment as well as new employees. Chris Keely (Top L) with Production celebrated 15 years and Chris Stewart (Top R) with High Voltage celebrated 20 years. Not pictured are Roy Rowlett of High Voltage with 20 years and Bryan Poe of High Voltage with 10 years. At left are Dan Dalton and Jacob Badstibner, new Utility Systems Engineers for UEM, with Britney Ragland and Graham Gray.

Highlights







Top: Carter Whitton and Dan Dalton explaining the CUP Stormwater Harvesting system to a Master's engineering class studying stormwater.

Mid L: Alpha Mechanical reinstalling Cooling #1's Chiller 9 compressor drive motor after a rebuild on November 13th.

Mid R: Gary Helton and Mike Smith take advantage of cooler fall weather to conduct preventative maintenance on substation circuit breakers.

5th Annual UEM & Friends Holiday Party
































LANDFILL
WASTE











Cooling Plant #2 houses the both oldest chiller and the newest chiller in the UEM fleet as well as the smallest and largest chillers on campus. On Friday, December 5th it also hosted more than 100+ UEM Friends & Family members who joined in at the 5th Annual Holiday Party. This gathering became an instant classic from year one and the chillers an endearing backdrop to a warm meal and friendly company. A shout of thanks is due to the Cooling #2 and Central Heating teams led by Paul Zierer and Chris Keely, as well as Mike and Alice Duffy for carrying the load of pre-cleaning, setup, decor, and cleanup. Congratulations to all for a year well done!

"Awards become corroded, friends gather no dust." - Jesse Owens

WE WISH YOU A MERRY CHRISTMAS AND A HAPPY NEW YEAR!

APPENDIX A

Public Education and Outreach

Facilities Training Newsletters

Facilities Management

TRAINING FLASH

A monthly update of Training and Development opportunities for Facilities Management Staff.

APRIL 2025

Safety Training: REQUIRED Stormwater Web-Based Trainings

Facilities Management employees are required to complete two web-based training courses provided by Environmental Quality Management (EQM) **every year**:

- *General Stormwater* – Required for **all** Facilities Management employees.
- *SPCC and Groundwater Protection Plan* – Required for employees who work with oil as part of their job responsibilities, including Heating/Cooling Plant Operators, Garage employees, Grounds employees, and others.

To take these courses in MyUK Learning, click the links above. If you have previously completed a course, click "Launch" in the pop-up window to receive credit for taking it this year.

Supervisors must also conduct regular spill prevention and/or stormwater briefings to review activities and ensure employees understand the applicable plans for their area. For fact sheets and additional resources to assist with briefings, visit the EQM website: https://env.uky.edu/stormwater/training.

Supervisor or manager approval is required for all trainings.



Medical Center Annual Safety WBTs Available May 1

This year's Medical Center Annual Safety WBTs were *delayed*. They will now be accessible for completion in MyUK Learning on May 1, 2025 with a deadline to complete them by **July 31, 2025**. According to an announcement published in the *In the Loop* newsletter, "These dates are later than in recent years. This year's timeline keeps UK HealthCare in compliance with The Joint Commission requirements. UK HealthCare employees still have the standard 90 days to complete their trainings."

If you are having difficulty completing or obtaining credit for any of these WBTs, contact the UKHC Service Desk at 859-323-8586 or itshelpdesk@uky.edu.

If you work primarily in UK HealthCare buildings and were not assigned these trainings in MyUK Learning, please contact Jen Smith at jennifer.smith1@uky.edu.



Safety Training: Aerial Lift Safety



Aerial Lift Safety Awareness is provided for employees who utilize aerial lifts to work in an elevated position. This program outlines general operating, maintenance, inspection and training requirements governing safe aerial lift use at the University.

Date	*Time*	*Location*
4/22/2025	1:00 pm – 2:00 pm	Peterson Svc Bldg
4/24/2025	8:00 am – 9:00 am	Peterson Svc Bldg

FACILITIES MANAGEMENT EMPLOYEES WHO UTILIZE AERIAL LIFTS AS PART OF THEIR JOB RESPONSIBILITIES ARE REQUIRED TO COMPLETE THIS TRAINING EVERY YEAR.

Supervisor or manager approval is required for all trainings.

Continuing HVAC Troubleshooting



Continuing HVAC Troubleshooting is a follow-up to the Basic HVAC Troubleshooting course intended for those employees who are asked to troubleshoot and repair Air Handling Units (AHUs) as part of their job responsibilities. While the Basic HVAC Troubleshooting course focuses on troubleshooting room controls, the Continuing HVAC Troubleshooting course focuses on sequences of operation for temperature control outside of a room, troubleshooting problems at the air handling unit, and explaining how University of Kentucky plant operations support building HVAC systems.

Date	*Time*	*Location*
4/23/2025	8:00 am – 12:00 pm	The 90

Supervisor or manager approval is required for all trainings.

BENEFITS CORNER: Pharmacist Consultations



Employees enrolled in a UK health insurance plan can access Know Your Rx, a free service with clinical pharmacists and specialists ready to help you manage your prescriptions. They can answer your medication questions, suggest cost-saving alternatives, and support you through insurance changes. To get started, call (859) 218-5979, Monday–Friday, 8 a.m. to 6 p.m. This personalized support is confidential, convenient, and completely free. For more information, visit https://hr.uky.edu/insurance-and-retirement/health-insurance-and-benefits/consult-pharmacist.

Safety Quick Tip: Bicycle Safety



April is Distracted Driving Awareness Month. Staying focused on the road is important for drivers, cyclists, and pedestrians. Distractions like texting, wearing headphones, or failing to check blind spots can lead to serious accidents, especially in areas where bicycles and vehicles share the road. By staying alert and practicing safe habits, you can help prevent crashes and keep everyone safe. Facilities Management Supervisors are encouraged to use this information as a safety training resource in team meetings. If you have any questions, please contact EHS at 257-3845 or visit their website at http://ehs.uky.edu.

For more information, contact:
Jen Smith
Facilities Training and Development Specialist
Peterson Service Building Room 214
(859) 218-3159
jennifer.smith1@uky.edu



Facilities Management

TRAINING FLASH

A monthly update of Training and Development opportunities for Facilities Management Staff.

SEPTEMBER 2025

Make Your Voice Heard: Take the UK at Work Survey

Between September 8 and 26, University of Kentucky employees will be invited to take the *UK at Work* survey on employee engagement. This survey is **completely anonymous** and your responses cannot be seen by anyone associated with UK. Results are collected by Willis Towers Watson, and only grouped summaries are shared back with the university.

This is your chance to share honest feedback about your work experience and how UK can better support you. Keep an eye out for your individual email invitation from Willis Towers Watson and take a few minutes to complete the survey. *(Each employee receives a unique link, do not forward your email.)* Your survey input may help shape future improvements and strengthen Facilities Management as well as the University of Kentucky.

Learn more at https://hr.uky.edu/work-life-and-well-being/employee-engagement/employee-engagement-matters.



Suicide Prevention Awareness Month: QPR Training (Virtual)

September is Suicide Prevention Awareness Month. UK HR Work-Life offers QPR (Question, Persuade, Refer) training to help you recognize warning signs of suicide, offer hope, and to connect someone to help. QPR is a nationally recognized program designed for anyone regardless of background or experience. In this short training, you can learn how to make a difference and potentially save a life.

Date	*Time*	*Register*
9/16/2025	10:30 am – 12:00 pm	Click here to register for this session.
9/30/2025	12:00 pm – 1:30 pm	Click here to register for this session.

ALL UK EMPLOYEES ARE ENCOURAGED TO TAKE THIS TRAINING.

Click here to learn more or to take the online version of this training: https://hr.uky.edu/work-life-and-well-being/mental-health/qpr-training. Supervisor or manager approval is required for all trainings.



New Groups Begin Their Training Journey



Last month, the newest group of HealthCare Facilities Maintenance Technicians began their six-month training plan, joining other Facilities Management groups already underway. Each technician is paired with a coach and supported by their supervisor to stay on track and succeed.

This month, we held a kickoff session for trucking employees, including those who recently moved from Facilities Management Healthcare to Facilities Management Campus. This session introduced their training plan and provided hands-on guidance to help them get started.

Training plans are a long-term investment in Facilities employees—providing the tools, knowledge, and support needed to grow in your career path and prepare for future opportunities.

Safety Training WBTs: General Stormwater Training / SPCC & Groundwater Protection Plan



All Facilities Management employees are required to complete annual web-based stormwater training (also assigned upon hire).

- **General Stormwater Training is REQUIRED for ALL Facilities Management employees** and can be accessed on MyUK Learning here.
- **Spill Prevention Control & Countermeasures and Groundwater Protection Plan** is required for all Grounds and Garage employees as well as any employees who handle oil, pesticides, fertilizers, or deicing agents. Training can be accessed on MyUK Learning here.

Supervisors are encouraged to share safety tips tailored to their team's tasks ahead of seasonal operations. For help creating these tips, or for additional information on these courses, visit the Environmental Quality Management – Water Quality website here or contact Kevin Lewis (kevin.lewis@uky.edu) or Nathan Weber (nathan.weber@uky.edu).

Access these courses in MyUK Learning and click "Launch" to receive credit. Supervisor or manager approval is required for all trainings.

BENEFITS CORNER: Mental Health Services Overview



UK offers a variety of mental health resources for employees and their families—covering concerns like stress, anxiety, burnout, grief, and more. Options include:

- **Work+Life Connections** – Up to 5 free in-person or virtual counseling sessions each fiscal year for employees and sponsored dependents
- **LiveHealth Online** – Convenient telehealth counseling for employees and family members
- **Anthem Emotional Well-Being Resource** – Digital tools to build resilience, reduce stress, and practice mindfulness
- **UK Family Center** – In-person or virtual counseling for individuals, couples, or families

Learn more about these services at: https://www.uky.edu/hr/work-life-and-well-being/mental-health.

Safety Quick Tip: Ladder Safety



This month's toolbox talk focuses on ladder safety. Always choose the right ladder for the job, inspect it before use, and maintain three points of contact when climbing. Avoid standing on the top step and never use a ladder on an unstable surface. Facilities Management Supervisors are encouraged to review this information during team meetings. For questions about ladder safety training, contact Jen Smith. For general safety questions, contact EHS at 859-257-3845 or visit http://ehs.uky.edu.

For more information, contact:
Jen Smith
Facilities Training and Development Specialist
Peterson Service Building Room 214
(859) 218-3159
jennifer.smith1@uky.edu

Scan here with your smartphone for links to everything in this newsletter!

APPENDIX A

Public Education and Outreach

UKNow Articles

2025-26 UK Sustainability leadership and internship opportunities

By Carlie Laughlin Tuesday



Students in this year's Sustainability Internship Program. Photo provided.

LEXINGTON, Ky. (March 11, 2025) — University of Kentucky students have been making a difference across campus through the UK Sustainability Internship Program and Student Sustainability Council. Over the last 10 years, student-led research and projects have included creating a Waste Reduction Week focused on the importance of waste issues, highlighting student art related to climate change and revitalizing campus landscaping through tree planting events and garden design.

The UK Office of Sustainability in Facilities Management is now accepting applications for two student opportunities for the 2025-26 academic year.

Sustainability Internship Program (SIP)

The Sustainability Internship Program pairs undergraduate students with sustainability-related offices and units across campus to advance sustainability initiatives in exciting and meaningful ways. Interns earn $15.55/hour and work eight to 10 hours per week from mid-August through the end of

the spring semester. Through the program, interns work with mentors to support sustainability initiatives and develop a sustainability project or initiative that addresses a campus need.

There are 15 internship opportunities available for the 2025-26 SIP, covering a variety of expertise areas:

- Alternative Transportation
- Campus Kitchen
- Campus Woods
- Chemical Upcycling
- Dining Sustainability
- Energy (Lab Environments)
- Food Connection Scholarly Engagement
- Kentucky Climate Consortium
- Recycling
- Stormwater Outreach
- Sustainability Digital Media and Communications
- UK HealthCare Sustainability
- Urban Environment and Sustainable Design
- Urban Forest Initiative

The Sustainability Internship Program application deadline is **March 30**. Students can apply here.

Student Sustainability Council (SSC)

The Student Sustainability Council plays a key role in guiding sustainability efforts at UK by working to evaluate and fund sustainability projects that benefit the entire campus community.

The student-led initiative began in 2009 and has since funded more than 460 projects including the recent hydration stations that offset nearly 22,000 single-use water bottles during Big Blue Move-In last fall. Any member of the University of Kentucky community can submit a proposal for funding support for a project that will enhance the culture of sustainability on UK's campus. The Student Sustainability Council distributes nearly $200,000 for campus sustainability projects each year.

The Student Sustainability Council application deadline is **March 23**. Students can apply here.

Learn more about UK's sustainability initiatives and opportunities by visiting https://sustainability.uky.edu/.

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‘Trees can strengthen communities’: Canopy Con 2025 reimagines urban green spaces and more

By Jordan Strickler Published on Mar. 24, 2025

The University of Kentucky Urban Forest Initiative (UFI) will host the second annual Canopy Con, the only Bluegrass regional conference dedicated to urban and community forestry. The workshop invites students, faculty, staff, forestry professionals, urban planners and the community who want to learn more about community tree canopies and their benefits.

The event takes place April 24 at the Fayette County extension office. Feature speakers include internationally renowned scientist, conservationist, master arborist, science communicator and author Margaret D. Lowman and Lionel Bradford, president and executive director of The Greening of Detroit—an initiative that has overseen the planting and maintenance of nearly 150,000 trees.

The program will also feature a panel on the evolution of Andover Forest, a Lexington neighborhood working to create a community natural area at a now defunct golf course. Presentations will cover wide-ranging topics related to the health, maintenance and future of urban and community trees, showcasing the multifaceted nature of urban forestry.

"In 2024, we were testing the waters with our first Canopy Con, and this year, we’re sharpening our focus,” said Ignazio Graziosi, UFI coordinator. “We want to highlight how trees can strengthen communities."

Canopy Con 2025 will also feature hands-on demonstrations, providing participants with a unique opportunity to engage directly with urban and community forestry practices. Demonstrations will focus on the management of urban woodlands, soil quality and tree health, trees as green infrastructure, stormwater management, urban wildlife, urban pollinators and tree health.

Trees are facing increasingly significant challenges. Increasing in frequency and intensity, unprecedented weather events such as drought, heat waves, flash freezes, flash floods and wind events take a toll on tree canopies. Non-native insects have had an outsized impact on community tree canopies in Kentucky, as shown by the loss of ash trees due to the emerald ash borer.

Registration is $40, including talks, demonstrations, parking at the venue, and morning and afternoon snacks and lunch. The first 30 students to register will receive admission for only $10. For registration and program details, visit https://ufi.ca.uky.edu/canopy-con-2025.

"Our overall vision as a collaborative is to improve the urban canopy and help citizens understand the many benefits that come from trees, from cleaner air to stronger community ties,” Graziosi said. “Canopy Con 2025 will take that vision a step further, demonstrating real-world examples of what’s possible."

Canopy Con 2025 is organized in partnership with Lex Grow Trees and the Kentucky Division of Forestry and supported by the Department of Entomology, the Martin-Gatton College of Agriculture, Food and Environment, the Kentucky Chapter of the American Planning Association and Burl Investment Management, LLC.

This year’s event is at the Fayette County extension office, located at 1140 Harry Sykes Way,

Lexington, KY 40504.

UFI is a collaborative program between UK and other Kentucky stakeholders to protect urban tree canopies on a local and state-wide scale. UFI aims to maintain and promote urban and community forests while developing tree stewards.

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Writer: Jordan Strickler, jstrickler@uky.edu

The Martin-Gatton College of Agriculture, Food and Environment is an Equal Opportunity Organization with respect to education and employment and authorization to provide research, education information and other services to individuals and institutions that provide equal opportunities for qualified persons in all aspects of institutional operations and do not discriminate on the basis of race, color, national origin, ethnic origin, religion, creed, age, physical or mental disability, veteran status, uniformed service, political belief, sex, sexual orientation, gender identity, gender expression, pregnancy, marital status, genetic information or social or economic status.

Using campus as a classroom: Students explore UK's energy infrastructure

By Jennifer T. Allen April 18, 2025



Carter Whitton, utilities systems engineer, spoke with students in Holly Osborn's technical writing course about how resources are used to regulate campus temperature in one of the heating plants. Photo by Jennifer Allen.

LEXINGTON, Ky. (April 18, 2025) — At the University of Kentucky, students have access to a dynamic living lab — an 800-acre campus with more than 20 million square feet of building space and all the infrastructure and operations of a small city. At the heart of this opportunity is Facilities Management. In addition to creating an environment where students can learn and excel, Facilities Management is also providing opportunities for students to engage directly with the systems that are essential to the university's operations.

As part of a technical writing course taught by Holly Osborn, a lecturer in the UK College of Arts and Sciences' Department of Writing, Rhetoric and Digital Studies, students have the unique opportunity to go behind the scenes. The course, which includes students from diverse majors such as engineering, neuroscience and animal science, is designed to help students hone their technical writing skills through real-world fieldwork.

One of the course assignments requires students to research various sustainability initiatives on campus by going out into campus to see firsthand how things work. During this process, students interview campus leaders and explore sites of sustainable practices. Projects explore topics such as waste reduction, food recovery and composting, alternative transportation options and the maintenance of the campus's tree inventory. This semester, a group of students focused on understanding the energy systems that heat, cool and power the university and this included the opportunity to tour two of the university's heating and cooling plants

During the tour of these central plants, led by Britney Ragland, associate director of Utilities and Energy Management, and Carter Whitton, utilities systems engineer, students gained insight into how resources like natural gas and water are used to regulate temperature across campus as well as how the university's stormwater harvesting system operates.

"Seeing this process in action provides a foundation for students to discuss topics like energy saving initiatives in buildings, stormwater harvesting or the university's goals to reduce emissions on campus," Osborn said. "The experience of creating the field report is invaluable to them as they prepare to graduate and enter the work force."

Ragland, Whitton and other members of the Utilities and Energy Management team have provided numerous tours to hundreds of students over the past five years.

"The Utilities Team enjoys sharing our utility plants and electrical infrastructure with student groups because it gives them a tangible real-world example of what they are learning. It prepares them more fully for the careers they are walking into," Ragland said. "It also opens their eyes to what it takes to keep the campus running, including an appreciation for the people who are on staff 24 hours a day to provide heating, cooling and electricity so they can be successful in their studies."

Students' access to hands-on opportunities such as this not only enhances their writing but also prepares them for real-world technical communication roles after graduation.

"The opportunities to see real-world applications of what you're studying is crucial to your understanding of a topic," said Mickey Bohan, a mechanical engineering sophomore in Osborn's class. "Touring the cooling plants allowed me to see significantly more than a picture in a textbook and allowed me to grasp the scale at which the university cooling plants operate."

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UK Facilities Management launches new on-campus composting system

By Jennifer T. Allen Tuesday

LEXINGTON, Ky. (April 22, 2025) — The University of Kentucky is turning food waste into a high value soil amendment with its newly launched composting system — an innovative, on-campus facility designed to expand composting operations and support UK's commitment to becoming a zero-waste campus by 2030.

Spearheaded by UK Recycling and UK Sustainability in Facilities Management, the new process uses an in-vessel, aerated composting system that dramatically improves the university's ability to process organic waste. The system transforms food scraps and wood chips into nutrient-rich compost in a matter of weeks, using controlled airflow, moisture regulation and automated mixing via a giant corkscrew-like auger.

"The system looks a bit like a train rail car," said Ryan Lark, zero-waste specialist at UK. "But what makes it unique is the level of control we have over the composting process. This allows us to handle more material more efficiently — right here on campus."

Previously, UK transported campus food waste daily to Woodford County through a partnership with the Martin-Gatton College of Agriculture, Food and Environment. The six-year partnership made the first stage of the university's composting efforts possible but transporting the food waste limited collection expansion and placed strain on resources and equipment.

"Our partnership with the Martin-Gatton College of Agriculture, Food and Environment was instrumental to our efforts to launch food waste diversion efforts and is still vitally important," said Shane Tedder, facilities services and sustainability director. "The team at the C. Oran Little Research Facility continues to be a key partner and is willing to accept material when issues arise with the on-campus system."

With the support of a 2022 state grant, Facilities Management was able to build the new system on campus, dramatically increasing the efficiency of food waste collection and reducing transportation costs and emissions. The new system became operational last month and is processing food waste collected from every dining location on campus, Athletics facilities and some residential locations.

UK Grounds plays several key roles with the new system. The system is co-located with some of its operations, with employees trained to assist with daily tasks. Once the compost has completed its composting and curing process, the team will use it for campus turf, flower beds and mulch.

"We're excited about using compost as a more organic approach to support our plants on campus," said Corey Baker, grounds manager. "We will also be top dressing our turf across campus which will improve soil health and our stormwater management by helping nutrients and water soak into the soil rather than run off."

Already, the benefits are clear.

"Our food waste collection drivers used to finish their daily routes around 1 p.m. Now they're done around 10 a.m.," Lark said. "That's time saved, less wear on our vehicles and more capacity for

future expansion."

UK Dining is also a key campus partner in the composting initiative.

"UK Dining is looking forward to the opportunities that the new composting system will create for further expansion of our food waste collection program, while also reducing greenhouse gas emissions produced by transport," said Erin Hafner, director of sustainability in UK Dining. "Having a compost facility on campus will be a win for our operations and the environment."

Student Spotlight: Jacob Hampton tells UK's composting story

As part of UK Recycling's educational outreach, Jacob Hampton, a digital media and design senior in the College of Fine Arts, created a video highlighting the composting system during an internship this semester.

"I've grown a lot through this project," Hampton said. "It helped me be more creative and understand the people behind composting efforts on campus. Not everyone gets chances like this and having opportunities to gain real word experience is so beneficial for students."

Hampton's connection to composting goes beyond campus.

"My aunt used compost for her garden when I was growing up, so I know firsthand how it can turn waste into something valuable. People need to understand composting's environmental benefits," he said.

The new composting system is a powerful step toward a more sustainable campus. By turning yesterday's food scraps into tomorrow's nutrients, UK is reducing waste, enriching the campus environment and demonstrating leadership for a greener future.

Learn more about UK Sustainability at sustainability.uky.edu and UK Recycling at recycleblue.uky.edu.

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Campus News (/campus-news)

Learning beyond the classroom: UK students turn sustainability lessons into action

By Jennifer T. Allen (/authors/jennifer-t-allen) April 25, 2025

LEXINGTON, Ky. (April 25, 2025) — The spirit of sustainability was alive and well on campus as part of the University of Kentucky community rolled up their sleeves to plant trees and contribute to a greener future. For the second year in a row, students from Lewis Honors College, along with the UK Grounds arboriculture team in Facilities Management, joined forces to plant trees along Alumni Drive.

The event, open to all UK students and coordinated by Kenton Sena, a Lewis Honors College senior lecturer, was funded by the Student Sustainability Council with matching funds from an LGE/KU Plant for the Planet grant. The newly planted trees are native to Kentucky, adding to the campus's already diverse landscape.

"Our mission in Facilities Management is to help students graduate and provide them with an environment that is conducive to learning while they are at UK," said Nic Williamson, arboriculture superintendent. "This event provides an opportunity for students to gain hands-on experience and helps us increase the campus tree canopy."

Sena integrates service learning into as many of his classes as possible to give students the opportunity not only to think and discuss in his classes but get to work in an embodied way.

"I work here, students live and learn here and our campus is a living laboratory," Sena said. "There are many environmental issues and we can do tangible things to address them. I want students to be able to know about these problems and have the opportunity to be part of the solution. I hope that this gives students hope."

Twenty-five students came to the event and, after learning about the planting process, jumped in to plant 10 new trees.

Kaylee Bliss, a marketing and environmental and sustainability studies junior and Lewis Honors College student, has taken two classes with Sena and has enjoyed learning about the process of planting and caring for trees.

“We talk about this in the classroom, and then getting to do it in person makes me feel more connected to campus,” she said. “I can’t wait to come back in 20 years and see the trees we planted still here growing and thriving.”

Bliss, also the Student Sustainability Council representative for the Social Entrepreneurship Scholars Pathway in the Gatton College of Business and Economics, enjoys the interdisciplinary opportunities offered at UK, such as this one.

“Events like this show how connected things are on our campus,” she said. “It’s refreshing to get to learn something new and see how topics we discuss in class can be connected to tangible events like this.”

Sarah McClellan, a political science and law and justice junior and Lewis Honors College student, has always had a passion for the environment and has made it a priority to take classes such as Sena’s urban and restoration ecology course.

“It’s important for people to know that anyone can get involved and make a difference,” McClellan said. “I really enjoy how these classes and events bring together different people with different backgrounds all contributing in a meaningful way.”

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UK’s Utilities and Energy Management team receives grand award for stormwater harvesting system

By Jennifer T. Allen May 28, 2025



Graham Gray, second from left, executive director of Utilities and Energy Management, along with Cara Boggess, Bob Pickerill and Megan Hogan with Bell Engineering accepted the award. Photo provided.

LEXINGTON, Ky. (May 28, 2025) — The University of Kentucky’s Utilities and Energy Management team in Facilities Mangement was honored with a Grand Award at the 2025 Engineering Excellence Awards, presented by the American Council of Engineering Companies of Kentucky. This recognition celebrates the team’s innovative work on the Central Utility Plant (CUP) Stormwater Harvesting System, a project that began in 2017 and officially went online in the fall of 2023.

Developed in collaboration with Bell Engineering and supported by a Stormwater Infrastructure Grant from the Lexington-Fayette Urban County Government, the system is designed to capture up to 25 million gallons of stormwater annually from the 170 million gallons that flow into the Wolf Run watershed. The collected water is then repurposed to supplement the water needed to run the plant, significantly reducing the need for purchased domestic water.

“The stormwater harvesting system plays a critical role in helping us offset campus water usage and manage stormwater runoff,” said Britney Ragland, associate director of Utilities and Energy Management. “If we can capture, reuse and return this water to the environment, it reduces our footprint on the local water system while also benefiting the local watershed.”

The CUP cooling plant alone uses more than 45 million gallons of water each year and the stormwater harvesting system offsets a substantial portion of that demand, providing a meaningful environmental and operational benefit for the university.

In addition to its practical applications, the project also has an educational component. Engineering senior design teams from mechanical, civil and biosystems engineering, along with two engineering interns, conducted studies on various aspects of the system throughout this past academic year.

“This award highlights the university’s dedication to sustainability, innovation and collaboration,” Ragland said. “We are proud of the work that has gone into this project and look forward to its long-term impact on campus and beyond.”

The Engineering Excellence Awards are presented annually to recognize outstanding achievements in the field of engineering. Earning the Grand Award is a testament to UK’s commitment to developing solutions that positively impact both the environment and the local community.

As the state’s flagship, land-grant institution, the University of Kentucky exists to advance the Commonwealth. We do that by preparing the next generation of leaders — placing students at the heart of everything we do — and transforming the lives of Kentuckians through education, research and creative work, service and health care. We pride ourselves on being a catalyst for breakthroughs and a force for healing, a place where ingenuity unfolds. It's all made possible by our people — visionaries, disruptors and pioneers — who make up 200 academic programs, a $476.5 million research and development enterprise and a world-class medical center, all on one campus.

Student News (/student-news)

Lewis Honors College to transform courtyard into pollinator space

By Adrienne Clarke (/authors/adrienne-clarke) Sept. 5, 2025

LEXINGTON, Ky. (Sept. 5, 2025) — This fall, honors students will transform the space between the University of Kentucky Lewis Honors College (https://honors.uky.edu/) and The 90 into a pollinator garden, replacing non-native grasses and shrubs with vibrant native species.

Lewis Honors College is hosting two events to prepare for the pollinator garden by removing the existing non-native plants, 3-5 p.m. Monday, Sept. 8, and 9:30-11:30 a.m. Tuesday, Sept. 9, in the Lewis Honors College courtyard. The entire campus community is welcome to participate and should dress for the weather and the work, which will involve digging and uprooting plants. All tools will be provided by UK Grounds in Facilities Management.

Through a partnership with UK Grounds and the Lewis Honors College, students in this fall's honors course titled The Lexington Ecosystem (HON 152) will take the lead in preparing and planting the pollinator garden, which was designed by students in last spring's Urban Restoration Ecology course (HON 301), taught by Senior Lewis Lecturer Kenton Sena, Ph.D.

Students presented their individual work to UK Grounds, and then, as a class, revised the design, based on grounds staff feedback.

"I'm so excited that the native pollinator garden has been approved. Especially since we are replacing species that are not ecologically vital to our local ecosystem," said senior Zach McComas. "Local projects like this can prove we can still make an impact."

The two non-native plant species — boxwood and Miscanthus — will be replaced with the following eight native species provided by UK Grounds: little bluestem "Standing Ovation," prairie dropseed, butterfly milkweed, goldenrod, smooth aster, "Autumn Joy" sedum, red columbine and bluestar.

"Students were especially thoughtful in their choices," Sena said. "They wanted as many species as possible to support native insects, which then strengthens the whole food web. Students included asters and goldenrod to pay homage to a reading many of us do in HON 140 (Knowledge and Society) by Robin Wall Kimmerer.

“The project creates a thriving habitat not only for pollinators and birds, but also for other members of our community — students, staff and faculty,” Sena added.

“I am incredibly excited to see our hard work pay off as our design is implemented, allowing students and faculty to experience the beautiful biodiversity that Kentucky has to offer," said senior Sarah McClellan. “I am honored to be able to leave a lasting impact on campus in my senior year.”

“The most rewarding aspect of this project has been witnessing the coordination of different skillsets that led to a cohesive, multidisciplinary product that represents the embodiment of the Lewis College,” said senior Emily Simon.

Once the plants are removed, the public is invited to help plant the pollinator garden 3-5 p.m. Oct. 8.

The last day of planting on Oct. 9 will be reserved for the Lewis Honors College faculty and staff to foster team building and an opportunity to practice honoring the balance, a vision created by the LHC leadership team to encourage activities that promote health and well-being.

As the state’s flagship, land-grant institution, the University of Kentucky exists to advance the Commonwealth. We do that by preparing the next generation of leaders — placing students at the heart of everything we do — and transforming the lives of Kentuckians through education, research and creative work, service and health care. We pride ourselves on being a catalyst for breakthroughs and a force for healing, a place where ingenuity unfolds. It's all made possible by our people — visionaries, disruptors and pioneers — who make up 200 academic programs, a $476.5 million research and development enterprise and a world-class medical center, all on one campus.

APPENDIX A

Public Education and Outreach

KWRI Sponsored Publications

Journal Articles and Technical Reports:

- Evans, S., J. Shelley, L. Moser, 2025. "Project Final Report: Glenns Creek Watershed Plan." Report on Grant PPG -BG-00D21421 to Kentucky Division of Water. Kentucky Water Research Institute. June 2025.
- Sarker, S. K., Dapkus, R. T., Byrne, D. M., Fryar, A. E., & Hutchison, J. M. (2025). Quantifying Temporal Dynamics of *E. coli* Concentration and Quantitative Microbial Risk Assessment of Pathogen in a Karst Basin. *Water*, *17*(5), 745. https://doi.org/10.3390/w17050745
- Byers, E. N., Messer, T. L., Barton, C., Miller, D., Agouridis, A., Unrine, J. (2025). Contaminant Mixtures and their Impact on Nitrate Removal in Wetlands: A Mesocosm Study. Journal of Environmental Management, 383, 125518, https://doi.org/10.1016/j.jenvman.2025.125518
- Sharma, B.; Kohay, H.; Sharma, S.; Youngblood, M.; Cochran, J. P.; Unrine, J. M.; Tsyusko, O. V.; Lowry, G. V.; Giraldo, J. P. Controlled Nitrogen Release by Hydroxyapatite Nanomaterials in Leaves Enhances Plant Growth and Nitrogen Uptake. ACS nano 2025, 19 (3), 3906-3919. DOI: 10.1021/acsnano.4c16362
- Yousaf, M. U.; Madeo Cortarelli, L.; Jebet, N. I.; Unrine, J. M.; Aich, N.; Tsyusko, O. V.; Escobar, I. C. Characterization, Performance, and Toxicological Assessment of Polysulfone-Sulfonated Polyether Ether Ketone Membranes for Water Separation Applications. Membranes 2025, 15 (3), 87. https://doi.org/10.3390/membranes15030087
- Byers, E.N., T.L. Messer, J. Unrine, C. Barton, C. Agouridis, D. N. Miller. 2025. The occurrence and persistence of surface water contaminants across different landscapes. Science of The Total Environment, 958 (2025):177837. https://doi.org/10.1016/j.scitotenv.2024.177837.
- Byers, E. N., Hutchinson, S. L., Schmitz, E., Hettiarachchi, G., Almutari, M., Demarco, J. O. (2025). Productive reuse of industrial wastewater for biofuel feedstock using Salicornia. Journal of Natural Resources and Agricultural Ecosystems 3(2). https://doi.org/10.13031/jnrae.16187
- Sena, K.L. and Z. Hackworth. 2025. Water quality in restored urban streams in Lexington, KY, USA ver 1. Environmental Data Initiative. https://doi.org/10.6073/pasta/031fc84a322d415b91a72b4e18989235 (Accessed 2025-10-20).
- McAlister, M. SJ Evans, J. Weisenfluh, C. Brantley, A. Drayer. 2025. "Kentucky Watershed Watch Stream Sampler Handbook." www.kywater.org.
- Byers, E. N.; Messer, T. L.; Tobias, C.; Miller, D. N.; Barton, C.; Unrine, J.; Agouridis, C. Isotopically Tracing the Impact of Water Contaminant "Cocktails" on Nitrogen Pathways in Constructed Treatment Wetlands. Water Research 2025, 124294. https://doi.org/10.1016/j.watres.2025.124294
- Wilson, W. A.; Bergeron, C.; Archambault, J.; Unrine, J.; Jones, J.; Beaty, B.; Shea, D.; Lazaro, P. R.; Callihan, J. L.; Rogers, J. J. A Unionid Mussel Biodiversity Hotspot Experiencing Unexplained Declines: Evaluating the Influence of Chemical Stressors Using Caged Juveniles. Diversity 2025, 17 (8), 503. **https://doi.org/10.3390/d17080503**
- Day, C., M. Ferber, C. Tinnell (2025). Kentucky River Watershed Extreme Streamflow Events, 1982-2022, HydroShare, http://www.hydroshare.org/resource/7618ba8fb77743579128d7df4b836b0f
- Evans, SJ. 2025. "Towards a Kentucky Water Quality Index for Watershed Planning – A Glenns Creek Case Study." White paper submitted to the Kentucky Division of Water. May 2025.

Conference and Technical Presentations

- Unrine, J.M., PFAS Sources and Environmental Exposure Routes. Organic Association of Kentucky Annual Conference, Frankfort, KY, January 24th, 2025. Invited Talk.
- Hoogerheide, Ethan A., Ben F. Brammell, Kenton L. Sena, Cy L. Mott. 2025. Evaluating the effects of ecological restoration on amphibian communities in lotic systems in the inner bluegrass region of Kentucky. Poster presentation at 2025 Kentucky Water Resources Symposium, City Bank Center, Lexington, KY. September 12, 2025.
- Evans, S. J. 2025. "Stream Health and Riparian Buffers in the Bluegrass Area Development District." Virtual presentation to Bluegrass Area Development District Natural Resources and Environmental Protection Advisory Council, Lexington, KY, March 19, 2025.
- Evans, S. J. 2025. "Community Watershed Champions: Achievements and Needs." Keynote Presentation at Bluegrass Watershed Summit. Bluegrass Community and Technical College, Lexington, KY. April 5, 2025.
- Unrine, J.M., From the Bench to the Real World, Why an Interdisciplinary Approach is Needed To Tackle Toxicology's Toughest Challenges. University of Georgia 30th Annual Interdisciplinary Toxicology Program Retreat., Athens, GA, April 2, 2025. Invited Talk.
- McNeil, Donna and Mark Hall. 2025. "WaterWORCs in Appalachia." Kentucky Water and Wastewater Operator's Association's 67th Annual Conference, Owensboro, KY. Oral presentation on May 7, 2025.
- McNeil, Donna. "Water Workforce Update." Kentucky Water and Wastewater Operator's Association's 67th Annual Conference, Owensboro, KY. Oral presentation on May 8, 2025.
- Shelley, J.A. and L. Ormsbee. 2025. "The Use of Serious Gaming as a Platform for Operator Training and Stakeholder Engagement for Water Distribution Systems." Oral presentation at Environmental & Water Resources Institute of American Society of Civil Engineers World Environmental & Water Resources Congress 2025. Ancorage, AK. May, 19, 2025
- Shelley, JA and SJ Evans. 2025. "Glenns Creek Watershed Planning Project." Kentucky Water Research Institute Affiliates Meeting Seminar, University of Kentucky, Lexington, KY. May 8, 2025
- Evans, SJ, L Moser, and JA Shelley. 2025. "Glenns Creek Watershed Planning Project." Glenns Creek Stakeolder Meeting, Woodford County Extension Office, Versailles, KY. May 23, 2025
- Sena, Kenton L., Zachary J. Hackworth, and Ben F. Brammell. 2025. Evaluating Urban Stream Restoration Success: Water Quality, Macroinvertebrate Surveys, and eDNA. Platform presentation at annual meeting of the American Society of Reclamation Sciences. Butte, MT. June 2025.
- Shelley, JA and SJ Evans. 2025. "Reimagining Watershed Planning: An Compliance in the Regulated Community Interactive Approach for The Glenns Creek Watershed." Oral presentation to Kentucky Stormwater Association Annual Conference, Lexington, KY. July 10, 2025.
- Ormsbee, L., McNeil, D., Hoagland, S., Yost, S., Byrne, D., Schwartz, J. 2025. "Ten Critical Metrics for Effective Utility Management." 2025 KY/TN Water Professionals Conference, Knoxville, TN, Oral presentation on July 29, 2025.
- Byers, E. N., Johnson, L., King, K. Penn, C., Williams, M. 2025. Do fields with elevated soil test phosphorus disproportionately contribute to Western Lake Erie Basin dissolved phosphorus loading? American Society of Agricultural and Biological Engineering International Meeting, Toronto, CAN, July 16, 2025

- Byers, E. N., Unrine, J. 2025. What's in the tap: Haloacetonitrile and trihalomethane concentrations at point of use in rural drinking water systems impacted by elevated bromide concentrations. Water Disinfection, Byproducts and Health Gordon Research Conference. South Hadley, MA, July 27 - August 1, 2025
- Brammell, Ben F., Kenton L. Sena, Cy L. Mott, Ethan A. Hoogerheide, Sara A. Brewer, Karsner S. Fetter, Lauren E. Slone, Ben R. S. McLaughlin. 2025. Riparian Reforestation in Lexington, KY: The influence on seven urban streams. Platform presentation at annual conference of the Kentucky Stormwater Association. Lexington, KY. July 2025
- Byers, E.N, and Unrine, J.M. What's in the tap: Haloacetonitrile and trihalomethane concentrations at point of use in rural drinking water systems impacted by elevated bromide concentrations. Gordon Research Conference on Water Disinfection, Byproducts and Health, West Hadley, MA, July 27-August 1, 2025. Poster.
- Byrne, Diana. 2025. Integrated Research and Education to Assess Sustainability of a Mobile Water Treatment System for Emergency Response in Kentucky. Presentation at 2025 Kentucky Water Resources Symposium, City Bank Center, Lexington, KY. September 12, 2025.
- Brammell, Ben F., Kenton L. Sena, Cy L. Mott, Ethan A. Hoogerheide, Sara A. Brewer, and Natalie E. Hill. 2025. Evaluating Urban stream restoration success: Assessing the impact of urban reforestation efforts on water quality and aquatic systems in the inner Bluegrass. Platform presentation at 2025 Kentucky Water Resources Symposium, City Bank Center, Lexington, KY. September 12, 2025.
- Evans, S., L. Moser, M. McAlister, J. Shelley. 2025. "Kentucky Triple Bottom Line Analysis of Conservation Practices: A New Tool for Kentucky Watershed Managers." Oral Presentation to Kentucky Division of Water. September 17, 2025.
- Shelley, JA and SJ Evans. 2025. "Reimagining Watershed Planning and Compliance in the Regulated Community: An Interactive Approach for The Glenns Creek Watershed." Oral presentation to Kentucky Water Research Annual Symposium, Lexington, KY. September 12, 2025.
- Vizanko, Brent; Shelley, James A.; Ormsbee, Lindell. 2025. "WaterWorks: A Serious Gaming Platform for Effective Water Distribution System Training." Oral presentation to Kentucky Water Research Annual Symposium, Lexington, KY. September 12, 2025.
- Sahar Alameh, Donna McNeil, Steven Buck. 2025. "Water Workforce Training Center." Poster presentation to Kentucky Water Research Annual Symposium, Lexington, KY. September 12, 2025.
- Day, C. Andrew; Ferber, Marlea; Tinnell, Cameron. 2025. Spatiotemporal Shifts in Extreme Streamflow Events Across the Kentucky River Watershed. Oral presentation to Kentucky Water Research Annual Symposium, Lexington, KY. September 12, 2025.
- Curl, D., S. Evans, T. Coakley, M. McAlister. 2025. "Development of the Kentucky Watershed Watch Data Portal." Oral presentation to Kentucky Water Research Annual Symposium, Lexington, KY. September 12, 2025.
- Kenton Sena, Zach Hackworth, Ernie Osburn, Caleb Wilson, Luke Dodd, and Heather Wilson. "Reforesting the City: Restoration ecology of planted urban forests." Oral Presentation at the Society for Ecological Restoration (SER) World Congress, 30 Sept – 4 Oct 2025, Denver, CO.
- Evans, SJ. 2025. "Reimagining Watershed Planning and Compliance in the Regulated Community: An Interactive Approach for The Glenns Creek Watershed." Oral presentation to Ohio River Basin Confluence, Louisville, KY. October 17, 2025.

- Byers, Emily. 2025. "Contaminant cocktail mixtures impact nutrient cycling: The need for adaptive and targeted water quality treatment." SERA-26 Basin Breakthrough Virtual Series. October 20, 2025.
- Brammell, Ben F., Kenton L. Sena, Zachary J. Hackworth, Cy L. Mott, Sara A. Brewer, Ethan A. Hoogerheide, Natalie E. Hill, and Ben R. S. McLaughlin. Evaluation of urban ecological restoration through the use of vertebrate eDNA metabarcoding surveys. Platform presentation at annual meeting of the Kentucky Academy of Science, University of Louisville, Louisville, KY. Nov. 21-22, 2025.
- Evans, SJ. 2025. “Watershed Planning in Glenns Creek.” Oral presentation to Woodford County Master Gardeners, Versailles, KY. October 9, 2025.
- Evans, SJ. 2025. “Benchmarks and Visualization Discussion." Virtual presentation to major MS4s in Kentucky. November 4, 2025.
- Evans, SJ. 2025. “Leveraging Partnerships: An Overview." Virtual presentation to Kentucky Stormwater Association Winter Quarterly as part of the Limelight Series. December 17, 2025.
- Walker, R., S. Evans, K. Sena, J. McMaine, M. Hall, R. Storm. 2025. "Green Infrastructure Forum." Panel discussion as part of the 2025 MS4UM, Lexington, KY. December 19, 2025.
- Evans, SJ. 2025. "Exploring the Role of Trees in Healthy Stream Ecosystems." 2025 Tree Week public presentation hosted by Georgetown 2025 Tree Week and sponsored by the Kentucky Water Research Institute and Kentucky Watershed Watch. Great Crossing Park, Georgetown, KY. October 14, 2025.

APPENDIX A

Public Education and Outreach

LFUCG/UK MS4 Collaboration Meeting

Meeting title	LFUCG/UK MS4 Collaboration Meeting
Attended participants	3
Start time	10/21/25, 10:28:10 AM
End time	10/21/25, 11:47:04 AM
Meeting duration	1h 18m 54s
Average attendance time	1h 16m 37s

2. Participants

Name	First Join	Last Leave
Lewis, Charles K.	10/21/25, 10:29:52 AM	10/21/25, 11:47:04 AM
Gabriel Hensley	10/21/25, 10:30:43 AM	10/21/25, 11:47:04 AM
Bailee Young	10/21/25, 10:30:44 AM	10/21/25, 11:47:03 AM

3. In-Meeting Activities

Name	Join Time	Leave Time
Lewis, Charles K.	10/21/25, 10:29:52 AM	10/21/25, 11:47:04 AM
Gabriel Hensley	10/21/25, 10:30:43 AM	10/21/25, 11:47:04 AM
Bailee Young	10/21/25, 10:30:44 AM	10/21/25, 11:47:03 AM

In-Meeting Duration	Email	Participant ID (UPN)	Role
1h 17m 12s	kevin.lewis@uky.edu	ckle226@uky.edu	Organizer
1h 16m 20s	ghensley@lexingtonky.gov	ghensley@lexingtonky.gov	Presenter
1h 16m 19s	byoung@lexingtonky.gov	byoung@lexingtonky.gov	Presenter

Duration	Email	Role
1h 17m 12s	kevin.lewis@uky.edu	Organizer
1h 16m 20s	ghensley@lexingtonky.gov	Presenter
1h 16m 19s	byoung@lexingtonky.gov	Presenter

APPENDIX A

Public Education and Outreach

LFUCG Stormwater Stakeholder Advisory Committee Meeting Agendas

MAYOR LINDA GORTON

LEXINGTON

CHARLES H. MARTIN, P.E.
DIRECTOR
WATER QUALITY

STORMWATER STAKEHOLDER ADVISORY COMMITTEE

Meeting Agenda
March 7, 2025
9:00 a.m. to 11:00 a.m.
Phoenix Building – 3rd Floor Conference Room

1. Approval of 12/06/2024 Minutes
2. Pollution Prevention Responsibilities for Municipal Operations – Sarah Donaldson, DES
3. KYTC's MS4 Program Overview – Robert Gibson, KYTC
4. Stormwater Manual Updates – Doug Burton, DOE
5. Potential Topics for Next Meeting
6. Announcements

MAYOR LINDA GORTON

LEXINGTON

CHARLES H. MARTIN, P.E.
DIRECTOR
WATER QUALITY

STORMWATER STAKEHOLDER ADVISORY COMMITTEE

Meeting Agenda
September 5, 2025
9:00 a.m. to 11:00 a.m.
Phoenix Building – 3rd Floor Conference Room

1. Approval of 03/03/2025 Minutes

2. Introduction to WaterwaysLex, Inc. – John Pike

3. Fayette County Conservation District's Backyard Conservation Program – Heather Silvanik

4. Royal Springs Aquifer Introduction and Overview – Chase Azevedo

5. Proposed Manual Updates Workgroup Overview

6. Approval of Meeting Dates for 2026:

   March 6th
   June 5th
   Sept 4th
   Dec 4th

7. Potential Topics for Next Meeting

8. Announcements

MAYOR LINDA GORTON

LEXINGTON

CHARLES H. MARTIN, P.E.
DIRECTOR
WATER QUALITY

STORMWATER STAKEHOLDER ADVISORY COMMITTEE

Meeting Agenda
December 5, 2025
9:00 a.m. to 11:00 a.m.
Phoenix Building – 3rd Floor Conference Room

1. Approval of 09/05/2025 Minutes

2. Wetland Solutions – Dr. Tiffany Messer, University of Kentucky

3. Urban Growth Master Plan Overview – Hal Baillie, LFUCG Division of Planning

4. Data-Driven Insights from Lexington's MS4 Monitoring Program – Dr. Ian Simpson and Dr. Jon Hathaway, University of Tennessee

5. iTree Site Assessment at Fayette County Public School Locations – Russ Turpin, EcoGro

6. Stormwater Manual Update - Abby Terry, Tetra Tech

7. Potential Topics for Next Meeting

8. Announcements

APPENDIX B

Public Involvement and Participation

Included Documentation

Storm Drain Marking Assessment Report and Mapping

Water Week 2025

KWRI Sustainability Challenge Grant Proposal

Alumni Drive Tree Planting

BAE 403 Central Utility Plant Senior Design Class Submittal

WRD 204 Technical Writing Collaborative Field Report Assignment

NRE 400 - Stormwater Intern Presentation

NRE 201 Lab Assignment

APPENDIX B

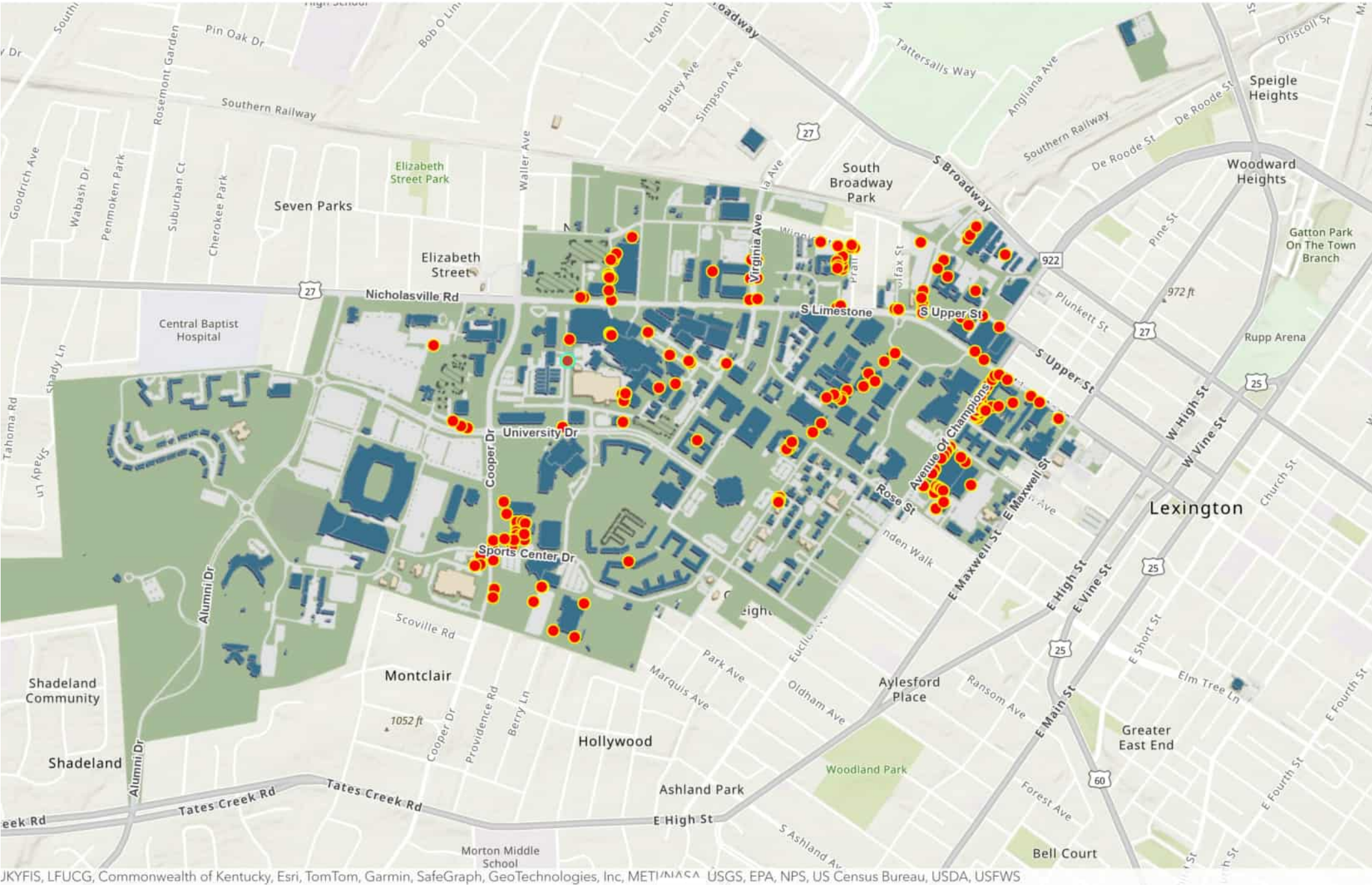
Public Involvement and Participation

Storm Drain Marking Assessment Report and Mapping

Portal URL: https://ug

Analyze | Data

Report | Export | Open in Map Viewer | Form view



JKYFIS, LFUCG, Commonwealth of Kentucky, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS

EQM Storm Drain Marking

Structure ID

Web browsers may not respond well when there are more than 500 answers in the word cloud. Show it anyway

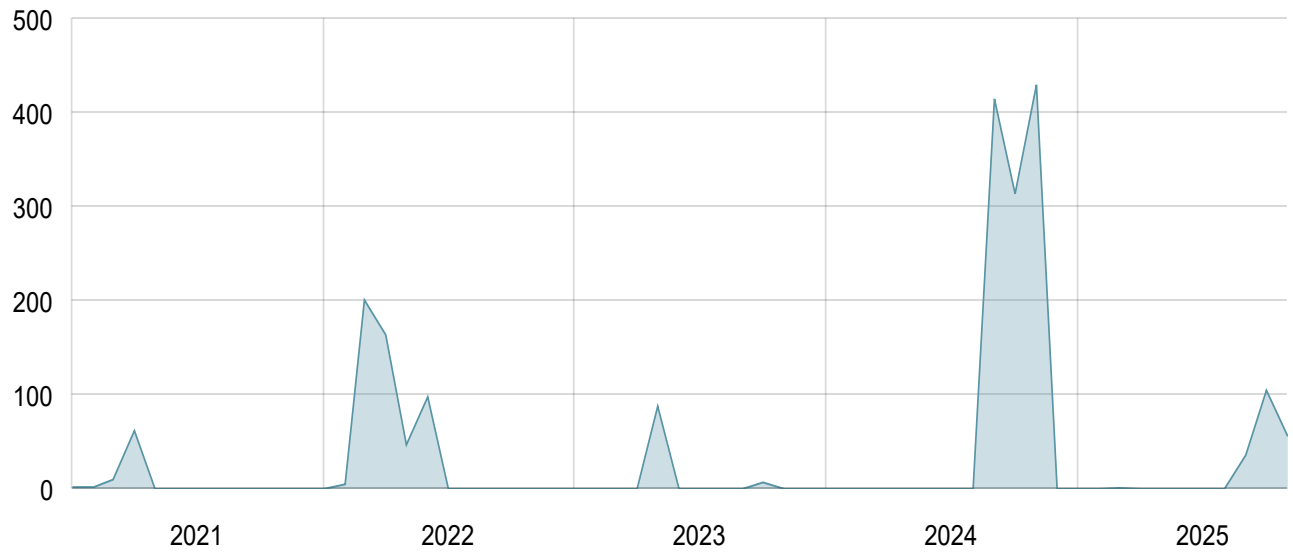
Global ID

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Inspector Name *

Web browsers may not respond well when there are more than 500 answers in the word cloud. Show it anyway

Inspection Date & Time

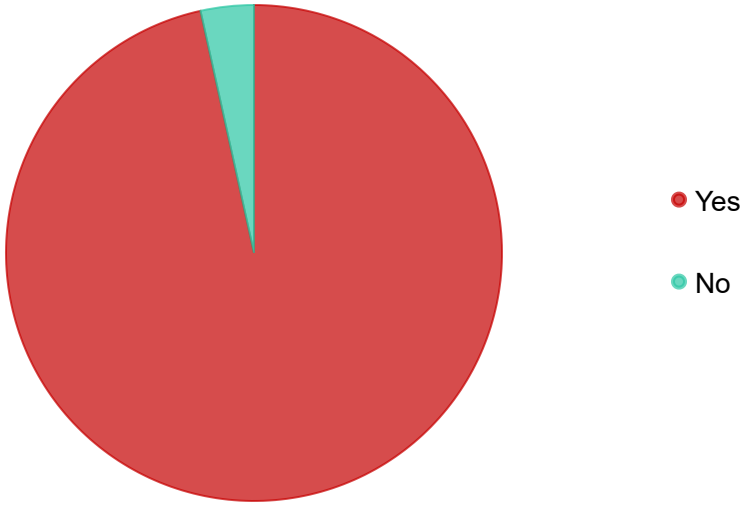


Date and time	Count
Jan 1, 2021, 12:00:00 AM - Feb 1, 2021, 12:00:00 AM	2

Feb 1, 2021, 12:00:00 AM - Mar 1, 2021, 12:00:00 AM	2
Mar 1, 2021, 12:00:00 AM - Apr 1, 2021, 12:00:00 AM	10
Apr 1, 2021, 12:00:00 AM - May 1, 2021, 12:00:00 AM	62
Feb 1, 2022, 12:00:00 AM - Mar 1, 2022, 12:00:00 AM	5
Mar 1, 2022, 12:00:00 AM - Apr 1, 2022, 12:00:00 AM	201
Apr 1, 2022, 12:00:00 AM - May 1, 2022, 12:00:00 AM	164
May 1, 2022, 12:00:00 AM - Jun 1, 2022, 12:00:00 AM	47
Jun 1, 2022, 12:00:00 AM - Jul 1, 2022, 12:00:00 AM	98
May 1, 2023, 12:00:00 AM - Jun 1, 2023, 12:00:00 AM	88
Oct 1, 2023, 12:00:00 AM - Nov 1, 2023, 12:00:00 AM	7
Sep 1, 2024, 12:00:00 AM - Oct 1, 2024, 12:00:00 AM	415
Oct 1, 2024, 12:00:00 AM - Nov 1, 2024, 12:00:00 AM	314
Nov 1, 2024, 12:00:00 AM - Dec 1, 2024, 12:00:00 AM	430
Mar 1, 2025, 12:00:00 AM - Apr 1, 2025, 12:00:00 AM	1
Sep 1, 2025, 12:00:00 AM - Oct 1, 2025, 12:00:00 AM	36
Oct 1, 2025, 12:00:00 AM - Nov 1, 2025, 12:00:00 AM	105
Nov 1, 2025, 12:00:00 AM - Nov 30, 2025, 11:59:59 PM	56

Answered: 2,043 Skipped: 0

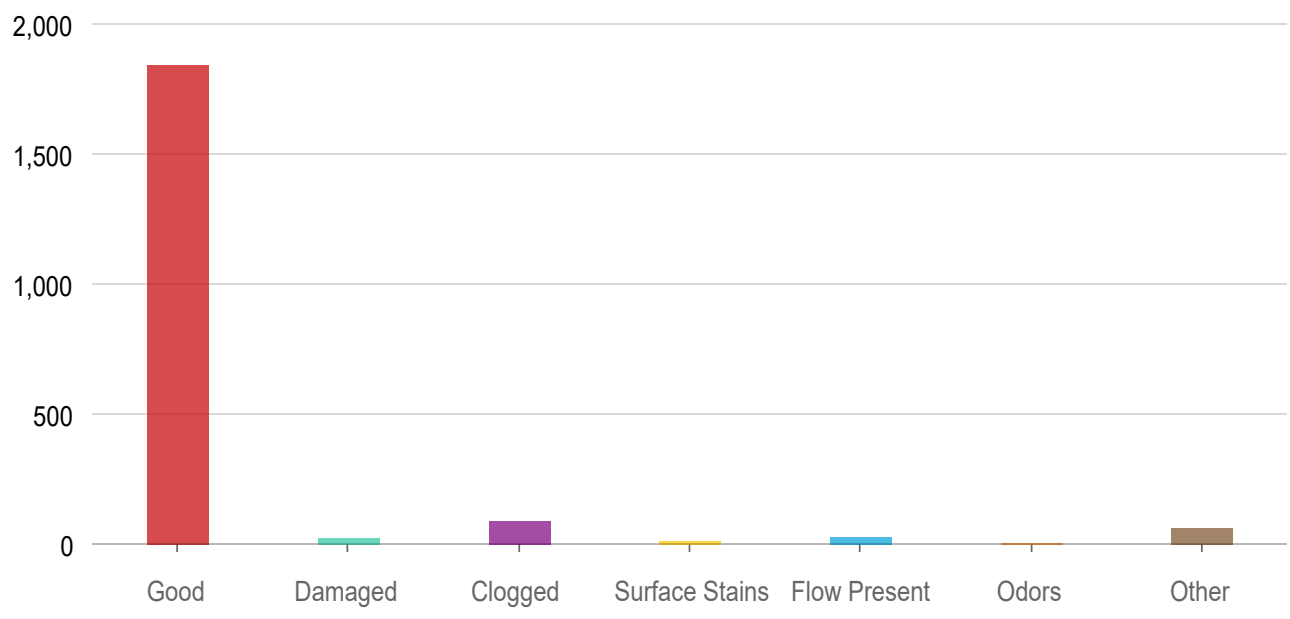
Is the structure a storm drain? *



Answers	Count	Percentage
Yes	1,310	64.12%
No	47	2.3%

Answered: 1,967 Skipped: 76

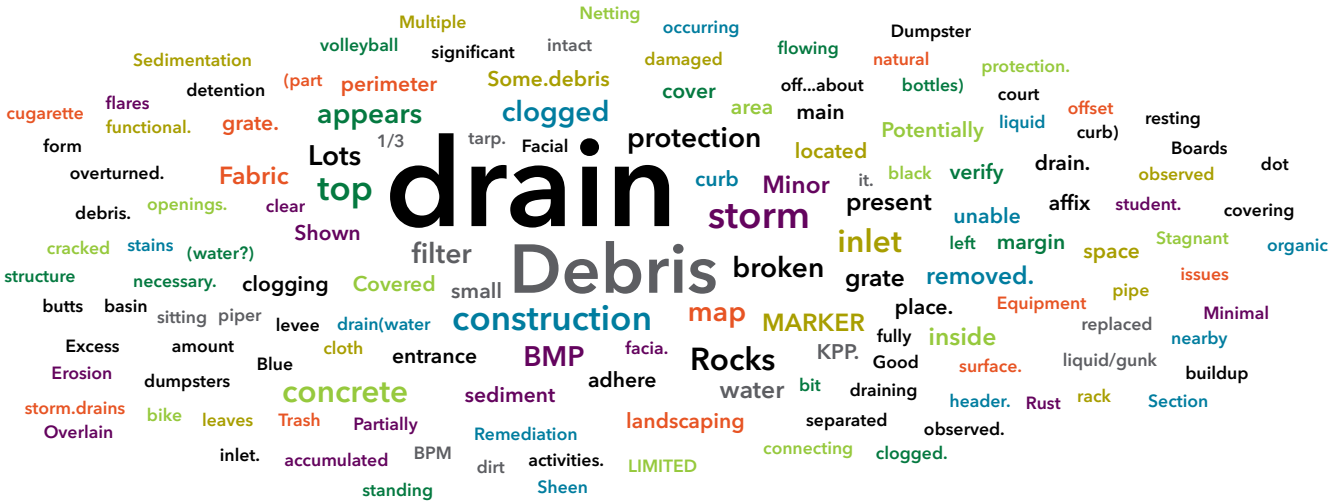
Condition *



Answers	Count	Percentage
Good	1,844	90.26%
Damaged	25	1.22%
Clogged	90	4.41%
Surface Stains	12	0.59%
Flow Present	29	1.42%
Odors	7	0.34%
Other	65	3.18%

Answered: 1,985 Skipped: 58

Specify other.



Response	Count
Some debris inside	2
No margin on drain to adhere marker	2
Potentially located under the rocks in landscaping at the main entrance of KPP. Shown on map as a storm drain, but was unable to verify with rocks in place.	2

Facial concrete has broken off...about 1/3 of the drain facia.	1
Some debris in drain(water bottles)	1
Lots of levee around and in, also seems to be a black cloth around the drain, could be a filter	1
Construction Equipment on top of it	1
Concrete has broken off, lots of debris inside	1
Covered for construction	1
No space around perimeter to fully affix	1
Blue piper with clear liquid (water?) draining into it	1
Fabric under drain	1
BMP on it	1
Debris clogging a few of the grate openings.	1
Some small sediment around The perimeter	1
Not clogged but debris present	1
Some concrete has broken off	1
Rocks on top of drain	1
Curb concrete has been damaged and top cover (part of curb) was overturned. Has been replaced by student. Remediation may be necessary.	1
Drain has become separated from connecting pipe below the surface.	1
Good, but small amount of liquid/gunk that is non storm water in drain	1
Partially clogged	1
Minor clogging under curb header.	1
Does not appear to be clogged bit significant debris in drain	1
It appears inlet protection placed in the storm drain during construction has not been removed.	1
Stagnant water observed in the drain.	1

Trash and debris throughout the detention basin	1
Covered BPM	1
Rust stains present flowing from dumpsters	1
Grate is cracked but functional. No other issues observed.	1
Construction near the area so the drain seems to have a filter covering it filter looks intact	1
Minimal organic debris	1
Possible BMP cover	1
This drain appears to have left over inlet protection from construction activities.	1
LIMITED space to affix MARKER	1
Contains lots of leaves and natural debris.	1
Some.debris around drain	1
Excess dirt has accumulated on top of the drain grate.	1
There is another drain nearby between the volleyball court and bike rack that is not on the map	1
Minor debris and drain is offset	1
Some.debris on drain	1
debris	1
Boards are resting on it.	1
Erosion occurring before the concrete structure of the drain inlet.	1
Minor debris	1
Netting over drain	1
This drain has filter fabric placed over the grate.	1
Multiple storm.drains in the area but only one dot on map	1
Some debris around	1

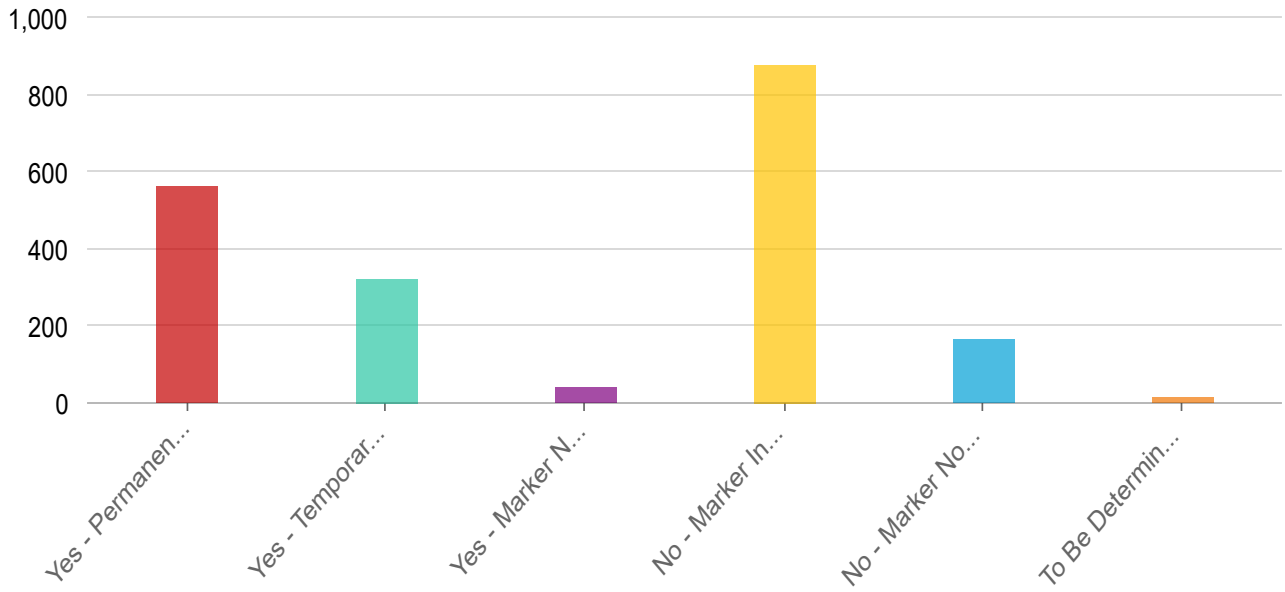
This drain appears to be clogged by sediment buildup on top of the inlet protection tarp.	1
Old flares in drain	1
Section of the grate has been broken or removed.	1
It appears inlet protection placed in the storm drain during construction has not been removed.	1
May be clogged. Lots of debris in drain	1
Fabric has been placed in the drain as a form of inlet protection.	1
Sedimentation in storm drain	1
Debris and cugarette butts in drain	1
Dumpster is sitting on top of storm drain.	1
Overlain with BMP	1
BMP	1
Sheen is present on standing water in drain	1

Answered: 64 Skipped: 1979

Location Description *

Web browsers may not respond well when there are more than 500 answers in the word cloud. Show it anyway

Is the structure marked as a storm drain? *



Answers	Count	Percentage
Yes - Permanently Cast/Lettered	563	27.56%
Yes - Temporary Marker	322	15.76%
Yes - Marker Needs Repair	41	2.01%
No - Marker Install Required	878	42.98%
No - Marker Not Required	166	8.13%
To Be Determined	15	0.73%

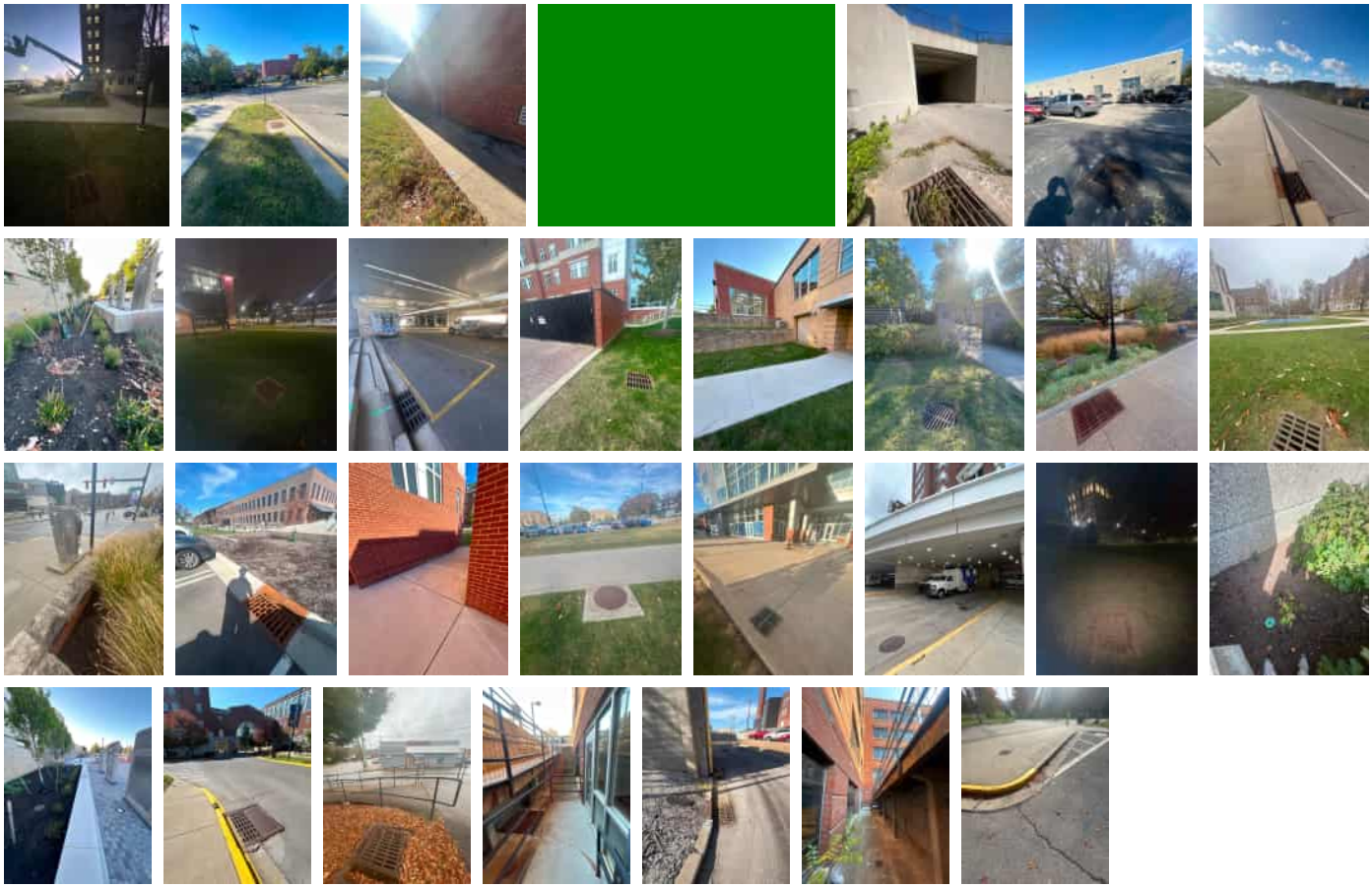
Answered: 1,985 Skipped: 58

Drain Photo *



Images: 541

Area Photo *



Images: 719

Notification Sent

Web browsers may not respond well when there are more than 500 answers in the word cloud. Show it anyway

Location Verify

Web browsers may not respond well when there are more than 500 answers in the word cloud. Show it anyway





NO DUMPING



Report Pollution
859-323-6280



Stormwater Program

DRAINS TO STREAM

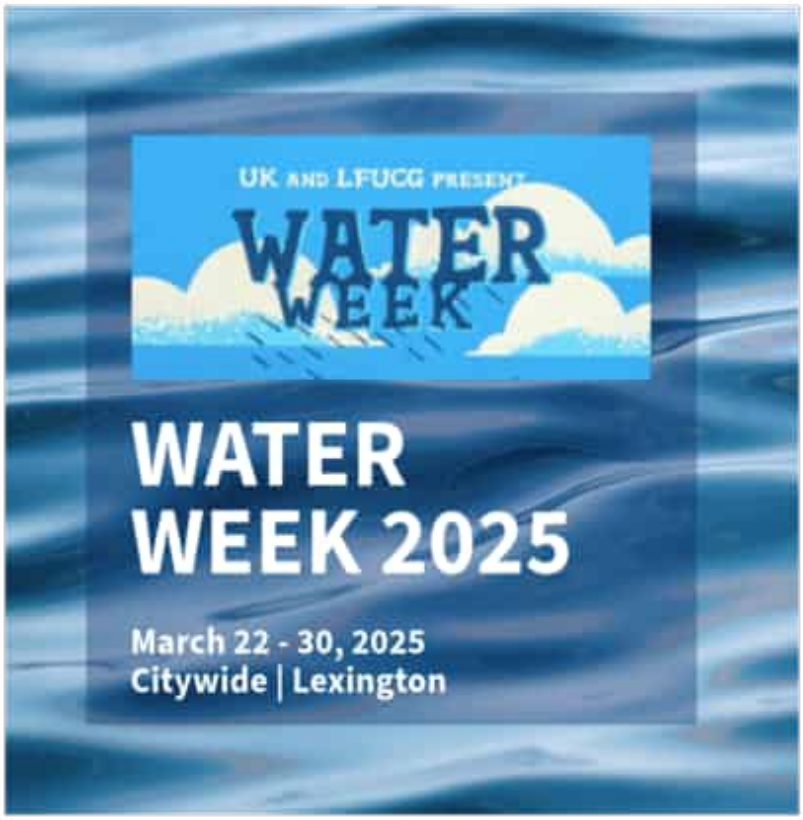
APPENDIX B

Public Involvement and Participation

Water Week 2025

Join city of Lexington, UK Extension to explore local creeks during Water Week 2025

By Seth Holbrook Friday



Water Week is sponsored by the city of Lexington, University of Kentucky Cooperative Extension, Fayette County Public Schools and local watershed organizations.

LEXINGTON, Ky. (March 14, 2025) — Lexington's sixth annual Water Week is March 22-30, with dozens of events that encourage a connection to our local waterways. People of all ages are invited to participate through a variety of in-person, virtual and self-guided opportunities.

This year, Water Week events include programs at Raven Run and other city parks, water quality testing opportunities, creek cleanups and plantings, a hands-on talk about streams, bioblitzes designed to capture information about flora and fauna, creek walks, and even a historical exploration of our waterways through Daniel Boone's eyes.

In addition to events throughout Lexington, the public is invited to join University of Kentucky Cooperative Extension Service's Water Quality team for one or all four events on (or near) campus.

Runners and walkers are encouraged to sign up for the Reforest Frenzy on Saturday, March 22, at Hisle Farm Park, 3551 Briar Hill Road. New this year, participants have a choice between a 1-mile

dash, a 5K race and a 10K race. Hosted by John's Run/Walk Shop, the Reforest Frenzy raises money for Reforest the Bluegrass programs that provide tree planting opportunities in Lexington. All race participants can either take a tree home or donate it to be planted on their behalf during a Reforest event. Trees naturally collect and filter rainwater, making them the best land cover for protecting and maintaining our natural waterways.

Lexington businesses, schools, churches and non-profits that are interested in projects to improve water quality or reduce stormwater runoff are invited to attend a virtual information session about the Stormwater Quality Incentive Grant Program. The session will be offered twice, 6 p.m. Monday, March 17, and 1 p.m. Wednesday, March 19.

Individual and self-guided activities include geocaching and storm drain stenciling.

Water Week is sponsored by the city of Lexington, the University of Kentucky, Fayette County Public Schools and local watershed organizations. Find event details and register for the Reforest Frenzy at: https://www.lexingtonky.gov/government/departments-programs/environmental-quality-public-works/environmental-services/live-green-lexington/water-week.

As the state's flagship, land-grant institution, the University of Kentucky exists to advance the Commonwealth. We do that by preparing the next generation of leaders — placing students at the heart of everything we do — and transforming the lives of Kentuckians through education, research and creative work, service and health care. We pride ourselves on being a catalyst for breakthroughs and a force for healing, a place where ingenuity unfolds. It's all made possible by our people — visionaries, disruptors and pioneers — who make up 200 academic programs, a $476.5 million research and development enterprise and a world-class medical center, all on one campus.

ENVIRONMENTAL QUALITY AND PUBLIC WORKS

Building Inspection

Construction project information

Engineering

Environmental Services

- Energy initiatives
- Greenways
- Lexington Creek Sweep
- Live Green Lexington
  - Adopt a storm drain program
  - Apartment resources
  - Art by nature
  - EQPW speakers bureau
  - Environmental education overview
  - Geocaching
  - Go See Trees
  - Gobble Grease Toss
  - Kentucky River Clean Sweep
  - Pavement management plan

Pavement management plan
Plant by numbers
Reforest the Bluegrass
Riparian buffers
StreetFest
Truck-a-Palooza
Water Week
Winter waste tips
Sustainability
Urban Forestry
Grease interceptor pumping/hauling services
Household hazardous waste survey
Pick it up, Lexington!
Streets and Roads
Traffic Engineering
Waste Management
Water Quality

Water Week

Water Week 2025

Saturday, March 22 – Sunday, March 30

Water, water, everywhere! – though oftentimes unseen! Kentucky has over 90,000 miles of surface rivers and streams. Natural, underground waterways are also very present in Kentucky. Our annual Water Week event celebrates these waterways and highlights our role in protecting them.

Water Week includes events for all ages, abilities and interests.

Water Week is sponsored by the University of Kentucky Martin-Gatton College of Agriculture, Food and Environment, Fayette County Public Schools, the City of Lexington and local watershed groups.

Water Week Events

Monday, March 17: Stormwater Quality Incentive Grant Project | Q+A Session #1 —

Monday, March 17 | 6 – 7 p.m.

Join virtual event

Come ask us questions and learn more about out Stormwater Quality Incentive Grants!

The main goal of the incentive grant program is to improve surface water quality. To accomplish this goal, the program gives financial assistance to projects. The project must meet the following objectives:

- Improve water quality in our impaired streams through pollutant reduction or other means.
- Address stormwater concerns about existing, developing or redeveloping parcels.
- Reduce stormwater runoff and flooding.
- Provide public or private education related to these items.

Wednesday, March 19: Stormwater Quality Incentive Grant Project | Q+A Session #2 —

Wednesday, March 19 | 1 – 2 p.m.

Join virtual event

Come ask us questions and learn more about out Stormwater Quality Incentive Grants!

The main goal of the incentive grant program is to improve surface water quality. To accomplish this goal, the program gives financial assistance to projects. The project must meet the following objectives:

- Improve water quality in our impaired streams through pollutant reduction or other means.
- Address stormwater concerns about existing, developing or redeveloping parcels.
- Reduce stormwater runoff and flooding.
- Provide public or private education related to these items.

Saturday, March 22: Stream Walk at Veteran's Park —

Saturday, March 22 | 9 – 10:30 a.m.
Veterans Park Picnic Shelter #1 | 650 Southpoint Drive
Host: Hickman Creek Conservancy

Take a short walk along and near West Hickman Creek in Veterans Park as we have a chat about water quality and the West Hickman Watershed.

Facebook Event

Saturday: Test the Waters! With Parks and Recreation —

Saturday, March 22 | 10 – 11:30 a.m.
Raven Run Nature Sanctuary | 3885 Raven Run Way
Host: Parks and Recreation

Parking instructions: Please park in the visitor parking lot. Check-in at the Nature Center.

Nature Center.

Want to help take care of our water? Did you know that you can learn a lot about the quality of our creeks, lakes and rivers just by exploring what critters live in them and by conducting a few simple chemical tests? Come join us at Raven Run Nature Sanctuary to learn how to do water quality tests and how you can become more involved in the stewardship of your local waterways. The program is best suited for adults and children 10+ years. Registration is required. The program is free. If we have inclement weather, the program will be held indoors. If you have any issues registering, call the Nature Center at (859) 272-6105.

Pre-register here

Saturday: Streambank Cleanup at Gardenside Park —

Saturday, March 22 | 10 – 11 a.m.
Gardenside Park | 1835 Yorktown Road, Lexington, KY 40504
Host: Gardenside Neighborhood Association

Spring is here and it's time to celebrate our waterways. Let's gather at Gardenside Park on March 22, 2025 to cleanup our streambank along the Wolf Run creek as it makes it way through Gardenside Park. We will pick up trash in the streambank buffer and if the water level permits, clean trash from the creek bed.

Participants should wear closed-toe shoes and if planning to enter the water, waterproof boots. Work gloves, vinyl gloves, trash bags and trash pickers will be available. We will meet under the pavilion at Gardenside Park.

Saturday: Reforest Frenzy 5k, 10k, 1 mile! —

Saturday, March 22 | 8 a.m. – 11 a.m.
Hisle Farm Park | 3551 Briar Hill Road
Host: John's Run/Walk Shop

John’s Bluegrass Racing Company, ASICS, and Lexington’s Division of Environmental Services are excited to present the Reforest Frenzy 5K, 10K, and 1-Mile Dash at Hisle Farm Park. Race proceeds will help raise money to purchase trees for this year’s Reforest the Bluegrass in April. With your help,

purchase trees for this year's Reforest the Bluegrass in April. With your help, we hope to plant hundreds of trees after the race at home and thousands more during Reforest the Bluegrass.

All race participants will get race prizes, including the option to take a tree to plant at home after their run or walk. Participants can also choose to have their tree planted on their behalf at a 2025 Reforest the Bluegrass event.

Register for race

Sunday, March 23: Waverly Park Volunteer Day —

Sunday, March 23 | 2 – 4 p.m.
Waverly Park | 4244 Southmoor Park
Host: Friends of Waverly Park

Join Friends of Waverly and Parks for a volunteer workday! We will be removing invasive plants, working in our pollinator garden, mulching, and starting a rain garden. Please bring gloves, shovels, garden trowels, and/or wheelbarrows if you have them. Where your closed toe shoes!

Register for event

Monday, March 24: Stormwater Sleuths —

Monday, March 24 | 5:30 – 6:30 p.m.
548 E Sixth Street
Host: LFUCG, Division of Water Quality

Come learn what's hiding in stormwater and the tools you can use to solve the crime! You will learn about water quality parameters, urban stormwater challenges, and the ways you can help improve the quality of the stormwater around you. You will be able to take part in a hands on water quality testing activity.

Monday: UK Stream Restoration BioBlitz —

Monday, March 24 | 1 – 3 p.m.
103 Regulatory Services Bldg
Host: UK Department of Forestry and Natural Resources

Join us as we explore and document the various organisms living in and around the stream using iNaturalist. This bioblitz event will be held at the Alumni Drive/Nicholasville Road stream restoration site on University of Kentucky's campus on 3/24/25 from 1:00 - 3:00 pm as a part of Lexington's Water Week. Parking is controlled in the area, so participants without a UK parking pass will need to park off campus and walk over to join us. We will meet at the upstream pavilion near the roundabout by UK Regulatory Services.

Register for event

Parking: Parking is controlled in the area, so participants without a UK parking pass will need to park off campus and walk over to join us. We will meet at the upstream pavilion near the roundabout by UK Regulatory Services.

Wednesday, March 26: Coldstream Park Trash Pickup —

Wednesday, March 26 | 1 – 3 p.m.
Coldstream Park | Legacy Trail Parking Lot
Host: Stantec & EcoGro

Cane Run runs through the Coldstream Park and is an important recreational destination with many ecological features unique to Lexington including a connection to the Bluegrass' karst system through a number of sinks, swallets, springs, and other groundwater-to-surface water features. The Legacy Trail provides access to Cane Run along Coldstream Park with a stunning view of the stream and riparian habitat. Lexington is headwaters to Cane Run and the urban watershed contributes pollutants associated with the dense urban setting - namely floatable trash. Two Lexington businesses, EcoGro Inc. and Stantec Consulting Services Inc., are dedicated to removing this trash from Cane Run. A key location for trash removal is at Coldstream Park - come join us as we remove trash, walk the riparian habitat, and discuss the challenges with urban streams.

Wednesday: A Stream Dream: Practicing Stream Restoration and —

Conservation

Wednesday, March 26 | noon – 2 p.m.
2516 Sandersville Rd
Host: Beaver Creek Hydrology, LLC

Beaver Creek Hydrology, LLC is hosting a Water Week event to highlight our favorite topic: Streams! These vital tributaries play a key role in the health of larger waterways and local ecosystems. Join us for a mini lecture and fun activities focused on stream buffer zones through invasive species management and promoting biodiversity, identifying aquatic macroinvertebrates (bugs!), and understanding water quality indicators.

Event website

Wednesday: UK Stream Restoration Bioblitz —

Wednesday, March 26 | 1 – 3 p.m.
570 Wildcat Ct
Host: UK Department of Forestry and Natural Resources

Join us as we explore and document the various organisms living in and around the stream using iNaturalist. This bioblitz event will be held at the Alumni Drive stream restoration site adjacent to John Cropp Softball Stadium on University of Kentucky's campus on 3/26/25 from 1:00 pm - 3:00 pm as a part of Lexington's Water Week. The stream restoration site is a short walk from the lot. We will meet at the parking lot behind the softball stadium and walk to the site as a group.

Parking: Parking will be available behind John Cropp Softball Stadium. The stream restoration site is a short walk from the lot. We will meet at the parking lot and walk to the site as a group.

Register for event

Thursday, March 27: The Watershed Scale of Climate Change —

Thursday, March 27 | 6:30 – 8:30 p.m.

8000 Elk Lick Falls Road, Floracliff Nature Sanctuary
Host: Floracliff Nature Sanctuary

Seminar Presenter: Dr. Alice Jones
Wendell Berry once said, "Our understandable wish to preserve the planet must somehow be reduced to the scale of our competence--that is to wish to preserve all of its humble households and neighborhoods." Thinking about climate change through the nested hierarchy of waterways and watersheds----the tiniest backyard tributaries merging into larger and larger streams and rivers at the regional and continental scale--helps us reduce the scale of a global challenge to a neighborhood and community scale. We'll examine global and regional climate predictions in the Kentucky River and its nested tributary watersheds to better understand how a changing climate will affect both aquatic and terrestrial ecosystems in and around our "humble households and neighborhoods."

Register for event

Parking: There is a 1/3-mile walk from the visitor parking lot to the Trail's End Lodge. Closer parking is available by request

Thursday: Fishing with Daniel Boone —

Thursday, March 27 | 6 – 8 p.m.
McConnell Springs Park | 416 Rebmann Lane
Host: Bluegrass Trout Unlimited

Join Bill Carmen, professional fishing guide and accomplished author, to enjoy a conversational journey through the rivers and streams of Daniel Boone's life - including the stories of Boone's adventures on 25 of those streams, and the modern perspective of a fly fisherman today. Audience members will learn more about the history of Kentucky and how Boone experienced our local waterways, a celebration of both history and water. This event is free and open to the public, and accessible for all ages.

Facebook event

Thursday: Kilrush Food Forest Riparian Buffer Cleanup and Community Gathering

Thursday, March 27 | 12:30 – 3:30 p.m.
1135 Kilrush Dr
Host: Geomancer Permaculture, LLC & UK Department of Forestry and Natural Resources

Geomancer Permaculture, LLC and the University of Kentucky Department of Forestry and Natural Resources are partnering to host a riparian buffer cleanup and community gathering at the Kilrush Food Forest on Thursday, March 27th from 12:30 – 3:30pm. Join us as we work together to clean up a substantial dump site in the riparian forest across the creek from the food forest and connect with other community members. Tools, gloves, and refreshments will be provided.

Event website

Parking: Parking is available on the street at 1135 Kilrush Dr., Lexington, KY 40504 or at the Valley Park parking lot.

Thursday: Town Branch Commons Water Walk

Thursday, March 27 | 5:30 – 6:30 p.m.
540 E Third St
Host: LFUCG - Div. of Environmental Services and Div. of Parks & Recreation

Join us at Town Branch Commons for a Water Walk in celebration of Water Week! We will be walking the trail, picking up litter, and learning about historical Town Branch. Gloves, trash pickers, and bags will be provided. Please dress appropriately for working outdoors and bring water. Learn more about Town Branch Commons here.

Register for event

Parking: Participants should park in the spots along Lewis Street and meet at the Charles Young Park playground. We will travel westward along the trail towards downtown and then loop back around.

Friday, March 28: Farm Road Rain Garden Cleanup

Friday, March 28 | 1 – 4 p.m.
1398 Nicholasville Rd
Host: University of Kentucky Martin-Gatton College of Agriculture, Food and Environment

This event is a service-learning event at the University of Kentucky's Farm Road Rain Garden. Participants will learn about green infrastructure for stormwater management and the benefits of incorporating green spaces and outdoor learning environments into campus. There will also be a service portion of the event where participants will clean up trash, manage plants, and mulch the site. The event's primary focus is UK students from around campus, but community members are welcome to stop by. However, no parking will be available nearby for individuals without a UK parking permit.

Event website

Parking: No parking will be available nearby for individuals without a UK parking permit. The event is being held at this location.

Saturday, March 29: Litter Pick-Up in Idle Hour Park

Saturday, March 29 | 9 a.m. – 3 p.m.
212 St. Ann Drive
Host: Idle Hour Neighbors Alliance

We will pick up debris and litter from the banks of our park's streams and from the stream beds.

Idle Hour website

Parking: It's best to park along St. Ann Drive.

Saturday: Bluegrass Watershed Summit

Saturday, March 29 | 9 a.m. – 3 p.m.
500 Newtown Pike
Host: Bluegrass Watershed Summit

Join us for a day of learning and collaboration as we discuss ways to protect and preserve our local watershed. The summit will feature informative sessions, interactive workshops, and networking opportunities with experts in the field. Whether you're a student, a community member, or a professional in the environmental sector, this event is perfect for anyone passionate about water conservation. Don't miss out on this chance to make a difference in our Bluegrass community!

Register for event

Location: Located at Bluegrass Community & Technical College. In main building on Newtown Pike Campus; Room 106 (Keeneland Room)

Self-guided: Storm Drain Stenciling —

Grab some storm drain stenciling supplies and get out into your community! Many people mistakenly believe that storm drains empty into the same sewer system that carries wastewater from toilets and sinks, but this is not true. Storm drains lead directly to our streams and the Kentucky River. Storm drain stenciling helps educate residents about water quality and tells people not to pour any chemicals or wastes down storm inlets or drains. The stencil also provides a constant reminder that our storm drains lead straight to local waterways and that dumping can pollute those waters. If you're interested in storm drain stenciling, email LiveGreen@lexington.gov.

More details

Self-guided: Litter pick up kits —

Lexington Creek Sweep is an opportunity to protect our local creeks through neighborhood, backyard and park litter cleanups. Rain washes litter into storm drains that lead straight to local creeks. That means clean communities lead to clean creeks! Creek Sweep is a great opportunity to make a difference by picking up litter. Free Creek Sweep kits are packaged in car litter bags and contain trash bags and disposable gloves for individual or family litter

contain trash bags and disposable gloves for individual or family litter cleanups. If you would like kits for a litter cleanup of your own, email LiveGreen@lexingtonky.gov.

More details







Watershed groups

Thoughtful volunteers have organized groups for the purpose of watershed protection and education. Volunteering with watershed groups is a wonderful way of directly helping our local creeks and streams. Below are the watershed groups in Fayette County. If there is not a group for your specific watershed, consider volunteering for one of these. Mi agua es tu agua!

Find your watershed

- NUSEC (Neighbors United for South Elkhorn Creek):
  - https://www.southelkhorn.org/home

    - https://www.southelkhorn.org/home
    - NUSECreek@gmail.com
    - https://www.facebook.com/southelkhorn/
- Friends of Wolf Run:
    - http://wolfrunwater.org/
    - friend@wolfrunwater.org
    - https://www.facebook.com/wolfrunwater/
- Hickman Creek Conservancy:
    - https://hickmancreek.org/
    - info@hickmancreek.org
    - https://www.facebook.com/HickmanCreek

Contact

Live Green
200 E. Main St.
Lexington, KY 40507

Hours
Monday – Friday: 8 a.m. – 5 p.m.

(859) 425-2807

livegreen@lexingtonky.gov

Was this page helpful?

Yes | No | Feedback

GET IN TOUCH

200 E. Main St.
Lexington, KY 40507

(859) 425-2255

Employees

Legislation

Media center

Open data

Public input

Accessibility Privacy policy Terms of Use Title VI

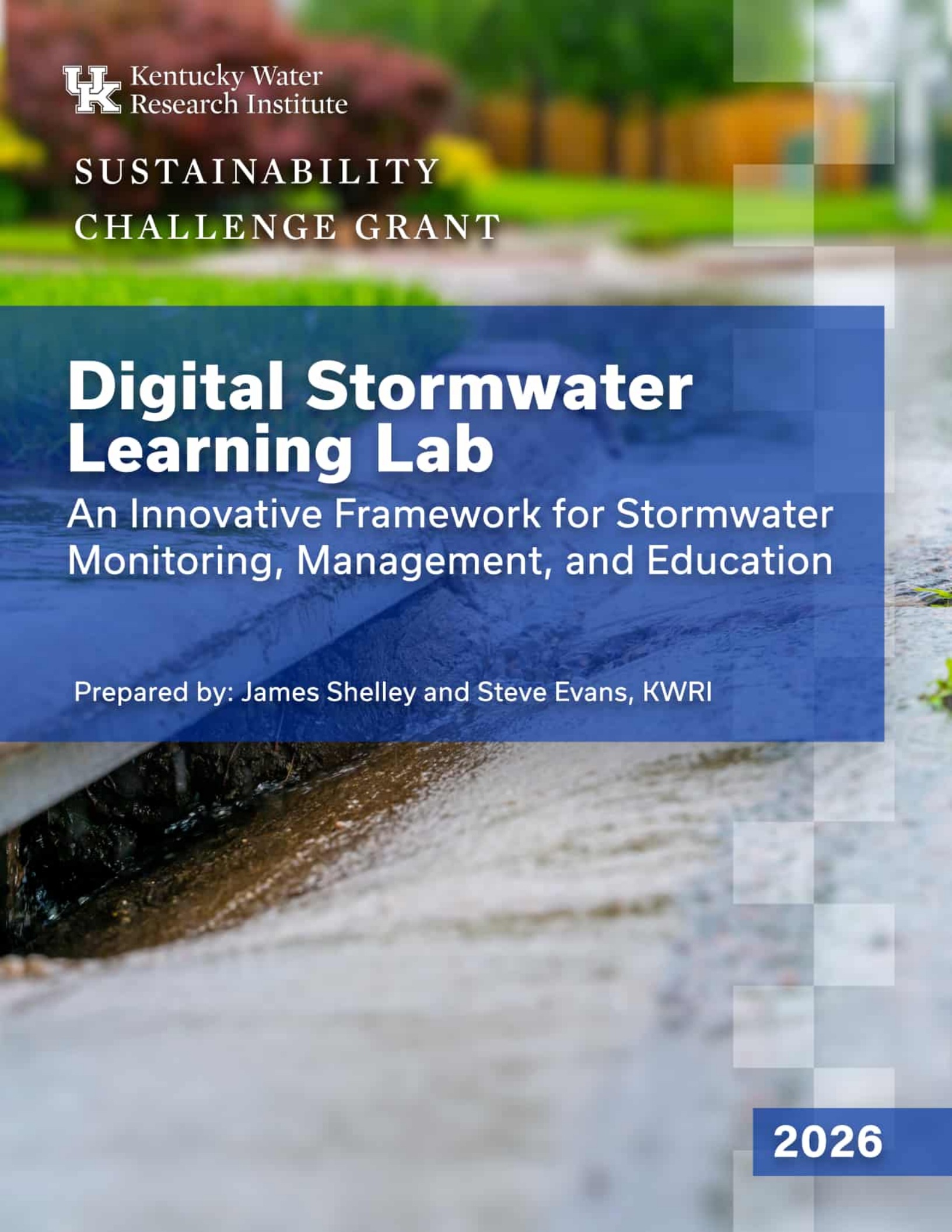
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Powered by Interpersonal Frequency

APPENDIX B

Public Involvement and Participation

Sustainability Challenge Grant Proposal



Kentucky Water Research Institute

SUSTAINABILITY CHALLENGE GRANT

Digital Stormwater Learning Lab

An Innovative Framework for Stormwater Monitoring, Management, and Education

Prepared by: James Shelley and Steve Evans, KWRI

2026

Kentucky Water
Research Institute

PROJECT PROPOSAL

Kentucky Water Research Institute

1. **Project Proposal**

Digital Stormwater Learning Lab: An Innovative Framework for Stormwater Monitoring, Management, and Education

Principal Investigator(s) and Team Members:

- James Shelley, Research Communications Specialist, Kentucky Water Research Institute, james.shelley@uky.edu, Principal Investigator
- Steve Evans, Associate Director, Kentucky Water Research Institute, steve.evans@uky.edu, Co-Principal Investigator
- Lindell Ormsbee, Professor, Earl Parker Robinson Chair, Civil Engineering, Lindell.Ormsbee@uky.edu, Support
- Sahar Alameh, Assistant Professor, STEM Education, sahar@uky.edu, Support
- Diana Byrne, Assistant Professor, Civil Engineering, dianabyrne@uky.edu, Support
- Lee Moser, Extension Associate Senior, UK-Cooperative Extension Service, lee.moser@uky.edu, Support
- Kevin Lewis, Water Quality Compliance Manager, Environmental Quality Management, kevin.lewis@uky.edu, Support
- Kenton Sena, Senior Lecturer, Lewis Honors College, Kenton.Sena@uky.edu, Support
- Alan Fryar, Professor, Earth and Environmental Sciences, alan.fryar@uky.edu, Support
- Tiffany Messer, Associate Professor, Gatton Foundation Endowed Chair, tiffany.messer@uky.edu, Support
- Tracey Miller, Assistant Professor, Landscape Architecture, tracey.miller@uky.edu, Support

Category: Operations, Engagement, Academics, and Research.
How did you hear about this call? Email
Type of Submission: New Project

Project Summary:

Digital twin technology is a transformative educational and research approach that creates an interactive virtual replica of a physical object, system, or process, linked to its real-world counterpart through data and sensors. Digital twins are at the forefront of immersive education, optimized planning, and research modeling for sustainability. Under this proposal, we will develop an interactive, web-based Digital Stormwater Learning Lab (DSL) that highlights campus stormwater control measures (SCMs)/Best Management Practices (BMPs). The DSL will connect students to the significant investments the University of Kentucky has made in campus sustainability, while monitoring the long-term performance of these investments.

The project team will work with Facilities Management (UEM, EQM, Grounds) to select three SCMs/BMPs on campus for the development of digital twins. Potential locations include stormwater incentive grant improvements or other strategic locations such as the Cooling Plant Stormwater Harvesting System, the stream restorations along Alumni Drive,

Gluck Rain Garden, Gluck Wet Pond, Patient Care Facility Green Roof, and Jacob Science Bioretention. While educational resources, such as asset maps or workshop materials, have been developed for some of these locations, the DSL platform presents an opportunity to enhance these existing resources and add a host of new immersive elements.

For each SCM/BMP, we will develop an educational twin consisting of an interactive 3D model and a 360° tour of the site, which will be embedded with detailed information on the SCM/BMP's design, function, and cost. Within the application, users will also be able to engage with simplified storm simulations to understand hydraulic and water quality performance, test their knowledge with quizzes, and ultimately earn a certificate by completing all the related educational modules. Links to existing sensors, dashboards, research papers, and data would be embedded in the DSL. UK's Environmental Quality Management (EQM) lists over 50 university stormwater-related courses that may be served with this tool. Further, this content would support UK's stormwater permit requirements for public education, post-construction BMP staff training, and Stormwater Quality Management Plan (SWQMP) objectives. In addition, the tool would demonstrate UK's statewide leadership in stormwater sustainability as a resource for communities throughout the Commonwealth and nation.

Additionally, the project would enable the launch of pioneering research on modular digital twins for evaluating and optimizing the operation and long-term sustainability of nature-based solutions (NBS). Moreover, one of the three SCM/BMPs will be selected as a full-scale, research-focused digital twin. This pilot system will be outfitted with various IoT sensors and a camera to continuously monitor performance. The collected real-time data will be fed into predictive models and computer vision algorithms, which will output hydraulic and water quality simulations, forecast performance degradations, and provide maintenance/operation alerts to staff. The twin will enable a shift from reactive to proactive, condition-based operation/maintenance, allowing for targeted interventions that reduce costs and extend asset life. Furthermore, this high-fidelity twin will also serve as an invaluable platform to facilitate research into the performance of NBS, sensor efficacy, and the development of scalable, innovative water management solutions.

The modular, web-based architecture of the DSL is designed for scalability, allowing for the seamless integration of additional campus SCMs/BMPs in future phases. This expandable framework ensures that the initial investment can grow into a comprehensive campus-wide stormwater education and monitoring network. By combining a broad educational platform with a deep, data-driven research tool, this project creates a unique, symbiotic relationship between learning and practice. Our project team is led by the Kentucky Water Research Institute, which is currently developing a statewide training program for stormwater communities. The interdisciplinary team includes faculty with expertise in water modeling, life-cycle assessment, environmental education, and urban forestry, as well as water specialists from extension. The inclusion of representatives from EQM and Utilities and

Energy Management (UEM) ensures that the project is tailored to campus guidelines and regulatory requirements.

Goals and Outcomes:

Goal 1: Develop and Launch the Digital Stormwater Learning Laboratory

This goal aims to develop a comprehensive, interactive educational tool that educates the UK community and the public about NBS for stormwater management. The effort embodies the UK TEK (QEP) by creating resources that provide a transdisciplinary educational experience, merging engineering, environmental science, and digital design into a signature learning tool for students. Additionally, this objective aligns with the water focus area of the Sustainability Strategic Plan, as well as the UK Strategic Plan Inspiring Ingenuity (II) II-2 objectives. For the Sustainability strategic plan, the goal supports the water focus tactics and action items three and five by minimizing negative impacts on water quality and conducting targeted outreach and engagement.

To achieve this goal, we will first select three stormwater SCM/BMPs on campus and gather all necessary engineering plans, specifications, and 360-degree imagery to create a comprehensive digital library. Using these materials, we'll develop three fully functional educational modules following a standardized, replicable framework that enables efficient integration of additional campus SCMs/BMPs in future phases, each featuring an interactive 3D model, detailed content explaining the system's design and function, a 360-degree virtual tour, and a simplified storm simulator that demonstrates how water moves through the system. To house these modules, we'll build a user-friendly, map-based website that includes integrated quizzes and a "Sustainable Stormwater Steward" certificate program. A complete beta version of the Learning Laboratory will be ready for user testing by October 2026.

Goal 2: Deploy and Operationalize the Research Digital Twin

This goal focuses on creating a high-fidelity, data-driven replica of a campus asset to pioneer predictive maintenance and applied research. This objective aligns with the modeling environmental excellence guiding principle of the sustainability strategic plan by providing staff with advanced, efficient tools for data-driven management, thereby improving water quality and the longevity of the SCM/BMPs. Additionally, the innovative research into digital twin implementation in stormwater aligns with the II-2 objectives of the UK Strategic Plan.

To achieve this goal, we'll install a comprehensive suite of Internet-of-Things (IoT) sensors, including cellular data transmission, water level monitors, a weather station, water quality sensors, and cameras on a selected stormwater system, with all data streaming to a secure cloud database by June 2026. The designed system will automatically calculate important performance metrics before and after each storm event and feed this information into predictive models that can forecast maintenance needs and optimize system performance. Computer vision models will be developed to analyze camera feeds to automatically detect issues not captured by the sensors. All of this will be integrated into

a user-friendly dashboard that generates predictive maintenance alerts. By November 2026, a functional digital twin will be completed.

Goal 3: Integrate, Evaluate, and Disseminate Project Findings

This goal ensures the project's outputs are integrated into the university, the project's value is quantified, and the related content is shared with the broader community. This goal aligns with all the UK strategic plan's Inspiring Ingenuity objectives by translating university research into the public domain, developing novel training programs, and forming partnerships to promote the workforce in Kentucky and beyond. Additionally, this goal aligns with Ensuring Greater Trust, Transparency, and Accountability (TTA) objective three by creating a training program to promote compliance with university standards. Finally, the goal supports water-focused tactics and action item five in the Sustainability strategic plan by conducting targeted outreach and engagement.

To achieve this goal, we will work with faculty to integrate the Learning Laboratory into at least one course by Spring 2027 and train UEM and EQM staff on the new digital twin dashboard by December 2026. We will also share our educational content with LFUCG and other stormwater programs across Kentucky through existing training networks, helping these organizations meet their public education requirements. To contribute to the broader scientific community, key findings will be incorporated into a doctoral dissertation, and we'll present our methodology and results at major conferences and submit articles for publication by June 2027.

Goal	Milestone / Deliverable	2025		2026												2027		
		11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	Funds Available																	
2.1	Site Instrumentation																	
1.1	Content & Asset Development																	
	1st Qtr Report																	
1.2	Build Interactive Educational Modules																	
	2nd Qtr Report / Mid-Project Report																	
1.3	Develop Web Platform & Assessment Tools																	
1	Goal 1: Digital Stormwater Learning Laboratory Completion																	
2.2	Develop Data & Modeling Infrastructure																	
	3rd Qtr Report																	
2.3	Create and Test Predictive Dashboard with ROI Analysis																	
2	Goal 2: Deploy and Operationalize the Research Digital Twin Completion																	
	Expected End Date.																	
3.1	Campus Curriculum Integration																	
3.2	Performance Evaluation & Reporting																	
3.3	Scholarly Dissemination																	
3	Goal 3: Integrate, Evaluate, and Disseminate Completion																	
	Final Report Due Date																	

Approach and Methodology

1.1 Site Selection, Asset Data Collection, and Content Development

The project will convene a kickoff with EQM, UEM, UK Extension, and faculty leads to cover project logistics, finalize the selection of SCM/BMP sites for the educational twins, and the full-scale research digital twin. Our selection emphasizes instructional value, safety/access, documentation availability, and comparability for evaluation. For each SCM/BMP, we will assemble a comprehensive documentation package that includes plan sets, GIS layers, BIM data, O&M/inspection records, and photos. From the compiled materials, we will then create a concise metadata record. Once the site selection is complete, we will collect lidar scans and 360° ground/aerial imagery at each site for use in making an extended-reality (XR) environment to create a more immersive and educational experience. We will then back up and host the collected imagery through Kuula, a virtual reality software platform. Additionally, from the compiled documentation, we will produce interactive georeferenced 3D models for each of the selected SCM/BMPs.

1.2 Build Interactive Educational Modules

For each SCM/BMP, we will develop a self-contained educational module that pairs plain-language explanations with a hands-on learning experience through a browser-based GIS/XR interface that includes interactive 3D models, educational content, assessments, and a hydraulic simulator. For the educational content, we will leverage existing extension materials, faculty input, and our own expertise to provide information on the design and function of the SCM/BMP. The educational materials will be presented to the user in the form of pop-ups for key design components embedded in a GIS Interface/Map enabling a virtual tour of the site. Additionally, the user will be able to switch from the XR explorer to interact with a 3D model of the SCM/BMP, allowing them to understand subsurface features better. The model view will also have interactive educational pop-ups.

The educational twins will utilize small, curated, pre-computed Stormwater Management Model (SWMM) scenarios to ensure fast, reliable interactions. For the simulations, the user will be presented with sliders to select pollutant, meteorological, and hydrological parameters for the site. The model will output runoff/inflow volume, peak discharge, infiltration, potential evapotranspiration (PET), and effluent water quality reductions. The user will be able to view the results of these scenarios in various formats, including tabular and graphical data from the hydraulic and water quality analyses, as well as on a map and in a 3D model, which displays flood extents and depths.

The user will also have the option to choose between a guided and self-guided tour. A learning assessment or quiz will be given based on the information that the user was exposed to during the tour. After completing the evaluation, the user will receive a score report, which will be accessible in the results dashboard, and will be issued a Sustainable Stormwater Steward Certificate upon completion. All content will be vetted through the stakeholder group and relevant faculty/team leaders.

1.3. Develop Web Platform & Assessment Tools

The educational content will be presented through a custom web application built with modern web technologies, including HTML, CSS styling, JavaScript, React, 3D graphics, interactive charts, and mapping tools. The mapping interface uses the ArcGIS platform suite and integrates 360° virtual tours through the Kuula platform. Cloud-based functions handle quiz grading, certificate generation, and user analytics, while access controls protect administrative features. The app uses a pre-computed scenario library: user selections map to scenario IDs that instantly fetch validated results and update charts/maps, delivering real-time responsiveness without running heavy models in the browser. This approach delivers immediate feedback while maintaining scientific accuracy through validated modeling results. Additionally, the 360° virtual tours will be created directly in Kuula with built-in hotspots and navigation, then embedded into the application. Interactive elements for 3D models are programmed directly into the code, allowing precise control over explanations of SCM/BMP components and ensuring accessibility compliance.

2.1 Site Instrumentation

Based on initial discussions with UK EQM and UEM, the research digital twin will likely focus on the Cooling Plant Stormwater Harvesting System. UEM and EQM identified several operational and maintenance issues that could be optimized through monitoring and modeling, thereby maximizing asset longevity and streamlining operations. The digital twin would allow for accurate forecasting of projected stormwater volume from storm events, as well as losses to infiltration and PET. Additionally, the stormwater pumped into the system needs to be relatively free of debris and sediment to protect the pumps. The digital twin would allow for the monitoring of trash, debris, and sediment, which could provide UEM staff with alerts to shut off pumps when conditions are not optimal.

To achieve those mentioned above and other operational objectives, specific instrumentation is required. The system will be outfitted with an IoT sensor suite consisting of a Li-COR Onset HOBO MicroRX Telemetry system with sensors to measure the following meteorological parameters: barometric pressure, relative humidity, temperature, solar radiation, wind speed, wind direction, and precipitation. This sensor configuration will enable the monitoring of PET, antecedent soil moisture conditions, and precipitation, including depth, intensity, and duration.

To monitor current water levels within the detention basin, a water level sensor will be added to the MicroRX station. The barometric pressure sensor will be used to remove the influence of atmospheric pressure. To monitor inflow volume to the pooling area for the pumps, we will install a NexSens X3 data logger with cellular telemetry and Sontek-IQ acoustic doppler velocity, level, and flow meter. Connected to that same system, an NX260 turbidity sensor will be installed to capture water quality conditions, ultimately serving as a proxy for the suspended sediment and debris load of the reuse water.

To better capture surface drainage conditions for structural issues, flooding, sedimentation, and trash/debris tracking, the site will be equipped with a CW400 Synology Camera, which will continuously monitor the site. The captured media will be stored in a cloud database and used to develop a computer vision model, which will eventually provide real-time maintenance/operation alerts.

2.2 Develop Data & Modeling Infrastructure

Using the device API's, sensor streams from the research site will be transmitted to a secure database that serves as the system of record for an internal monitoring dashboard. The system will define storm windows when rainfall exceeds 0.1 inches or stage rises above configured thresholds, and once levels return to baseline conditions for two hours, it will automatically compute event metrics directly from the measurements.

The computed metrics will include parameters such as precipitation totals (depth, duration, intensity), water budget criteria, volume processed, current detention storage volume, peak flow, discharge volume, infiltration loss, PET, and TSS/Turbidity event-mean concentrations. Additionally, the current sensor feeds will be present in the dashboard. There will also be a public-facing version of this dashboard that will be released as data is accessed and approved by EQM staff.

Within the dashboard, staff will have the option to run "what-if" scenarios before a storm event. To forecast expected stormwater volume, a model will run server-side PySWMM simulations using antecedent conditions, derived from the sensor network, paired with the Quantitative Precipitation Forecast (QPF) provided by the National Digital Forecast Database (NDFD).

In parallel, a computer vision model will be developed, which will analyze captured imagery from the camera using pre-trained algorithms. Ideally, once developed, the system would process images every 5 minutes during storms and hourly during dry periods, flagging potential maintenance needs with confidence scores and attaching visual evidence to event records.

2.3 Develop Predictive Maintenance/KPI Dashboard with ROI Analysis

The dashboard will be built as a responsive single-page web application using HTML, Tailwind CSS, and React, with Highcharts Dashboards powering real-time visualizations and trend analysis. The landing interface will display current system status, recent storm event summaries, and a prioritized maintenance task list generated from predictive algorithms. Key performance indicators will include live storage utilization and freeboard, inflow/outflow volumes and capture efficiency, turbidity/TSS proxy and debris risk index, pump runtime and protection shutoffs, and potable-water offsets.

A pre-storm Event Readiness Score will synthesize available storage, sensor health, and forecast intensity. ROI analysis will quantify avoided emergency responses, targeted versus routine maintenance, extended asset life, potable-water purchase offsets, energy and

reporting time savings. Automated monthly reports will summarize performance improvements, cost savings, and system reliability metrics, supporting budget planning and demonstrating value to university administration. User training will be provided through hands-on workshops with facilities staff, including standard operating procedures for responding to different alert types and data interpretation guidelines for compliance reporting.

Statement of Results/Benefits:
This project will create a unique relationship between learning and practice by developing an interactive, web-based Digital Stormwater Learning Lab that makes complex engineering concepts accessible to diverse audiences. The platform will connect students to the significant investments the University of Kentucky has made in campus sustainability while providing immersive, transdisciplinary educational experiences that merge engineering, environmental science, and digital design. Through direct integration into UK coursework, students will gain hands-on experience with cutting-edge digital twin technology, stormwater modeling, and sustainable infrastructure management.

The educational platform's reach extends far beyond campus through partnerships with the UK Cooperative Extension and the Kentucky Stormwater Association, enabling the delivery of content through existing outreach channels to municipal staff, students, and community members across the entire state of Kentucky. The tool will support UK's stormwater permit requirements for public education and post-construction stormwater control staff training while demonstrating UK's statewide leadership in stormwater sustainability as a resource for communities throughout the Commonwealth and nation. The modular design ensures broad accessibility and community benefit beyond the initial investment period, with open-source educational components freely available through KWRI's existing website and statewide training networks.

The project pioneers research on modular digital twins for optimizing and evaluating the long-term sustainability of NBS. Additionally, the integration of real-time monitoring, predictive modeling, and computer vision represents a novel approach for the development of scalable and innovative water management for NBS. Moreover, the research digital twin will serve as a proof-of-concept for scaling individual SCM/BMPs monitoring to campus-wide or municipal-scale management systems, demonstrating how automated data collection, quality control protocols, and predictive analytics can be integrated into maintenance workflows.

The Learning Lab's architecture creates a scalable platform for future expansion across UK's stormwater network. The standardized development framework means that additional systems can be integrated efficiently and cost-effectively, allowing the university to build a comprehensive digital inventory of campus sustainability investments over time.

Additionally, the project will generate scholarly products, including contributions to doctoral dissertation research, conference presentations, and peer-reviewed publications,

that will enhance the broader scientific understanding of digital twin applications in environmental engineering. Furthermore, all the aforementioned outcomes support the primary educational and research mission by demonstrating the real-world applications of the technologies and concepts students learn through the platform, while creating opportunities for ongoing research that advances both academic understanding and the practical implementation of digital twin technology in environmental engineering and water management.

Stakeholders:
Facilities Management (EQM and UEM): The project directly advances UK's MS4 permit compliance by providing innovative tools for both public education and BMP performance documentation. EQM and UEM will collaborate in developing educational content that meets MS4 public education requirements, ensuring the Learning Lab modules can be deployed for community outreach and staff training. EQM and UEM will also serve as the primary end-users for the dashboard, providing feedback on alert systems and maintenance tracking features. Their ongoing participation will ensure that both the real-time monitoring data and educational platform demonstrate measurable progress in stormwater management effectiveness. EQM will also have two sustainability interns who will assist with the project.

UK Cooperative Extension: Cooperative Extension will assist in delivering DSL content through county offices and existing outreach channels. They will also advise on accessibility and plain-language communication, pilot materials with Extension audiences, and share feedback for iterative improvements. A letter of support from UK Cooperative Extension is included.

Kentucky Stormwater Association (KSA): KSA will assist with statewide dissemination and act as practitioner feedback partners. They will provide opportunities to present on project progress and findings at quarterly MS4 meetings and their annual conference. They will also help publicize new modules and resources to member communities, and advise on how the materials can be adapted by other Phase II MS4s. A letter of support from KSA is provided.

UK Faculty/Departments: Key faculty members within the following departments will serve on an advisory panel and guide the content creation for each of the three modules to maximize classroom utility. Additionally, they would be part of the beta release test group, actively reviewing the content generated for DSL. Additionally, the faculty involved will integrate DSL content into their relevant graduate and undergraduate courses and serve as a liaison to market the DSL to colleagues who teach courses that could benefit from it. Faculty liaisons include: **Civil Engineering:** Diana Byrne, **Biosystems and Agricultural Engineering:** Tiffany Messer, **Earth and Environmental Sciences:** Alan Fryar, **Landscape Architecture:** Tracey Miller, **STEM Education:** Sahar Alameh, and **Lewis Honors College:** Kenton Sena.

Communication Plan:
The project's communication strategy is designed to generate steady public engagement throughout the grant's life and to share results in formats that are useful to campus operations, MS4 programs, educators, students, and the broader community. Communication will be tailored for four core groups. For Facilities and compliance staff, we will provide actionable information about how the digital twin and educational tools support maintenance, recordkeeping, and decision-making. For MS4 practitioners across the state, the focus will be geared towards transferability into their programs. For faculty and students, the goal is to support teaching and workforce development, with content structured for practical learning applications. For the public, we will highlight why stormwater stewardship matters, how the campus is improving practices, and how citizens can contribute to watershed protection.

The Institute's website will host the DSL, allowing us to direct traffic from our statewide MS4 training website to it. Additionally, in partnership with interested faculty, the Learning Lab will be piloted in one or more UK courses. We will provide a faculty guide, suggested assignments, and assessment rubrics to facilitate a straightforward adoption process. Guest lectures and lab demonstrations will introduce students to the instrumentation, data flows, and modeling concepts, with opportunities for student projects that contribute content or analysis back to the platform. Other avenues for disseminating the DSL will be through our partnership with the UK Cooperative Extension and Environmental Quality Management.

Student Engagement and Training Potential:
EQM indicated that two student interns would be available to assist in the development of content for inclusion in the project.

James Shelley, Graduate Student, Ph.D. Civil Engineering, Spring 2027. This project will directly be used to help fulfill aspects of James' doctoral dissertation and will be leveraged for other existing and potential funding sources, including a USGS 104b grant, the LFUCG Stormwater Quality Project Incentive Grant, the Horton Research Grant, and various other opportunities.

Funding:

(a) Yes, we are okay with augmenting the project to accept partial funding.

(b) Yes, if we receive the sustainability challenge grant, we hope to leverage the resources for a match for the 2026 USGS 104b grant. Additionally, it is hoped that the findings of this pilot will provide opportunities to pursue various other grants for future research in this area.

(c) Yes, this project will directly be used to help fulfill aspects of James' Doctoral Dissertation and would be leveraged to acquire funding from the following sources: KWRI-USGS 104b grant, 2026 LFUCG Stormwater Quality Project Incentive Grant, 2026 American Geophysical Union Horton Research Grant, 2026 Geological Society of America Graduate Student Grant.

Kentucky Water
Research Institute

BUDGET BREAKDOWN

Kentucky Water Research Institute

Budget Breakdown

Project Title	
Digital Stormwater Learning Lab: An Innovative Framework for Stormwater Monitoring, Management, and Education	
Principle Investigators	
James Shelley	
Cost Category	
1. Salaries and Wages	
a. Principal Investigators	$ 16,134.00
b. Graduate Student(s)	
c. Undergraduate Student(s)	
d. Other Personnel	$
Total Salaries and Wages	$ 16,134.00
2. Fringe Benefits	
a. Principal Investigators	$ 5,496.00
b. Graduate Student(s)	
c. Undergraduate Student(s)	
d. Other Personnel	$
Total Salaries and Wages	$ 5,496.00
2. Non-Personnel Costs	
a. Supplies	$ 568.00
b. Equipment	$ 27,368.66
c. Services or Consultants	
d. Travel	
e. Other Direct Costs	
Total Non-Personnel Cost	
Total Direct Costs	$ 49,566.66

Kentucky Water Research Institute

BUDGET JUSTIFICATION

Budget Justification

1. **Salaries and Wages**

Principal Investigators:
Mr. James Shelley, Research Communications Specialist at the Kentucky Water Research Institute, will provide 480 hours of support over the project period. Hours will be distributed as 280 hours (20.19%) during FY26, at $27.92/hour, and 200 hours (19.23%) during FY27, at $28.76/hour, reflecting a 3% hourly rate increase effective July 1, 2026. Total Requested: $13,569

Mr. Steve Evans, Kentucky Water Research Institute at the University of Kentucky, will commit 2% effort per fiscal year at a base salary of $108,535, with a salary escalation of 3% effective July 1, 2026, per university policy. Total Requested: $2,565

Total Salaries and Wages: $16,134

2. **Fringe Benefits**

Personnel will be charged fringe benefits at 19.237% of salary (7.65% FICA, 10% Retirement, 1.537% Other Fringe, 0.036% Life Insurance, and 0.011% ADD), plus prorated health insurance.

Mr. James Shelley will receive fringe benefits and prorated health insurance in the amount of $4698. Mr. Steve Evans will receive fringe benefits and prorated health insurance in the amount of $798.

Total Fringe Benefits: $5,496

3. **Non-Personnel Costs**

- Supplies

Calibration Supplies: Equipment calibration and maintenance supplies are essential for data quality assurance. 260-CAL NX260 calibration bottles, pack of 2 ($70). Hach Stablcal 10 NTU standard solution, 1L ($249). Hach Stablcal 100 NTU standard solution, 1L ($249).

- Equipment

Onset Data Logging Infrastructure: RX2106-900 HOBO MicroRX for HOBOnet w/ solar ($999) required for the central data collection hub. RX-PREMIUM RX Max Sensor and Logging ($399) is needed for expanded sensor interfacing and onsite data storage.

Nexsens Data Logging & Connectivity: X3-4G environmental data logger with Wi-Fi & 4G LTE ($2,495) is required for real-time telemetry from remote sites. A 4G-20MB-Y NexSens NA 4G cellular data plan, 20 MB/month annual ($216) is necessary to enable secure, continuous remote access.

Water Level & Hydraulic Monitoring: One RXW-WL-900 HOBOnet WL Sensor Interface ($309), one MX2001-02-SS-S Water Level Sensor, 30 m (100') ($435), and one CABLE-DR-010 10 m Direct Read Cable ($145) are required to capture stage dynamics at a priority location. To quantify flow, a SonTek-IQ Standard acoustic Doppler velocity, level, and flow meter ($7,085) is included, with IQ/SL-3G power and RS-232/SDI-12/Modbus communications cable, 10 m ($395) and a SonTek-IQ stainless steel 1" riser mount ($198), supporting continuous discharge measurements and hydraulic model calibration.

Meteorological Instrumentation: S-THC-M002 Temp/RH Smart Sensor w/ 2 m cable ($219) provides ambient temperature conditions. RS3-B Solar Radiation Shield ($75) ensures accurate temperature measurements. S-RGF-M002 Davis (0.2 mm) Rain Gauge Smart Sensor ($285) and S-WCF-M003 Davis Wind Speed & Direction Smart Sensor ($389) supply precipitation and wind inputs. S-LIB-M003 Silicon Pyranometer Sensor w/ 3 m cable ($285) captures solar radiation; M-LBB Light Sensor Bracket ($50) and M-LLA Light Sensor Level ($55) support proper mounting and alignment.

Mounting, Power & Field Infrastructure: M-CAB Half Cross Arm Kit ($75) and M-TPA-KIT Complete 3 m Tripod kit ($389) are necessary for robust field deployment. An SP15 solar power pack with 15 W panel, regulator, and 6 Ah battery ($1,095) is required for autonomous operation. Miscellaneous construction materials ($750) cover anchors, enclosures, conduits, and weatherproof hardware to ensure durable installations.

Water Quality Monitoring (Turbidity): one NX260 turbidity sensor with self-cleaning wipers (MCBH-6-MP; $2,495) are essential for automated water quality measurement at pooling area. One UW-EXO-10 NexSens UW-plug to MCIL-6-FS cable adapter for EXO3/NX260 sensors ($595) ensure compatibility with site cabling. UW6-USB-485P-DC UW 6-pin USB PC cable w/ external 12 VDC ($295) and MCIL6FS-USB-DC adapter ($295) are necessary for configuration and data retrieval. A UW receptacle to flying lead cable, 1 m ($130) provides integration flexibility**.**

Imaging & Visualization: Matterport MC300 Pro3D Performance Kit ($6,595) is required to create high-accuracy 3D digital twins of BMP sites for educational content and asset management. A Synology CC400W camera ($139.49) provides on-site visual verification, time-lapse media.

Shipping & Fees: Tariff surcharge ($268.73), freight ($193.44), and additional fees ($19) cover logistics and import-related costs not included in unit pricing.

Total Equipment Cost: $27,368.66

The Kentucky Water Research Institute will retain and manage all equipment at the conclusion of the project, ensuring continued use for ongoing stormwater research and educational activities.

- Services or Consultants

Identify the specific tasks for which these services, consultants, or subcontracts would be used. Provide a detailed breakdown of the services or consultants to include personnel, time, salary, supplies, travel, etc.

N/A

- Travel

Provide purpose and estimated costs for all travel. Include all applicable travel details including location, number of personnel, number of days, per diem rate, lodging rate, mileage and mileage rate, airfare, etc.

N/A

- Other Direct Costs

Itemize costs not included elsewhere, including publication costs. Costs for services and consultants should be included and justified under “Services or Consultants” (see above). Provide a breakdown for costs listed under this category.

N/A

LETTERS OF SUPPORT

9/03/2025

Sustainability Challenge Grant Committee

RE: Letter of Support for Digital Stormwater Learning Lab: An Innovative Framework for Stormwater Monitoring, Management, and Education

Dear Review Committee,

I am writing to express my support for the Digital Stormwater Learning Lab project led by James Shelley and the Kentucky Water Research Institute. As a faculty member in the Department of STEM Education at the University of Kentucky, I am committed to serving as the faculty liaison for my department for this project.

My involvement in this project includes serving on an advisory panel to guide content creation for the educational modules, ensuring they maximize classroom utility and align with pedagogical best practices. I will also participate in the beta testing phase of the application, providing detailed feedback on the educational content generated for the DSL platform. Additionally, I am committed to integrating DSL content into my relevant graduate and undergraduate courses and serving as a liaison to market the DSL to colleagues who teach courses that could benefit from this resource.

This project addresses a critical need in environmental education by making complex stormwater management concepts accessible through immersive experiential learning that provides students with real-world applications of sustainable design principles, environmental monitoring, and hydraulics. I am particularly enthusiastic about the project's dual focus on education and research, which creates valuable opportunities for students to engage with cutting-edge monitoring and modeling technologies.

I fully support this project and am committed to contributing my expertise to ensure its successful implementation and integration into our academic programs.

Sincerely,
Sahar Alameh

Sahar Alameh, Ph.D.
Assistant Professor of STEM Education
Head of Education, Training & Outreach: Pandemic ESCAPE Center
UK-CARES Faculty Fellow in Science Communication (2023-2024)
College of Education, University of Kentucky
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Lexington, KY 40506-0281
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www.engr.uky.edu

September 8, 2025

Sustainability Challenge Grant Committee

RE: Letter of Support for Digital Stormwater Learning Lab: An Innovative Framework for Stormwater Monitoring, Management, and Education

Dear Review Committee,

I am writing to express my support for the Digital Stormwater Learning Lab project led by James Shelley and the Kentucky Water Research Institute. As a faculty member in the Department of Civil Engineering at the University of Kentucky, I am committed to serving as a Faculty Liaison for this innovative project.

My involvement in this project includes serving on an advisory panel to guide content creation for the educational modules, ensuring they maximize classroom utility and align with pedagogical best practices. I will also participate in the beta testing phase of the application, providing detailed feedback on the educational content generated for the DSL platform. Additionally, I am committed to exploring possible opportunities to integrate DSL content into my courses and serving as a liaison to market the DSL to colleagues who teach courses that could benefit from this resource.

This project addresses a critical need in environmental education by making complex stormwater management concepts accessible through immersive experiential learning that provides students with real-world applications of sustainable design principles, environmental monitoring, and hydraulics. I am particularly enthusiastic about the project's dual focus on education and research, which creates valuable opportunities for students to engage with cutting-edge monitoring and modeling technologies.

I fully support this project and am committed to contributing my expertise to ensure its successful implementation and integration into our academic programs.

Sincerely,



Diana M. Byrne
Assistant Professor
Department of Civil Engineering
University of Kentucky
Phone: (859) 562-2996
Email: dianabyrne@uky.edu

Martin-Gatton
College of Agriculture,
Food and Environment

Department of Forestry and Natural Resources
105 T. P. Cooper Building
University of Kentucky
Lexington, KY 40546-0073
P: 859-257-7596
F: 859-323-1031

September 11, 2025

Sustainability Challenge Grant Review Committee
University of Kentucky

Dear Review Committee,

I am writing to express support for the Digital Stormwater Learning Lab project led by James Shelley and the Kentucky Water Research Institute. As a Water Quality Extension Specialist with the UK Cooperative Extension Service, I recognize the significant educational value this project will provide to communities across Kentucky.

The Soil and Water Extension Team is committed to assisting in the delivery of DSL content through our existing outreach channels, leveraging our statewide network to maximize the platform's reach. Our involvement will include advising on accessibility and plain-language communication to ensure the materials effectively serve diverse audiences. We will pilot educational materials with Extension audiences and provide feedback for iterative improvements, helping to refine the platform based on real-world use and community needs.

The platform's interactive approach to demonstrating complex stormwater management concepts will significantly enhance our ability to educate local officials, community leaders, and citizens about sustainable water management practices. The immersive digital experiences will make these critical environmental concepts more understandable and engaging than traditional educational approaches.
Our Soil and Water Extension Team fully supports this innovative project and looks forward to working with the project team to ensure its successful dissemination and community impact.

Sincerely,

Amanda A. Gumbert

Amanda Gumbert, PhD

University of Kentucky
Environmental Health
and Safety Division
Environmental Quality Management

September 9th, 2025

Sustainability Challenge Grant

RE: Letter of Support for Digital Stormwater Learning Lab: An Innovative Framework for Stormwater Monitoring, Management, and Education

Dear Review Committee,

I am writing to express support for the Digital Stormwater Learning Lab project led by James Shelly and the Kentucky Water Research Institute. Environmental Quality Management (EQM) recognizes the value this project will provide to our campus stormwater management program and MS4 permit compliance efforts.

EQM is committed to actively supporting this project as both a collaborative partner and primary end-user of the research digital twin dashboard. Our involvement will include collaborating in the development of educational content that meets specific MS4 public education requirements, ensuring the Learning Lab modules can be utilized for campus outreach and training programs. We will work closely with the project team to establish performance metrics and data reporting.

As the primary end-user for the predictive maintenance dashboard, EQM will provide ongoing feedback on alert systems, maintenance tracking features, and automated reporting capabilities in an effort to streamline our permit compliance documentation processes.

Environmental Quality Management fully supports this project and looks forward to working with the project team to ensure successful integration with our current regulatory compliance and campus sustainability initiatives.

Sincerely,



Kevin Lewis
Water Quality Compliance Manager, Environmental Quality Management

University of Kentucky | Lewis Honors College

Kenton L. Sena, Ph.D.
Senior Lecturer, Lewis Honors College
University of Kentucky

9/04/2025

Sustainability Challenge Grant Committee

RE: Letter of Support for Digital Stormwater Learning Lab: An Innovative Framework for Stormwater Monitoring, Management, and Education

Dear Review Committee,

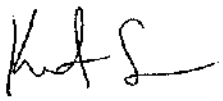
I am writing to express my support for the Digital Stormwater Learning Lab project led by James Shelley and the Kentucky Water Research Institute. As a faculty member in the Lewis Honors College at the University of Kentucky, I am committed to serving as a Faculty Liaison for this innovative project.

My involvement in this project includes serving on an advisory panel to guide content creation for the educational modules, ensuring they maximize classroom utility and align with pedagogical best practices. I will also participate in the beta testing phase of the application, providing detailed feedback on the educational content generated for the DSL platform. Additionally, I am committed to integrating DSL content into my relevant graduate and undergraduate courses and serving as a liaison to market the DSL to colleagues who teach courses that could benefit from this resource.

This project addresses a critical need in environmental education by making complex stormwater management concepts accessible through immersive experiential learning that provides students with real-world applications of sustainable design principles, environmental monitoring, and hydraulics. I am particularly enthusiastic about the project's dual focus on education and research, which creates valuable opportunities for students to engage with cutting-edge monitoring and modeling technologies.

I fully support this project and am committed to contributing my expertise to ensure its successful implementation and integration into our academic programs.

Sincerely,



Kenton Sena, Ph.D.
859-444-1723
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420 Hilltop Ave
Lexington, KY 40526

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101 Slone Building
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F: 859-323-1938
https://ees.as.uky.edu

University of Kentucky

September 2, 2025

Sustainability Challenge Grant Review Committee

RE: Letter of Support for Digital Stormwater Learning Lab: An Innovative Framework for Stormwater Monitoring, Management, and Education

Dear Review Committee,

I am writing to express my strong support for the Digital Stormwater Learning Lab project led by James Shelley and the Kentucky Water Research Institute. As a faculty member in the Department of Earth and Environmental Sciences at the University of Kentucky, I am committed to serving as the faculty liaison for my department for this project.

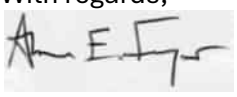
My involvement in this project includes serving on an advisory panel to guide content creation for the educational modules, ensuring they maximize classroom utility and align with pedagogical best practices. I will also participate in the beta testing phase of the application, providing detailed feedback on the educational content generated for the DSL platform. Additionally, I am committed to integrating DSL content into my relevant undergraduate courses, particularly EES 385 (Hydrology and Water Resources), and serving as a liaison to market the DSL to colleagues who teach courses that could benefit from this resource.

This project addresses a critical need in environmental education by making complex stormwater management concepts accessible through immersive experiential learning that provides students with real-world applications of sustainable design principles, environmental monitoring, and hydraulics. I am particularly enthusiastic about the project's dual focus on education and research, which creates valuable opportunities for students to engage with cutting-edge monitoring and modeling technologies.

I fully support this project and am committed to contributing my expertise to ensure its successful implementation and integration into our academic programs.

If you have any questions, please contact me at alan.fryar@uky.edu.

With regards,



Alan E. Fryar, PhD
Professor

Martin-Gatton College of Agriculture, Food and Environment

Department of
Biosystems and Agricultural Engineering

9/3/2025

Sustainability Challenge Grant Committee

RE: Letter of Support for Digital Stormwater Learning Lab: An Innovative Framework for Stormwater Monitoring, Management, and Education

Dear Review Committee,

I am writing to express my support for the Digital Stormwater Learning Lab project led by James Shelley and the Kentucky Water Research Institute. As a faculty member in the Department of Biosystems and Agricultural Engineering at the University of Kentucky, I am committed to serving as the faculty liaison for my department, Biosystems and Agricultural Engineering, for this project.

My involvement in this project includes serving on an advisory panel to guide content creation for the educational modules, ensuring they maximize classroom utility and align with pedagogical best practices. I will also participate in the beta testing phase of the application, providing detailed feedback on the educational content generated for the DSL platform. Additionally, I am committed to integrating DSL content into my relevant graduate and undergraduate courses and serving as a liaison to market the DSL to colleagues who teach courses that could benefit from this resource.

This project addresses a critical need in environmental education by making complex stormwater management concepts accessible through immersive experiential learning that provides students with real-world applications of sustainable design principles, environmental monitoring, and hydraulics. I am particularly enthusiastic about the project's dual focus on education and research, which creates valuable opportunities for students to engage with cutting-edge monitoring and modeling technologies.

I fully support this project and am committed to contributing my expertise to ensure its successful implementation and integration into our academic programs.

Sincerely,



Tiffany Messer, Ph.D., P.E.
Tiffany.Messer@uky.edu
Associate Professor and Gatton Foundation Chair

9/02/2025

Sustainability Challenge Grant

RE: Letter of Support for Digital Stormwater Learning Lab: An Innovative Framework for Stormwater Monitoring, Management, and Education

Dear Review Committee,

I am writing to express my support for the Digital Stormwater Learning Lab project led by James Shelley and the Kentucky Water Research Institute. As a faculty member in the Department of Landscape Architecture at the University of Kentucky, I am committed to serving as the faculty liaison for my department for this project.

My involvement in this project includes serving on an advisory panel to guide content creation for the educational modules, ensuring they maximize classroom utility and align with pedagogical best practices. I will also participate in the beta testing phase of the application, providing detailed feedback on the educational content generated for the DSL platform. Additionally, I am committed to integrating DSL content into my relevant graduate and undergraduate courses and serving as a liaison to market the DSL to colleagues who teach courses that could benefit from this resource.

This project addresses a critical need in environmental education by making complex stormwater management concepts accessible through immersive experiential learning that provides students with real-world applications of sustainable design principles, environmental monitoring, and hydraulics. I am particularly enthusiastic about the project's dual focus on education and research, which creates valuable opportunities for students to engage with cutting-edge monitoring and modeling technologies.

I fully support this project and am committed to contributing my expertise to ensure its successful implementation and integration into our academic programs.

Sincerely,

Tradey Miller

KENTUCKY STORMWATER ASSOCIATION

September 4, 2025

Sustainability Challenge Grant

RE: Letter of Support for Digital Stormwater Learning Lab: An Innovative Framework for Monitoring, Management, and Education

Dear Review Committee:

I am writing to express support for the Digital Stormwater Learning Lab project led by James Shelley and the Kentucky Water Research Institute on behalf of the Kentucky Stormwater Association (KSA) Board of Directors. As the President of KSA, I recognize the significant value this project will bring to stormwater professionals and citizens throughout the state of Kentucky.

The Kentucky Stormwater Association is committed to serving as a practitioner feedback partner and assisting with statewide dissemination of the DSL platform. Our involvement will include providing opportunities to present project progress and findings at our quarterly MS4 meetings and annual conference. We will also help publicize new modules and resources for our member communities and provide guidance on how these materials can be adapted by other Phase II MS4s across the Commonwealth.

This project directly addresses critical needs in our field by transforming how we communicate complex stormwater management concepts to both technical staff and the public. The platform's interactive and immersive nature will make abstract engineering principles tangible and understandable, significantly enhancing municipal staff training and fulfilling public education requirements under the MS4 permit.

The Kentucky Stormwater Association Board of Directors fully supports this project and looks forward to working with the project team to ensure successful statewide implementation and adoption.

Sincerely,



Dave Herndon, AICP, CSM, CFM
President

University of Kentucky
Kentucky Water Research Institute
233 Mining & Mineral Resources Building
310 Columbia Ave.
Lexington, KY 40506
P: 859-257-6327
F: 859-323-1049
www.uky.edu

September 12, 2025

Sustainability Challenge Grant
Review Committee

RE: Letter of Support for Digital Stormwater Learning Lab: An Innovative Framework for Stormwater Monitoring, Management, and Education

Dear Review Committee,

As the Business Officer for the Kentucky Water Research Institute, I am writing to express my support for the *Digital Stormwater Learning Lab: An Innovative Framework for Stormwater Monitoring, Management, and Education* project, led by James Shelley.

I confirm that I am willing and able to support the procurement and expenditure processes associated with this project should it be funded. Our team is prepared to facilitate purchasing, manage budget tracking, and ensure compliance with all University of Kentucky procurement and financial policies.

I recognize the importance of this project in advancing sustainability education and research across campus and am committed to ensuring that financial operations run smoothly so that the project team can focus on its successful implementation.

Sincerely,

Brittany Pixley, M.S.
Business Officer
Kentucky Water Research Institute
Tracy Farmer Institute for Sustainability and the Environment

233 MMRB
Lexington, KY 40506-0107
Office: 859-257-6327
brittany.pixley@uky.edu

seeblue.
An Equal Opportunity University

APPENDIX B

Public Involvement and Participation

Alumni Drive Tree Planting

Kentucky Kernel • April 4, 2025 • https://kykernel.com/114554/news/were-making-an-impact-on-the-earth-students-give-back-through-plant-for-the-planet/

‘We’re making an impact on the earth.’ Students give back through Plant for the Planet

Melanie Schouppe, Reporter

The University of Kentucky’s Lewis Honors College hosted Plant for the Planet, an event that gave students the chance to participate in making an impact on the campus environment.

Students were able to plant tree saplings and learn how to get involved with the environment at the Alumni Drive Traffic Island on Wednesday, April 2.

Senior lecturer at the Lewis Honors College and event organizer, Kenton Sena, said there are many benefits to planting and having trees throughout the community’s environment.

“They (trees) help to process stormwater, and they help to create a habitat for wildlife, and they purify the air and all these kinds of things,” Sena said. “By expanding our campus forest, we’re increasing those benefits.”



Volunteers work to prepare trees to be planted on Saturday, Oct. 9, 2021, at Bryan Station High School in Lexington, Kentucky. The tree planting event was a part of Lexington's fourth annual Tree Week. Photo by Martha McHaney | Staff

Sena said seeing the kids he has for classes being able to apply what they learned in a real-life situation is something he enjoys seeing.

“I hope that students participating today will feel empowered to make meaningful and lasting environmental change in their own communities and the places where they live and work and play,” Sena said.

According to Sena, there is a lot a person can do to make an impact on the environment, such as planting a garden or leaving a small section of the yard available for native plants to grow.

“You could plant a tree at your house or even in your neighborhood,” Sena said.“There’s lots of opportunities.”

Junior political science and history major, Zachary McComas, said he has done things at home to help the environment, such as growing a vegetable garden and planting wildflowers and native plants.

McComas said he has also participated in other planting events, saying he enjoys knowing he is making a difference.

“I really like sticking around and feeling like we’re making an impact on the earth,” McComas said.

Junior marketing, environmental and sustainability studies major Kaylee Bliss said she decided to attend the event after enjoying the one held previously in 2024.

“I feel like I’m making an impact, and the trees that we plant now will probably be here 20 years from now,” Bliss said. “I’ll come back and visit and I can say that it’s something that I contributed.”

Bliss said the area the trees were planted in has a lot of water and erosion.

According to the Heart Of England Forest website, trees can help reduce erosion because their roots bind the soil, as well as help control runoff from rain water and slow down high winds.

“They help take away CO2 from the air, and they also help make the campus feel more homey and more involved in nature,” Bliss said.

Tyler Tungate, who works with Ecogro, the environmental consultant for the event, assisted with prep work and assisted students with planting trees, saying he was happy to see students get involved with something they care about.

“Getting people out here, hands-on, having them put trees in the dirt themselves, rather than just be removed from it,” Tungate said. “It’s great for people to have a hands-on environmental day like this.”

According to Tungate, one of the best aspects of the event is putting native tree species in the environment and helping people with a similar passion.

“Do it for yourself,” Tungate said. “Nature will appreciate it no matter what kind of event you’re doing it for.”

APPENDIX B

Public Involvement and Participation

BAE 403 Central Utility Plant Senior Design Class Submittals

University of Kentucky Cooling Plant #2 Rainwater Harvesting

Presenters: Seth Daniel, Ashlyn Lippert, Rebecca Stacy

Faculty Mentors: Britney Ragland, Mick Peterson, Alicia Modenbach

University of Kentucky, Department of Biosystems & Agricultural Engineering

Problem Statement

The University of Kentucky expends resources on both city water to cool campus buildings, and management of stormwater runoff. These efforts lead to high costs and environmental impact. Campus expansion has resulted in even greater demand for cooling capacity, as well as increased runoff. Therefore, a new system will be designed to replace city water needs for cooling with treated stormwater. This will reduce expenses, reduce water waste, and enhance energy efficiency.

Background

- The University of Kentucky operates four cooling plants that use chilled water for cooling, refrigeration, and research, currently relying on domestic water from the Kentucky American Water Company at an annual cost of ~$500,000.
- With campus expansion, both cooling demand and stormwater runoff have increased, creating an opportunity to replace domestic water with treated stormwater—reducing costs, minimizing water waste, and enhancing sustainability
- Cooling Plant #2 (CP #2) runs on a closed-loop system where condenser water is cooled through evaporative towers, requiring "makeup water" to replace evaporative losses. A rainwater harvesting system would collect stormwater for this purpose, reducing CP #2's dependency on municipal sources.
- Key design considerations include local rainfall patterns, proper storage tank sizing, and water quality management to minimize scaling, corrosion, and biological fouling
- This initiative also supports environmental goals for the Town Branch watershed, which faces challenges from urban runoff and flash flooding

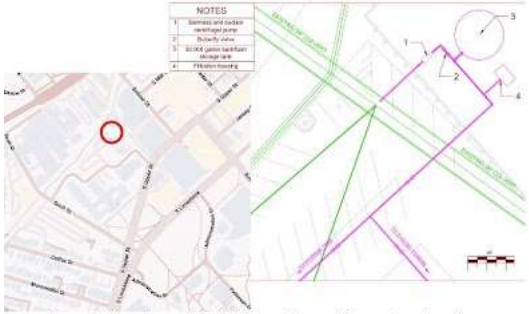


Figure 1. Plan view of CP #2 site and harvesting system layout.

Considerations

- Volume of runoff inside 96 in culvert available for harvest
- Cooling Plant #2 requires 150,000 gal of water per day for cooling use
- Use of existing 120,000-gal buried tank
- Existing rainwater harvesting design at CP #4.

Constraints

- Available budget
- Available space at urban CP#2 site
- Can only store 120,000 gallons at a time
- Cannot disturb University parking (on top of system)
- Makeup water conductivity must be ≤ 1600 micro-siemens

Wolf Run Watershed Analysis

- The watershed contributing to the 96 in culvert has an area of 0.42 mi^2. Assuming completely impervious surface, this results in an average flow of 20,804 gpm inside the culvert during a 10 year-24 hour storm.
- Based on this calculation, the culvert provides about 200 times the amount of water needed for Cooling Plant #2 per day.

96-in Culvert Flow Study Results

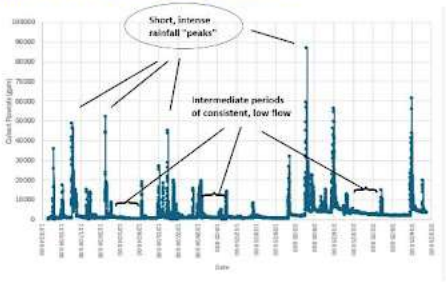


Figure 2. Flowrate data collected inside 96" culvert at CP#2 from November to March.

Solution

The rainwater harvesting system designed for Cooling Plant 2 collects stormwater from a nearby culvert and directs it through a multi-stage filtration process before storage. The system includes parallel sediment filters equipped with a backflush mode (85 GPM) to extend filter life. Once filtered, the water is stored in a 120,000-gallon repurposed fuel tank composed of four connected compartments. This stored rainwater is used to supplement the cooling tower water supply, reducing reliance on treated city water and lowering operational costs.

Holding Tank and Filtration System Design

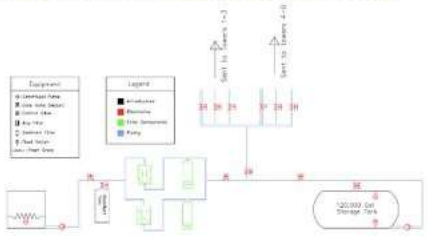


Figure 3. P&ID of rainwater harvesting and filtration system from culvert to cooling tower.

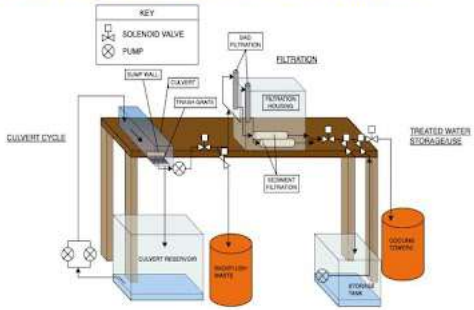
The filtration and transportation systems operate by activating specific pumps and valves to create four specific flow paths or "modes":

- Send to towers
- Send to tank
- Send tank to Towers
- Backflush filters

Full System Bill of Materials

Subsystem	Items	Manufacturer	Supplier	Cost
Pump System	Barmesa End-Suction Centrifugal Pump	Barmesa	Absolute Water Pumps	$3,158
Data Collection	Flow and Water Quality Monitor	In-Situ	SensorPros	$2,579.50
Filtration	Filters, Pressure Gauge	Various	PRM Filtration, US Water Systems	$20,369.97
Pipes, Fittings, Valves	PVC, Butterfly Valve, float switch	Various	Various	$26,973.66
Tank	30,000 gallon tank		Water Storage Tanks Inc.	$30,000.00
Estimated Construction	Trenching and excavation	N/A	N/A	$10,000.00
			Total Cost:	$93,081

Scale Filtration Model and MATLAB Validation



A scale model of the rainwater harvesting system was built using an Arduino to control 4 pumps and 6 solenoids. The model reflects the actual operation logic designed for Cooling Plant 2, providing a visual and functional representation.

A MATLAB model was also made to validate the flow results from the scale model by using storm size and area inputs to simulate inflow rates, allowing real-time testing of how the system responds to varying storm events and tank fill times.

Model Bill of Materials

Item	Supplier	Qty	Cost
Arduino Uno	Digikey	1	$20.00
Arduino Relay	Digikey	1	$11.87
Pumps	Digikey	2	$27.60
Water Level Sensor	Digikey	3	$29.70
Solenoid Valve	Digikey	6	$41.70
Acrylic	McMaster-Carr	3	$80.10
Sediment Filter	McMaster-Carr	2	$33.12
Tubing and Fittings	McMaster-Carr/Home Depot	50	$154.41
		Total Cost:	$398.50

Future Work

- Continued analysis of culvert flow and average cooling tower water use
- Perform testing and validation to connect scale model to MATLAB model
- Completion of cost/benefit analysis
- Cleaning and treatment of 120,000 gallon buried tank
- Implementation of full-sized design at CP#2 site

Acknowledgements

Britney Ragland, University of Kentucky Utilities and Energy Management
Jim Buckles, Bell Engineering
Bo Smith,, Bell Engineering

References

Lexington, c. o. (2024). Town branch watershed. Retrieved from Lexington: https://www.lexingtonky.gov/town-branch-sanitary-sewer-projects

SPX Cooling Technologies. (2019). *Cooling Tower Water Quality: Management, Treatment, and System Monitoring*. Retrieved from SPX Corporation: https://spxcooling.com/wp-content/uploads/TR-012.pdf

University of Kentucky Utilities and Energy Management. (2024). *Campus Chilled Water Systems*. Retrieved from University of Kentucky Facilities Management: https://www.uky.edu/facilities/uem/services/chilled-water.

APPENDIX B

Public Involvement and Participation

WRD 204 Technical Writing Collaborative Field Report Assignment

WRD 204 Student Interview – 10/29/25

Questions:

1. What programs are currently available that allow students—individually or through organizations—to contribute to improving stormwater management on campus?

   The "Get Involved" section of our website (https://env.uky.edu/stormwater/get-involved) provides a list of opportunities available for UK's public to participate in the stormwater program. Highlights include:

   - Stormdrain Marking/Assessment Program
     - Readily available (web based) with prior notification (application)
   - Illicit Discharge Reporting
     - Ability to report real time illicit discharges anywhere on campus
   - Opportunities to volunteer/participate in any number of activities throughout the year
     - Litter Clean Up
     - Tree Planting
     - Mulching

   *Opportunities include other UK Departments/Organizations such as Sustainability, Grounds, and the Urban Forest Initiative.

2. What are some common student activities or behaviors that negatively impact stormwater quality and the current stormwater plan? Are there recommendations for day-to-day actions that we could encourage students to reconsider to promote more sustainable practices?

   Littering is probably the biggest impact by students, whether it be individually or through organized activities. Pet Waste is generated by a smaller, more select body of students, but still has an impact on campus water quality.

   Properly disposing of waste and recycling is the best thing students can do, followed by picking up/disposing of litter when you see it and/or participating in campus clean-ups, litter pick up events. Waste reduction is another action to prevent litter in the first place: Using reusable water bottles and bottle filling stations vs disposable drink containers. Student Organizations could consider revitalization of our Pass on Plastics Campaign to reduce single use plastics and/or our Pick-It-Up/Adopt-A-Spot litter campaigns.

3. What are the biggest challenges UK faces in maintaining sustainable stormwater management, and are there any current plans to expand or upgrade the stormwater infrastructure to address these challenges?

   Maintenance of existing stormwater BMPs is the biggest challenge as we have over 150 active BMPs. See our post-construction BMP webpage and interactive MS4 map for more details. We recently updated our Operation and Maintenance Manual for Stormwater BMPs and developed a Preventative Maintenance Program to assist staff in scheduling and performing maintenance. We also conduct annual inspections to provide staff with updated BMP maintenance needs.

   UK has adopted LFUCG stormwater requirements, which are included in the LFUCG stormwater manual. This document is regularly updated, such as the upcoming addition of maintenance requirements.

   UK is required to address stormwater both during construction and post-construction. With each new project, additional stormwater BMPs are installed on campus. Maintaining these water quantity and quality controls is required and the university will always be looking for the most effective and cost efficient way to perform these activities.

4. Where can students or researchers access data or reports related to the University of Kentucky's ongoing stormwater initiatives and performance metrics? If these findings are not publicly available, is there any recent data—such as runoff volumes, water quality measurements, or the effectiveness of best management practices—that could potentially be reformatted to increase accessibility?

   The University's Stormwater Website was created to serve as a window into the Stormwater Program and provide a great deal information with transparency. The Program Information page is a great place to start. There you'll find copies of our Annual Reports for the last six years. These reports are required to be submitted to the KY DOW each year and explain what the University has done to comply with MS4 permit requirements. The appendices include information such as the number of illicit discharges reported/investigated, outfall inspection reports, and BMP inspection reports. There is also detailed information about the outreach, education, and public participation activities conducted.

5. On *Wholesum*, there's an article discussing the stormwater harvesting project that mentions a case study to be published by April 15th, 2024. I haven't been able to locate it—would you be able to share access to this report or let us know where it might be found?

   A copy of the requested case study was provided to interview participants prior to the interview.

APPENDIX B

Public Involvement and Participation

NRE 400 Stormwater Intern Presentation

From: Weber, Nathan
To: Lovell, Charles K.
Subject: FW: Intern presentation Mason Mefford 041025
Date: Tuesday, April 15, 2025 7:55:05 AM
Attachments: Poster Final Draft.pdf

This is a snap from Mason's poster presentation last week. Mason was prepared and held a positive attitude. He covered the why behind drain marking, & how campus users can impact stormwater. I could tell by a few reactions by the listeners that they were learning something new.

I added this photo along with the poster pdf to the Internship file on Sharepoint.

Nathan Weber
Water Quality Compliance Specialist

University of Kentucky
Environmental Quality Management
355 Cooper Drive
Lexington, KY 40506-0490
Office: 859-562-0982
Cell: 859-351-9469
Nathan.Weber@uky.edu

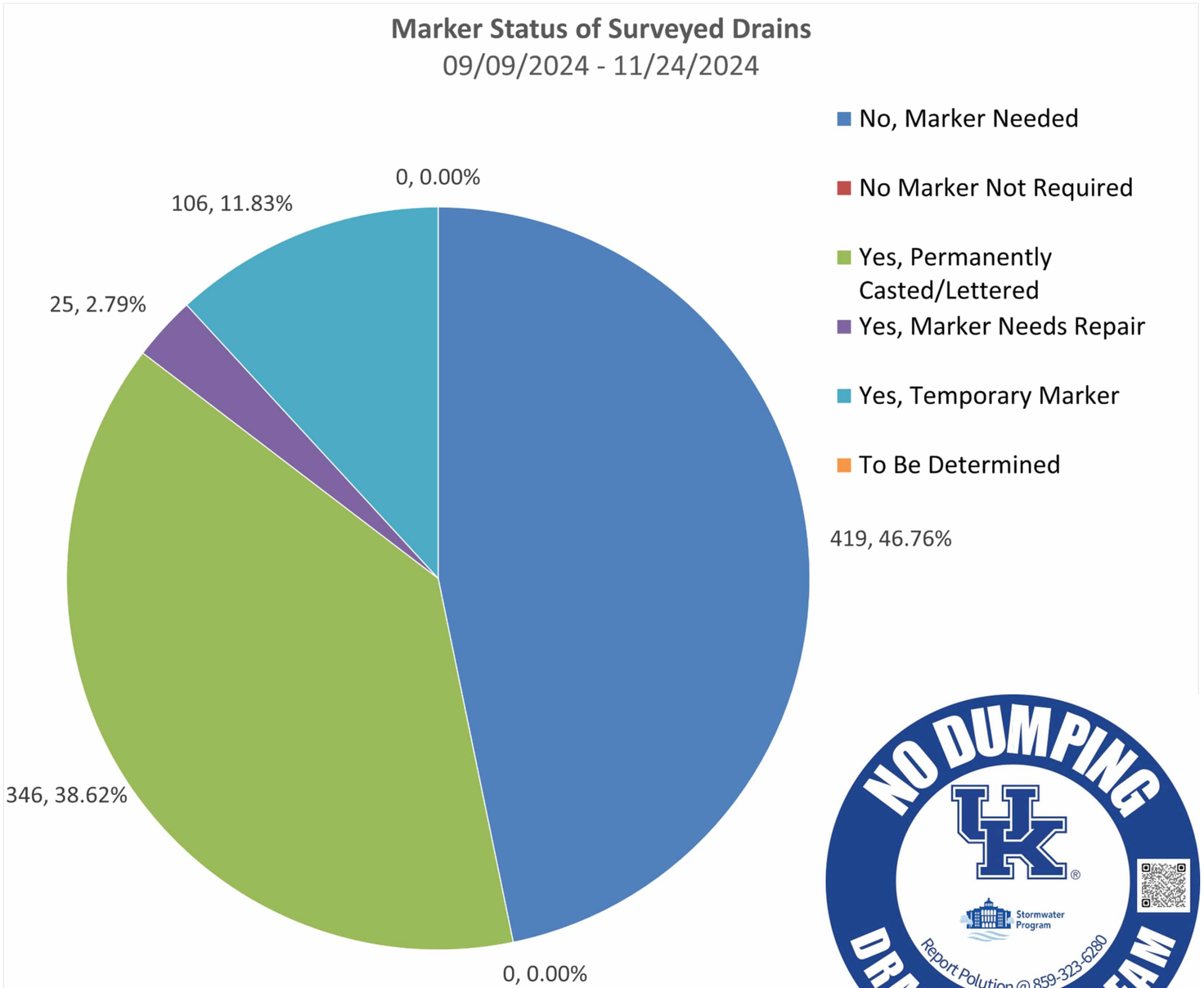
From: Weber, Nathan <Nathan.Weber@uky.edu>
Sent: Friday, April 11, 2025 8:09 AM
To: Weber, Nathan <Nathan.Weber@uky.edu>
Subject: Intern presentation Mason Mefford 041025



Sent from my iPhone

Stormwater Management Internship

Mason Mefford
NRE 400



Goals

To build a new data base on the current state of storm drains across campus for the Environmental Quality Management (EQM) department in compliance with UK's MS4 Permit

Background

UK is covered under Kentucky's KPDES Small MS4 General Permit, allowing stormwater discharge while protecting water quality. It uses over 150 BMPs to manage runoff and must follow six Minimum Control Measures (MCMs) to comply with the permit.

Six MCM's

1. Public Education and Outreach
2. Public Involvement and Education
3. Illicit Discharge Detection and Elimination
4. Construction Site Stormwater Runoff Control
5. Post-Construction Stormwater Management in New Development and Redevelopment
6. Pollution Prevention/Good House Keeping

Findings

During the experience over 1,500 storm drains were surveyed across campus and updated to the base map for EQM. While surveying drains, reports on MCM's 3, 4, and 5 were able to be verified during assessments giving EQM eyes on the ground during the whole fall semester.

Acknowledgements

Thank you to UK EQM department's Kevin Lewis and Nathan Weber, along with Jessica Freeman Office of the CIO, Facilities Information Services.



Martin-Gatton College of Agriculture, Food and Environment | Natural Resources & Environmental Science

APPENDIX B

Public Involvement and Participation

NRE 201 Lab Assignment



A Look into Water Quality Management on UK Campus

Nathan Weber, Water Quality Compliance Specialist, Environmental Quality Management

STUDENT OPPORTUNITY!!



KEY TOPICS FOR TODAY

1. Who is Environmental Quality Management (EQM) & purpose?
2. What does EQM help manage at UK?
3. Where does EQM water quality implement programs on campus?
4. Why do we even care about water quality at UK anyway?
5. How does EQM meet ongoing challenges to serve the Commonwealth?

- Field investigations of post-construction best management practices for water quality and quantity

WHO ARE WE?

- UK ENVIRONMENTAL HEALTH & SAFETY PROVIDES TECHNICAL SERVICES, EDUCATION/TRAINING, & COMPLIANCE ASSISTANCE DIRECTED BY STATE/FEDERAL LAWS & REGS ON UK CAMPUS, FARMS, CLINICS, AUXILIARY BLDGS.
- ***51 UK EHS POSITIONS; 14 OF THESE @EQM.***
- EHS INCLUDES:
  - RESEARCH SAFETY: BIOLOGICAL, CHEMICAL, LAB, RADIATION, ANIMAL RESEARCH
  - OCCUPATIONAL H & S: INDUSTRIAL, VENTILATION (INDOOR AIR)
  - FIRE MARSHAL: INSPECTIONS, CODE ENFORCEMENT
  - ***ENV. QUALITY MGT: HAZ. WASTE, AIR QUALITY/ASBESTOS, & WATER QUALITY***

WHAT DOES EQM DO?

1. AIR QUALITY: CLEAN AIR ACT, REFRIGERANT & GREENHOUSE GAS EMISSIONS (NATURAL GAS/OIL/COAL BOILERS)
2. HAZARDOUS WASTE: RESOURCE CONSERVATION & RECOVERY ACT (RCRA) AND NON-RCRA ITEMS (LATEX PAINT, FLOOR STRIPPER, HEAVY METALS) @ CAMPUS/AUXILLARY
3. ASBESTOS/PCB: ABATEMENT DURING DEMOLITIONS OF OLD BLDGS, RENOVATIONS OF LABS/HOUSING/HISTORIC BLDGS.
4. ***WATER QUALITY: CLEAN WATER ACT- STORMWATER (CWA, KYDOW), GROUNDWATER PROTECTION, DRINKING WATER CONCERNS, WASTEWATER (LFUCG TOWN BRANCH), SPCC.***





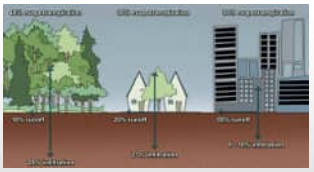
WHERE UK MANAGES STORMWATER

(Federal) CWA: address nationwide discharges to combat pollution via population growth/development. Authority to States to implement NPDES standards.

(State) KYDOW administers KPDES permit (KY pollutant discharge elimination system) to UK Phase II MS4.

(Local/City/Municipality): UK Campus discharges into LFUCG's Phase I MS4 – Wolf Creek, West Hickman, & Town Branch,

UK uses LFUCG standards providing consistency in management. Collaboration is essential to resource management.





WHAT IS A MS4?

- MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) – UK PHASE II (SMALL)
- "AN MS4 IS A CONVEYANCE OR SYSTEM OF CONVEYANCES THAT IS:
  - OWNED BY A STATE, CITY, TOWN, VILLAGE, OR OTHER PUBLIC ENTITY THAT DISCHARGES TO WATERS OF THE U.S.,
  - DESIGNED OR USED TO COLLECT OR CONVEY STORMWATER (E.G., STORM DRAINS, PIPES, DITCHES),
  - NOT A COMBINED SEWER, AND
  - NOT PART OF A SEWAGE TREATMENT PLANT, OR PUBLICLY OWNED TREATMENT WORKS (POTW)." (US EPA)
- KYDOW MS4 GENERAL PERMIT
- REQUIRES SPECIFIC MANAGEMENT, MONITORING, CONTROL, & OUTREACH PROGRAM –MINIMUM CONTROL MEASURES



PAST…PRESENT…FUTURE?



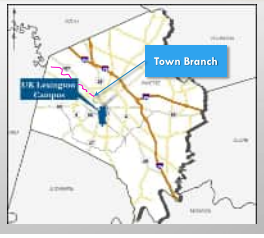
UK's Watersheds…

TOWN BRANCH

(AVERAGE ANNUAL FLOW 37,800 GAL/MIN)







UK's Watersheds…

WOLF RUN

(AVERAGE ANNUAL FLOW 4,734 GAL/MIN)







UK's Watersheds…

WEST HICKMAN CREEK

(AVERAGE ANNUAL FLOW 30,758 GAL/MIN)







SO, HOW DO WE MANAGE SW?



Educate, Inspect, & Advise

- ASSESS POST-CONSTRUCTION BMP
- ASSESS CONSTRUCTION FOR EROSION PREVENTION
- EDUCATE ABOUT ILLICIT DISCHARGES & REDUCE IMPACTS
- DRIVEN BY PERMIT'S 6 MINIMUM CONTROL MEASURES
- PARTNERS: MEDICAL, GROUNDS, UTILITIES, AG

GENERAL PERMIT REQUIREMENTS: 6 MINIMUM CONTROL MEASURES (MCM)

- MCM 1- Public Education and Outreach
- MCM 2- Public Involvement/Participation
- MCM 3- Illicit Discharge Detection and Elimination
- MCM 4- Construction Site Stormwater Runoff Control
- MCM 5- Post Construction Stormwater Management
- MCM 6- Pollution Prevention/Good Housekeeping for Municipal Operations

MCM 1- PUBLIC EDUCATION AND OUTREACH

- STRENGTHEN EDUCATION, OUTREACH, AND PARTICIPATION PROGRAM
- UPDATE AND MAINTAIN STORMWATER WEBSITE
- DEVELOP INTERACTIVE MS4 MAP
- DEVELOP AND DISTRIBUTE PUBLIC (FACULTY, STAFF, STUDENTS, VISITORS) SPECIFIC EDUCATIONAL MATERIALS
- DEVELOP AND MAINTAIN SOCIAL MEDIA SITES FOCUSED ON UK STORMWATER
- UPDATE AND CONDUCT CAMPUS WIDE SURVEY TO DETERMINE EFFECTIVENESS OF THE OUTREACH AND EDUCATION PROGRAM





MCM 2- PUBLIC INVOLVEMENT/PARTICIPATION

- UPDATE AND IMPROVE THE STORM DRAIN MARKING PROGRAM
- UPDATE INVENTORY OF MARKED DRAINS VIA INTERN PROGRAM
- DEVELOP INTERACTIVE MAP TO SHOW/TRACK DRAIN MARKING ACTIVITY
- INVOLVE STUDENTS, FACULTY, AND STAFF IN STORMWATER ACTIVITIES (DRAIN MARKING, RAIN GARDEN MAINTENANCE, NEW STREAM RESTORATION PROJECT)
- SERVICE-LEARNING EVENTS





MCM 3- ILLICIT DISCHARGE DETECTION AND ELIMINATION

- MAINTAIN AND UPDATE MS4 AND UTILITY MAPS ANNUALLY/AS NECESSARY
- UPDATE WEBSITE AND COMPLAINT REPORTING MECHANISM (SEE TASKS 1.B AND 1.B.2)
- INCLUDE ALL INFORMATION/PROCEDURES INTO A COMPREHENSIVE STORMWATER OPERATIONS MANUAL
- UPDATE AND MAINTAIN THE ILLICIT DISCHARGE TRACKING PROGRAM AS NECESSARY

Report water pollution to EQM!



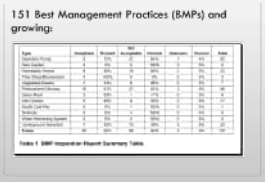
MCM 4- CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

- PERFORM AUDIT INSPECTIONS ON CONSTRUCTION SITES MONTHLY
- UPDATE CONSTRUCTION SITE INSPECTION CHECKLIST AS NECESSARY
- REVIEW CONSTRUCTION PLANS TO ENSURE SWPPP MEASURES ARE BEING INCORPORATED FOR ALL PROJECTS DISTURBING 1 ACRE OR MORE
- CONTINUE TO UTILIZE LFUCG'S MOST RECENT STORMWATER REQUIREMENTS, INCLUDING THEIR STORMWATER MANUAL AND LID GUIDELINES
- DEVELOP TRAINING PROGRAM TO EDUCATE CONTRACTORS AND DESIGNERS ON STORMWATER REQUIREMENTS
- DEVELOP UK CONSTRUCTION PROCESS/REQUIREMENT TRAINING



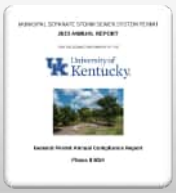
MCM 5- POST CONSTRUCTION STORMWATER MANAGEMENT

- CONTINUE THE ADOPTION OF LFUCG POST CONSTRUCTION REQUIREMENTS FOR NEW/REDEVELOPMENT
- REVIEW PLANS TO ENSURE POST-CONSTRUCTION STORMWATER QUALITY TREATMENT HAS BEEN ADDRESSED
- CONDUCT INSPECTIONS TO ENSURE MEASURES ARE BEING INSTALLED CORRECTLY
- INCORPORATE ALL RELEVANT POST-CONSTRUCTION INFORMATION INTO NEW STORMWATER OPERATIONS MANUAL



MCM 6- POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS

- DEVELOP COMPREHENSIVE UK STORMWATER OPERATIONS MANUAL TO INCLUDE ALL POLICIES/PROCEDURES/BMPS UTILIZED TO MEET PERMIT REQUIREMENTS (ALL MCM'S)
- UPDATE BMP OPERATIONS AND MAINTENANCE (O&M) MANUAL TO INCLUDE SPECIFIC MAINTENANCE REQUIREMENTS, CALENDAR OF REQUIRED ACTIVITIES, AND RESPONSIBILITIES FOR EACH EXISTING POST CONSTRUCTION BMP
- UPDATE EMPLOYEE TRAINING PROGRAM
- CREATE PROCEDURES TO ADDRESS/REPAIR STORMWATER ISSUES/PROBLEMS ON CAMPUS ONCE THEY ARE IDENTIFIED



POST CONSTRUCTION STORMWATER MANAGEMENT





151 Best Management Practices (BMPs) and growing:

Type	Compliant	Percent	Not Acceptable	Percent	Unknown	Percent	Total
Detention Ponds	3	12%	21	84%	1	4%	25
Rain Garden	0	0%	5	100%	0	0%	5
Permeable Pavers	8	35%	15	65%	0	0%	23
Filter Strips/Bioretention	5	100%	0	0%	0	0%	5
Vegetated Swales	1	14%	6	86%	0	0%	7
Pretreatment Devices	19	41%	21	54%	2	5%	38
Green Roof	5	83%	1	17%	0	0%	6
Inlet Control	5	45%	6	55%	0	0%	11
South Goal Pilot	0	0%	1	100%	0	0%	1
Stormwater	0	0%	4	100%	0	0%	4
Water Harvesting System	0	0%	3	100%	0	0%	3
Underground Detention	7	32%	13	59%	2	9%	22
Totals	50	32%	98	65%	5	3%	151

Table 1 BMP Inspection Report Summary Table

POST CONSTRUCTION BMP INSPECTION 101

- INSPECT TO COMPLY PHASE II MS4 PERMIT.
- HELP IDENTIFY ISSUES & LONG-TERM TRENDS.
- INCREASED DEVELOPMENT OR REDEVELOPMENT, REQUIRES REDUCE RUNOFF & INCREASE QUALITY.
- CHALLENGES: APPLYING UNIQUE TECH. & CONSISTENCY IN TRAINING/MAINT.









POST CONSTRUCTION BMP INSPECTION 101:

PRE-INSPECTION

1. ACQUIRE PPE (CLOSE TOED SHOES/BOOTS, SAFETY VESTS, WEATHER APPROPRIATE CLOTHING, ETC).
2. PLAN YOUR ROUTE EFFICIENTLY.
3. REVIEW BMP FUNCTIONS & MAINTENANCE TASKS.
4. ORGANIZE FORMS, CAMERA, ETC.

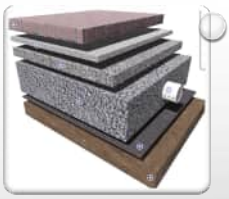




POST CONSTRUCTION BMP INSPECTION 101:

GARRIGUS PLAZA AND COOPER HOUSE PERVIOUS PAVERS

- MANY DESIGNS (PLASTIC GRID, CONCRETE, ASPHALT).
- RAINFALL MOVES VERTICALLY TO INFILTRATE INTO SOIL/UNDERDRAIN. SLOW RELEASE.
- CONCERNS: PAVERS SUSPECT TO CRACKING, TRASH/LEAVES BETWEEN PAVERS, & RIPPLING.
- MAINTENANCE: SWEEPING TRASH/VEG., VACUUM & REPLACE AGGREGATE ANNUALLY FLUSH WITH TOP OF PAVERS.
- POTENTIAL RETENTION: 34%-100%

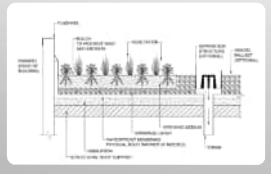




POST CONSTRUCTION BMP INSPECTION 101:

GARRIGUS PLAZA GREEN ROOF

- TYPES: EXTENSIVE = 2-6 IN. / INTENSIVE = 0.5-4 FT.
- RAINFALL INFILTRATES & FILTERS. ADDED AESTHETIC QUALITY.
- CONCERNS: DROUGHT, TRASH, NON-PREFERRED VEG., TECHNICAL TRAINING FOR IRRIGATION.
- MAINTENANCE: TRASH, REPLANTING, IRRIGATION.





Gatton Law

Chandler Hospital



Healthy Research Bldg.

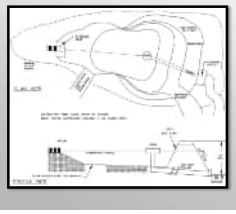
POST CONSTRUCTION BMP INSPECTION 101:

GLUCK DETENTION BASIN SOUTH



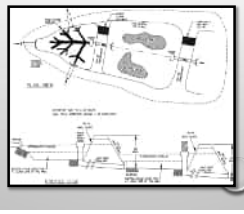
DETENTION BASIN

- CONTROLS PEAK DISCHARGE EVENTS
- "OG" CONTROL – HIGHWAY EXITS, BOX STORE LOTS
- STONE>CONCRETE TO SLOW H20.
- MAINTENANCE: MOWING, TRASH, EROSION, CLEAR DEBRIS



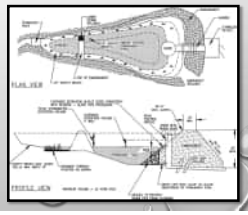
EXTENDED DETENTION

- CONTROLS PEAK EVENTS BUT ADDED QUALITY BENEFITS.
- 2-STAGE SYSTEMS TO INCLUDE MARSH HELP FILTER POLLUTANTS.
- MAINTENANCE: SAME, WATCH SEDIMENT.



RETENTION POND

- PERMANENT MEANT TO HOLD WATER FROM CONTRIBUTING AREA.
- MANY QUALITY BENEFITS – HEAVY SEDIMENT, AQUATIC PLANT UPTAKE.
- CONSISTENT MAINT. PLAN
- THE GLUCK POND GEESE!



POST CONSTRUCTION BMP INSPECTION 101:

FARM ROAD "CAT"CHEMENT WETLAND

- CONSTRUCTED WETLAND BUILT FOR QUANTITY, CONVERTED W/ RAIN GARDEN EFFECTS.
- RECEIVES INLET RUNOFF > RETAINS IN INTENTIONAL POOL > SLOW RELEASE
- NATIVE VEGETATION PLANTINGS & NATURALLY RECHANNELING FROM LINEAR RACEWAY.
- MAINTENANCE: TRASH, SEDIMENT, WATCH INVASIVES, MOW GRASS – NOT WOODY PLANTS!



CATchment student clean-up!

Alumni Drive stream restoration



WRAP UP

- **WHO? WE HELP ENSURE SAFETY & COMPLIANCE TO PROTECT USERS AND ENVIRONMENT**
- **WHAT? AIR QUALITY, WATER QUALITY, HAZARDOUS WASTE(S)**
- **WHERE? STORMWATER POLLUTION, SANITARY, DRINKING WATER, GROUNDWATER PROTECTION**
- **WHY? WHAT YOU DUMP IS WHAT WE END UP USING LATER**
- **HOW? IMPLEMENT PRACTICES TO MEET GROWING DEMAND & MAINTAIN HIGH STANDARDS**

QUESTIONS?

- Kevin Lewis, Water Quality Compliance Manager
  - kevin.lewis@uky.edu
- Nathan Weber, Water Quality Compliance Specialist
  - nathan.weber@uky.edu

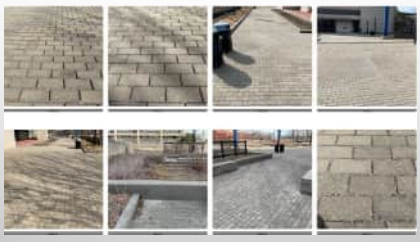


THANK YOU!

GARRIGUS PLAZA – GREEN ROOF 3/4/2025



GARRIGUS PLAZA – PERVIOUS PAVERS 3/4/2025



COOPER HOUSE PERVIOUS PAVERS 3/4/2025



CATCHMENT WETLAND/GLUCK RAIN GARDEN 3/4/2025



GLUCK DETENTION BASIN SOUTH 3/4/2025



UK Environmental Quality Management Lab

AGENDA:
1:00-1:20 pm: Students conduct a short informal mid-semester feedback session.
1:20-1:50 pm: Introductory presentation and lab overview
Restroom break
2:00-3:00 pm: Student groups complete independent field inspections.
Restroom break
3:10-3:30 pm: Post-inspection review and discussion.

BMP LOCATIONS (1-6)

1. Garrigus Plaza – Green Roof: 38.028260797448, -84.50855973823914

2. Garrigus Plaza – Pervious Pavers: 38.02828211714319, -84.50869844901052

3. Cooper House – Pervious Pavers: 38.02678014820992, -84.51056003409026

4. Gluck – Rain Garden: 38.025496789506164, -84.50960604015188

5. Gluck – Detention: 38.02492009247587, -84.50989811786143

Can use Google Maps to enter in the above coordinates **or** use the below QR code to search for the BMP names (e.g., Garrigus Plaza Green Roof).

STUDENT GROUPS for BMP Inspections

Group #1
Student names: Abbi, Luke, Rickie, Lilah

Group # 2
Student names: Delaney, Sarah, Cameron, Brianna

Group # 3
Student names: Annie, Jeremy, Rachel, Emmerson

Group #4
Student names: Ellen, Dylan, Joey, Mia

Group #5
Student names: Connor, Jason, Olivia, New Year





APPENDIX C-1

Illicit Discharge and Stormwater Complaint Reports

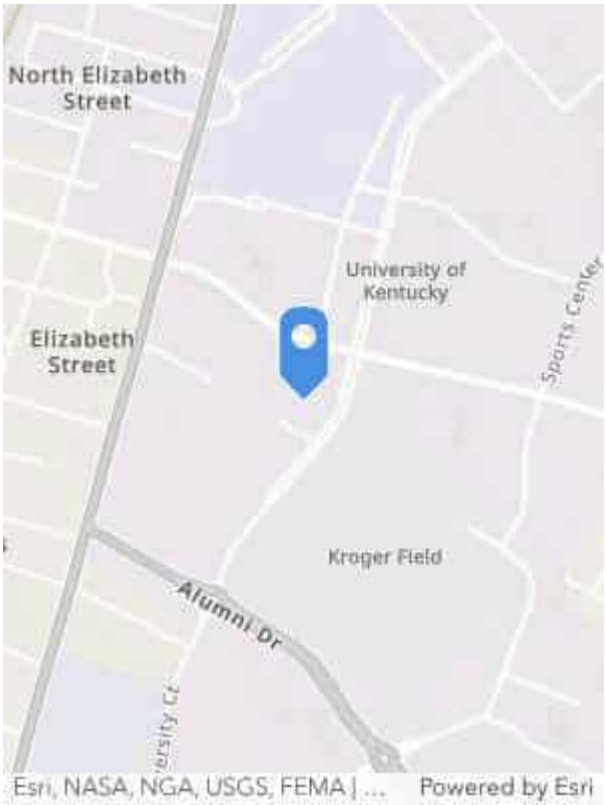
EQM Illicit Discharge Report

Reported Issue

Reported Description	Reported by Charlie Hamm: Grey slurry flowing from & outside of construction area near Tobacco & Health building potentially discharging to storm drain. The slurry flowed towards storm drain on South side of building.
Date and Time Observed	January 23, 2025 9:54 AM
Location Description	Slurry discharge flowing from the perimeter of the Ag Research 1/Greenhouse construction area along the South side of Tobacco & Health building.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Construction slurry flowing toward storm drain.
Investigation Findings	EQM investigated 1/22/25. Observed grey slurry flowed from excavator towards LFUCG storm drain. Existing drain BMP not properly installed; slurry potentially entered drain. Construction piping appeared to impede bulk of slurry from drain.
Corrective Action	PM contacted. Wattles installed along site perimeter.

Photo

Location



EQM Illicit Discharge Report

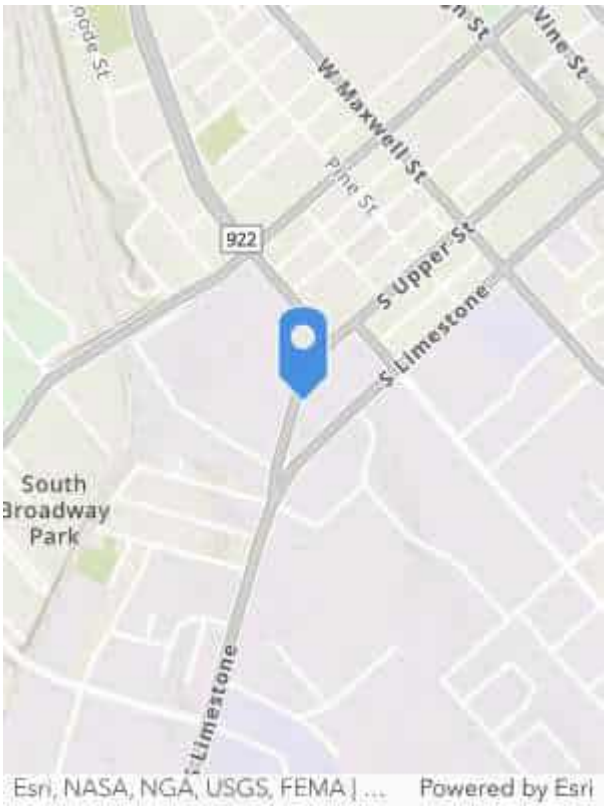
Reported Issue

Reported Description	Grounds washing vehicles outside of designated zone - patches of dirt and grit in areas along with significant pile of salt.
Date and Time Observed	January 24, 2025 4:51 PM
Location Description	At Peterson Garage parking lot near storm inlet BMP 1.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Improper vehicle/equipment washout near BMP inlet 1.
Investigation Findings	Area observed to have salt, grit, & debris remnants from vehicle/equipment wash out in an unapproved vehicle wash area. Washout tracked to BMP inlet 1 storm drain. Excess salt & residue also observed coming from adjacent dumpster.
Corrective Action	Grounds/Facilities contacted - staff reminded to utilize existing wash station & signage posted at wash station.

Photo



Location



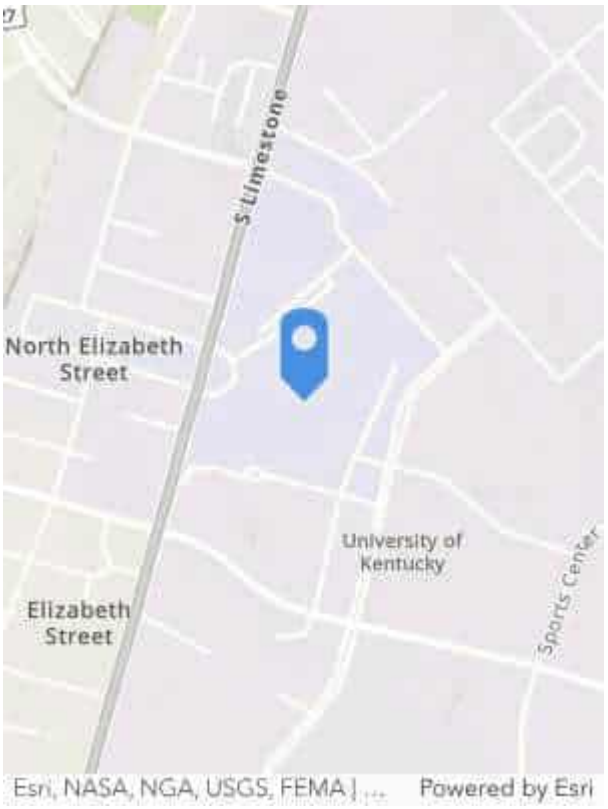
EQM Illicit Discharge Report

Reported Issue

Reported Description	Fire in Pav H open top dumpster over night - charred debris in the area needing clean up.
Date and Time Observed	February 24, 2025 10:45 AM
Location Description	Pav H dumpster area @ rear of Med Center
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Charred debris present at Lower Pav H Dock from dumpster fire
Investigation Findings	EQM notified of debris presence & contacted Med Center Facilities with reminder to prevent discharge to storm. Contractor hired to clean area with guidance to prevent discharge to storm.
Corrective Action	

Photo

Location



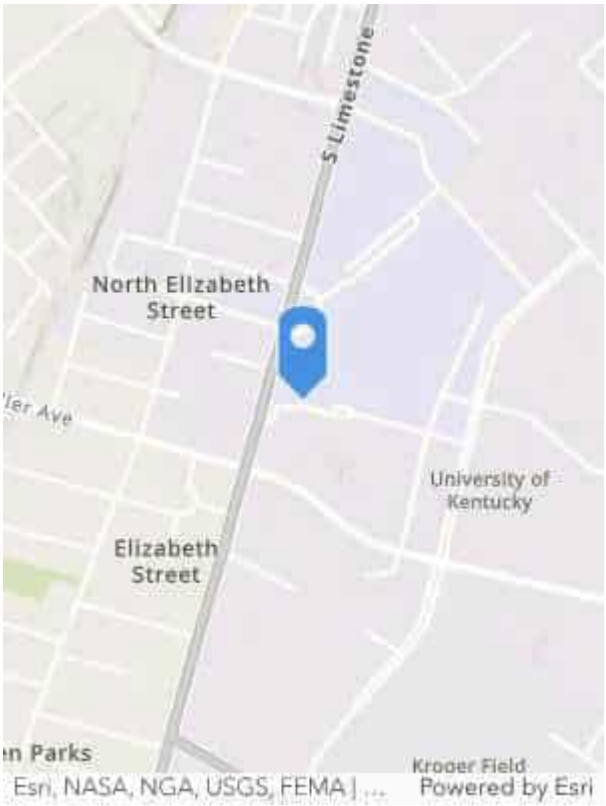
EQM Illicit Discharge Report

Reported Issue

Reported Description	The storm drains in the Pav-A main emergency ambulance parking are smelling pretty bad again and drifting up into ambulances and into the hospital.
Date and Time Observed	February 24, 2025 11:18 AM
Location Description	Pav-A Main Emergency Department Ambulance Parking Area
Confirmation	Declined - No Evidence of Discharge/Issue
Official Description	Odor in Emergency Department Ambulance Parking Area
Investigation Findings	Issue originally reported to UK Grounds via work order. Grounds forwarded to EQM. EQM investigated all storm drains in area on 2/25 @ 1100hrs. A sulfur odor was detected in the ambient air and heavy winds were present. No illicit discharge detected.
Corrective Action	

Photo

Location



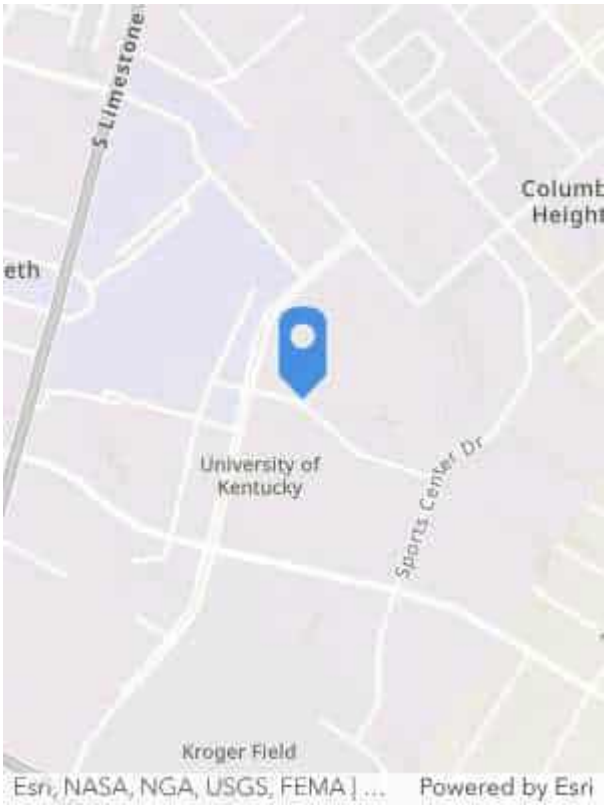
EQM Illicit Discharge Report

Reported Issue

Reported Description	Deficiencies associated with the construction entrance on Complex Drive related to the Kirwan-Blanding redevelopment site. Debris is being tracked on Complex Drive.
Date and Time Observed	February 24, 2025 12:18 PM
Location Description	Complex Drive adjacent to University Flats loading dock.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Tracking from construction site due to improperly installed construction entrance.
Investigation Findings	Tracking observed from site on multiple occasions.
Corrective Action	EQM contacted Project Manager. Contractor installed additional silt fence and eventually paved this portion of the entrance effectively moving the site entrance to an area surrounded by turf and off of the main road.

Photo

Location



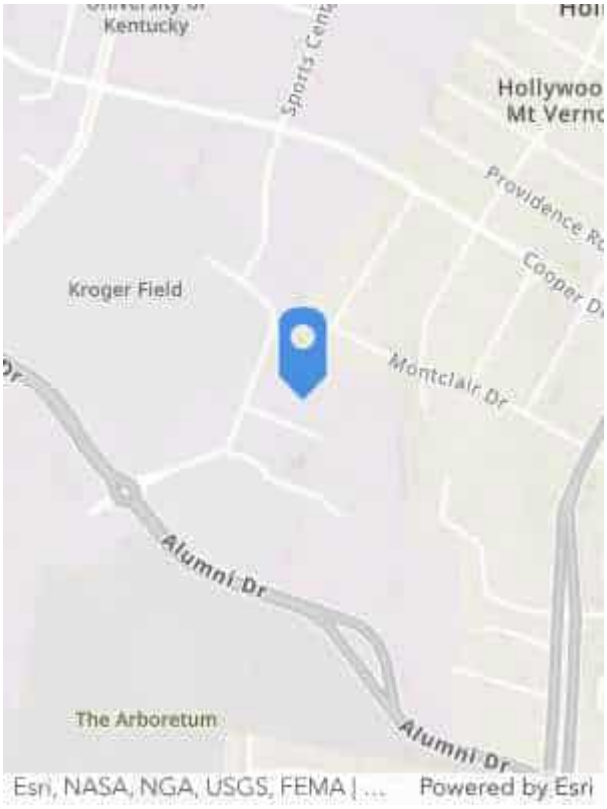
EQM Illicit Discharge Report

Reported Issue

Reported Description	Used motor oil leaking from large tote in covered storage area adjacent to salt pile in Grounds Greenhouse area.
Date and Time Observed	February 24, 2025 12:38 PM
Location Description	Covered storage shed adjacent to PPD storage Building (0278) in Grounds Greenhouse area.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Used oil leaking from storage tote, no secondary containment present.
Investigation Findings	Used oil tote (250 gallon) present in shed on concrete pad. Tote covered in oil from drips and spills when filling.
Corrective Action	EQM had tote removed and area cleaned. 55 gallon drum provided should additional used oil disposal be required.

Photo

Location



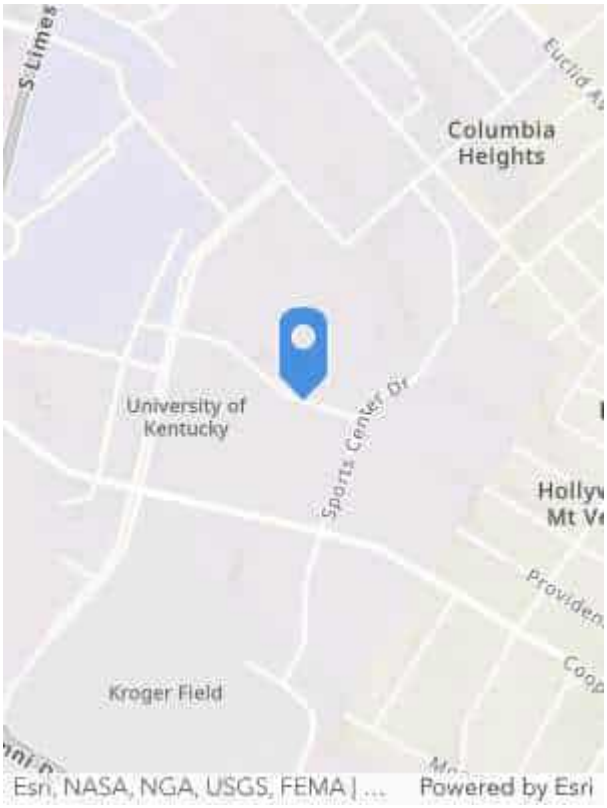
EQM Illicit Discharge Report

Reported Issue

Reported Description	Concrete washout on Complex Drive associated with sidewalk improvements.
Date and Time Observed	February 24, 2025 1:03 PM
Location Description	Down both sides of Complex Drive adjacent to PS7.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Concrete washout associated with sidewalk improvements.
Investigation Findings	Multiple sidewalk repairs on both sides of Complex Drive. Concrete washout taking place at curb adjacent to each location.
Corrective Action	EQM contacted project manager. Manager to address with contractor.

Photo

Location



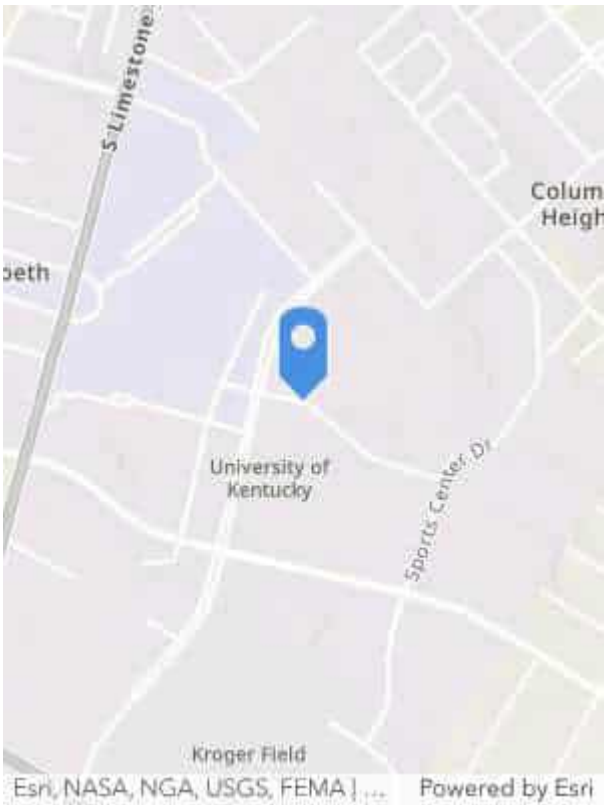
EQM Illicit Discharge Report

Reported Issue

Reported Description	Sediment washing down Complex Drive from Kirwan-Blanding construction site.
Date and Time Observed	February 24, 2025 2:23 PM
Location Description	Across from University Flats on Complex Drive near Lancaster Aquatics.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Sediment washing from construction site entrance.
Investigation Findings	Erosion taking place from either side of recently constructed sidewalk and paved construction entrance.
Corrective Action	EQM alerted construction site inspector. Contractor cleaned roadway, installed BMPs, and seeded/strawed area.

Photo

Location



EQM Illicit Discharge Report

Reported Issue

Reported Description	Diesel spill at Ag Motor Pool.
Date and Time Observed	February 24, 2025 2:44 PM
Location Description	Fuel pumps at Ag Motor Pool on College Way
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Small amount of diesel fuel present on concrete pad adjacent to fuel pumps.
Investigation Findings	Small puddle of fuel (<0.5 gallons) located adjacent to fuel pumps associated with overfill of vehicle tank.
Corrective Action	EQM on call personnel responded to fuel spill. Only small amount of fuel present. Stay Dry Absorbent was applied, swept up, and disposed of in municipal waste. See spill response report for more details.

Photo

Location



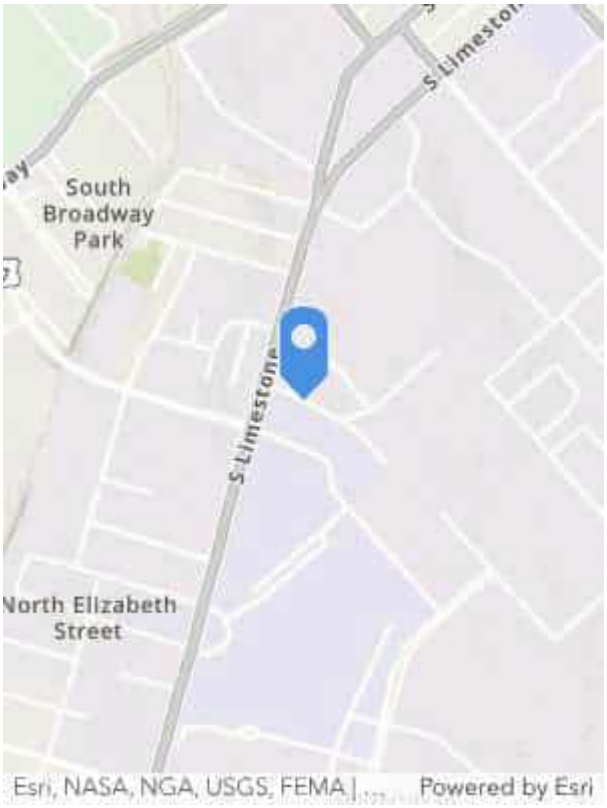
EQM Illicit Discharge Report

Reported Issue

Reported Description	Several storm drains adjacent to Scovell Hall being impacted by sediment and gravel from construction.
Date and Time Observed	February 24, 2025 3:14 PM
Location Description	Storm drains on Washington Ave. adjacent to Scovell Hall.
Confirmation	Invalid - Unrelated Issue
Official Description	
Investigation Findings	Duplicate Entry - Disregard
Corrective Action	

Photo

Location



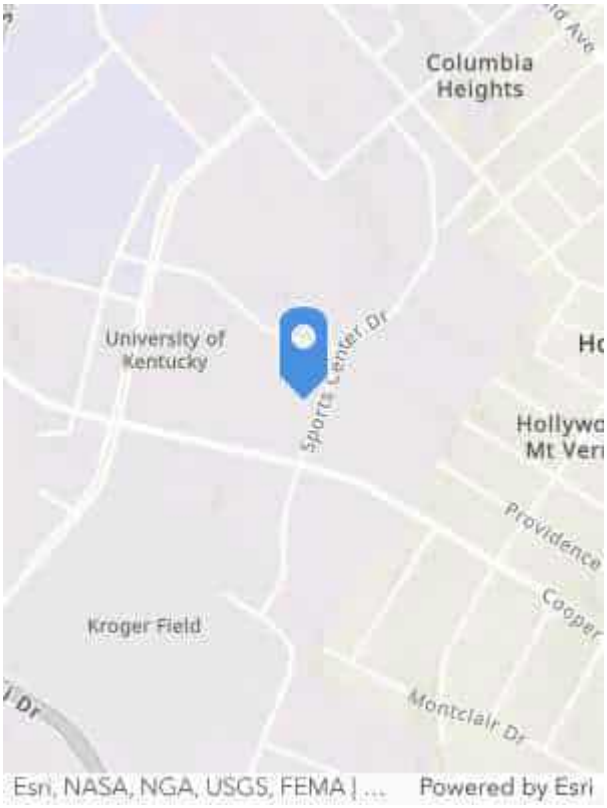
EQM Illicit Discharge Report

Reported Issue

Reported Description	Boone Tennis Center parking lot storm drain being impacted by debris from tennis court resurfacing project.
Date and Time Observed	February 24, 2025 3:26 PM
Location Description	Boone Tennis Center parking lot off of Sports Center Drive.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Gravel and debris entering storm drain adjacent to Tennis Courts.
Investigation Findings	Gravel and debris entering unprotected storm drain as a result of tennis court resurfacing project.
Corrective Action	PM contacted. Sediment bags added around storm drain. Gravel/debris swept and removed.

Photo

Location



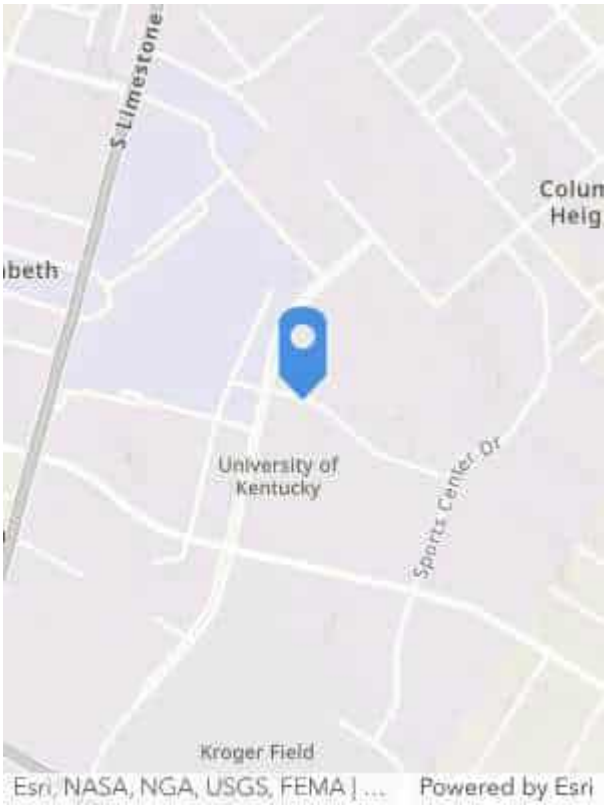
EQM Illicit Discharge Report

Reported Issue

Reported Description	Fire suppression project at Seaton Center/ Lancaster Aquatic - disturbed hillside with inadequate BMP's.
Date and Time Observed	February 24, 2025 3:50 PM
Location Description	Complex Drive in front of Lancaster Aquatic/Seaton Center near main entrance.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Inadequate BMP's installed on hillside associated with utility project.
Investigation Findings	Inadequate BMPs installed. Sediment traveling across sidewalk, grass area, and entering roadway. Majority of runoff is either entering utility trench or being captured by vehicle tires and debris in the roadway. No sediment observed entering storm drain.
Corrective Action	Contacted PM. Contractor mulched area with straw and installed straw wattles on both sides of sidewalk. Awaiting appropriate weather to install sod.

Photo

Location



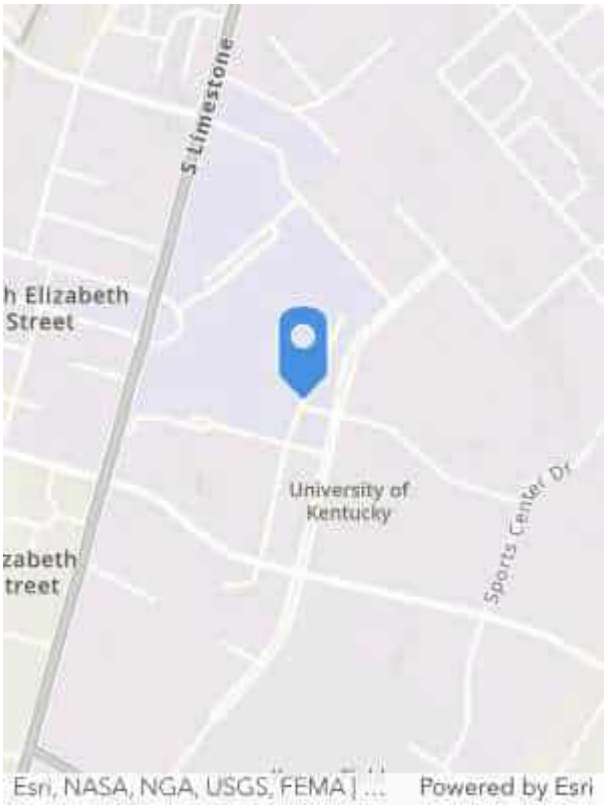
EQM Illicit Discharge Report

Reported Issue

Reported Description	Mud being tracked from HEB construction site.
Date and Time Observed	February 24, 2025 4:05 PM
Location Description	Veterans and Complex Drives in front of VA Hospital immediately below HEB construction entrance.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Mud tracking from HEB construction site entrance.
Investigation Findings	Mud tracking from construction site entrance. Contractor actively applying #2 stone.
Corrective Action	Contractor adding stone to construction entrance and advised to clean up Veterans and University Drives.

Photo

Location



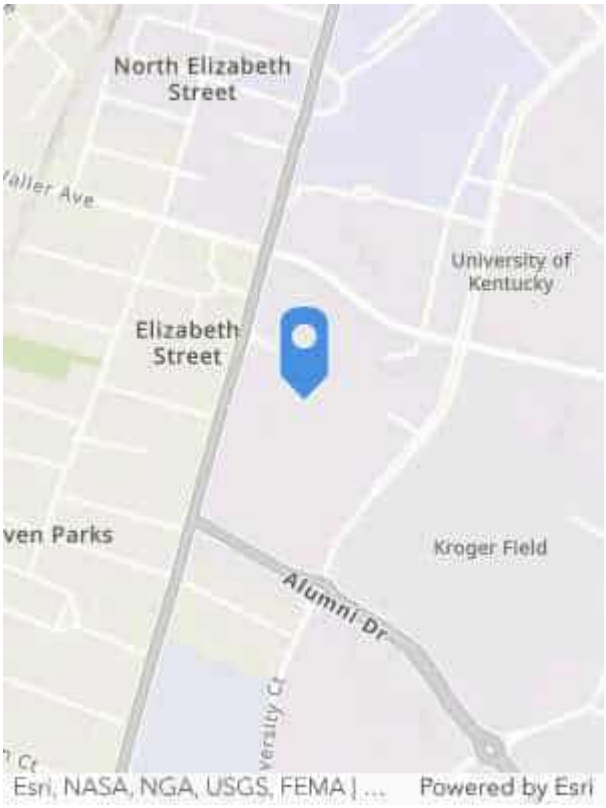
EQM Illicit Discharge Report

Reported Issue

Reported Description	Clear water dry weather flow draining to STWR 202342 in the grass between Gluck and Orange parking lots.
Date and Time Observed	March 5, 2025 11:30 AM
Location Description	Starting at south side of AG research construction area fence flowing west in grass toward storm drain #202342.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Dry weather clear water discharging to storm drain 202342 from construction site.
Investigation Findings	Observed clear water discharging from Ag Research construction site to storm drain 202342. Pooling water was present with sediment and organics/leaf litter on top of drain. Undetermined if BMP is in place. Construction manager notified to investigate.
Corrective Action	Could not confirm if flow was due to construction activity. Turner agreed to install BMP as a precaution.

Photo

Location



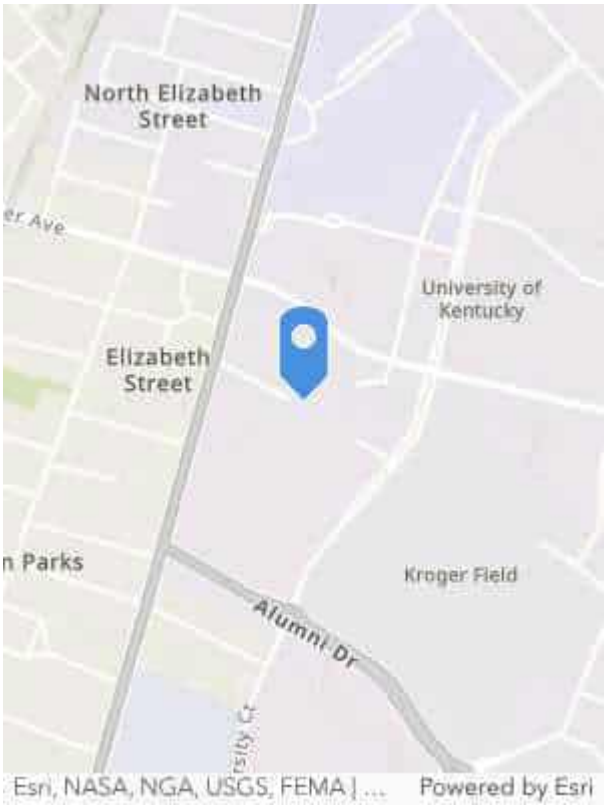
EQM Illicit Discharge Report

Reported Issue

Reported Description	Sediment (mud) observed within STWR 202191 and dried sediment into Gluck rain garden.
Date and Time Observed	March 5, 2025 11:47 AM
Location Description	Mud (1-3 in.) observed within drain effluent coming from construction site into Gluck rain garden.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Mud observed exiting storm drain entering rain garden.
Investigation Findings	1-3" mud observed within inlet structure and dried mud along exterior masonry entering rain garden. Construction manager notified to investigate.
Corrective Action	Source could not be confirmed.

Photo

Location



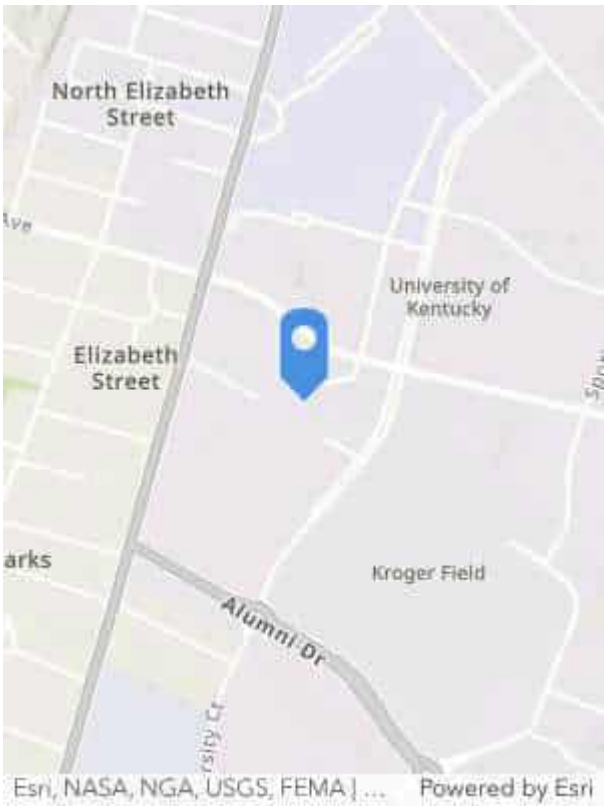
EQM Illicit Discharge Report

Reported Issue

Reported Description	UK EHS received a complaint on March 13th regarding dust from various campus construction sites
Date and Time Observed	March 13, 2025 8:00 AM
Location Description	AG research 1, PS7 expansion, and other unnamed construction sites.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Excessive dust coming from construction sites
Investigation Findings	OHS audits of several sites documented dust coming from construction activities which EQM determined these areas required dust mitigation under the SWPPP. Notified CMPD inspector to alert construction managers for adherence to SWPPP.
Corrective Action	

Photo

Location



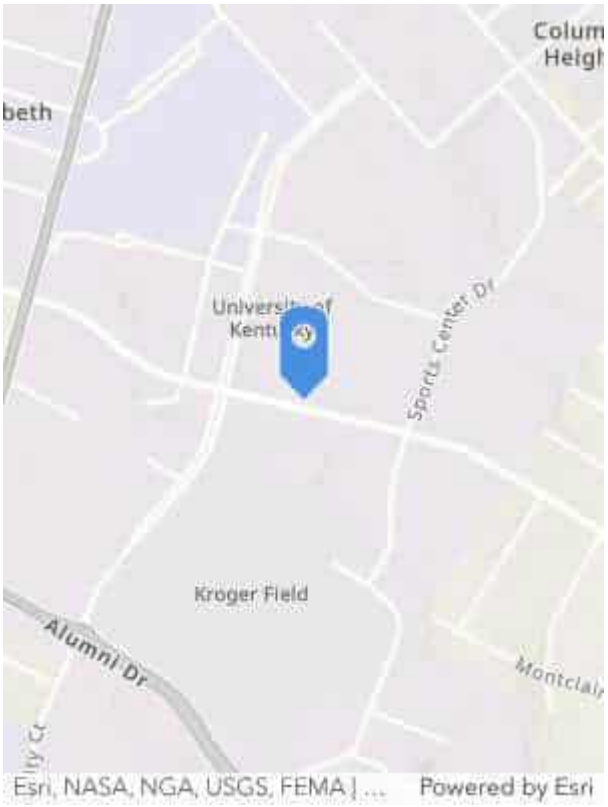
EQM Illicit Discharge Report

Reported Issue

Reported Description	Degrading conditions to construction entrance.
Date and Time Observed	March 24, 2025 7:51 AM
Location Description	Construction entrance at Cooper Drive and Pieratts Field side.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Exposed sediment & sediment tracking into roadway from construction entrance.
Investigation Findings	Rock sinking into soil from paved road leading to wheel wash system. Wheel tracks through exposed sediment, lose aggregate across sidewalk and lawn adjacent to entrance.
Corrective Action	CPMD inspector and construction manager notified of issue to be remedied. Update 9/15/25: construction entrance has been paved.

Photo

Location



EQM Illicit Discharge Report

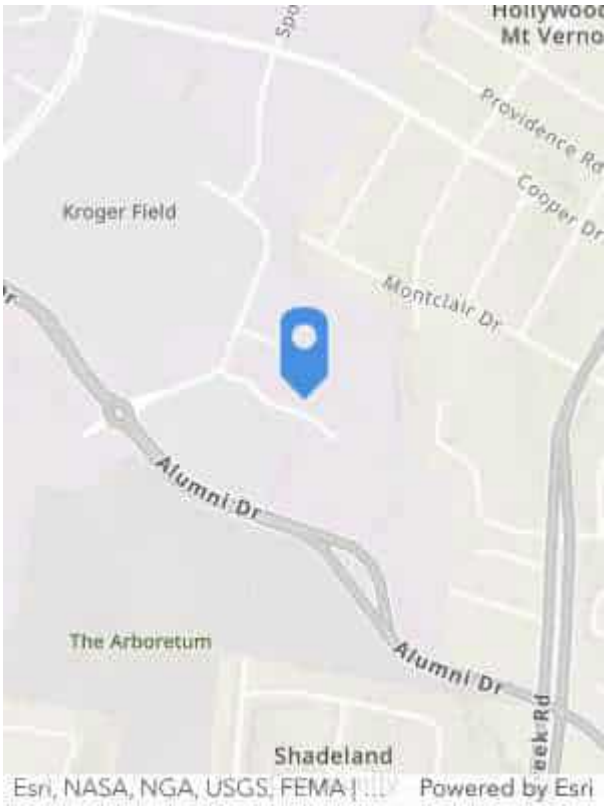
Reported Issue

Reported Description	sediment tracking onto paved road and migrating into bioswale
Date and Time Observed	March 31, 2025 10:18 AM
Location Description	Stadium View Dr. and Wildcat Ct.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	sediment entering bioswale
Investigation Findings	sediment piles without adequate BMPs migrated and filling in bioswale
Corrective Action	Grounds contracted EcoGro to remove sediment from bioswale. Athletics installed new waddles to 3 clay piles and later removed piles from Stadium View.

Photo



Location



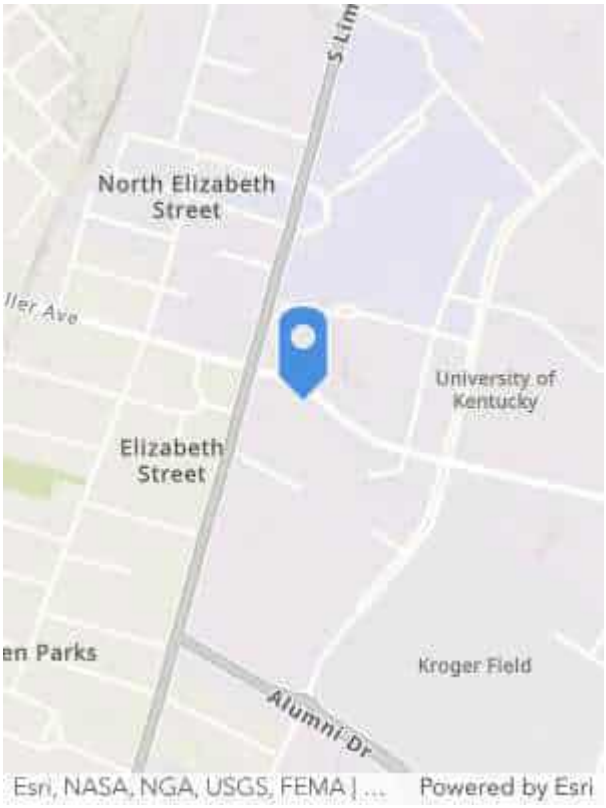
EQM Illicit Discharge Report

Reported Issue

Reported Description	Additional EPSC BMPs needed at/near construction entrance.
Date and Time Observed	April 15, 2025 3:55 PM
Location Description	Barnhart construction entrance from Cooper Dr.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Additional EPSC BMPs required near construction entrance
Investigation Findings	Observations included degrading conditions leading to potential sediment runoff from construction area.
Corrective Action	CMPD inspector notified of deficiencies, concerned forwarded to CM. CMPD Inspector to follow-up on corrective actions.

Photo

Location



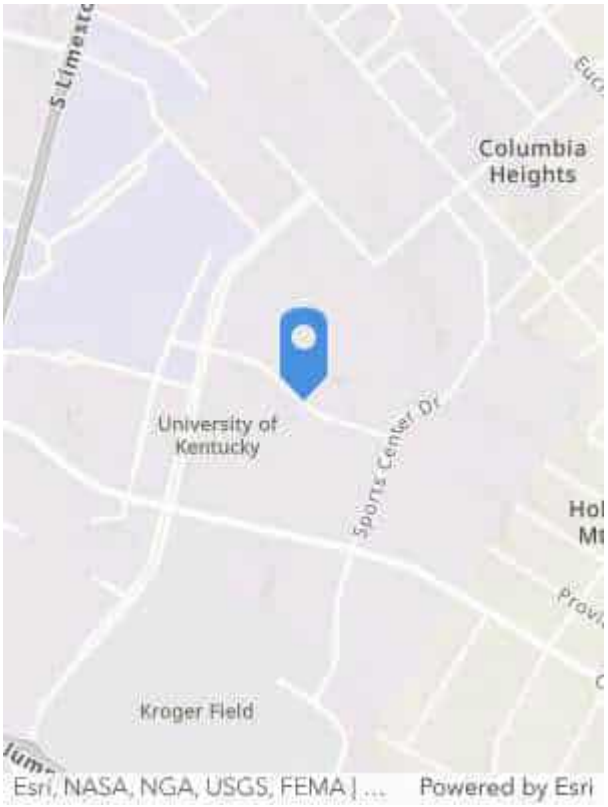
EQM Illicit Discharge Report

Reported Issue

Reported Description	Suspected concrete washout in roadway from PS7 construction site
Date and Time Observed	April 21, 2025 11:26 AM
Location Description	From PS7 construction site crossing North across Complex Dr towards STWR 1783.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Dewatering sediment spilling from PS7 construction site.
Investigation Findings	Dewatering slurry flowed across Complex Dr toward STWR 1783, but didn't enter storm system. Insufficent BMPs installed @ STWR 1783,1772, and unmarked drain.
Corrective Action	CM installed temporary silt screen atop inlet grate while more permanent BMP will be installed.

Photo

Location



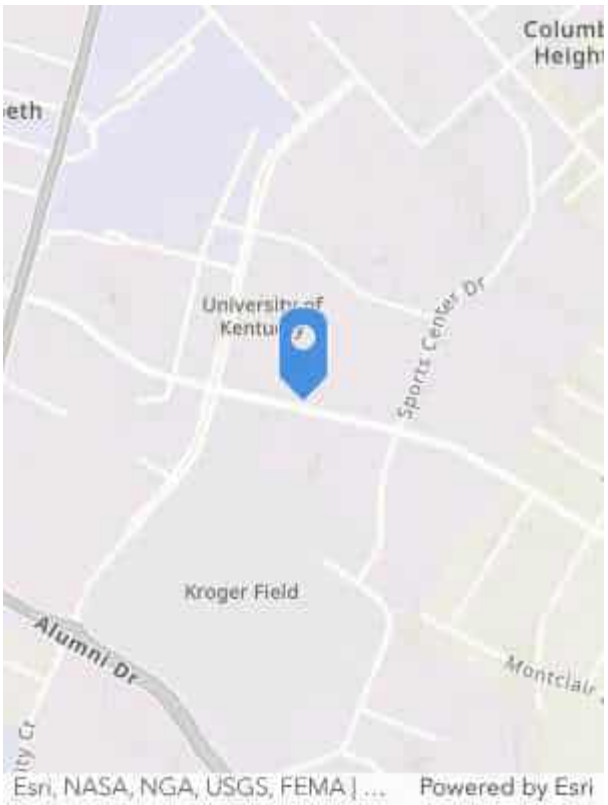
EQM Illicit Discharge Report

Reported Issue

Reported Description	Construction sediment tracking from PS7 entrance. Inadequate installation of construction entrance.
Date and Time Observed	April 21, 2025 11:30 AM
Location Description	Construction vehicles tracking sediment and gravel (#57) from PS7 Cooper Dr construction entrance.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Construction sediment tracking from PS7 Cooper Dr entrance.
Investigation Findings	Vehicle tracking sediment along Cooper Dr and bike lane. Inadequate installation of construction entrance-57s used instead of #2 and undersized pad leading to paved road. This is not the first observation at this location.
Corrective Action	4/21 KL sent email to CM specifying KEPSC construction entrance requirements; CM applied #2 to some but not all of entrance & setup a pressure washer w/o sediment basin. Not fully resolved. 9/15/25: entranced is now paved.

Photo

Location



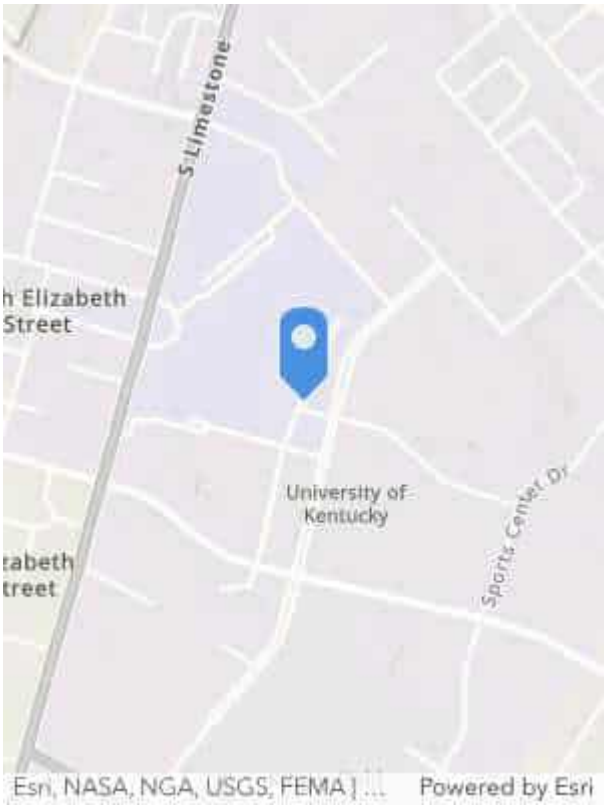
EQM Illicit Discharge Report

Reported Issue

Reported Description	Dry, fine grey sediment tracking along Veteran/University intersection continuing north and south along University Dr. Appears to be concrete slurry.
Date and Time Observed	April 23, 2025 1:00 PM
Location Description	From the parking lot adjacent to Medical Behavioral Science Bldg and VA hospital on Veteran's Dr. Streaking comes from the lot and east along Complex Dr. and then north and south along University Dr.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Rock slurry tracking from HEB project.
Investigation Findings	Rock slurry being transported for off site disposal leaked onto roadways along Complex Dr., University Dr. (north & southbound), Huguelet Dr., and Cooper Dr.
Corrective Action	CM stated tractor brooming will occur to remove as much material as possible. Prevention includes dewatering the pit through a filter bag. Period street sweeping during transport could have aided in clean up.

Photo

Location



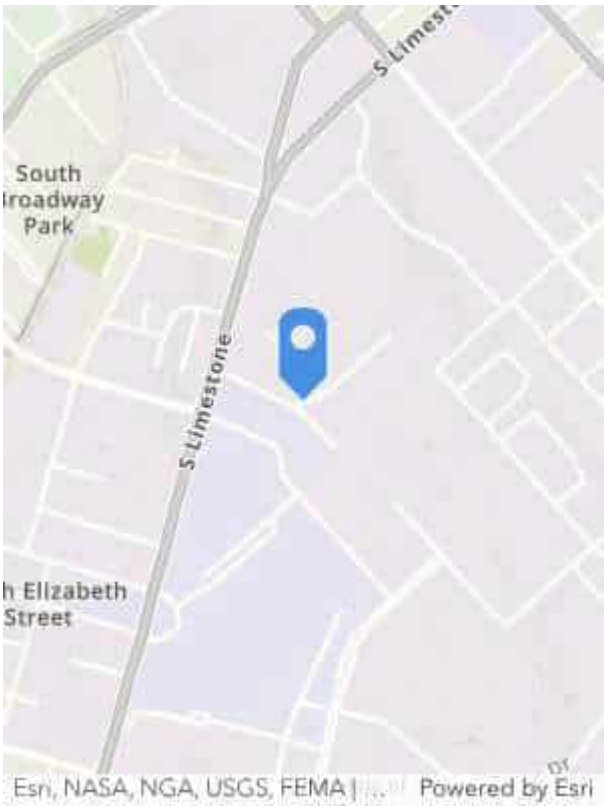
EQM Illicit Discharge Report

Reported Issue

Reported Description	Hydraulic oil leaking from a construction trailer along Library Drive towards Washington Ave and entered storm drain.
Date and Time Observed	May 1, 2025 1:48 PM
Location Description	Library Drive
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Leaked hydraulic oil entered storm drain.
Investigation Findings	Construction trailer's hydraulic fitting failed and spilled an estimated 10 gallons onto Library Dr which approximately 2 gallons entered the adjacent storm drain.
Corrective Action	EQM arrived to apply granular absorbent along paved road. Encon vacuumed affected storm drains and removed oily water. Encon was instructed by PM to clean oil stains occuring along Library Dr & Washington Ave.

Photo

Location



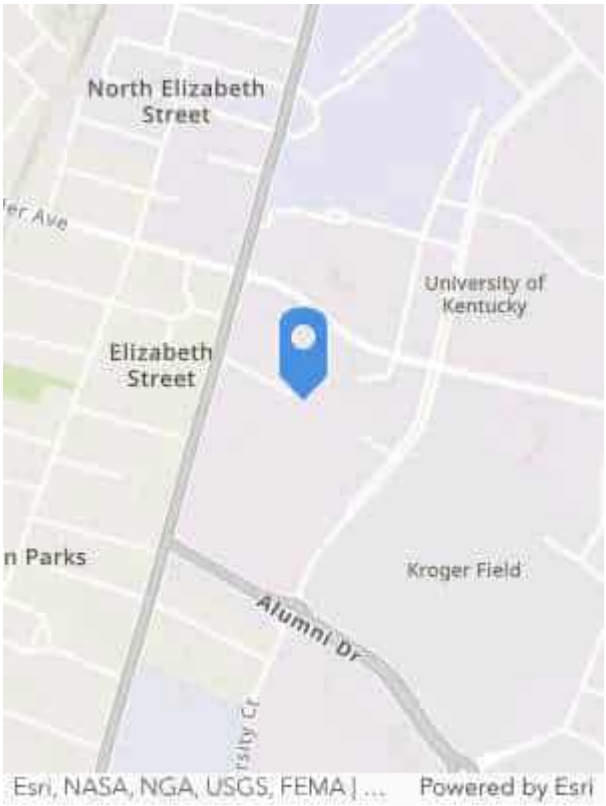
EQM Illicit Discharge Report

Reported Issue

Reported Description	Potential improper dewatering from Ag Research Construction Site near Farm Road Rain Garden.
Date and Time Observed	May 2, 2025 7:52 AM
Location Description	Ag Research 1 construction site adjacent to Farm Road Rain Garden.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Bell Field Report included photo of dewatering hose on exposed soil pointed towards rain garden
Investigation Findings	Information forwarded to CPMD inspector for follow-up. Site perimeter walk conducted by EQM. Multiple site deficiencies found. Meeting held on 5/6/25 with Construction Manager, Project Manager, EQM, and CPMD Inspector.
Corrective Action	Information forwarded to CPMD inspector for follow-up. Site perimeter walk conducted by EQM. Multiple site deficiencies found. Meeting held on 5/6/25 with Construction Manager, Project Manager, EQM, and CPMD Inspector.

Photo

Location



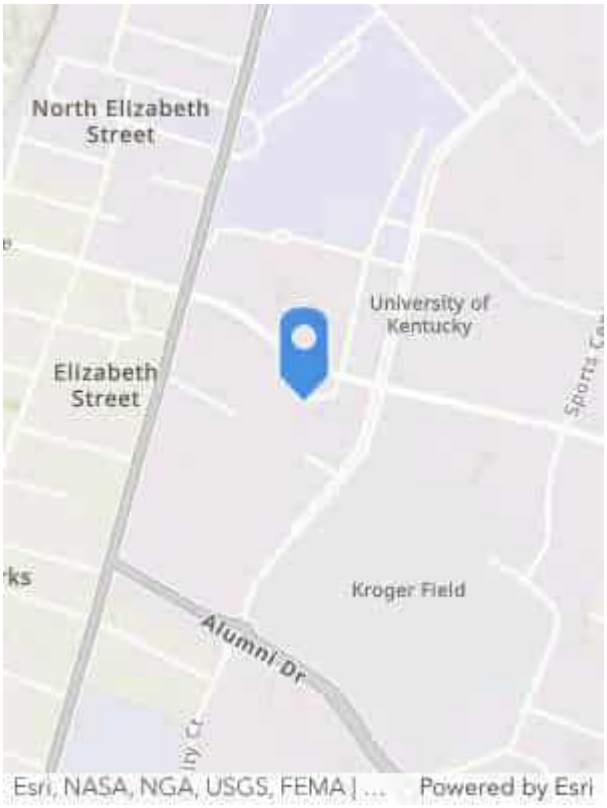
EQM Illicit Discharge Report

Reported Issue

Reported Description	concrete slurry tracking toward storm drain
Date and Time Observed	May 5, 2025 10:37 AM
Location Description	North end of Ag Research 1 construction entrance along Veteran's Drive migrating toward Tobacco Research loading dock.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Concrete wash tracking onto paved road
Investigation Findings	Concrete wash tracked from construction entrance toward storm drain, no BMPs installed.
Corrective Action	

Photo

Location



EQM Illicit Discharge Report

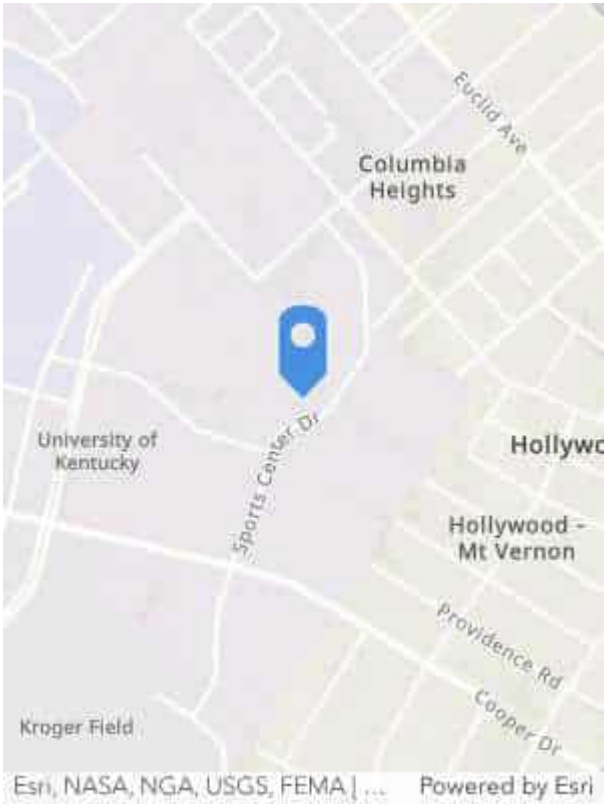
Reported Issue

Reported Description	Paint spill near entrance of student dorm.
Date and Time Observed	May 9, 2025 7:58 AM
Location Description	Near front entrance of Woodland Glenn IV.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Paint spill near dorm entrance.
Investigation Findings	Paint delivery truck spilled 3 gallons of latex paint near Woodland Glenn IV entrance.
Corrective Action	EQM applied stay-dri absorbent to paint and shoveled much of the spill. Paint company will return 5/12 to pressure wash residual paint into grass area south of entrance. No impacts to storm sewer anticipated but company made aware of nearby drains.

Photo



Location



EQM Illicit Discharge Report

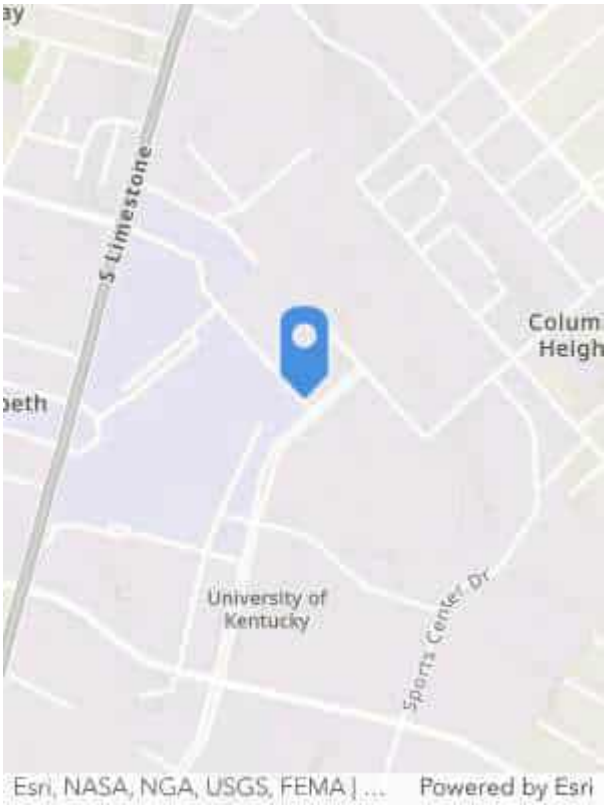
Reported Issue

Reported Description	Spill along Huguelet Dr with chemical odor
Date and Time Observed	May 13, 2025 11:45 AM
Location Description	Corner of Huguelet and University. Fluid continues down Huguelet towards Limestone.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Hydraulic leak from concrete truck.
Investigation Findings	Hydraulic fluid leaked from concrete truck leaving Health Edu Bldg Gate 7. No immediate impact to storm sewer was observed, oil was absorbed into pavement.
Corrective Action	Turner CM contacted to coordinate with UK PM regarding clean up effort and prevent discharge to storm sewer.

Photo



Location



EQM Illicit Discharge Report

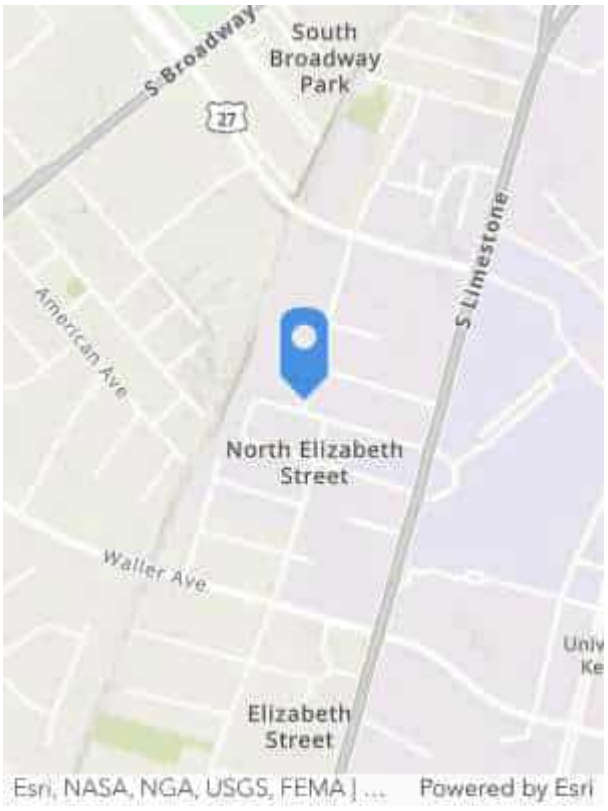
Reported Issue

Reported Description	sediment tracking onto paved road from construction site
Date and Time Observed	May 30, 2025 10:48 AM
Location Description	Press Ave , Transcript Ave and Journal Avenue
Confirmation	Confirmed - Discharge/Issue Present
Official Description	sediment tracking from construction entrances
Investigation Findings	During heavy rainfall, sediment tracked from construction entrances onto paved roads to unprotected storm drains
Corrective Action	Maintain required entrance specifications and sweep area when sediment leaves site. Install BMPs per SWPP as well as protect drains outside of site.

Photo



Location



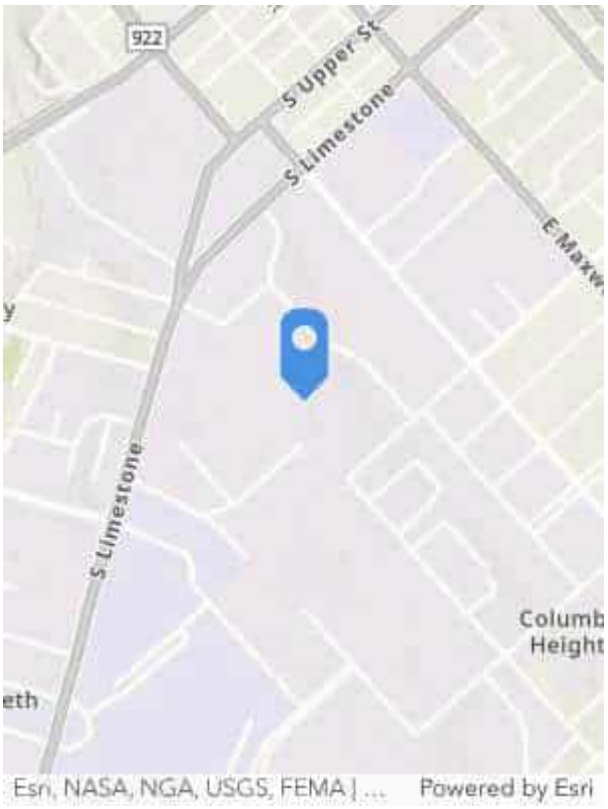
EQM Illicit Discharge Report

Reported Issue

Reported Description	Hydraulic spill from Grounds scissor lift
Date and Time Observed	June 4, 2025 3:00 PM
Location Description	Along sidewalk near West side of M. I. King
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Hydraulic spill
Investigation Findings	UK high-lift hydraulic line spilled oil onto sidewalk. Grounds immediately responded to control leak and apply absorbent. No impact to storm.
Corrective Action	Grounds applied absorbent mats to control and dry absorbent to remove oil.

Photo

Location



EQM Illicit Discharge Report

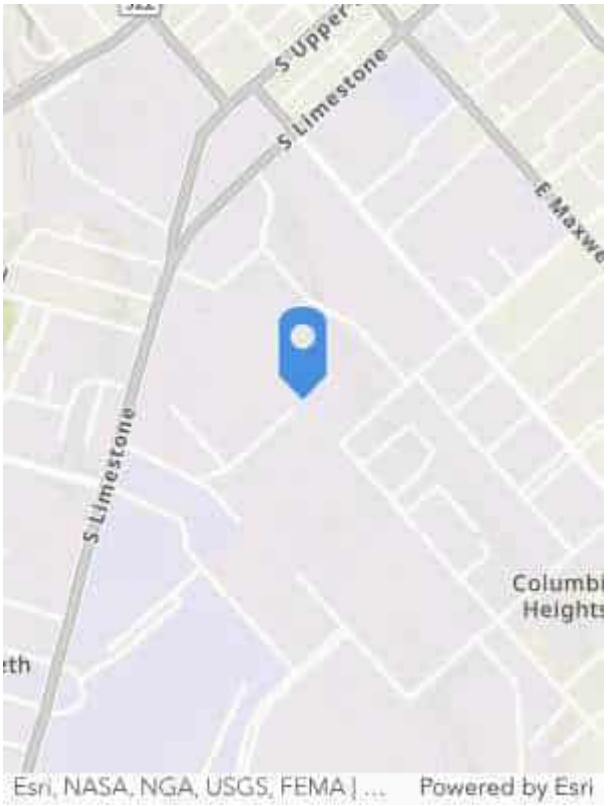
Reported Issue

Reported Description	Dry, fine sediment discharging outside Pence Hall construction fencing.
Date and Time Observed	June 4, 2025 3:15 PM
Location Description	NW corner of construction area near Pence Hall along sidewalk leading to Maxwell Place.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Sediment discharging from construction site
Investigation Findings	Fine sediment possibly ffrom sidewalk washing spilled outside of site along sidewalks. No BMPs installed. Crew was applying sealant to sidewalk within site upon visit.
Corrective Action	CM contacted. Sediment needs to be removed and BMPs installed to control sediment. No impact to Storm.

Photo



Location



EQM Illicit Discharge Report

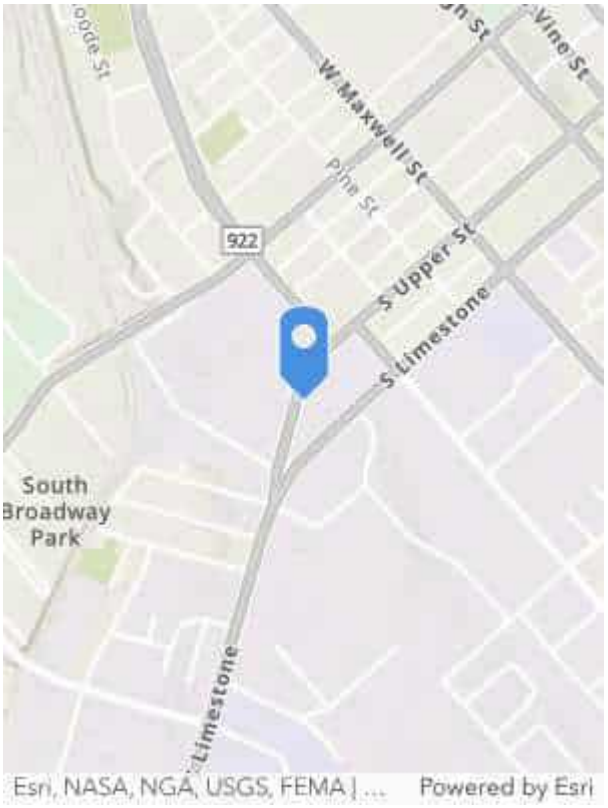
Reported Issue

Reported Description	open top construction dumpster leaking fluid entering storm drain
Date and Time Observed	June 10, 2025 11:33 AM
Location Description	Peterson Garage lot next to CHP 2
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Fluid leaking from dumpster
Investigation Findings	Fluid leaking from open top roll off dumpster containing coal-fire boiler equipment. Inlet device filter was not installed at time of observation.
Corrective Action	

Photo



Location



EQM Illicit Discharge Report

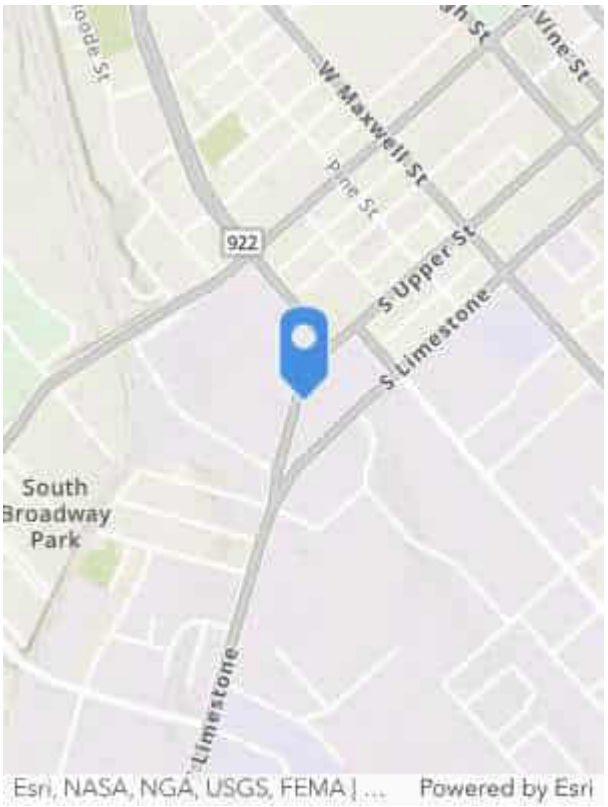
Reported Issue

Reported Description	Fluid coming from underneath dumpster migrating to storm drain.
Date and Time Observed	June 10, 2025 12:36 PM
Location Description	Peterson Garage lot
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Fluid leaking from dumpster.
Investigation Findings	Fluid was leaking from open top roll-off dumpster containing deconstructed coal-fire boiler equipment., migrating to storm drain. The inlet device filter was not installed at time of inspection. A second dumpster was further up the lot, no liquid det.
Corrective Action	The inlet filter device should be installed as required by the post-construction BMP O&M plan. The dumpster needs to be lined and cover placed at end of each day.

Photo



Location



EQM Illicit Discharge Report

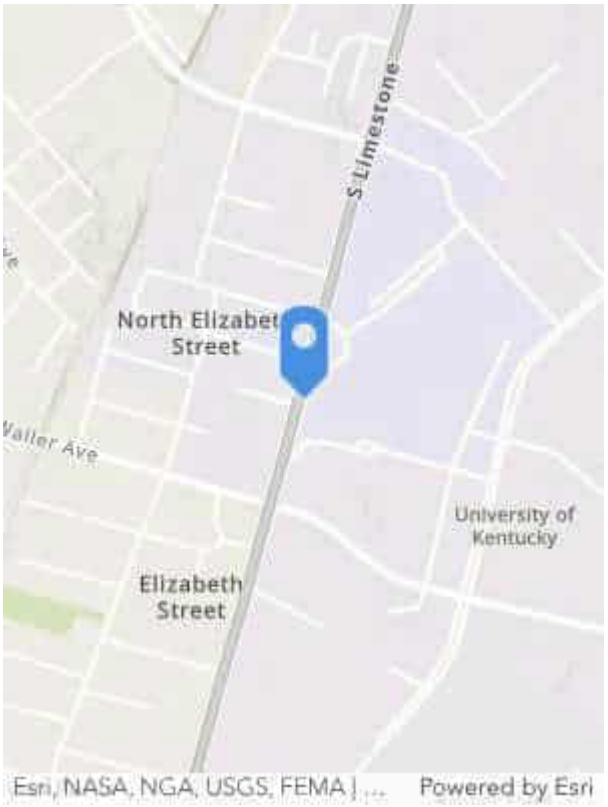
Reported Issue

Reported Description	Slurry discharge from drilling site on sidewalk adjacent to Chandler Hospital.
Date and Time Observed	June 11, 2025 12:00 PM
Location Description	Along S. Limestone Dr sidewalk and onto road entering into stormdrain on corner of Limestone and Patient Care Facility drive.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Slurry discharge from drilling site into stormdrain.
Investigation Findings	Sediment slurry discharged from drilling site near Chandler Hospital onto sidewalk and S. Limestone Dr flowed into storm drain at corner of S Limestone and Patient Care Facility. Inadequate BMPs installed.
Corrective Action	PM contacted; contractor cleaned sidewalk and installed silt fence around site.

Photo



Location



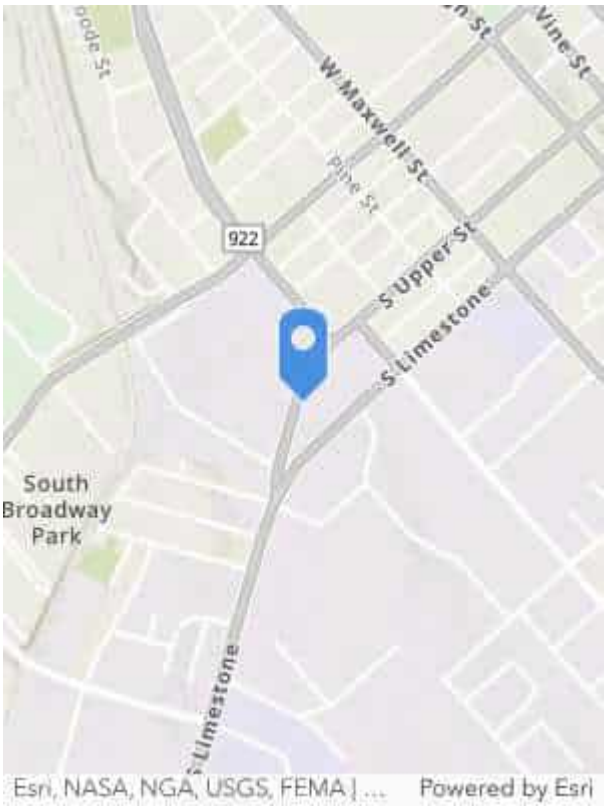
EQM Illicit Discharge Report

Reported Issue

Reported Description	Hydraulic spill from contractor trailer leaving PPD Garage
Date and Time Observed	June 11, 2025 11:00 PM
Location Description	Near Peterson Inlet Device 2 @ PPD Garage streaking to first stoplight on S. Upper St.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Hydraulic line leaked oil onto pavement.
Investigation Findings	A hydraulic line from dumpster trailer leaked oil onto pavement.
Corrective Action	Grounds staff applied dry absorbent to affected areas. EQM investigated potential impact to storm which determined no impact. PM will coordinate clean-up effort w/ contractor.

Photo

Location



EQM Illicit Discharge Report

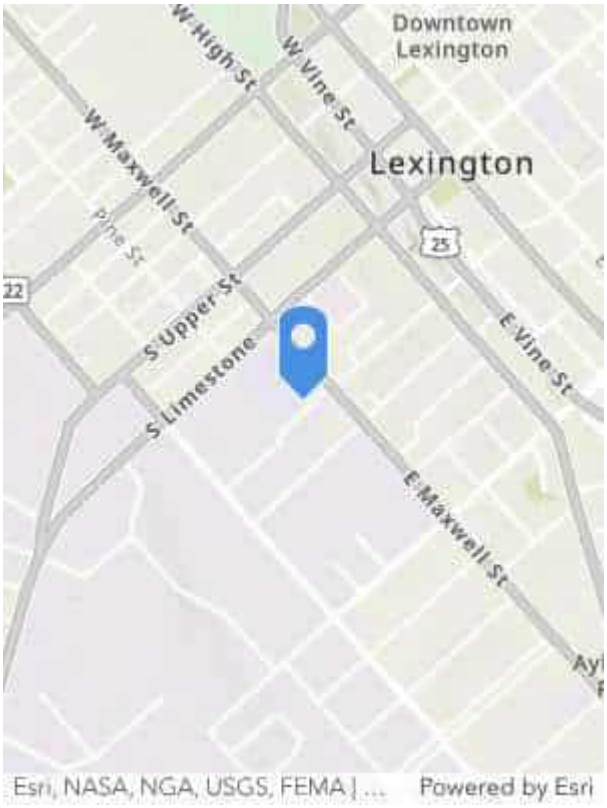
Reported Issue

Reported Description	deicing agents and salt bags stored without adequate cover
Date and Time Observed	June 16, 2025 9:43 AM
Location Description	Good Samaritan hospital - next to AST on S MLK Blvd
Confirmation	Confirmed - Discharge/Issue Present
Official Description	water softener agents stored outside and without cover
Investigation Findings	Observed salt bags and liquid-filled barrels stored atop grating (no secondary containment) and without cover.
Corrective Action	Contacted Good Sam staff on 6/16 to relocate agents to indoor storage.

Photo



Location



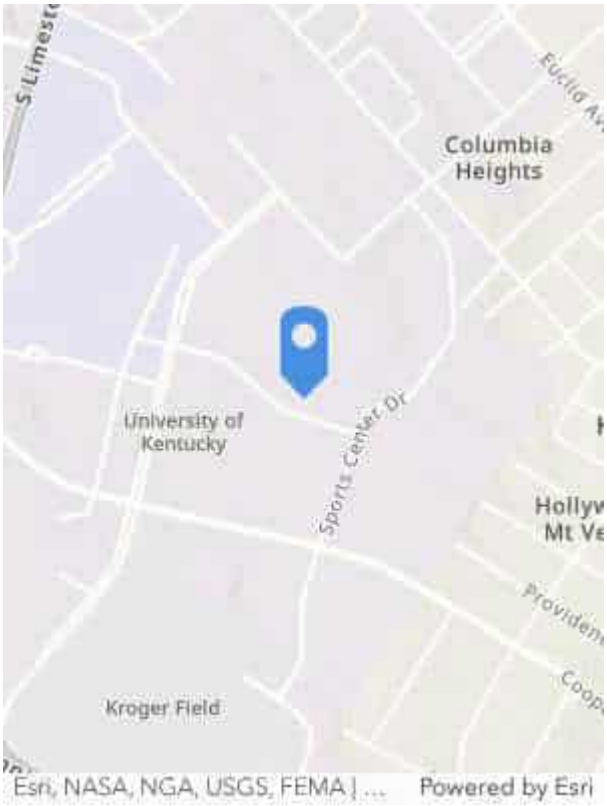
EQM Illicit Discharge Report

Reported Issue

Reported Description	Mud being tracked onto sidewalk from dumpster pad construction.
Date and Time Observed	June 17, 2025 8:34 AM
Location Description	Complex Drive adjacent to PS7.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Dumpster pad associated with new dorm on Kirwan-Blanding site being installed without proper BMP's in place.
Investigation Findings	Observations documented related to insufficient BMPs installed per SWPPP.
Corrective Action	CPMD inspector contacted. Concerns forwarded to CM. BMPs to be installed per SWPPP.

Photo

Location



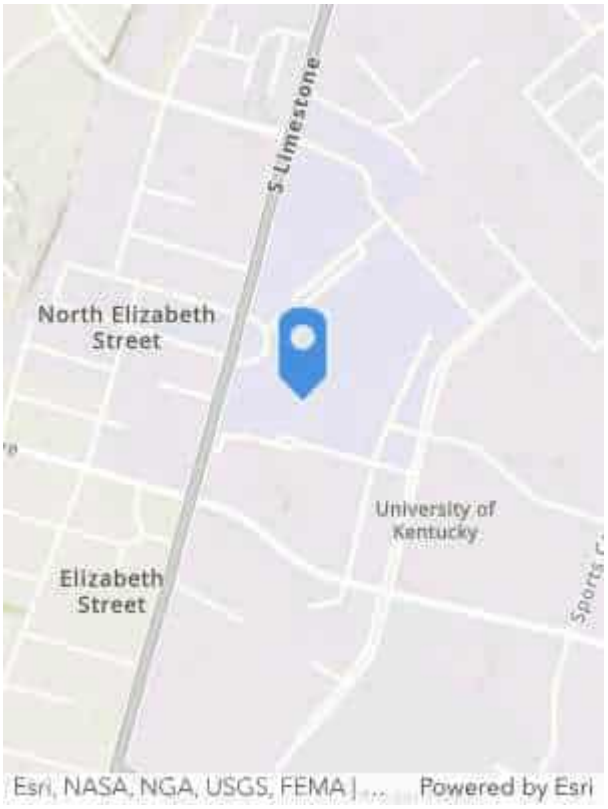
EQM Illicit Discharge Report

Reported Issue

Reported Description	Metal, trash, and undisclosed liquids being stored outside with rust storing to go towards storm drain.
Date and Time Observed	July 2, 2025 12:53 PM
Location Description	Miscellaneous trash and debris associated with Med Center Facilities repair projects being stockpiled adjacent to MCHC plant.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Miscellaneous trash and debris associated with Med Center Facilities repair projects being stockpiled adjacent to MCHC plant.
Investigation Findings	Observations of trash/debris being stored improperly potentially impacting stormwater.
Corrective Action	Contacted potential responsible parties. PRP ended up being UKHFM. Materials removed on 8/15.

Photo

Location



EQM Illicit Discharge Report

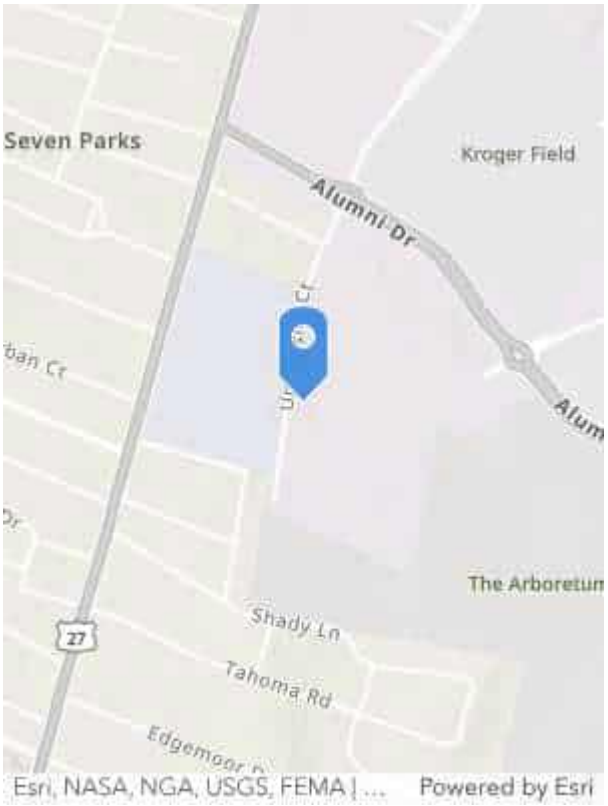
Reported Issue

Reported Description	Sanitary sewer blockage causing sewer backup and dishcarge to stormline.
Date and Time Observed	July 8, 2025 9:30 AM
Location Description	Shawneetown lot adjacent to Central Baptist. Sanitary discharge entered storm line flowing into Big Elm Creek.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Sanitary sewer overflow and discharge to storm.
Investigation Findings	A blockage was located in the 10 inch LFUCG sanitary sewer main. Manholes were backed up at Shawneetown & Baptist Hospital. Sanitary observed on surface directly upstream of the blockage & was discharged to the nearby creek that leads to Big Elm Fork.
Corrective Action	LFUCG reported the overflow to KDEP. Buchannan Contracting televised the sanitary and storm to determine which initial video footage documented – two small sanitary line separations. Buchanan 7/9: televise storm with larger camera to further document.

Photo



Location



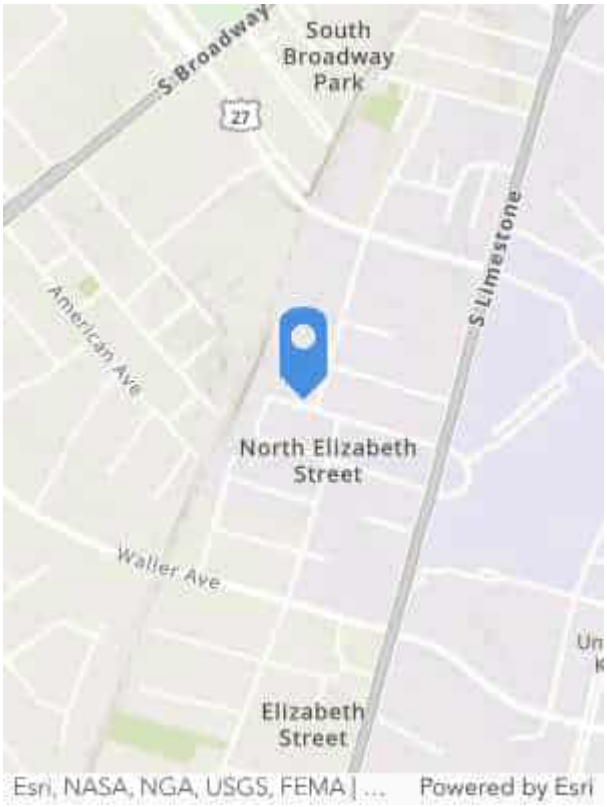
EQM Illicit Discharge Report

Reported Issue

Reported Description	Sediment tracking from construction site entrances onto roadways.
Date and Time Observed	July 11, 2025 8:00 AM
Location Description	EQMC construction site along Journal and Press Ave.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Multiple construction entrances poorly maintained with large amounts of sediment tracking onto roadways.
Investigation Findings	Observations included inadequate construction entrance BMPs allowed sediment to track from vehicles leaving site.
Corrective Action	Notification of deficiencies sent to CPMD stormwater inspector, Project Manager, and CM. CM forwarded notification to Earthwork Contractor for resolution.

Photo

Location



EQM Illicit Discharge Report

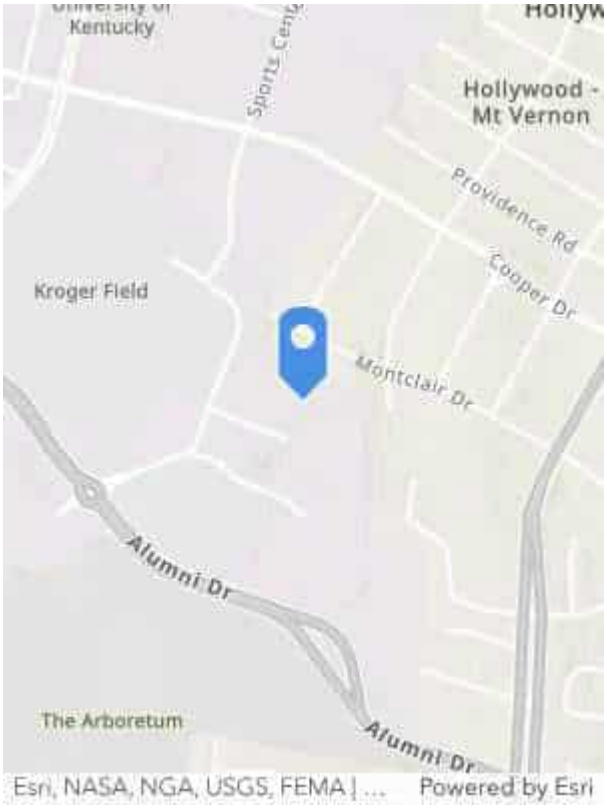
Reported Issue

Reported Description	hydraulic leak from tractor at PPD grounds greenhouse area
Date and Time Observed	July 11, 2025 9:00 AM
Location Description	PPD grounds on Stadium View
Confirmation	Confirmed - Discharge/Issue Present
Official Description	hydraulic leak
Investigation Findings	UK Grounds Manager reported hydraulic leak from tractor near PPD bulk compost/salt storage area
Corrective Action	Grounds dug and removed contaminated soil and disposed of in nearby dumpster.

Photo



Location



EQM Illicit Discharge Report

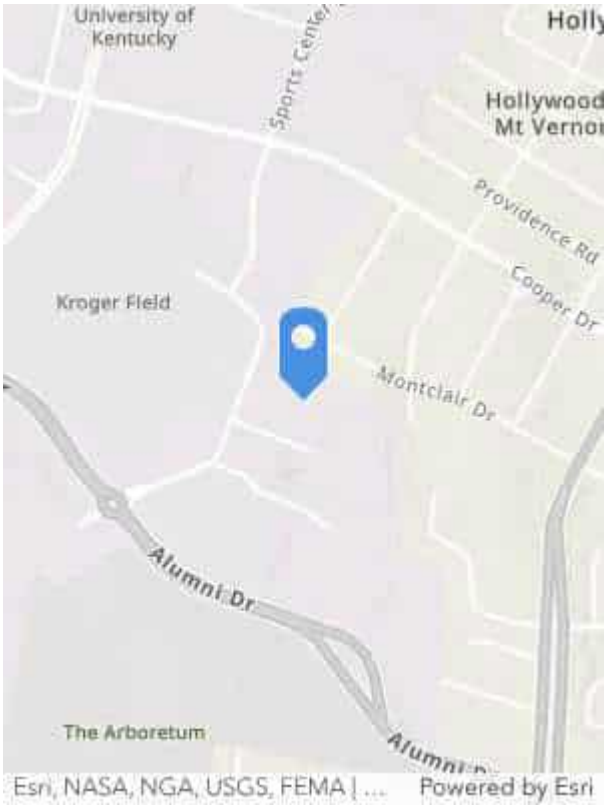
Reported Issue

Reported Description	hydraulic leak onto soil from UK Grounds tractor
Date and Time Observed	July 11, 2025 1:07 PM
Location Description	UK PPD Grounds compost area opposite bulk salt storage
Confirmation	Confirmed - Discharge/Issue Present
Official Description	hydraulic line leak
Investigation Findings	Grounds grapple attachment hydraulic line leaked and spilled onto soil.
Corrective Action	Grounds dug up and removed soiled area and disposed of in on-site dumpster.

Photo



Location



EQM Illicit Discharge Report

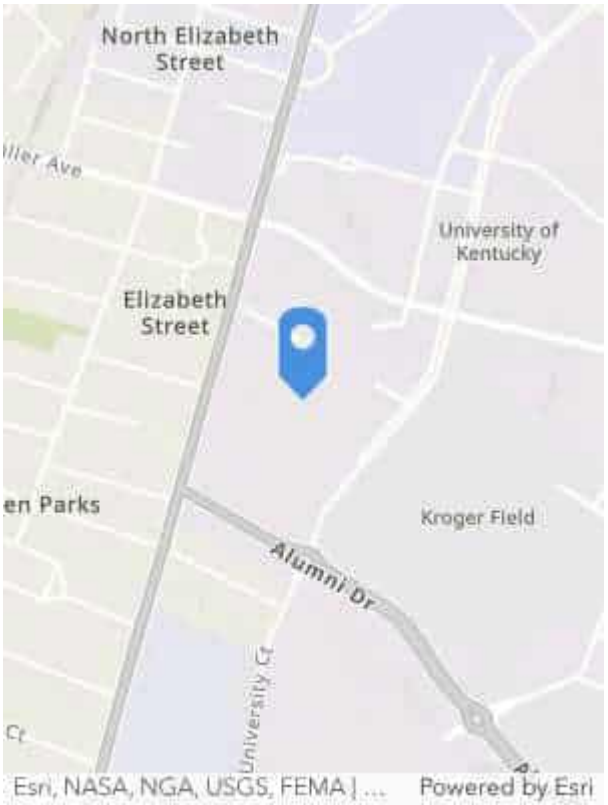
Reported Issue

Reported Description	automotive fluid leak onto Orange lot parking lot.
Date and Time Observed	July 15, 2025 8:00 AM
Location Description	Northwest Orange lot near Ag Research 1 construction entrance
Confirmation	Confirmed - Discharge/Issue Present
Official Description	hydraulic leak onto parking lot near construction entrance
Investigation Findings	PPD called in concrete truck leaked <5 gallons after wrecking into light pole. Construction staff applied absorbent pads & swept in granular absorbent. The soiled absorbent disposed offsite by construction company. UKPD contacted. No storm impacted.
Corrective Action	No further clean up necessary related to hydraulic oil.

Photo



Location



EQM Illicit Discharge Report

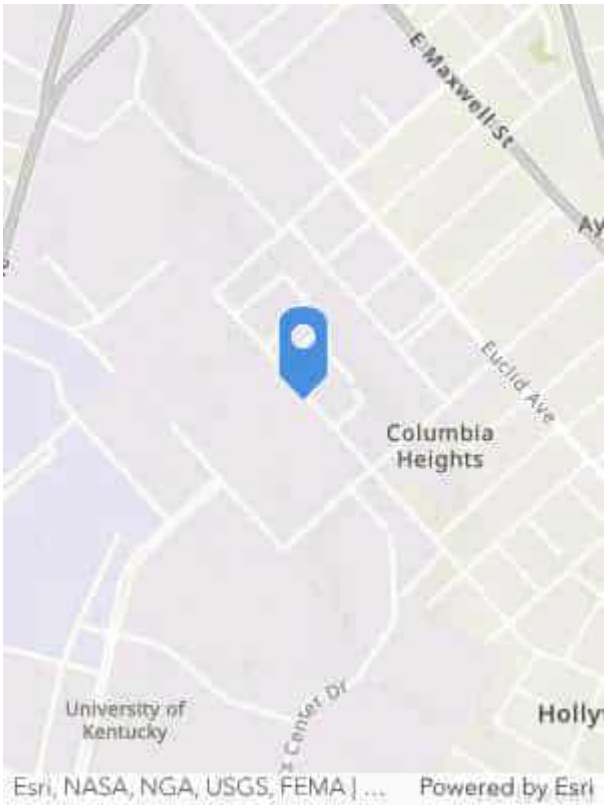
Reported Issue

Reported Description	spilled paint on roadway
Date and Time Observed	July 21, 2025 11:06 AM
Location Description	From the Library facilities service area along roadway to Columbia Ave.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	paint tracking in roadway
Investigation Findings	Dried paint was tracked from the Columbia Ave entrance to WT Young Library towards the library maintenance/service area. Empty paint cans of similar color were stored under cover within service area.
Corrective Action	PPD contacted.

Photo



Location



EQM Illicit Discharge Report

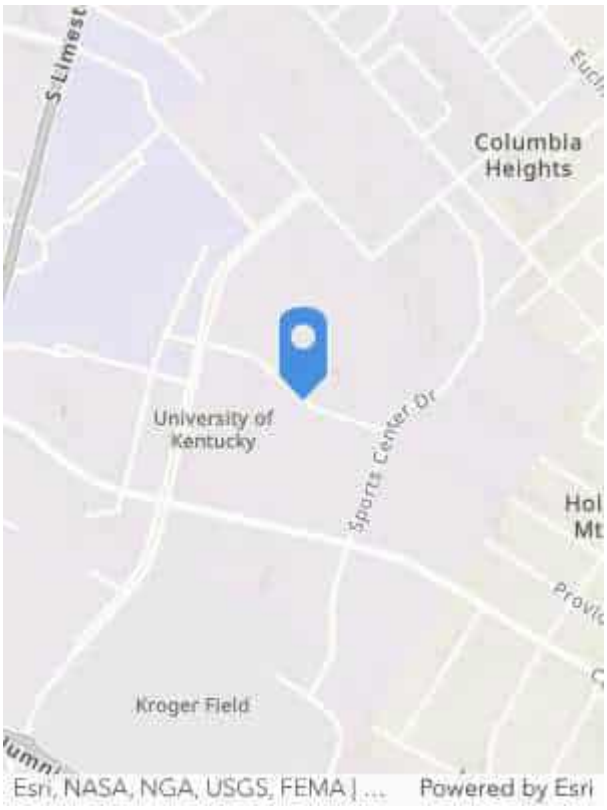
Reported Issue

Reported Description	minor offsite tracking from construction site
Date and Time Observed	July 22, 2025 1:15 PM
Location Description	PS7 Complex Drive construction entrance
Confirmation	Confirmed - Discharge/Issue Present
Official Description	inadequate construction entrance; minor sediment tracking onto paved roadway.
Investigation Findings	vehicle tracking from construction entrance on Complex Drive. Insufficient construction entrance installed
Corrective Action	PM & CM contacted; entrance needs #2 rock refreshed and sweeping continued to remove as vehicle tracking occurs. CM states other development will minimize this entrance's usage in a few weeks.

Photo



Location



EQM Illicit Discharge Report

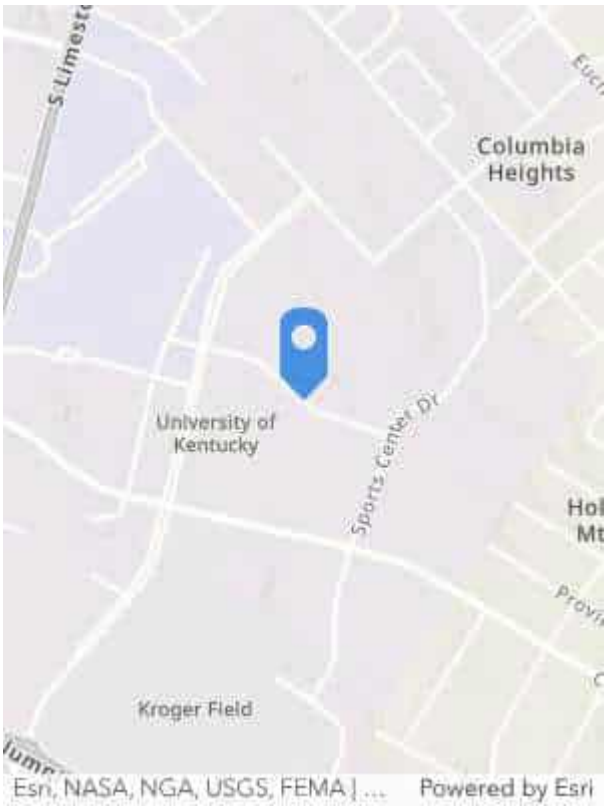
Reported Issue

Reported Description	Minor construction sediment tracking from entrance.
Date and Time Observed	July 22, 2025 1:15 PM
Location Description	PS7 Complex Drive construction entrance onto paved road.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Minor construction sediment tracking onto roadway.
Investigation Findings	Construction entrance has insufficient BMPs installed allowing tracking fine dust/sediment from site.
Corrective Action	PM & CM contacted; will refresh entrance with #2 rock and sweep up area as tracking occurs. CM states entrance will see less usage with development in the next couple of weeks.

Photo



Location



EQM Illicit Discharge Report

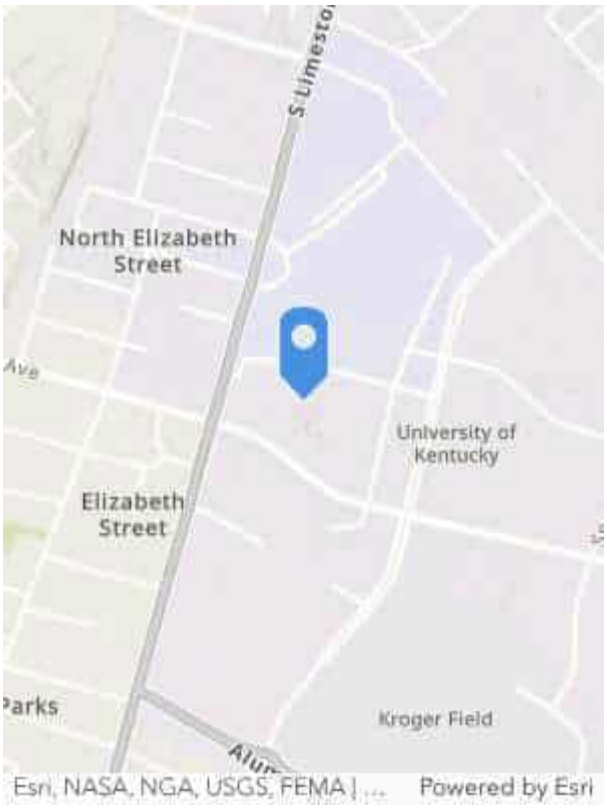
Reported Issue

Reported Description	hydraulic oil leaked from a compressed gas transport truck during delivery.
Date and Time Observed	July 22, 2025 1:22 PM
Location Description	Near the trench drain at loading dock streaking uphill at Garrigus loading dock.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	hydraulic leak from delivery truck lift gate
Investigation Findings	EQM reported & initially controlled spill. Hydraulic oil leaked from malfunctioned oil filter while engaging lift gate at loading dock near trench drain. Upon siting, driver parked atop drive & called their company for cleanup & maintenance services.
Corrective Action	EQM provided initial clean up, applied dry absorbent. Soiled organic litter was removed from site into dumpster. No impact to Storm. AWG was advised to carry oil absorbents to respond to future issues & call EQM for assistance if needed.

Photo



Location



EQM Illicit Discharge Report

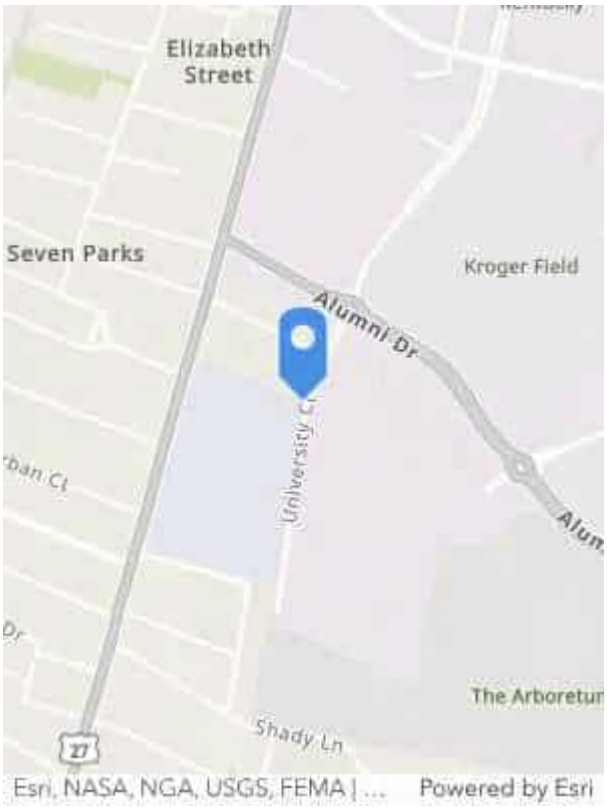
Reported Issue

Reported Description	Follow-up investigation to 7/24 sanitary sewer overflow report to LFUCG at Shawneetown and stream leading to Big Elm Creek.
Date and Time Observed	July 25, 2025 8:00 AM
Location Description	Creek alongside University Ct adjacent to Shawneetown and Central Baptist.
Confirmation	Declined - No Evidence of Discharge/Issue
Official Description	Follow-up to sanitary sewer overflow report.
Investigation Findings	Follow-up to LFUCG 311 report on 7/24, investigated sanitary lines of Shawneetown A & C and creek alongside University Ct. into Big Elm Ck. No issue in sanitary lines. A trickle of clear water present in the creek. No issue of SSO observed.
Corrective Action	

Photo



Location



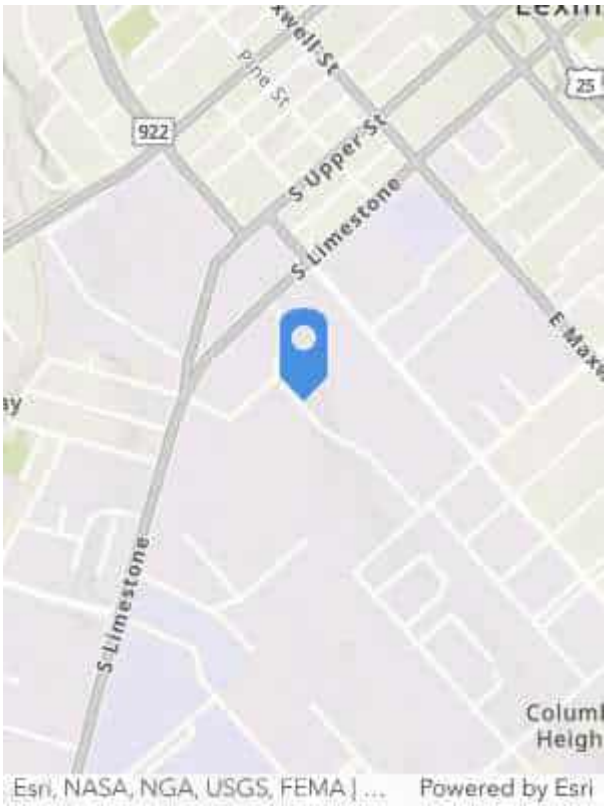
EQM Illicit Discharge Report

Reported Issue

Reported Description	Sediment from water leak adjacent to storm drain on Patterson Drive.
Date and Time Observed	July 25, 2025 7:19 PM
Location Description	Storm drain on Patterson Drive adjacent to cross walk.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Sediment from water line repair adjacent to storm drain.
Investigation Findings	Observations included sediment tracking towards storm drain.
Corrective Action	Forwarded to Grounds and UEM for clean-up.

Photo

Location



EQM Illicit Discharge Report

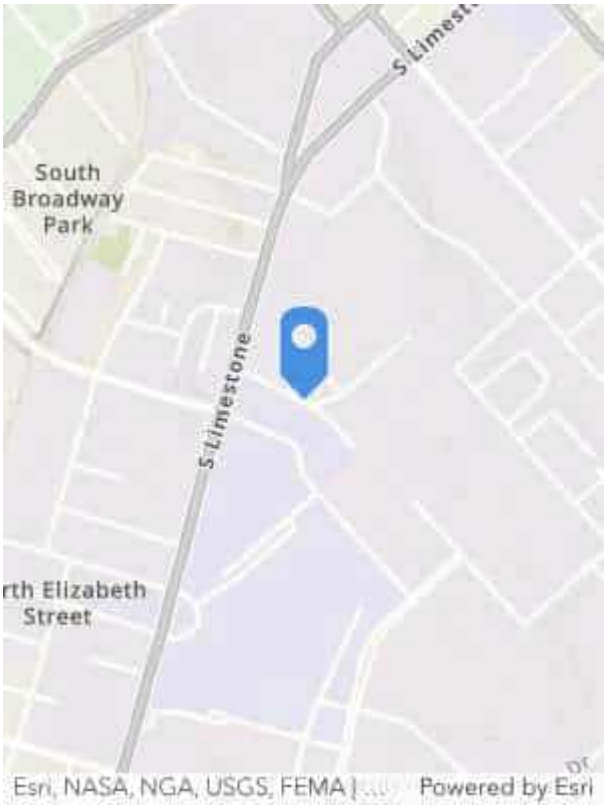
Reported Issue

Reported Description	Anti-freeze leaked onto paved road.
Date and Time Observed	July 30, 2025 11:28 AM
Location Description	Along Washington Drive from Scovell Hall construction entrance.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Antifreeze leak onto paved road.
Investigation Findings	Antifreeze leaked onto paved road leaving Scovell Hall construction entrance at Washington Drive. No impact to stormwater.
Corrective Action	Contractor applied granular absorbent remove as much as possible. Area to be swept and soiled absorbent removed from site.

Photo



Location



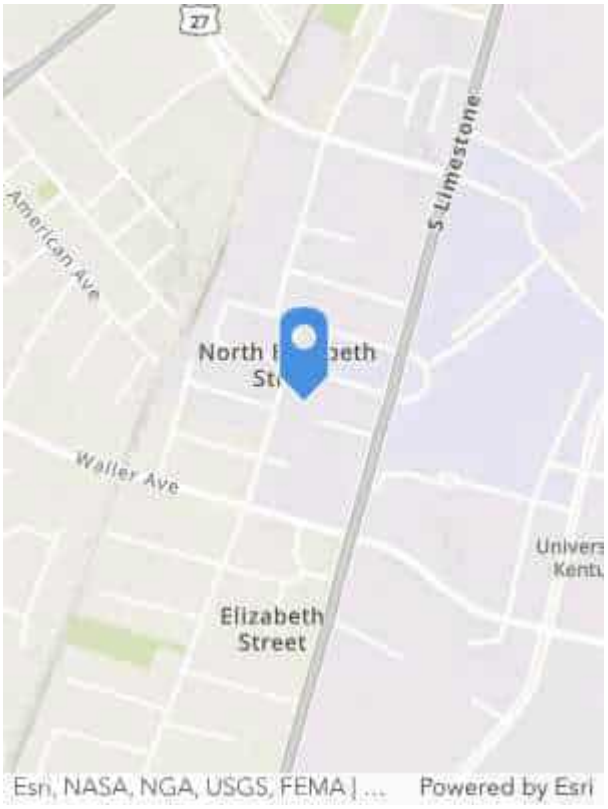
EQM Illicit Discharge Report

Reported Issue

Reported Description	Sediment and erosion from construction activity is polluting Vaughn's Branch of Wolf Run with excessive suspended and settleable solids.
Date and Time Observed	August 6, 2025 6:08 AM
Location Description	There is a perennial stream, mostly in culverts running through an intense area of construction with disturbed soils from construction, combined with high gradients yields a great deal of sediment runoff.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Construction sediment runoff into stream.
Investigation Findings	Construction site audits are to be performed under contract with Strand & Associates. Updates to follow.
Corrective Action	

Photo

Location



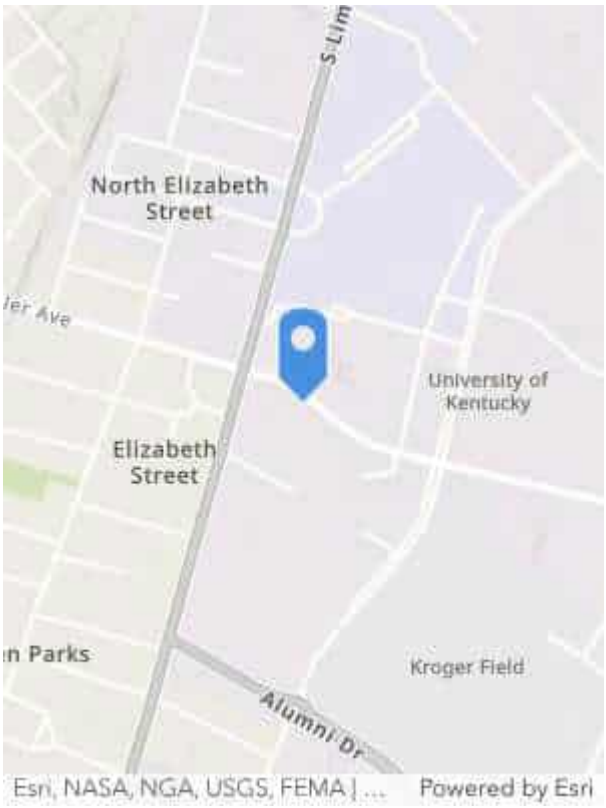
EQM Illicit Discharge Report

Reported Issue

Reported Description	Barnhart/Gluck Pedway demolition site without stormwater BMP's
Date and Time Observed	August 15, 2025 7:40 AM
Location Description	Cooper Drive between Garrigus and Barnhart and between Garrigus and Ag North.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Exposed sediment on slope associated with demolition of pedway, no BMPs installed.
Investigation Findings	Observations included insufficient EPSC BMPs installed.
Corrective Action	Forwarded to Barnhart Expansion PM and CPMD Stormwater Inspector for follow-up. CM notified, site contractor performing final grading, top soil placement, and establishing grass. Area seeded, strawed, and erosion matting applied on slopes.

Photo

Location



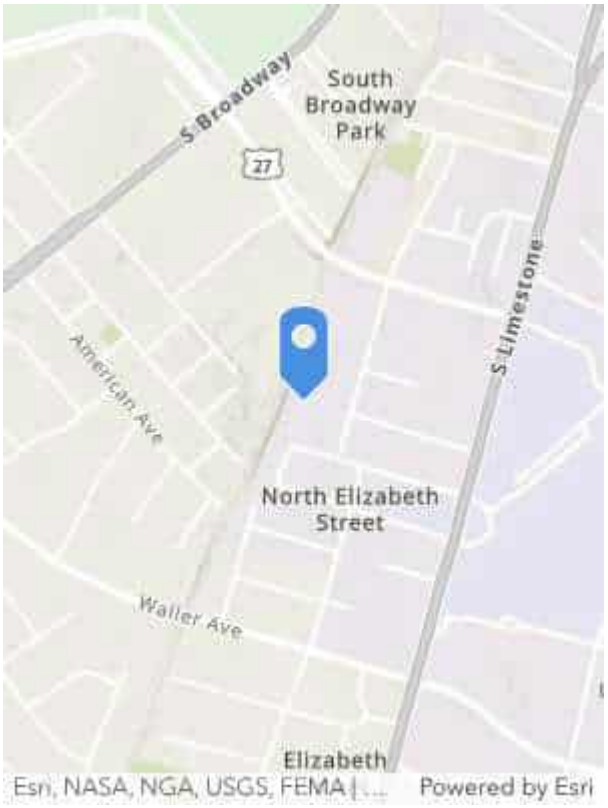
EQM Illicit Discharge Report

Reported Issue

Reported Description	Dry weater flow observed in EQMC detention basin
Date and Time Observed	August 21, 2025 8:00 AM
Location Description	CUP basin
Confirmation	Declined - No Evidence of Discharge/Issue
Official Description	Dry weather clear water discharging to detention basin.
Investigation Findings	Tracked flow to Healthy Kentucky Research Building. Condensate line found plumbed into water harvesting system and overflowing to storm.
Corrective Action	

Photo

Location



EQM Illicit Discharge Report

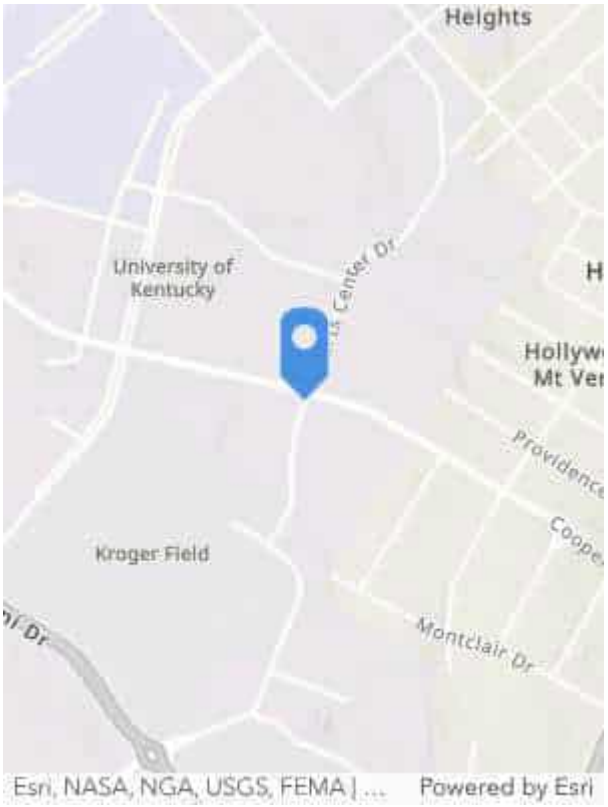
Reported Issue

Reported Description	Hydraulic oil spill onto roadway.
Date and Time Observed	August 21, 2025 11:00 AM
Location Description	Along Sports Center Dr adjacent to KET bldg tracking west onto Cooper Dr adjacent to BCTC lawn.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Hydraulic oil leak onto roadway
Investigation Findings	The concrete contractor hydraulic line spilled oil onto SportsCenter Drive tracking to Cooper Drive near sidewalk repair project.
Corrective Action	Contractor & EQM applied granular absorbent to spilled area. Contractor swept up and removed from site. Stormwater was not impacted.

Photo



Location



EQM Illicit Discharge Report

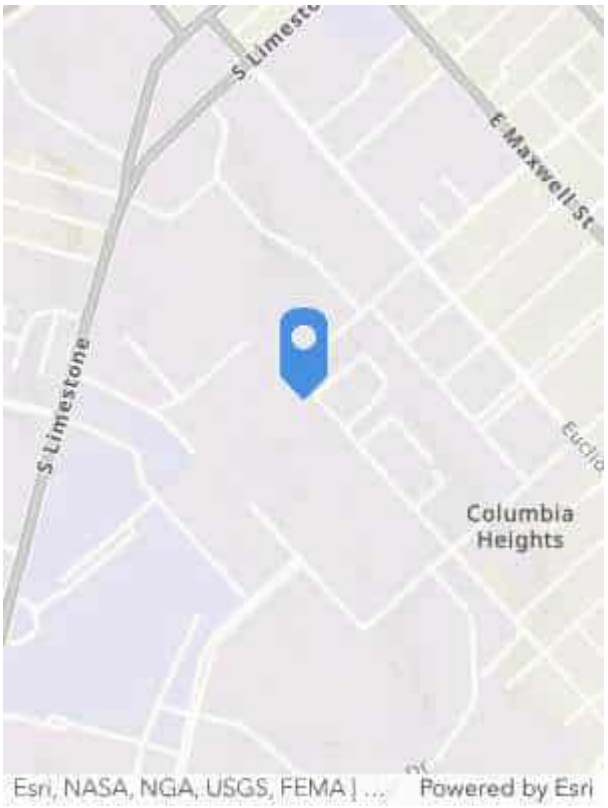
Reported Issue

Reported Description	Oil staining coming from high voltage Black box/transformer located adjacent to the Boone faculty center. Oil stain is coming from the box and tracking downhill towards the paved entrance to the Boone center.
Date and Time Observed	September 3, 2025 11:38 AM
Location Description	Boone center service area.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Transformer oil leak.
Investigation Findings	Transformer unit leaked oil onto pervious surface. No impact to storm was observed.
Corrective Action	UEM responded to contain and clean up the leak with granular absorbent. The transformer was replaced with a spare unit.

Photo



Location



EQM Illicit Discharge Report

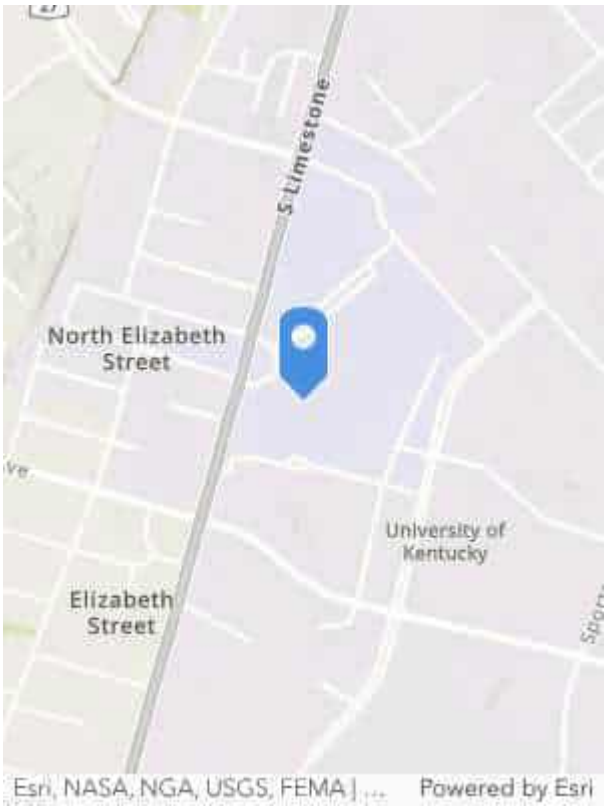
Reported Issue

Reported Description	Trash compactor leachate potentially entering storm drain behind Pav A.
Date and Time Observed	September 3, 2025 2:00 PM
Location Description	Trash/recycling compactor site between Pav A and Pav H.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Trash compactor leachate.
Investigation Findings	Trash leachate tracking toward storm drain. Copious amount of litter in the area. Utilities map initially show no storm present in affected area.
Corrective Action	Ted Meyer was contacted to coordinate clean up of leachate and litter. EQM did not need to provide spill clean up. Trench drain does lead to storm sewer confirmed by EQM WQ Manager, Utilities map needs updating.

Photo



Location



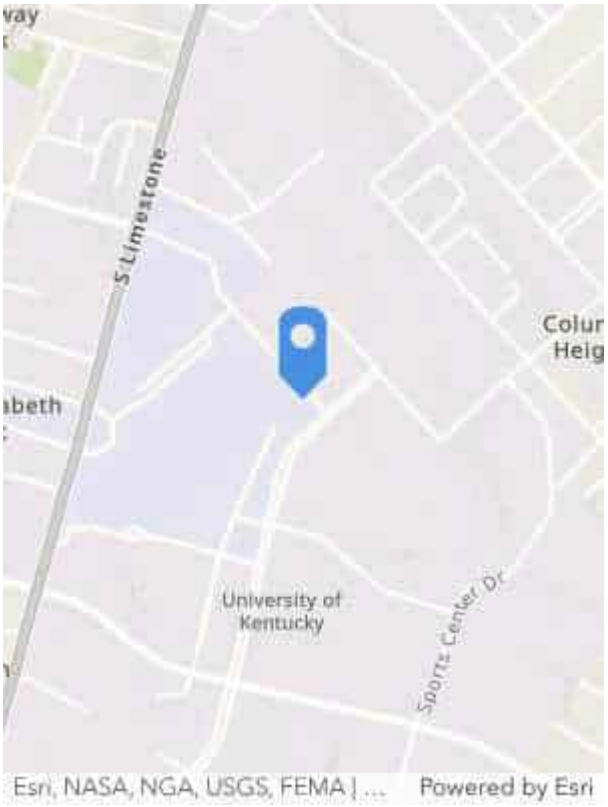
EQM Illicit Discharge Report

Reported Issue

Reported Description	Sediment and debris tracking on Huguelet from HEB construction site.
Date and Time Observed	September 10, 2025 12:13 PM
Location Description	HEB construction entrance on Huguelet across from dorm.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Construction entrance lacking #2 stone causing sediment and debris to be tracked on public roadway.
Investigation Findings	Inadequate construction entrance BMPs.
Corrective Action	Fowarded issue to CPMD stormwater inspector. Project CM notified and required to address issue. Roadway cleaned. Contractor to replace small gravel with #2's or pave area.

Photo

Location



EQM Illicit Discharge Report

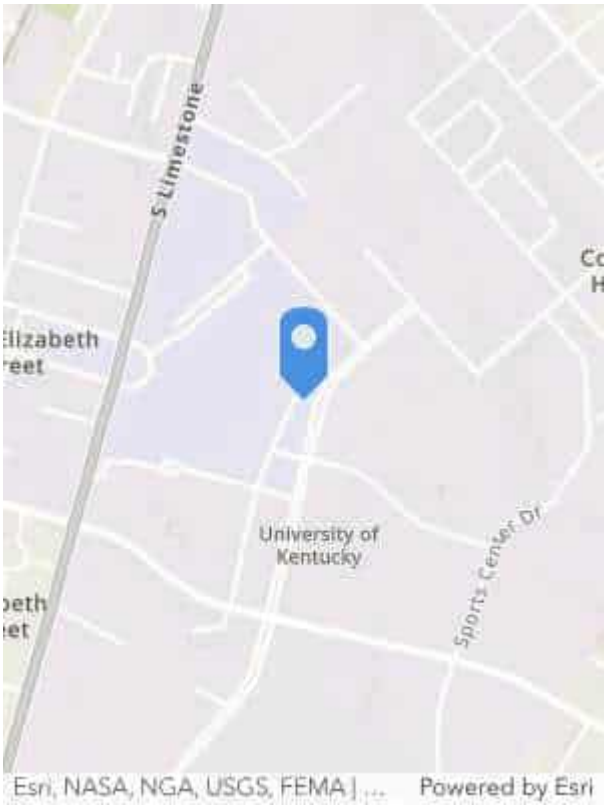
Reported Issue

Reported Description	Construction debris and vegetation covering storm strain. Silt fence surrounds drain perimeter.
Date and Time Observed	September 10, 2025 1:56 PM
Location Description	North side of behavioral science building; adjacent to healthy education building construction site.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Storm drain covered with rocks
Investigation Findings	The drain is fully covered with rocks/rubble and vegetation is overgrown. The install silt fence BMP is not trenched in.
Corrective Action	UK CP Inspector was asked to follow up with construction manager to investigate, reinstall BMP, and remove debris covering storm drain.

Photo



Location



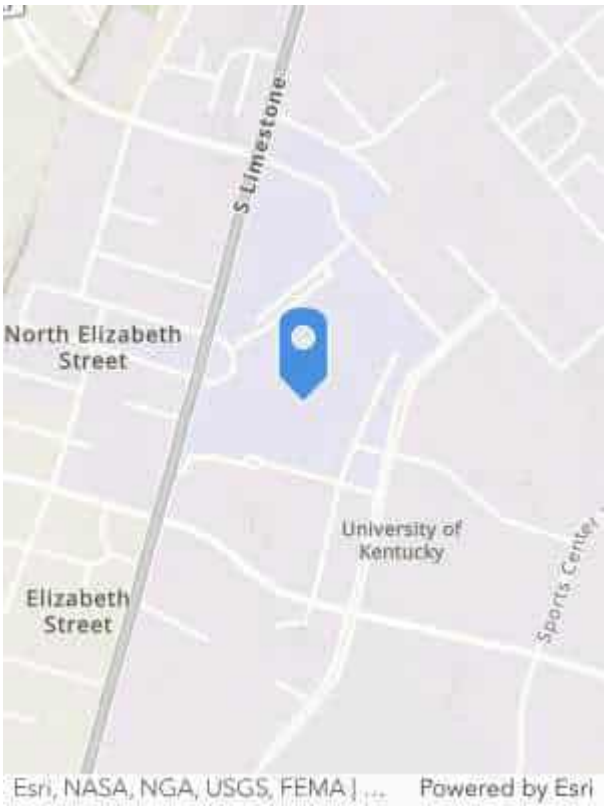
EQM Illicit Discharge Report

Reported Issue

Reported Description	Stains tracking from roll-off dumpster towards storm drain behind Veterans Hospital.
Date and Time Observed	September 10, 2025 2:50 PM
Location Description	Service area between Medical Heating/Cooling and VA.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Dumpster leachate
Investigation Findings	Dumpster leachate tracked toward storm drain but appeared to not enter system. Stay-dri had been applied to the spill and a boom was placed around the drain.
Corrective Action	VA was contacted to request information related to the spill and to relay clean up efforts to Water Quality Compliance Manager. Follow-up visit 9/22: dumpster removed.

Photo

Location



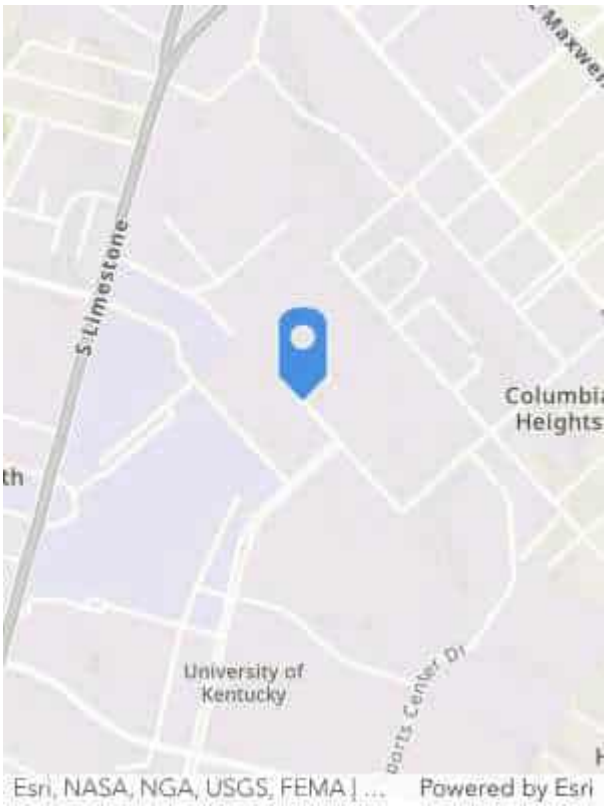
EQM Illicit Discharge Report

Reported Issue

Reported Description	Rolloff next to Johnson Hall leaking substance down curbing.
Date and Time Observed	September 11, 2025 8:26 AM
Location Description	Hilltop in front of Johnson Hall
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Floor waxing waste inappropriately dumped into open top roll off which leaked onto curb.
Investigation Findings	EQM confirmed initial description.
Corrective Action	Dumpster associated with K Lair renovation Project. PM contacted and asked to have contractor clean up or provide work order for Grounds to clean up.

Photo

Location



EQM Illicit Discharge Report

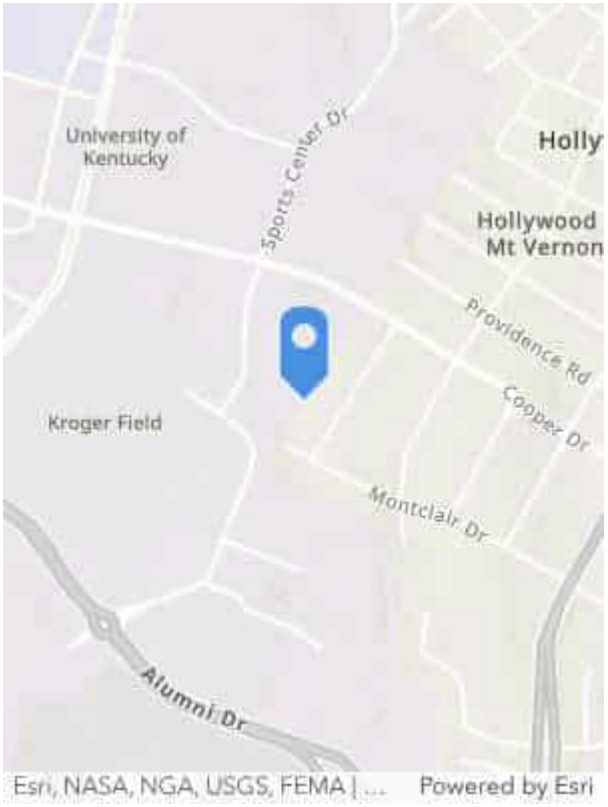
Reported Issue

Reported Description	Pipe discharging into swale located behind Hope Lodge
Date and Time Observed	September 16, 2025 8:00 AM
Location Description	Swale between Hope Lodge and neighborhood
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Recently constructed home installed drainage pipe on UK property and is discharging what appears to be ground water onto campus.
Investigation Findings	Standing water with algae was present during dry weather.
Corrective Action	Area to be addressed as part of upcoming grant project.

Photo



Location



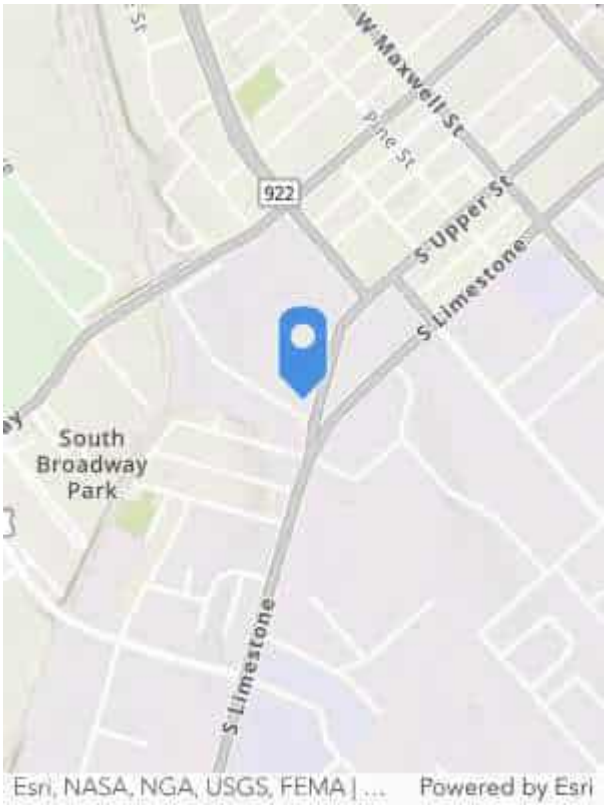
EQM Illicit Discharge Report

Reported Issue

Reported Description	UEM has received multiple reports of sanitary odor in various locations around Taylor Education/Peterson Service Building over last six months
Date and Time Observed	September 18, 2025 8:00 AM
Location Description	Scott and S. Upper Street Area, including Fire Station, Taylor Education, and Peterson Service Building
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Sanitary sewer odor detected from multiple storm drains. Sanitary Sewer Overflow to storm identified.
Investigation Findings	UK EQM, LFUCG WQ (Gabe Hensley), & UK UEM assessed sanitary odors in reported area. Sanitary odors identified in storm drains and tracked to storm drain adjacent to Fire Station where sanitary was seen entering storm sewer. LFUCG owns sanitary & storm.
Corrective Action	LFUCG investigation of sanitary lines in area revealed lateral sanitary line damaged from utility installation and "repaired" with duct tape entering adjacent storm sewer. Line break repaired. Additional investigation to properly map area lines needed.

Photo

Location



EQM Illicit Discharge Report

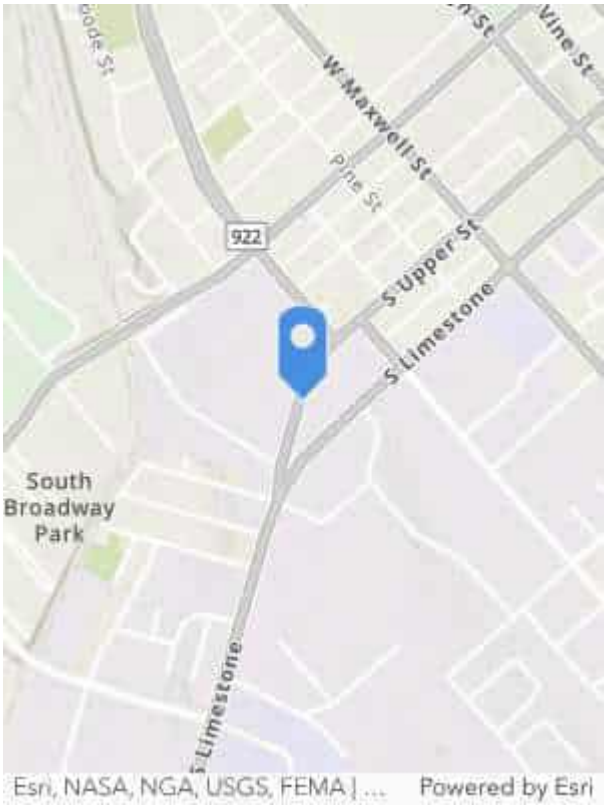
Reported Issue

Reported Description	Slurry tracking from boring project under S Upper St. onto paved road and entered storm sewer system.
Date and Time Observed	September 24, 2025 10:00 AM
Location Description	Boring project is located behind Petersen Service Building and slurry is tracking along South Upper Street.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Slurry discharge from drilling/boring project.
Investigation Findings	Boring slurry was being pumped to nearby sanitary sewer at the Petersen Garage lot. Slurry was leaking onto pavement and washing onto S. Upper St. where it entered storm sewer system.
Corrective Action	UK project manager contacted to coordinate with contractor to stop pumping to sanitary & remove slurry from roadway without impacting storm sewer. On 9/26, boring slurry being pumped to storm sewer without adequate filter BMP; UK PM contacted again.

Photo



Location



EQM Illicit Discharge Report

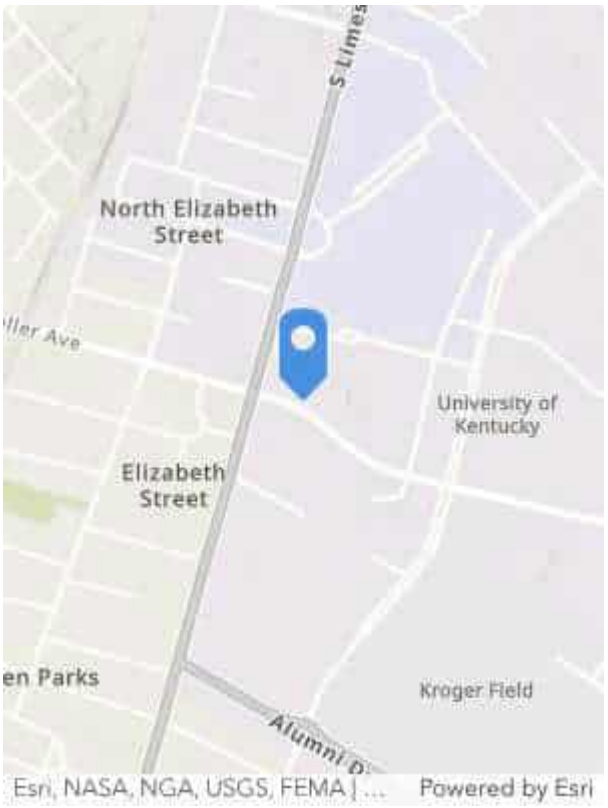
Reported Issue

Reported Description	Debris from construction project tracking onto sidewalk and roadway. Hay, sediment, and gravel.
Date and Time Observed	September 29, 2025 3:20 PM
Location Description	On Cooper Drive near Garrigus Bldg.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Debris tracking from construction/utilities project.
Investigation Findings	Debris tracking from construction/utilities project onto sidewalk and roadway.
Corrective Action	Forwarded to Barnhart Expansion PM and CPMD Stormwater Inspector for follow-up. CM notified, site contractor performing final grading, top soil placement, and establishing grass. Area seeded, strawed, and erosion matting applied on slopes.

Photo



Location



EQM Illicit Discharge Report

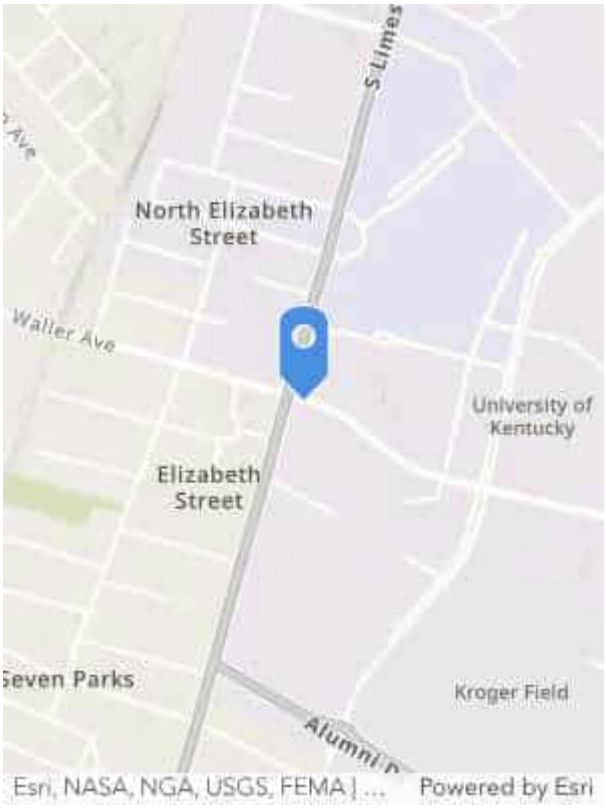
Reported Issue

Reported Description	Sediment tracking on roadway leading to unprotected storm drain.
Date and Time Observed	September 29, 2025 3:45 PM
Location Description	Along Cooper Drive near the intersection of Nicholasville Rd (Limestone). Storm drain: UNK02837
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Sediment tracking on roadway leading to unprotected storm drain.
Investigation Findings	Sediment tracking on roadway leading to unprotected storm drain.
Corrective Action	UK PM to be notified. Sediment should be removed from roadway & reinstall adequate inlet BMP.

Photo



Location



EQM Illicit Discharge Report

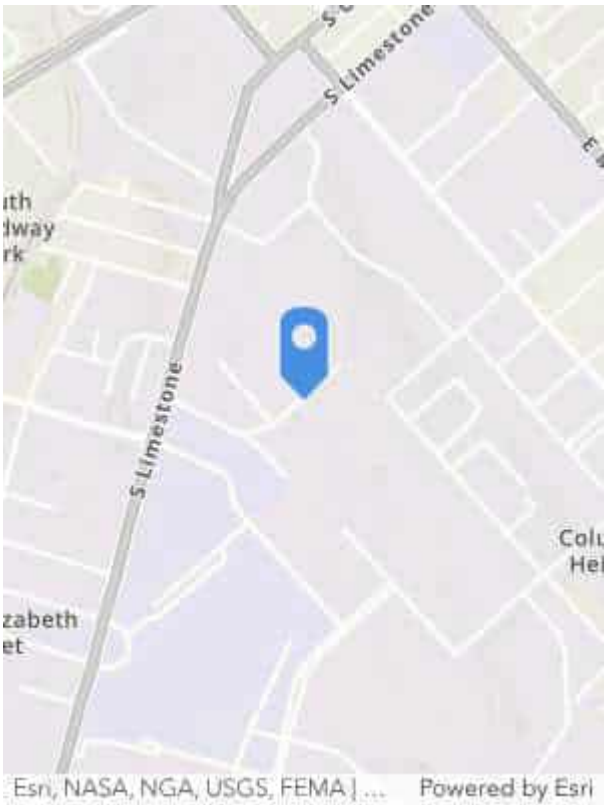
Reported Issue

Reported Description	Vacuum pump oil leaked from recycling contractor truck cargo area onto paved loading dock. Oil tracked towards storm drain but did not enter.
Date and Time Observed	October 2, 2025 1:30 PM
Location Description	Chemistry-Physics loading dock
Confirmation	Confirmed - Discharge/Issue Present
Official Description	oil leaked onto loading dock near storm drain.
Investigation Findings	Recycling contractor (Armstrong) spilled vacuum pump oil while moving lab equipment from bldg & placed actively leaking equipment onto truck. Oil seeped through truck cargo and onto concrete loading dock. Truck drove to UK Surplus tracking oil.
Corrective Action	EQM responded to apply sta-dry and confirm no impact to storm. Further removal of oil stains may be necessary at cost to the Contractor.

Photo



Location



EQM Illicit Discharge Report

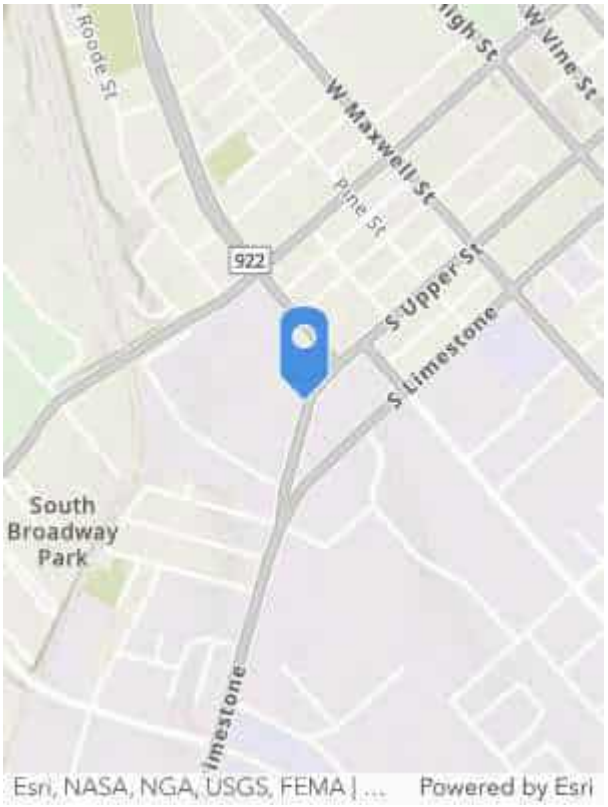
Reported Issue

Reported Description	Dewatering/boring slurry being discharged directly to storm sewer from boring pit adjacent to Peterson Garage.
Date and Time Observed	October 9, 2025 8:00 AM
Location Description	Boring pit adjacent to Peterson Garage.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Contractor dewatering boring pit, dewatering bag appears to have detached from hose causing direct discharge of sediment laden water to storm sewer.
Investigation Findings	Confirmed the dewatering/slurry was being pumped into sanitary with surface spills from leaking hoses.
Corrective Action	Project manager contacted. Pit full of water due to recent storms. Contractor was decanting clear water off top of pit, vac truck brought in to remove sediment laden water.

Photo



Location

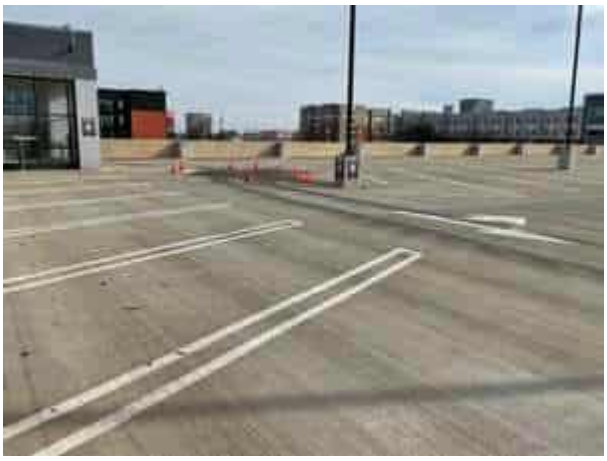


EQM Illicit Discharge Report

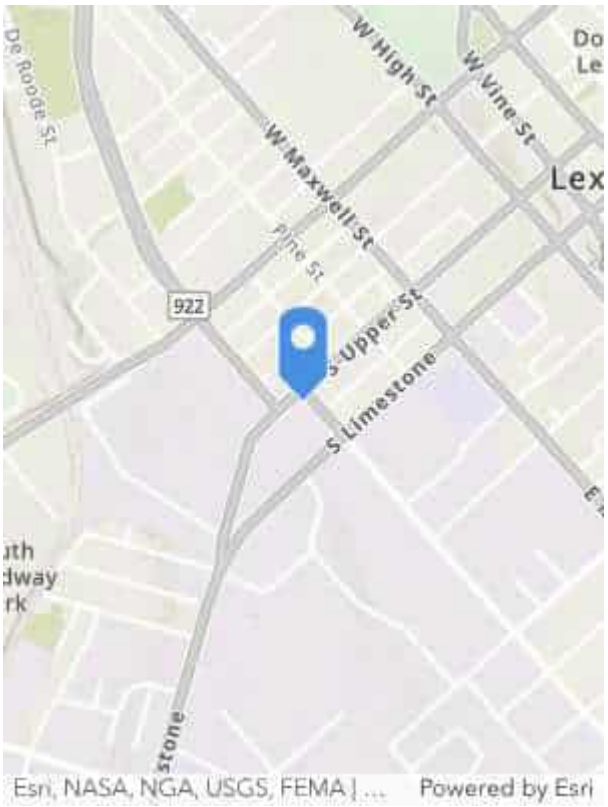
Reported Issue

Reported Description	Cooking oil spilled onto pavement of Parking Structure 5 (Level 6).
Date and Time Observed	November 24, 2025 9:37 AM
Location Description	NW corner of Parking Structure 5 Level 6.
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Cooking oil spill
Investigation Findings	Cooking oil was found spilled from a busted container onto pavement. Oil tracked to nearby storm drain but did not enter.
Corrective Action	UK Grounds staff applied granular absorbent to soiled area and installed absorbent socks around storm drain to prevent discharge. The absorbent was swept up and discarded to the landfill.

Photo



Location



EQM Illicit Discharge Report

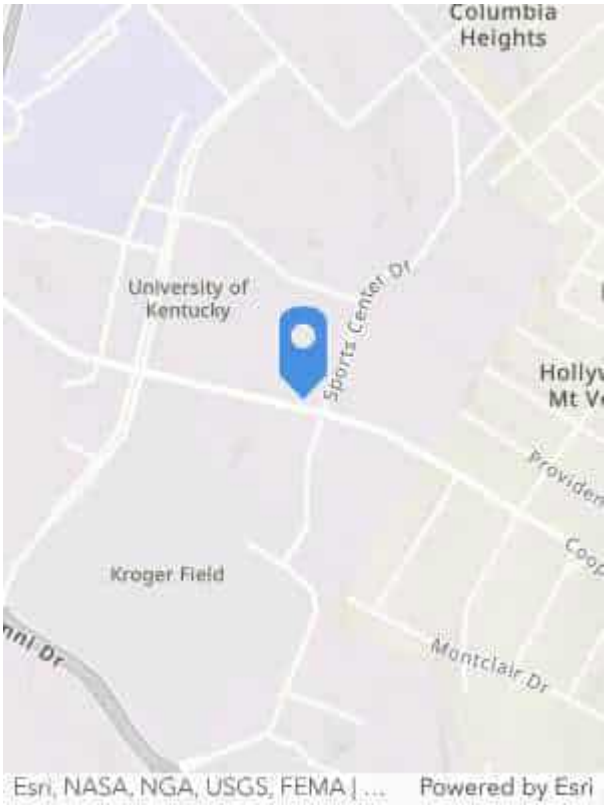
Reported Issue

Reported Description	Boone Tennis Center contractors tracking mud and debris onto Cooper Drive
Date and Time Observed	December 3, 2025 5:00 PM
Location Description	Cooper Drive between Boone Tennis Center and BCTC
Confirmation	Confirmed - Discharge/Issue Present
Official Description	Boone Tennis Center renovation contractor created a makeshift construction entrance without proper BMPs. Recent storms contributed to tracking and disturbance of the area.
Investigation Findings	Construction entrance created during haul out of siding/debris for off site disposal using trucks and trailers. Deterioration occurred from bldg site along vegetated area into roadway.
Corrective Action	Project Manager/Athletics contacted. Project nearing completion. Contractors prohibited from driving on area. Damaged turf addressed/repaired on 12/5.

Photo

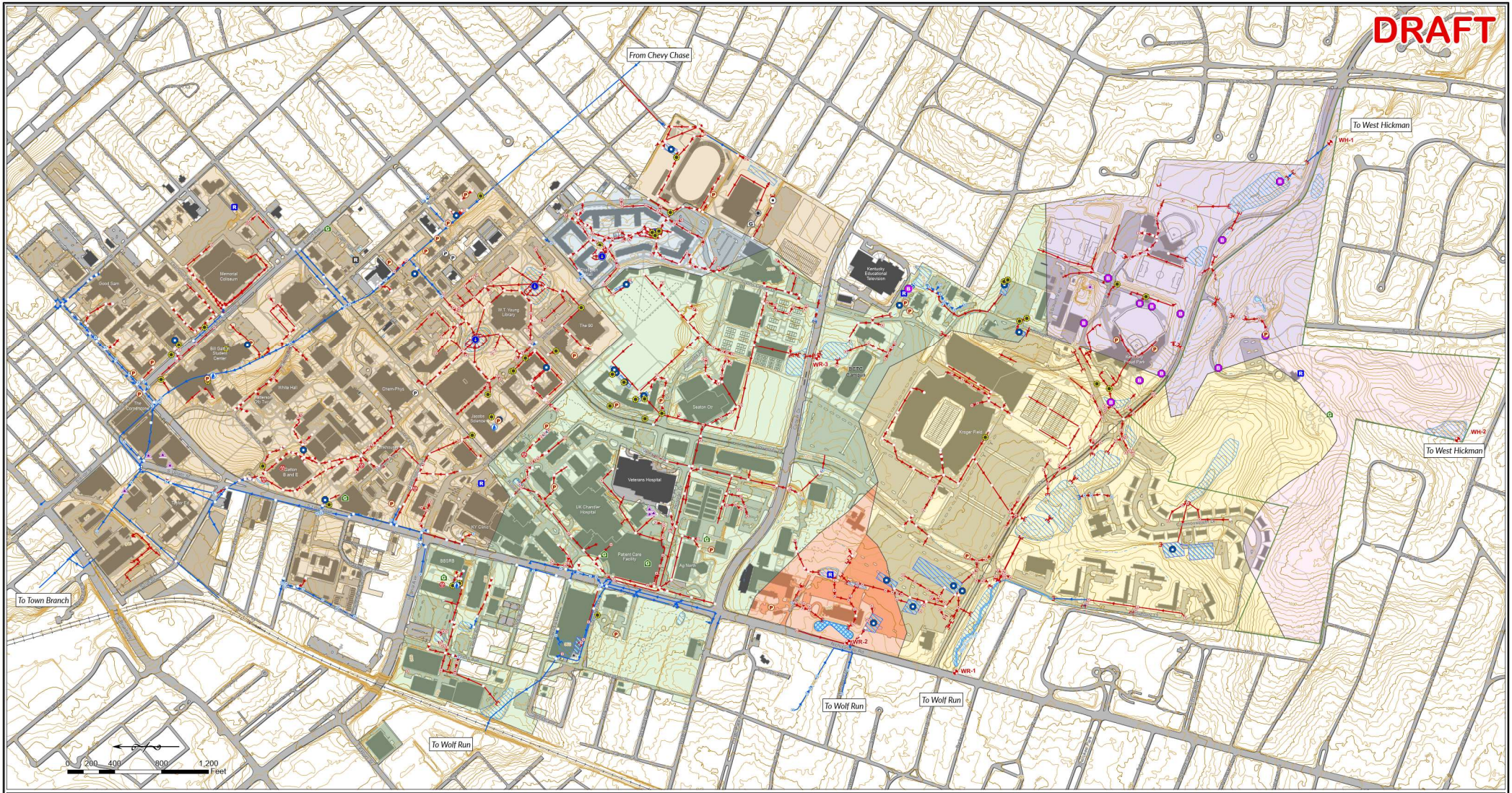


Location



APPENDIX C-2

UK MS4 Boundary Map & Surface Calculations



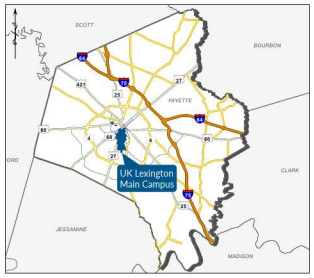


Figure 1:

UNIVERSITY OF KENTUCKY

Municipal Separate Storm Sewer Systems (MS4) ~ Boundary Map ~

This map provides information as required by the Kentucky Division of Water General Permit for Phase II Municipal Separate Storm Sewer Systems, effective May 2018.

Storm Control

- Bioretention
- Class V Injection Well
- Green Roof
- Inlet Control
- Permeable Pavement
- Pretreatment Device
- Rain Garden
- Underground Detention
- Water Harvesting System

Storm Water Features

- Cave
- Outfall
- UK Drain
- Non-UK Drain
- UK Headwall
- Non-UK Headwall
- UK Manhole
- Non-UK Manhole
- UK Storm Line
- Non-UK Storm Line
- Stream Segment
- Intermittent Flow
- Sinkhole
- Detention Basin
- Retention Basin
- Underground Detention

MS4 Boundary

- To On-Campus Sinkholes
- To Town Branch or On-Campus Caves/Sinkholes
- To West Hickman (through outfall WH-1)
- To West Hickman (through outfall WH-2)
- To Wolf Run
- To Wolf Run (through outfall WR-1)
- To Wolf Run (through outfall WR-2)

Campus Map

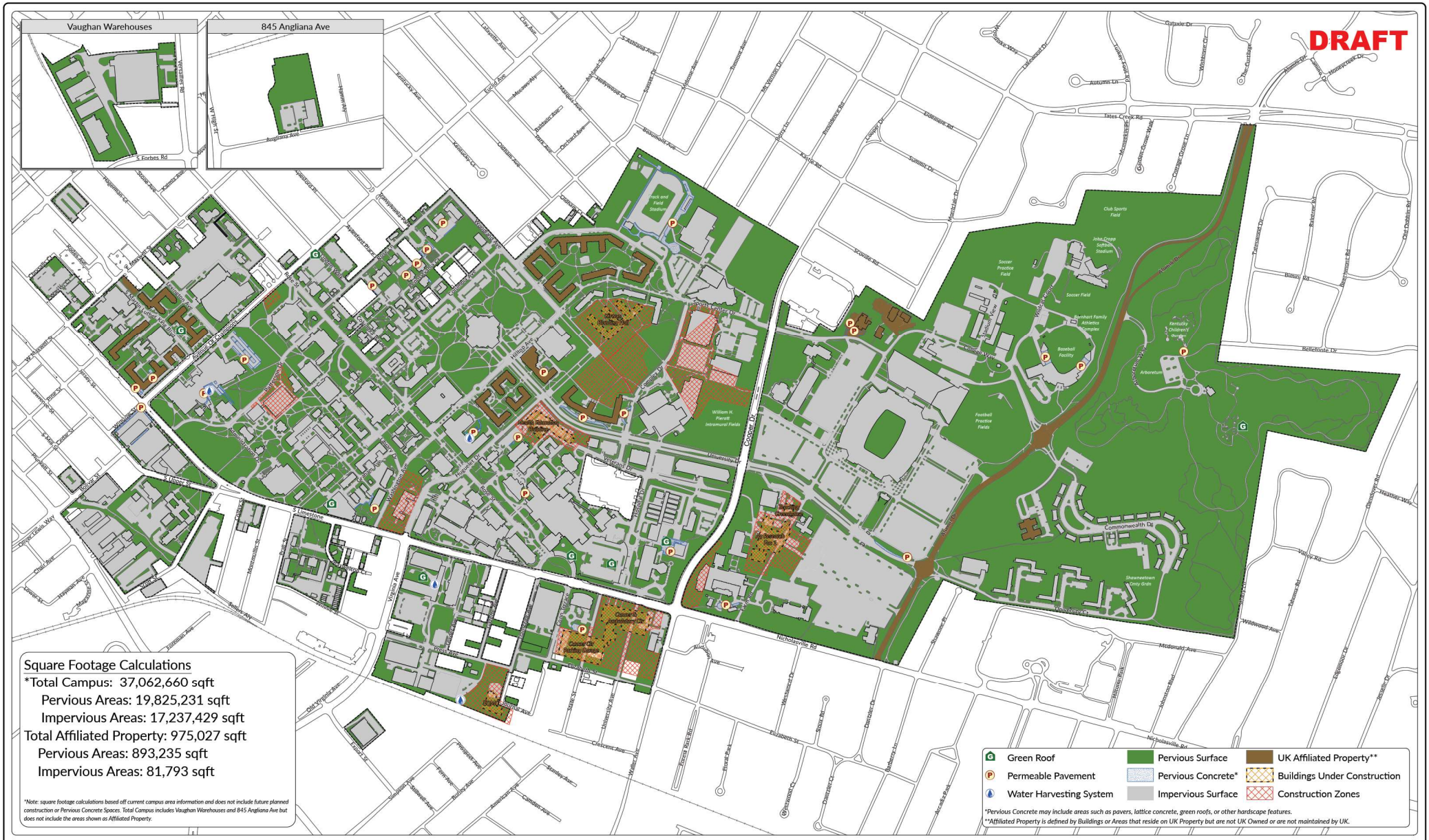
- Index Contour
- Intermediate Contour
- Arboretum
- Non-UK Building
- Paved Surface
- Pond

*PROPOSED storm controls are represented as black and white symbols

Note: For the purpose of this map, the University of Kentucky's complete storm water system has not been shown. Only drains greater than 3ft x 3ft, storm lines greater than or equal to 15 inch diameter, and connected manholes, drains, and headwalls have been shown. For a detailed map of the complete storm water system, please see the *"Facilities Storm Sewer Utility Map"*.

Created by UK Facilities Information Services
GeospatialRequests@uky.edu
REV: 20260212

Source: The information provided on this map product reflects current base map and relevant storm water utility data at the time of print. Data was developed from CAD records, aerial and field surveys, LFUCG storm records, and with guidance from engineering personnel.



Created by UK Facilities Information Services
Data Source: UK Facilities Managment (2024)
Geospatial.Requests@uky.edu
REV: 20260212

Impervious & Pervious Surfaces

UK Main Campus

0 372 Feet
1 inch = 372 feet

APPENDIX C-3

Major Outfall Inspection Reports

Environmental Quality Management

WR-1 (Nicholasville Rd. @ Alumni Dr.)

Inspector: **Nathan Weber**	Permit:
Inspection Date/Time **Jun 5, 2025, 2:28:07 PM**	Frequency: **Annually** -
1600 Nicholasville Rd, Lexington, KY 40503	

UK Outfall Screening

Site Weather Information		
Last Rain Event	**Last 24h Precipitation**	**48 Hour Forecast**
--	0.0" Last 24 hour precipitation	80% Chance of Rain

Section 2

Location

- Closed Pipe ☐
- Open Drainage ☐

Material

- RCP ☐
- PVC ☐
- Steel ☐
- CMP ☐
- HDPE ☐

Other:

- **Concrete** ☑
- Earthen ☐
- RIP-RAP ☐

Other:

Shape

- Circular ☐
- Elliptical ☐
- Box ☐

Other:

- Trapezoid ☐
- Parabolic ☐

Other:

Dimensions

Text

Depth:

Top Width

Bot Width:

Submerged

In Water:

- No ☐
- **Partially** ☑
- Fully ☐

With Sediment:

- **No** ☑
- Partially ☐
- Fully ☐

Flow Present

- **Yes** ☑
- No ☐

(If No, skip to section 5)

Flow Description (If Present)

- **Trickle** ☑
- Moderate ☐
- Substantial ☐

Section 3

Are there any field water quality parameters that may be tested? Yes / No

(If No, skip to section 5)

Test Parameter	Check If Tested	Test Results	Comments
Chlorine	☐		
Water Temperature	☐		
pH	☐		
Ammonia	☐		
Specific Conductance	☐		
Total Dissolved Solids (TDS)	☐		

Section 4

Are Any Physical Indicators Present in the Flow? Yes / No

(If No, skip to section 5)

Indicator	Check If Present	Description	Relative Severity Index (1-3)
Odor	☐	Sewage ☐ Petroleum/Gas ☐ Rancid/Sour ☐ Sulfide ☐ Chlorine ☐ Other ☐	1 - Faint ☐ 2 - Easily Detected ☐ 3 - Noticeable from Distance ☐

Indicator	Check If Present	Description	Relative Severity Index (1-3)
Color	☐ ☐	Clear ☐ Green ☐ Brown ☐ Gray ☐ Yellow ☐ Red ☐ Orange ☐ Other ☐	1 - Faint Colors in Sample Bottle ☐ 2 - Clearly Visible in Sample Bottle ☐ 3 - Clearly Visible in Outfall Flow ☐

Indicator	Check If Present	Description	Relative Severity Index (1-3)
Turbidity	☐	See Severity ☐	1 - Slight Cloudiness ☐ 2 - Cloudy ☐ 3 - Opaque ☐

Indicator	Check If Present	Description	Relative Severity Index (1-3)
Floatables	☐	Sewage (Toilet Paper) ☐ Petroleum (Oil Sheen) ☐ Suds ☐ Other ☐	1 - Few/Slight; origin not obvious ☐ 2 - Some; Indications pf origin ☐ 3 - Some; Origin Clear ☐

Indicator	Check If Present	Description	Thickness:	Relative Severity Index (1-3)
Suds	☐	Sewage ☐ Fragrant ☐ Other ☐		1 - Immediately Break Up (Turbulence) ☐ 2 - Break Up Downstream ☐ 3 - Break Up Downstream, Thick Suds ☐

Section 5

Are any Physical Indicators that are not related to flow present? Yes / No

(If No, skip to section 6)

Indicator	Check If Present	Description	(Indicate Type and Servite of Deformation)	Comments

Outfall Damage	☐ ☐	Spalling, cracking or chipping ☐ Peel paint ☐ Corrosion ☐ Deformation ☐		

Indicator	Check If Present	Description	% Blockage	Comments
Deposits/Stains	☐	Oily ☐ Flow line ☐ Paint ☐ Other ☐ Siltation of pipe outfall ☐		

Indicator	Check If Present	Description	Comments
Abnormal Vegetation	☐	Excessive ☐ Inhibited ☐	

Indicator	Check If Present	Description	Comments
Poor Pool Quality	☐	Odors ☐ Suds ☐ Excessive Algae ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Other ☐	While there was algae (filamentous) present upstream of the outfall, the observation seemed to be on par with conditions of other local streams in the city and not necessarily an indicator of poor water quality. The area should continue to be monitored as the restoration efforts mature to see if the algae becomes an issue.

Indicator	Check If Present	Description	Comments
Pipe Benthic Growth	☐	Brown ☐ Green ☐ Orange ☐ Other ☐	

Section 6

Recommended Actions/Actions Taken

		If Other Describe
Debris removed ☐ Pipe In need of repair ☐ pipe needs to be replaced ☐	Sediment needs to be removed ☐ No action necessary ☑ Other ☐	

Section 7

Overall Outfall Characterization	No Evidence ☑ Suspect (One or more indicators with a severity of 3) ☐ Potential (Presence of 2 or more indicators) ☐ Obvious ☐

Certification & Signatures

:

Electronic Signature

X *Nathan Weber*

Date
June 9, 2025, 12:48:40 PM EDT

Title
Water Quality Compliance Specialist

:

Electronic Signature

X *Kevin Lewis*

Date
June 9, 2025, 1:44:38 PM EDT

Title
Water Quality Compliance Manager

Photos



IMG_0665.jpeg



IMG_0667.jpeg



IMG_0666.jpeg



IMG_0668.jpeg

Weather History

Precipitation Recorded | No Precipitation | Missed or data unavailable

March

7 th 0	8 th 0	9 th 0	10 th 0	11 th 0	12 th 0	13 th 0
14 th 0	15 th 1.19"	16 th 0.99"	17 th 0	18 th 0	19 th 0	20 th 0.19"
21 st 0	22 nd 0	23 rd 0.35"	24 th 0	25 th 0	26 th 0	27 th 0
28 th 0	29 th 0	30 th 0.03"	31 st 0.48"			

April

1 st 0	2 nd 0	3 rd 0	4 th 1.67"	5 th 1.54"	6 th 0.83"	7 th 0.06"
8 th 0	9 th 0	10 th 0.59"	11 th 0.28"	12 th 0	13 th 0	14 th 0
15 th 0	16 th 0	17 th 0.06"	18 th 0	19 th 0	20 th 0	21 st 0.15"
22 nd 0	23 rd 0	24 th 0.02"	25 th 0.80"	26 th 0.08"	27 th 0	28 th 0
29 th 0.26"	30 th 0					

May

1 st 0.55"	2 nd 0	3 rd 1.06"	4 th 0.18"	5 th 0.01"	6 th 0	7 th 0
8 th 0	9 th 0	10 th 0	11 th 0	12 th 0.16"	13 th 0.21"	14 th 0
15 th 0	16 th 0.67"	17 th 0.22"	18 th 0	19 th 0	20 th 0.66"	21 st 0
22 nd 0	23 rd 0	24 th 0	25 th 0.02"	26 th 0	27 th 0.45"	28 th 0.04"
29 th 0.02"	30 th 1.69"	31 st 0.02"				

June

1 st 0	2 nd 0	3 rd 0	4 th 0	5 th 0

All precipitation totals are obtained from the National Oceanic and Atmospheric Administration (NOAA). Precipitation readings are based on the latitude and longitude for each site as entered into complianceGO. Occasionally NOAA fails to return/record data. Days where this occurs are so indicated.

Environmental Quality Management

WH-1 (Alumni Drive @ Tates Creek Dr.)

Inspector: **Nathan Weber**	Permit:
Inspection Date/Time **Jun 5, 2025, 1:29:37 PM**	Frequency: **Annually -**
651 Tateswood Dr, Lexington, KY 40502	

UK Outfall Screening

Site Weather Information		
Last Rain Event	**Last 24h Precipitation**	**48 Hour Forecast**
--	0.0" Last 24 hour precipitation	80% Chance of Rain

Section 2

Location

- Closed Pipe ☐
- Open Drainage ☐

Material

- RCP ☐
- PVC ☐
- Steel ☐
- CMP ☐
- HDPE ☐

Other:

- **Concrete** ☑
- Earthen ☐
- RIP-RAP ☐

Other:

Shape

- Circular ☐
- Elliptical ☐
- Box ☐

Other:

- Trapezoid ☐
- Parabolic ☐

Other:

Dimensions

Text

Depth:

Top Width

Bot Width:

Submerged

In Water:

- No ☐
- **Partially** ☑
- Fully ☐

With Sediment:

- **No** ☑
- Partially ☐
- Fully ☐

Flow Present

- **Yes** ☑
- No ☐

(If No, skip to section 5)

Flow Description (If Present)

- **Trickle** ☑
- Moderate ☐
- Substantial ☐

Section 3

Are there any field water quality parameters that may be tested? Yes | **No**

(If No, skip to section 5)

Test Parameter	Check If Tested	Test Results	Comments
Chlorine	☐		
Water Temperature	☐		
pH	☐		
Ammonia	☐		
Specific Conductance	☐		
Total Dissolved Solids (TDS)	☐		

Section 4

Are Any Physical Indicators Present in the Flow? Yes | **No**

(If No, skip to section 5)

Indicator	Check If Present	Description	Relative Severity Index (1-3)
Odor	☐	Sewage ☐ Petroleum/Gas ☐ Rancid/Sour ☐ Sulfide ☐ Chlorine ☐ Other ☐	1 - Faint ☐ 2 - Easily Detected ☐ 3 - Noticeable from Distance ☐

Indicator	Check If Present	Description	Relative Severity Index (1-3)
Color	☐ ☐	Clear ☑ Green ☐	1 - Faint Colors in

		Brown ☐ Gray ☐ Yellow ☐ Red ☐ Orange ☐ Other ☐	Sample Bottle ☐ 2 - Clearly Visible in Sample Bottle ☐ 3 - Clearly Visible in Outfall Flow ☐

Indicator	Check If Present	Description	Relative Severity Index (1-3)
Turbidity	☐	See Severity ☐	1 - Slight Cloudiness ☐ 2 - Cloudy ☐ 3 - Opaque ☐

Indicator	Check If Present	Description	Relative Severity Index (1-3)
Floatables	☐	Sewage (Toilet Paper) ☐ Petroleum (Oil Sheen) ☐ Suds ☐ Other ☐	1 - Few/Slight; origin not obvious ☐ 2 - Some; Indications pf origin ☐ 3 - Some; Origin Clear ☐

Indicator	Check If Present	Description	Thickness:	Relative Severity Index (1-3)
Suds	☐	Sewage ☐ Fragrant ☐ Other ☐		1 - Immediately Break Up (Turbulence) ☐ 2 - Break Up Downstream ☐ 3 - Break Up Downstream, Thick Suds ☐

Section 5

Are any Physical Indicators that are not related to flow present?

Yes | No

(If No, skip to section 6)

Indicator	Check If Present	Description	(Indicate Type and Servite of Deformation)	Comments
Outfall Damage	☐ ☐	Spalling, cracking or chipping ☐ Peel paint ☐ Corrosion ☐ Deformation ☐		

Indicator	Check If Present	Description	% Blockage	Comments

Deposits/Stains	☐	Oily ☐ Flow line ☐ Paint ☐ Other ☐ Siltation of pipe outfall ☐		

Indicator	Check If Present	Description	Comments
Abnormal Vegetation	☐	Excessive ☐ Inhibited ☐	

Indicator	Check If Present	Description	Comments
Poor Pool Quality	☐	Odors ☐ Suds ☐ Excessive Algae ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Other ☐	

Indicator	Check If Present	Description	Comments
Pipe Benthic Growth	☐	Brown ☐ Green ☐ Orange ☐ Other ☐	

Section 6

Recommended Actions/Actions Taken

		If Other Describe
Debris removed ☐ Pipe In need of repair ☐ pipe needs to be replaced ☐	Sediment needs to be removed ☐ No action necessary ☑ Other ☐	

Section 7

Overall Outfall Characterization	No Evidence ☑ Suspect (One or more indicators with a severity of 3) ☐ Potential (Presence of 2 or more indicators) ☐ Obvious ☐

Certification & Signatures

:

Electronic Signature

X *Nathan Weber*

Date
June 9, 2025, 11:08:33 AM EDT

Title
Water Quality Compliance Specialist

:

Electronic Signature

X *Kevin Lewis*

Date
June 9, 2025, 12:17:55 PM EDT

Title
Water Quality Compliance Manager

Photos



IMG_0653.jpeg



IMG_0655.jpeg



IMG_0652.jpeg

Weather History


Precipitation Recorded

No Precipitation

Missed or data unavailable

March

7 th 0	8 th 0	9 th 0	10 th 0	11 th 0	12 th 0	13 th 0
14 th 0	15 th 1.14"	16 th 0.95"	17 th 0	18 th 0	19 th 0	20 th 0.17"
21 st 0	22 nd 0	23 rd 0.40"	24 th 0	25 th 0	26 th 0	27 th 0
28 th 0	29 th 0	30 th 0.02"	31 st 0.50"			

April

1 st 0	2 nd 0	3 rd 0	4 th 1.79"	5 th 1.56"	6 th 0.87"	7 th 0.06"
8 th 0	9 th 0	10 th 0.60"	11 th 0.29"	12 th 0	13 th 0	14 th 0
15 th 0	16 th 0	17 th 0.06"	18 th 0	19 th 0	20 th 0	21 st 0.15"
22 nd 0	23 rd 0	24 th 0.02"	25 th 0.89"	26 th 0.07"	27 th 0	28 th 0
29 th 0.32"	30 th 0					

May

1 st 0.41"	2 nd 0	3 rd 1.07"	4 th 0.21"	5 th 0.01"	6 th 0	7 th 0
8 th 0	9 th 0	10 th 0	11 th 0	12 th 0.16"	13 th 0.27"	14 th 0
15 th 0	16 th 0.80"	17 th 0.24"	18 th 0	19 th 0	20 th 0.64"	21 st 0
22 nd 0	23 rd 0	24 th 0	25 th 0.01"	26 th 0	27 th 0.50"	28 th 0.05"
29 th 0.01"	30 th 1.74"	31 st 0.03"				

June

1 st 0	2 nd 0	3 rd 0	4 th 0	5 th 0

All precipitation totals are obtained from the National Oceanic and Atmospheric Administration (NOAA). Precipitation readings are based on the latitude and longitude for each site as entered into complianceGO. Occasionally NOAA fails to return/record data. Days where this occurs are so indicated.

Environmental Quality Management

Inspector: **Nathan Weber**	Permit:
Inspection Date/Time **Jun 5, 2025, 2:35:24 PM**	Frequency: **Annually -**
1445 US Hwy 27, Lexington, KY 40503	

UK Outfall Screening

Site Weather Information		
Last Rain Event	**Last 24h Precipitation**	**48 Hour Forecast**
--	0.0" Last 24 hour precipitation	80% Chance of Rain

Section 2

Location

- [ ] Closed Pipe
- [ ] Open Drainage

Material

- [ ] RCP
- [ ] PVC
- [ ] Steel
- [ ] CMP
- [ ] HDPE

Other:

- [x] **Concrete**
- [ ] Earthen
- [ ] RIP-RAP

Other:

Shape

- [ ] Circular
- [ ] Elliptical
- [ ] Box

Other:

- [ ] Trapezoid
- [ ] Parabolic

Other:

Dimensions

Text

Depth:

Top Width

Bot Width:

Submerged

In Water:

- No ☐
- **Partially** ☑
- Fully ☐

With Sediment:

- **No** ☑
- Partially ☐
- Fully ☐

Flow Present

- **Yes** ☑
- No ☐

(If No, skip to section 5)

Flow Description (If Present)

- **Trickle** ☑
- Moderate ☐
- Substantial ☐

Section 3

Are there any field water quality parameters that may be tested? Yes | **No**

(If No, skip to section 5)

Test Parameter	Check If Tested	Test Results	Comments
Chlorine	☐		
Water Temperature	☐		
pH	☐		
Ammonia	☐		
Specific Conductance	☐		
Total Dissolved Solids (TDS)	☐		

Section 4

Are Any Physical Indicators Present in the Flow? Yes | **No**

(If No, skip to section 5)

Indicator	Check If Present	Description	Relative Severity Index (1-3)
Odor	☐	Sewage ☐ Petroleum/Gas ☐ Rancid/Sour ☐ Sulfide ☐ Chlorine ☐ Other ☐	1 - Faint ☐ 2 - Easily Detected ☐ 3 - Noticeable from Distance ☐

Indicator	Check If Present	Description	Relative Severity Index (1-3)
Color	☐	Clear ☐	

	☐	Green ☐ Brown ☐ Gray ☐ Yellow ☐ Red ☐ Orange ☐ Other ☐	1 - Faint Colors in Sample Bottle ☐ 2 - Clearly Visible in Sample Bottle ☐ 3 - Clearly Visible in Outfall Flow ☐

Indicator	Check If Present	Description	Relative Severity Index (1-3)
Turbidity	☐	See Severity ☐	1 - Slight Cloudiness ☐ 2 - Cloudy ☐ 3 - Opaque ☐

Indicator	Check If Present	Description	Relative Severity Index (1-3)
Floatables	☐	Sewage (Toilet Paper) ☐ Petroleum (Oil Sheen) ☐ Suds ☐ Other ☐	1 - Few/Slight; origin not obvious ☐ 2 - Some; Indications pf origin ☐ 3 - Some; Origin Clear ☐

Indicator	Check If Present	Description	Thickness:	Relative Severity Index (1-3)
Suds	☐	Sewage ☐ Fragrant ☐ Other ☐		1 - Immediately Break Up (Turbulence) ☐ 2 - Break Up Downstream ☐ 3 - Break Up Downstream, Thick Suds ☐

Section 5

Are any Physical Indicators that are not related to flow present?

Yes | No

(If No, skip to section 6)

Indicator	Check If Present	Description	(Indicate Type and Servite of Deformation)	Comments
Outfall Damage	☐ ☐	Spalling, cracking or chipping ☐ Peel paint ☐ Corrosion ☐		

		Deformation ☐		

Indicator	Check If Present	Description	% Blockage	Comments
Deposits/Stains	☐	Oily ☐ Flow line ☐ Paint ☐ Other ☐ Siltation of pipe outfall ☐		

Indicator	Check If Present	Description	Comments
Abnormal Vegetation	☐	Excessive ☐ Inhibited ☐	

Indicator	Check If Present	Description	Comments
Poor Pool Quality	☐	Odors ☐ Suds ☐ Excessive Algae ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Other ☐	

Indicator	Check If Present	Description	Comments
Pipe Benthic Growth	☐	Brown ☐ Green ☐ Orange ☐ Other ☐	

Section 6

Recommended Actions/Actions Taken

		If Other Describe
Debris removed ☑ Pipe In need of repair ☐ pipe needs to be replaced ☐	Sediment needs to be removed ☐ No action necessary ☐ Other ☑	Dried algal matting on grate, not impacting flow at time of inspection.

Section 7

Overall Outfall Characterization	No Evidence ☑ Suspect (One or more indicators with a severity of 3) ☐ Potential (Presence of 2 or more indicators) ☐ Obvious ☐

Certification & Signatures

:

Electronic Signature

X *Nathan Weber*

Date
June 9, 2025, 11:10:44 AM EDT

Title
Water Quality Compliance Specialist

:

Electronic Signature

X *Kevin Lewis*

Date
June 9, 2025, 12:25:53 PM EDT

Title
Water Quality Compliance Manager

Photos



IMG_0669.jpeg



IMG_0671.jpeg

Weather History



March

7 th 0	8 th 0	9 th 0	10 th 0	11 th 0	12 th 0	13 th 0
14 th 0	15 th 1.20"	16 th 1.00"	17 th 0	18 th 0	19 th 0	20 th 0.18"
21 st 0	22 nd 0	23 rd 0.30"	24 th 0	25 th 0	26 th 0	27 th 0
28 th 0	29 th 0	30 th 0.03"	31 st 0.46"			

April

1 st 0	2 nd 0	3 rd 0	4 th 1.74"	5 th 1.48"	6 th 0.81"	7 th 0.04"
8 th 0	9 th 0	10 th 0.57"	11 th 0.28"	12 th 0	13 th 0	14 th 0
15 th 0	16 th 0	17 th 0.05"	18 th 0	19 th 0	20 th 0	21 st 0.14"
22 nd 0	23 rd 0	24 th 0.02"	25 th 0.81"	26 th 0.08"	27 th 0	28 th 0.01"
29 th 0.26"	30 th 0					

May

1 st 0.66"	2 nd 0.01"	3 rd 1.09"	4 th 0.19"	5 th 0.01"	6 th 0	7 th 0
8 th 0.01"	9 th 0	10 th 0	11 th 0	12 th 0.15"	13 th 0.33"	14 th 0
15 th 0	16 th 0.68"	17 th 0.21"	18 th 0	19 th 0	20 th 0.59"	21 st 0
22 nd 0	23 rd 0	24 th 0	25 th 0.02"	26 th 0	27 th 0.41"	28 th 0.04"
29 th 0.01"	30 th 1.67"	31 st 0.02"				

June

1 st 0	2 nd 0	3 rd 0	4 th 0	5 th 0

All precipitation totals are obtained from the National Oceanic and Atmospheric Administration (NOAA). Precipitation readings are based on the latitude and longitude for each site as entered into complianceGO. Occasionally NOAA fails to return/record data. Days where this occurs are so indicated.

Environmental Quality Management

Inspector: **Nathan Weber**	Permit:
Inspection Date/Time **Jun 5, 2025, 1:55:33 PM**	Frequency:
313 Glendover Rd, Lexington, KY 40503	

UK Outfall Screening

Site Weather Information		
Last Rain Event	**Last 24h Precipitation**	**48 Hour Forecast**
--	0.0" Last 24 hour precipitation	80% Chance of Rain

Section 2

Location

- [ ] Closed Pipe
- [ ] Open Drainage

Material

- [ ] RCP
- [ ] PVC
- [ ] Steel
- [ ] CMP
- [ ] HDPE

Other:

- [x] **Concrete**
- [ ] Earthen
- [ ] RIP-RAP

Other:

Shape

- [ ] Circular
- [ ] Elliptical
- [ ] Box

Other:

- [ ] Trapezoid
- [ ] Parabolic

Other:

Dimensions

Text

Depth:

Top Width

Bot Width:

Submerged

In Water:

- [x] **No**
- [ ] Partially
- [ ] Fully

With Sediment:

- [x] **No**
- [ ] Partially
- [ ] Fully

Flow Present

- [ ] Yes
- [x] **No**

(If No, skip to section 5)

Flow Description (If Present)

- [ ] Trickle
- [ ] Moderate
- [ ] Substantial

Section 3

Are there any field water quality parameters that may be tested? Yes / **No**

(If No, skip to section 5)

Test Parameter	Check If Tested	Test Results	Comments
Chlorine	☐		
Water Temperature	☐		
pH	☐		
Ammonia	☐		
Specific Conductance	☐		
Total Dissolved Solids (TDS)	☐		

Section 4

Are Any Physical Indicators Present in the Flow? Yes / **No**

(If No, skip to section 5)

Indicator	Check If Present	Description	Relative Severity Index (1-3)
Odor	☐	Sewage ☐ Petroleum/Gas ☐ Rancid/Sour ☐ Sulfide ☐ Chlorine ☐ Other ☐	1 - Faint ☐ 2 - Easily Detected ☐ 3 - Noticeable from Distance ☐

Indicator	Check If Present	Description	Relative Severity Index (1-3)
Color	☐	Clear ☐	

	☐	Green ☐ Brown ☐ Gray ☐ Yellow ☐ Red ☐ Orange ☐ Other ☐	1 - Faint Colors in Sample Bottle ☐ 2 - Clearly Visible in Sample Bottle ☐ 3 - Clearly Visible in Outfall Flow ☐

Indicator	Check If Present	Description	Relative Severity Index (1-3)
Turbidity	☐	See Severity ☐	1 - Slight Cloudiness ☐ 2 - Cloudy ☐ 3 - Opaque ☐

Indicator	Check If Present	Description	Relative Severity Index (1-3)
Floatables	☐	Sewage (Toilet Paper) ☐ Petroleum (Oil Sheen) ☐ Suds ☐ Other ☐	1 - Few/Slight; origin not obvious ☐ 2 - Some; Indications pf origin ☐ 3 - Some; Origin Clear ☐

Indicator	Check If Present	Description	Thickness:	Relative Severity Index (1-3)
Suds	☐	Sewage ☐ Fragrant ☐ Other ☐		1 - Immediately Break Up (Turbulence) ☐ 2 - Break Up Downstream ☐ 3 - Break Up Downstream, Thick Suds ☐

Section 5

Are any Physical Indicators that are not related to flow present?

Yes | No

(If No, skip to section 6)

Indicator	Check If Present	Description	(Indicate Type and Servite of Deformation)	Comments
Outfall Damage	☐ ☐	Spalling, cracking or chipping ☐ Peel paint ☐ Corrosion ☐		

		Deformation ☐		

Indicator	Check If Present	Description	% Blockage	Comments
Deposits/Stains	☐	Oily ☐ Flow line ☐ Paint ☐ Other ☐ Siltation of pipe outfall ☐		

Indicator	Check If Present	Description	Comments
Abnormal Vegetation	☐	Excessive ☐ Inhibited ☐	

Indicator	Check If Present	Description	Comments
Poor Pool Quality	☐	Odors ☐ Suds ☐ Excessive Algae ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Other ☐	

Indicator	Check If Present	Description	Comments
Pipe Benthic Growth	☐	Brown ☐ Green ☐ Orange ☐ Other ☐	

Section 6

Recommended Actions/Actions Taken

		If Other Describe
Debris removed ☐ Pipe In need of repair ☐ pipe needs to be replaced ☐	Sediment needs to be removed ☐ No action necessary ☑ Other ☐	

Section 7

Overall Outfall Characterization	No Evidence ☑ Suspect (One or more indicators with a severity of 3) ☐ Potential (Presence of 2 or more indicators) ☐ Obvious ☐

Certification & Signatures

:

Electronic Signature

X *Nathan Weber*

Date
June 9, 2025, 11:09:21 AM EDT

Title
Water Quality Compliance Specialist

:

Electronic Signature

X *Kevin Lewis*

Date
June 9, 2025, 12:18:54 PM EDT

Title
Water Quality Compliance Manager

Photos



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IMG_0660.jpeg

Environmental Quality Management

Inspector: **Nathan Weber**	Permit:
Inspection Date/Time **Jun 5, 2025, 2:50:21 PM**	Frequency: **Annually -**
Boone Tennis Center, Lexington, KY 40502	

UK Outfall Screening

Site Weather Information

Last Rain Event	Last 24h Precipitation	48 Hour Forecast
--	0.0" Last 24 hour precipitation	80% Chance of Rain

Section 2

Location

- **Closed Pipe** ☑
- Open Drainage ☐

Material

- RCP ☐
- PVC ☐
- Steel ☐
- CMP ☐
- HDPE ☐

Other:

- **Concrete** ☑
- Earthen ☐
- RIP-RAP ☐

Other:

Shape

- Circular ☐
- Elliptical ☐
- Box ☐

Other:

- Trapezoid ☐
- Parabolic ☐

Other:

Dimensions

Text

Depth:

Top Width

Bot Width:

Submerged

In Water:

- **No** ☑
- Partially ☐
- Fully ☐

With Sediment:

- **No** ☑
- Partially ☐
- Fully ☐

Flow Present

- Yes ☐
- **No** ☑

(If No, skip to section 5)

Flow Description (If Present)

- Trickle ☐
- Moderate ☐
- Substantial ☐

Section 3

Are there any field water quality parameters that may be tested? Yes / No

(If No, skip to section 5)

Test Parameter	Check If Tested	Test Results	Comments
Chlorine	☐		
Water Temperature	☐		
pH	☐		
Ammonia	☐		
Specific Conductance	☐		
Total Dissolved Solids (TDS)	☐		

Section 4

Are Any Physical Indicators Present in the Flow? Yes / No

(If No, skip to section 5)

Indicator	Check If Present	Description	Relative Severity Index (1-3)
Odor	☐	Sewage ☐ Petroleum/Gas ☐ Rancid/Sour ☐ Sulfide ☐ Chlorine ☐ Other ☐	1 - Faint ☐ 2 - Easily Detected ☐ 3 - Noticeable from Distance ☐

Indicator	Check If Present	Description	Relative Severity Index (1-3)
Color	☐ ☐	Clear ☐ Green ☐ Brown ☐ Gray ☐ Yellow ☐ Red ☐ Orange ☐ Other ☐	1 - Faint Colors in Sample Bottle ☐ 2 - Clearly Visible in Sample Bottle ☐ 3 - Clearly Visible in Outfall Flow ☐

Indicator	Check If Present	Description	Relative Severity Index (1-3)
Turbidity	☐	See Severity ☐	1 - Slight Cloudiness ☐ 2 - Cloudy ☐ 3 - Opaque ☐

Indicator	Check If Present	Description	Relative Severity Index (1-3)
Floatables	☐	Sewage (Toilet Paper) ☐ Petroleum (Oil Sheen) ☐ Suds ☐ Other ☐	1 - Few/Slight; origin not obvious ☐ 2 - Some; Indications pf origin ☐ 3 - Some; Origin Clear ☐

Indicator	Check If Present	Description	Thickness:	Relative Severity Index (1-3)
Suds	☐	Sewage ☐ Fragrant ☐ Other ☐		1 - Immediately Break Up (Turbulence) ☐ 2 - Break Up Downstream ☐ 3 - Break Up Downstream, Thick Suds ☐

Section 5

Are any Physical Indicators that are not related to flow present? Yes / No

(If No, skip to section 6)

Indicator	Check If Present	Description	(Indicate Type and Servite of Deformation)	Comments

Outfall Damage	☐ ☐	Spalling, cracking or chipping ☐ Peel paint ☐ Corrosion ☐ Deformation ☐		

Indicator	Check If Present	Description	% Blockage	Comments
Deposits/Stains	☐	Oily ☐ Flow line ☐ Paint ☐ Other ☐ Siltation of pipe outfall ☐		

Indicator	Check If Present	Description	Comments
Abnormal Vegetation	☐	Excessive ☐ Inhibited ☐	

Indicator	Check If Present	Description	Comments
Poor Pool Quality	☐	Odors ☐ Suds ☐ Excessive Algae ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Other ☐	

Indicator	Check If Present	Description	Comments
Pipe Benthic Growth	☐	Brown ☐ Green ☐ Orange ☐ Other ☐	

Section 6

Recommended Actions/Actions Taken

		If Other Describe
Debris removed ☐ Pipe In need of repair ☐ pipe needs to be replaced ☐	Sediment needs to be removed ☐ No action necessary ☐ Other ☑	Monitor erosion occurring on either side of outlet.

Section 7

Overall Outfall Characterization	No Evidence ☑ Suspect (One or more indicators with a severity of 3) ☐ Potential (Presence of 2 or more indicators) ☐ Obvious ☐

Certification & Signatures

:

Electronic Signature

X *Nathan Weber*

Date
June 9, 2025, 11:11:26 AM EDT

Title
Water Quality Compliance Specialist

:

Electronic Signature

X *Kevin Lewis*

Date
June 9, 2025, 11:15:53 AM EDT

Title
Water Quality Compliance Manager

Photos



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IMG_0675.jpeg



IMG_0673.jpeg



IMG_0672.jpeg



IMG_0681.jpeg



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IMG_0674.jpeg



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APPENDIX D-1

Active Construction Map

Capital Project Management

TOTAL NUMBER OF PROJECTS

87

TOTAL COST OF PROJECTS

$6,860,694,000



APPENDIX D-2

Construction Industry Workshop (MS4UM) Flyer and Presentations



THE MS4UM

ANNUAL UPDATES FOR STORMWATER STAKEHOLDERS

Fayette County Extension Facility
1140 Harry Sykes Way

December 19, 2025
8:30 a.m. - 12:00 p.m.

LEXINGTON

About the Event

Formerly known as the **Workshop with the Engineering, Development, and Construction Industry**, this annual workshop delivers updates on stormwater, water quality, and erosion and sediment control in Lexington. Join us for insights, networking, and the latest developments shaping our local stormwater landscape.

Event Highlights

Division of Water Quality Updates
Erosion and Sediment Control Best Practices
Tree Protection Requirements
Green Infrastructure Panel

Who Should Attend?

Stormwater Professionals
Contractors/Developers/Homebuilders
Owners of Stormwater Controls

More Info:
Bailee Young, MS4 Section Manager
byoung@lexingtonky.gov

No Cost to Attend / No RSVP Required
PDHs Available

Municipal Separate Storm Sewer System (MS4) 2025 Update

December 19, 2025

Bailee Young, PE
MS4 Section Manager
Division of Water Quality

MS4 Defined

- Municipal Separate Storm Sewer System
- KRS 224 authorizes a community like Lexington to discharge stormwater runoff from its MS4 into "Waters of the Commonwealth"
- Lexington is issued a stormwater discharge permit by the Kentucky Department for Environmental Protection
- Permit requirements contained in federal law are applicable to "large MS4s" (Pop. 250,000 or greater) like Lexington



Why it Matters

Program intended to maintain and improve the quality of the state's waterways *by reducing the quantity of pollutants that stormwater picks up and carries into the MS4 during storm events*



MS4 Permit – Program Elements

Public Engagement	
1	Public Education and Outreach
2	Public Involvement and Participation
Pollution Prevention	
3	Illicit Discharge Detection and Elimination
4	Construction Site Stormwater Runoff Control
5	Post-Construction SW Management
6	Pollution Prevention for Municipal Operations
7	Industrial Facility SW Pollution Prevention
Monitoring and Reporting	
8	Water Quality Monitoring
9	Reporting and Recordkeeping
10	Total Maximum Daily Loads/ Impaired Waters



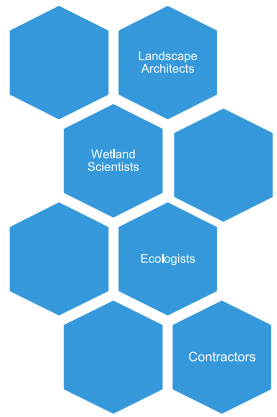
2025 Manual Updates

- Stormwater, Procedures, and Maintenance Requirements for Post-Construction Stormwater Controls
- Timeline
  - Amendment No. 2 – July 1st
  - SSAC Workgroup – August 29th
  - Green Infrastructure Questionnaire – October 31st
  - Presented to SSAC – December 5th
  - Present to EQPW - 2026



Green Infrastructure Responses

- "Wetlands should not be considered unsuccessful if the specific plants that were seeded do not germinate as long as the plants that do sprout are wetland plants and are not species on the Kentucky Exotic Pest Plant Council list of severe threats, or on the Kentucky Prohibited Noxious Weeds list."
- "Wetlands establish in many ways and over time change composition. Different years may have different species diversity as some plants take longer to become established/dominant. So not seeing certain plants in Year 1 is not necessarily an indicator that they will not appear in future years."
- "Not having a minimum spacing requirement would allow for a combination of these planting methods to be implemented" (seed, rhizomes, plugs, bare root stock, containerized plants).
- "Plant plugs of some of the more expensive seed types so that they will have the potential to self-seed."



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Green Infrastructure Responses

- "Handling/replacement of the topsoil is very important."
- "In addition to developing a soil spec for acceptable material, compaction during installation, methods of blending soils (when mixed on-site), and the design of the soil profile layers are also significant factors in soil quality which should be considered during installation."
- "Ongoing maintenance or stewardship is required to keep the plant community healthy and keep it from being overtaken by invasive species. The planting of the area is the start…not the finish."



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Maintenance Manual:

Maintenance Requirements for Post-Construction Stormwater Controls

- Maintenance Responsibilities
- Defines the Ordinances
- Planting Guidelines from Lexington Plant by Numbers
- Seeding Guidelines from Kentucky Erosion Prevention and Sediment Control Guide
- Inspection Checklists



LEXINGTON

Maintenance Agreements



APPENDIX F

Commercial Agreement to Maintain Stormwater Controls

This Agreement contains specific provisions related to the maintenance of permanent stormwater controls (water quantity or water quality) that were constructed to meet the post-construction requirements of the LFUCG Stormwater Manual.

For information on LFUCG's maintenance requirements for permanent stormwater controls, refer to Sections 16-84 to 16-88 and Sections 18-230 to 18-233 of the LFUCG Code of Ordinances, and LFUCG's *Policy Statement on Repair, Maintenance, and Ownership of Stormwater Control Devices*

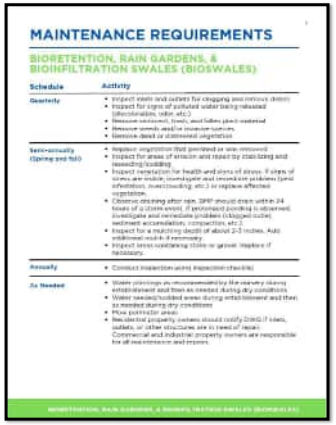
— TO BE FILLED OUT BY THE PROPERTY OWNER (PAGES 1 & 2) —

DEVELOPMENT NAME:_____

PROPERTY SITE ADDRESS(ES):_____

PERMANENT STORMWATER CONTROL FACILITIES:

List all permanent controls in service on the site at the completion of the development project and describe the plan for maintenance for each control. The maintenance plan can be one of the following: (1) a reference to the manufacturer's recommended schedules and procedures, and/or (2) a plan described below or in an attachment.



MAINTENANCE REQUIREMENTS

BIORETENTION, RAIN GARDENS, & BIOINFILTRATION SWALES (BIOSWALES)

Schedule	Activity
Quarterly	• Inspect inlets and outlets for clogging and remove debris • Inspect for signs of polluted water being released (discoloration, odor, etc.) • Remove sediment, trash, and fallen plant material • Remove weeds and/or invasive species • Remove dead or distressed vegetation
Semi-annually (Spring and fall)	• Replace vegetation that perished or was removed • Inspect for areas of erosion and repair by stabilizing and reseeding/sodding • Inspect vegetation for health and signs of stress. If signs of stress are visible, investigate and remediate problems (pest infestation, overflooding, etc.) or replace affected vegetation • Observe draining after rain. DRF should drain within 24 hours of a storm event. If prolonged ponding is observed, investigate and remediate problem (clogged outlet, sediment accumulation, compaction, etc.) • Inspect for a mulching depth of about 2-3 inches. Add additional mulch if necessary • Inspect level-spreading rocks or gravel. Replace if necessary
Annually	• Conduct inspection using inspection checklist
As Needed	• Water plantings as recommended by the warranty during establishment and then as needed during dry conditions • Water needed/sodded areas during establishment and then as needed during dry conditions • Mow perimeter areas • Residential property owners should notify DWQ if inlets, outlets, or other structures are in need of repair. Commercial and industrial property owners are responsible for all maintenance and repairs

LEXINGTON

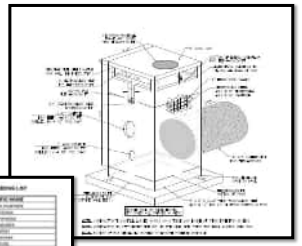
Post-Construction Final Inspection

Final Warranty Inspection by LFUCG

LFUCG shall conduct a final inspection of the construction near the end of the warranty period (see definitions) in accordance with the following procedures:

1. Stormwater Infrastructure:
   a. The Division of Engineering shall provide the Division of Water Quality the surety list each month that shows the sureties that are up for renewal in the next 60-90 days.
   b. The Division of Water Quality shall inspect the stormwater controls and send the Division of Engineering an email report of their findings at least 30 calendar days before the surety renewal date. The findings shall include a list of items that are missing or that need repair.
   c. The Division of Engineering shall not release or release the surety until the Division of Water Quality provides written confirmation of their acceptance of the project.
   d. The Division of Engineering shall communicate with the Developer and Engineer regarding the surety, including forwarding the Division of Water Quality's findings.

- Recent Issues:
  - Improperly planted green infrastructure
  - Lack of vegetation/stabilized soil
  - Detention basin grading
  - Elevation of inlets and outlets







LEXINGTON

Post-Construction Stormwater Management

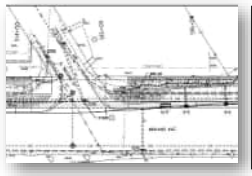
	No.	Frequency	Inspections
Detention Basins	1,248	Semi-Annually	2,496
Retention Ponds	104	Quarterly	416
Private WQ BMPs	1,167	Annually	1,167
LFUCG WQ BMPs	96	Quarterly	384
Underground Detention Basins	135	Annually	135
Critical Culverts	49	Monthly	588
TOTAL	2,799		5,186



LEXINGTON

BMP Monitoring

- Collaborations
  - UK Landscape Architecture
    - Town Branch Commons' Bioswale
  - BCTC
    - Waterford's Retention Pond to Wetland
    - Shillito Park Detention Basin Retrofit
  - UK
    - Wooded and Mowed Detention Basins
    - $Q_{critical}$ Retrofit Hydrologic and Hydraulic Monitoring
- Monitor Effectiveness
  - 2,750 Regulatory Stormwater Control Features
  - 182 Completed Incentive Grant BMPs





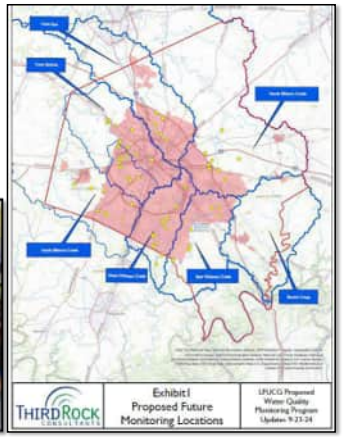


LEXINGTON

Water Quality Monitoring

- 12/20/2024 – Submitted Proposed Program to KDOW
- 1/10/2025 – Received Approval from KDOW
- County-Wide Program Includes:
  - Quarterly Grab Sampling - 63 Sites
  - Wet Weather Sampling
  - Macroinvertebrate Sampling
  - Stream Habitat Assessment
  - Geomorphic Assessment
  - Fish Sampling
  - Volunteer Participation



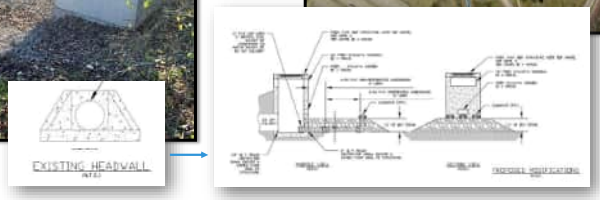


LEXINGTON

$Q_{Critical}$ Pilot Project





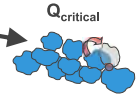


LEXINGTON

$Q_{Critical}$ and Typical Streambank Erosion in Lexington, KY

- Stream Deepening and Widening
- Water Quality Impacts
- Biological Disturbance
- Loss of Land/ Damaged Infrastructure

Critical Flow = flow that moves particles on the streambed





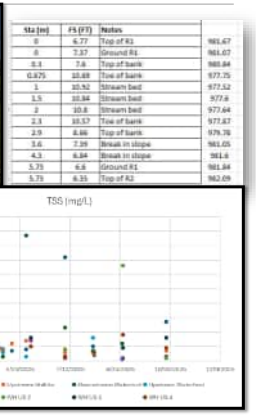
UT of South Elkhorn Creek in Shillito Park

LEXINGTON

$Q_{Critical}$ Monitoring

- Water Quantity Impacts
- Water Quality Impacts
  - pH, DO, Cond, Temp, NH3-N, NO3-N, TP, TSS, E Coli
- Evaluation of Downstream Cross-Section







LEXINGTON

Incentive Grant Program

- Class A Neighborhood
  - Riparian Buffer Enhancement, Stream Cleaning, Rain Garden Installation, and Tree Planting
  - Max Grant Amount: $120,000
  - Max Feasibility Only: $45,000
  - Due in May
- Class B Education
  - Water Quality Education Program Support, Rain Garden Installation, and Sampling Training
  - Max Grant Amount: $40,000
  - Due in May
- Class B Infrastructure
  - Stream Restoration, Constructed Wetlands, Permeable Pavers, and Rainwater Harvesting
  - Max Grant Amount: $360,000
  - Max Feasibility Only: $55,000
  - Due in July

Application → Review by DWQ Director → Water Quality Fees Board → Agreement Signed → Council (Two Readings) → Final Agreement

LEXINGTON

Incentive Grant Update

STORMWATER QUALITY PROJECTS INCENTIVE GRANT PROGRAM
STATS FROM FY11- PRESENT

	Fiscal Year (Grant Cycle)	Total Amount Awarded	Total Applications Received	Total Applications Awarded	Total Funds Remaining (After Awards Were Decided)
1	2011	1,476,471.29	31	29	
2	2012	1,157,565.20	36	22	
3	2013	1,200,000.50	27	11	
4	2014	1,200,000.00	18	12	
5	2015	1,200,000.00	22	13	
6	2016	1,251,137.00	23	16	
7	2017	1,654,878.03	19	19	
8	2018	1,742,945.11	25	19	
9	2019	1,446,334.73	26	19	
10	2020	1,618,337.16	20	17	
11	2021	1,807,889.45	21	18	
12	2022	1,874,006.80	17	14	
13	2023	2,433,815.39	25	19	
14	2024	1,444,857.54	19	15	
15	2025	2,055,252.95	22	14	
16	2026	967,102.87	17	11	$1,898,416.60
		$ 23,810,401.02	368	270	

LEXINGTON

Incentive Grant Programmatic Updates

- 2025 Programmatic Changes Memo
  - Added Research / Monitoring Component
    - Innovation and Experimentation
  - Incentivized Education, Maintenance, or Restoration of Impaired Stream Segments
  - Incentivized BMP Selection based on E. coli Removal Effectiveness as outlined in the International SW Database
- 2026 Initiatives
  - Online Applications
  - Marketing
  - Office Hours
- Goals
  - Work with Developers to Exceed Stormwater Regulations
  - Opportunity for Programmatic Changes every January
  - Reduce Time Frames between Project Selection and Notices to Proceed

Frank Mabson
Program Manager Senior
859-367-4942
fmabson@lexingtonky.gov

Chase Jones
Engineering Technician Principal
859-806-0414
wjones@lexingtonky.gov

Denice Bullock
Administrative Specialist Principal
859-425-2580
sbullock@lexingtonky.gov





Questions?



TETRA TECH

Alternative BMPs for Erosion and Sediment Control

Abby Terry, PE

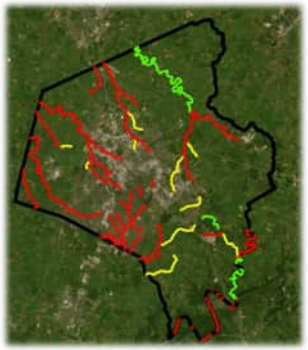
December 19, 2025

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LEXINGTON

Why is ESC such a big deal?

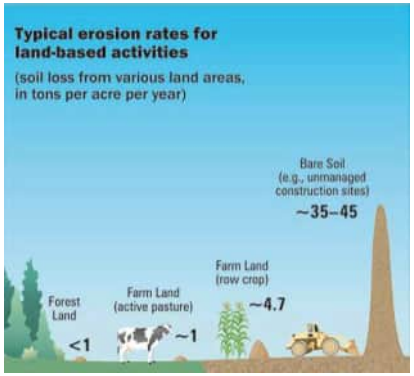
TETRA TECH





Why is ESC such a big deal?

TETRA TECH



Soil cover vs. erosion reduction

Soil covering	Erosion reduction
Mulch (hay or straw)	
½ ton per acre	75 percent
1 ton per acre	87 percent
2 tons per acre	98 percent
Grass (seed or sod)	
40 percent cover	90 percent
60 percent cover	96 percent
90 percent cover	99 percent
Bushes and shrubs	
25 percent cover	60 percent
75 percent cover	72 percent
Trees	
25 percent cover	58 percent
75 percent cover	64 percent
Erosion control blankets	95–99 percent

Permitting Requirements for Fayette County Construction Sites

TETRA TECH

Summary of LFUCG Ordinance entitled "Reduction of Soil Erosion" (Chapter 16, Article X, Division 5)

	Size of Land Disturbance	Ordinance Requirements (See Note 1 for Exemptions)	LFUCG Land Disturbance Permit Required	LFUCG Level of Review and Inspection
1	**One acre or more**, including lots that are less than one acre but are part of a larger common plan of development	Section 16-104. Permit application must include a SWPPP prepared in accordance with KYR10 and LFUCG Stormwater Manual. Incorporates state KYR10 requirements into LFUCG's Ordinance. • KYR10 inspection certification by corporate officer not applicable • KYR10 critical area and buffer zone applies to MS4 inlets, in addition to "Waters of the Commonwealth."	Yes	Review SWPPP; inspect monthly. See Note 3.
2	**5,000 sf to one acre** and not part of Category 1, or **any size disturbance** where a new commercial or residential building is being constructed	Section 16-101. Permit application must include an ESC Plan prepared in accordance with LFUCG Stormwater Manual. See Note 2 regarding vegetated buffers.	Yes	Review ESC plan; inspect monthly. See Note 3.
3	**Less than 5,000 sf with no building or utility line construction.** (See Category 2 for new buildings and Category 4 for utility line construction)	Section 16-103. General requirement to use practical controls to minimize discharge of sediment. See Note 2 regarding vegetated buffers.	No	Inspect on a complaint basis.
4	Linear Utility Line Construction Projects of **500 linear feet or more but less than one acre of disturbance,** that are not in Category 1.	Section 16-102. Permit application must include an ESC Plan prepared in accordance with LFUCG Stormwater Manual. LFUCG will require utility companies that routinely conduct such activities to apply for a general permit with a duration of two years. See Note 2 regarding vegetated buffers.	Yes	Review ESC plan; inspect monthly. See Note 3.

Note 1: The following activities are exempted: seed / sod replacement of less than 10,000 sf, agricultural activities, and cemetery lots (Section 16-100).

Note 2: An undisturbed vegetated buffer must be maintained within 50' of a perennial or intermittent stream bank, MS4 storm sewer inlet, sinkhole, or wetland, unless impractical due to nature of the project, in which case a protective alternate control shall be used.

Note 3: "Review" means the LFUCG level of review necessary to assess whether plans reasonably include measures that address potential water quality impacts from construction. LFUCG does not accept responsibility for the design, installation, and operation and maintenance of the erosion and sediment controls.

LFUCG Division of Engineering	Contractor	Engineer
Reviews ESC Plan	Applies for Land Disturbance Permit	Designs ESC Plan
Issues Land Disturbance Permit	Installs initial BMPs	Makes changes to ESC Plan that require calculations
LFUCG Division of Water Quality	Receives Land Disturbance Permit	
Conducts ESC inspections for MS4 Permit compliance	Begins Construction	
	Conducts ESC inspections for LDP/KYR10 Compliance	
	Makes changes to ESC Plan that do not require calculations	
	Files NOT after Final Stabilization	

Best Management Practices (BMPs)

Purpose:

- Prevent erosion from occurring on construction sites
- Prevent sediment from leaving the construction site

Types:

- Structural
- Non-Structural

Traditional Perimeter Controls

- Silt Fence
  - Temporary sediment barrier consisting of filter fabric entrenched in the soil and attached to supporting steel or wood posts
- Fiber Logs
  - Temporary sediment barrier consisting of natural materials such as straw, coconut fiber (coir), or wood fiber wrapped in a biodegradable or synthetic mesh





Alternative Perimeter Controls

Composite Multi-Layer Products

- Benefits:
  - Do not slump, less likely to sustain damage
  - Some are made of recycled materials, recyclable at end of product life











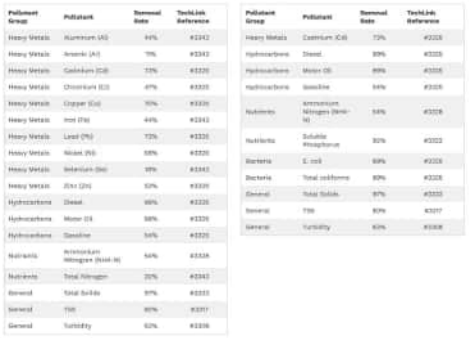


Alternative Perimeter Controls

Filter Media Socks

- Benefits:
  - Can target bacteria, heavy metals, nutrients, hydrocarbons





Traditional Check Dams

- Small, temporary dams constructed of rock, rock bags, sand bags, or fiber logs
- Dissipates velocity of concentrated stormwater flows, reducing erosion





Alternative Check Dams

Natural Material Socks

- Benefits:
  - 100% natural and biodegradable, no need for field removal

Compost Socks

- Benefits:
  - Can be pre-seeded





Alternative Check Dams

Composite Multi-Layer Products

Triangular Silt Dikes

- Benefits:
  - Lightweight
  - Reusable





Traditional Inlet Protection

- Temporary sediment barrier constructed from concrete blocks, gravel, rock bags, or geotextile “sock” filled with filter media
- Enables drainage to pond, allowing sediment to settle, some proprietary devices promote physical filtration of sediment





Alternative Inlet Protection

Filter Media Socks

Cover-Type Devices

- Benefits:
  - No grates to remove, safer for installers
  - Not as easily disturbed by vehicular traffic as some other types









Alternative Inlet Protection

Inlet Filter Mats

- Benefits:
  - Lightweight
  - Reusable
  - Some attach with magnets to prevent migration

Inlet Filter Bags

- Benefits:
  - Do not impede traffic







Traditional Channel Stabilization

- Protecting and reinforcing stream or drainage channel banks and beds to prevent erosion, maintain hydraulic capacity, and preserve structural integrity
- Traditionally applied using methods such as riprap, gabions, or structural linings to control flow velocity and minimize sediment transport





Alternative Channel Stabilization

Articulated Concrete Blocks

Hybrid Turf

- Benefits:
  - Simplified maintenance
  - Safety
  - Natural vegetation







Traditional Concrete Washouts

- Containment area for concrete waste and wash water
- Prevents introduction of hexavalent chromium into stormwater that affects pH of runoff





Alternative Concrete Washouts

Washout Bags

Portable Pre-Fab Containers

- Benefits:
  - Easy installation
  - Easy to transport
  - Reusable







Traditional Construction Exits

- Stabilized pad of rock for vehicles and equipment to enter and leave a construction site
- Reduces off-site sedimentation and protects public safety by eliminating tracking of sediment



Alternative Construction Exits

Trackout Mats

- Benefits:
  - Lightweight
  - Reusable

Wheel Wash Systems

- Benefits:
  - High removal efficiency





Traditional Seed and Mulch

- Applied by hand or blown on by machine
- Can be anchored by crimping, tracking, disking, or punching into the soil; covering with a netting material; spraying with asphaltic or organic tackifier; or tacking with cellulose fiber mulch



Alternative Seed and Mulch

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- Engineered Soil Media
- Soil Amendments
- Hydraulic Mulch
- Mulch Additives



Resources

TETRA TECH

- New Development (https://www.lexingtonky.gov/new-development)
  - LDP Summary Table
  - Stormwater Manual
  - Contractor's Handbook
  - PIE Procedures
- Stormwater (https://www.lexingtonky.gov/stormwater)
  - Previous Workshop Slides
- LEX TV LFUCG Stormwater and Water Quality YouTube Playlist (https://www.youtube.com/playlist?list=PLJscpaFZ0QuWkOcBkVsBVlLCw9GyLrwCd)
  - Training videos



TETRA TECH

Questions?

Abby Terry, PE

December 19, 2025

Leading with Science®

TREE PROTECTION REQUIREMENTS ON DEVELOPMENT SITES

MS4UM
December 19, 2025

ARTICLE 26 – Tree Protection Standards

Overview

- Established 1983
- Tree protection definitions, procedures, and requirements
- Significant trees, tree protection areas (TPAs) defined
- Canopy coverage requirements for specific zones



Article 26 Updates (2024)

Significant Tree Definition

- Reduced diameter at breast height (DBH) from 36" to 12"
- Gives special attention to many more trees
- Helps quantify what is being lost on sites
- Sets the stage for mitigation



Article 26 Updates continued

Who can prepare a Tree Inventory Map (TIM)

- Only Registered Landscape Architects (RLA) or I.S.A. Certified Arborists (CA)

- RLA stamp/CA certification number shall be placed on TIM

- Allows for accurate inventories at the beginning of the development process

Sec. 26-2 – Interpretation and Definitions

Significant Tree

a healthy tree, not identified as an invasive species in the Planting Manual that qualifies under one (1) or more of the following criteria:

(a) The tree has a minimum DBH of four (4) inches and is an American Elm, Bur Oak, Blue Ash, Buckeye, Chinkapin Oak, Kentucky Coffeetree, Shellbark Hickory, Shumard Oak, or Yellowwood;
(b) The tree has a minimum DBH of twelve (12) inches;
(c) Tree which is determined by the Division of Environmental Services to be of unique and intrinsic value to the public because of its size, age, historic association or ecological value or any tree designated a State Champion, United States Champion or World Champion. A record of all specimen trees so designated and their location shall be kept; or
(d) The tree is determined by the Division of Environmental Services or other appropriate state or federal governmental official to provide unique habitat for any endangered or threatened wildlife species protected by law.

DBH (Diameter at Breast Height)

is the total cross-sectional diameter in inches of a tree measured at a height of four and one-half (4.5) feet.

(a) In case the trunk is at an angle, the trunk is measured perpendicular to the trunk four and one-half (4.5) feet along the center of the trunk axis.
(b) When the trunk is on a slope, the trunk is measured four and one-half (4 .5) feet up the trunk of the tree on the uphill side of the tree.
(c) When the trunk branches or splits less than four and one-half (4.5) feet from the ground, the trunk is measured at the smallest cross-sectional diameter below the lowest branch.
(d) For multi-stemmed trees, all the trunks are measured, adding the total diameter of the largest trunk to one-half (0.5) the diameter of each additional trunk.

Tree Protection Area (TPA)

is a circular zone around a tree, centered at the of the bole, clearly marked, and fenced off, where the storage or dumping of any materials or waste, parking or movement of vehicles, and disturbance of the soil or grade are prohibited. The radius of the TPA is established by selecting the greater value obtained from:

(a) The distance from the center of the bole of the tree to the outermost drip line, plus ten (10) feet buffer from the drip line; or
(b) The Critical Root Zone (CRZ).

Critical Root Zone (CRZ)

is a circular area surrounding a tree of which the center is the center of the bole of the tree. The radial measurement is one (1) foot per inch DBH of trees up to twenty-four (24) inches DBH and one and one-half (1.5) feet per inch DBH of trees over twenty-four (24) inches DBH.

Sec. 26-4 — Procedures

- On Site Meeting

- Tree Inventory Map (with Preliminary DPs)

- Tree Preservation Plan (with Final DPs and Preliminary Subdivision Plans)

- Review of Development Design

Sec. 26-5 – Tree Canopy Standards

(1) All residential and nonresidential uses in agricultural zones: Thirty percent (30%) of existing only. See Subsection (c) of this section, Agricultural Standard Exceptions.
(2) All residential zones, including PUD-1, M-1P: Thirty percent (30%)
(3) B-2, B-2A and B-2B zones: zero percent (0%)
(4) P-1, P-2, B-1, B-3, B-5P, B-6P and CC zones: Twenty percent (20%)
(5) B-4, I-1, I-2 and ED zones: Ten percent (10%)
(6) All mixed-use zones: Ten percent (10%)

Ways Trees are Damaged During Construction

- Construction equipment
- Grade changes
- Excavation for utilities
- Cutting and filling
- Paving
- Footers for the house or wall
- Storage of equipment and/or supplies in root zones
- Improper TPA installation and management

Why, What, and How We Are Protecting

Why Protect Trees?

- Environmental services provided, think trees as green infrastructure or utilities

- Stormwater management, reduced flooding and rapid runoff

- Climate resilience

- Desirable places to live (increased property value)

- Other factors such as improved health, air quality, recreation, reducing energy usage, reducing heat islands around paved areas, wildlife habitat, and reduction of crime rates

What are we protecting?

- Root zone!

- Trunk, branches, and crown

- Integrity of the soil from compaction

- History and character of our place

How are we protecting?

- Creative design! Creative design! Creative design!

- Protective fencing properly installed to prevent root disruption

- Trunk wraps

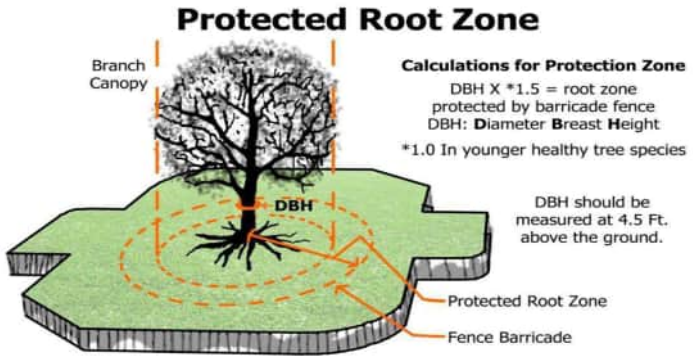
- Mats and wood chips/gravel

- Buffer zones

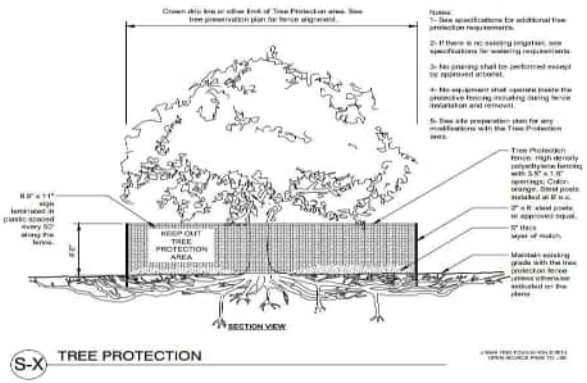
Sec. 26-11 – Tree Protection During Construction

All areas designated for existing tree preservation on the Tree Preservation Plan shall be protected during construction activity. The boundary of the TPA shall be designed to protect each tree, tree stand, and riparian zone before and during construction. The landowner is responsible for ensuring the physical layout of the TPAs shown in the TPP are installed as approved. TPAs shall be added to all applicable plan drawings and amendments including construction drawings submitted to the Division of Engineering. A TPA may vary widely in shape, but shall extend a minimum of ten (10) feet beyond the existing tree canopy along the outer edge of the tree stand. The TPA shall provide for the following protection measures:

1. Fencing at least three (3) feet tall, clearly visible with signage posted every one hundred (100) feet, and lettered with three-inch-high letters clearly identifying the TPA shall be used to surround all tree protection areas. The tree protection fencing will be placed at a distance equal to or greater than the critical root zone of the tree(s) to be protected. Any proposed TPA areas less than the minimal standards can only be delineated by approval of the Urban Forester. Written approval by the Urban Forester that the TPA requirements have been installed shall be provided to Division of Engineering prior to approval of an erosion control plan or the issuance of any land disturbance permit or other construction activity. The fencing shall be maintained and remain standing until issuance of the Certificate of Occupancy or until the Urban Forester has determined that construction activity has ceased to the point that the fencing may be removed or that the fence may be relocated to permit final grading provided the activity will not adversely affect the health of protected tree(s).
2. No vehicles, construction materials, equipment, fuel, or temporary or permanent earth fill shall be placed within a TPA. There shall not be any movement of any vehicles into nor within a TPA. No nails, rope, cable, signs, or fencing is to be attached to a tree within a TPA.
3. Where construction activity is permitted within a TPA, the Urban Forester shall be notified before the starting date of the work so that the Division of Planning may be present to ensure minimal disturbance and compliance with provisions of the Tree Protection Plan.
4. Alternative protection methods may be used if determined by the Urban Forester to provide equal or greater tree protection.



https://fm.okstate.edu/landscape-services/site-files/images/fig_7_tree_care_standards.jpg



https://www.isa-arbor.com/education/onlineresources/cadplanningspecifications

Tree Protection Requirements on Development Sites
LEXINGTON

TPA Proper

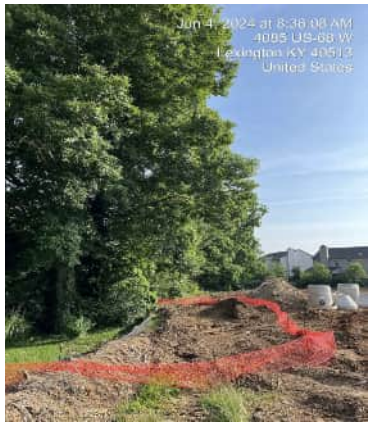




Tree Protection Requirements on Development Sites
LEXINGTON

TPA Fails





Tree Protection Requirements on Development Sites
LEXINGTON

TPA Fails







Tree Protection Requirements on Development Sites
LEXINGTON

Eric Sutherland
Urban Forester
Division of Environmental Services
esutherland@lexingtonky.gov



Questions?



Kort Way Pilot Project:
Design Approach and Green Infrastructure Implementation

Third Rock Consultants, LLC

Kort Way Pilot Project

- Kort Way Pilot Project began in 2021, when Third Rock Consultants was retained by Louisville MSD.
- Louisville MSD requested green infrastructure solutions to address issues from impervious runoff and failing concrete structures.
- Third Rock coordinated with the Homeowners Association (HOA) to design suitable green infrastructure with the goal to better water quality and reduce erosion on site.



Kort Way Pilot Project – Existing Concrete Channel
Before Construction

Roadmap

- Project Background and Need
- Existing Site Conditions and Identified Issues
- Design Approach and Site Layout
- Green Infrastructure Solutions with Drawing Details
- South Fork Beargrass Creek Bank Stabilization



Project Location

- Located off Breckinridge Lane.
- Green space behind Kort Way and Brad Court.
- Project area is adjacent to South Fork of Beargrass Creek.



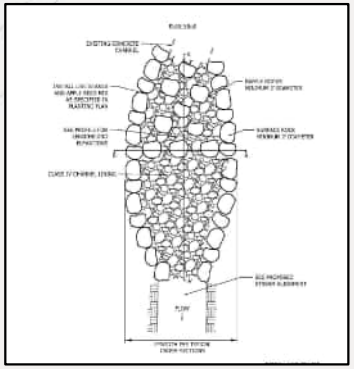
Kort Way Pilot Project – Existing Concrete Channel
Before Construction

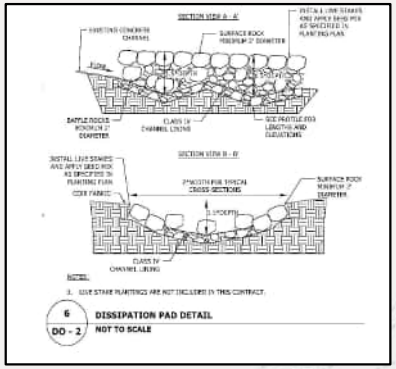


Kort Way Pilot Project – Existing Concrete Triple Culvert
Before Construction



Kort Way Pilot Project – Existing Outlet Structure
Before Construction

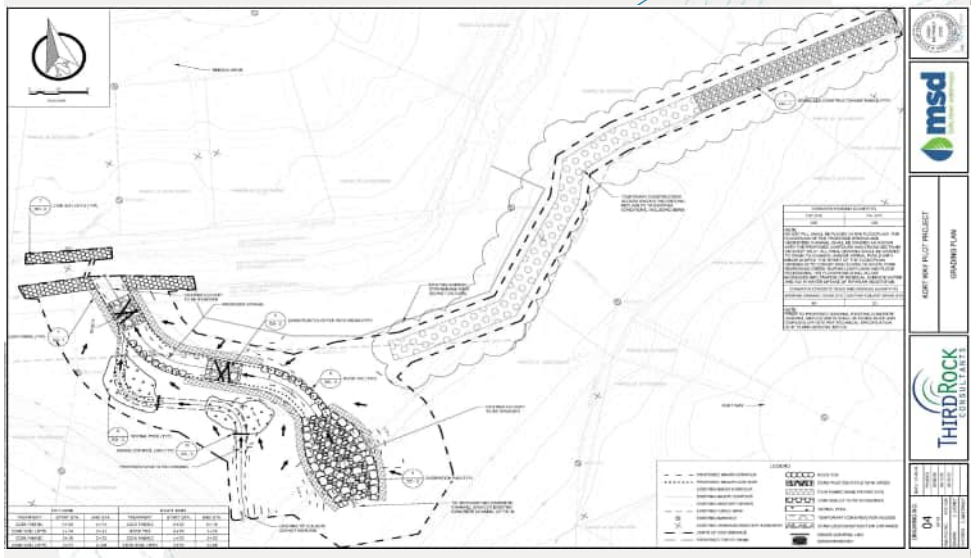




Kort Pilot Project – Energy Dissipation Pool Detail

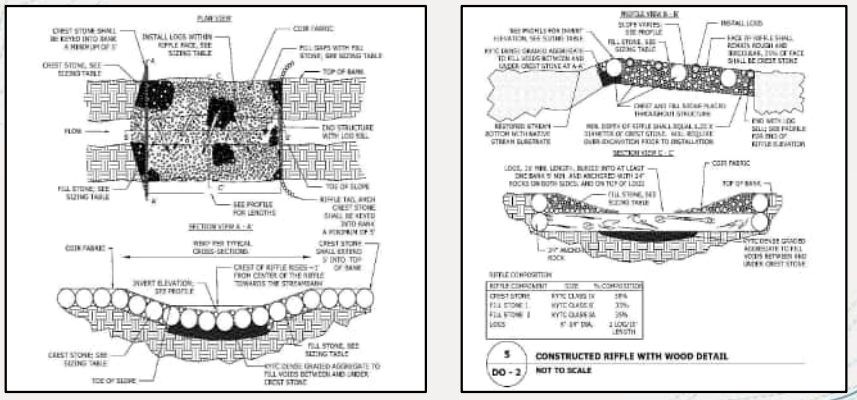


Kort Way Pilot Project – Existing Concrete Channel
Before Construction





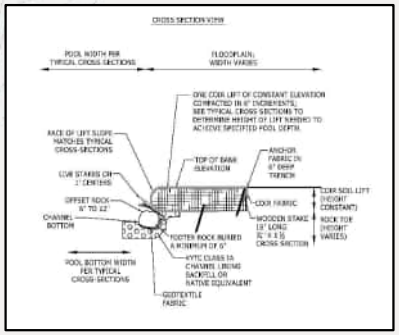
Kort Way Pilot Project – Energy Dissipation Pool
Post Construction

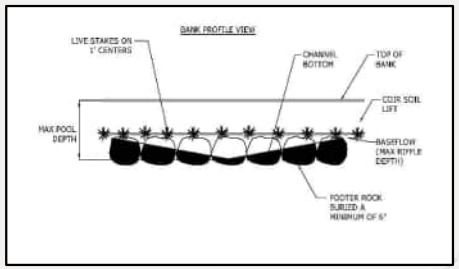


Kort Pilot Project – Riffle with Wood Detail



Kort Way Pilot Project – Riffle with Wood
Post Construction

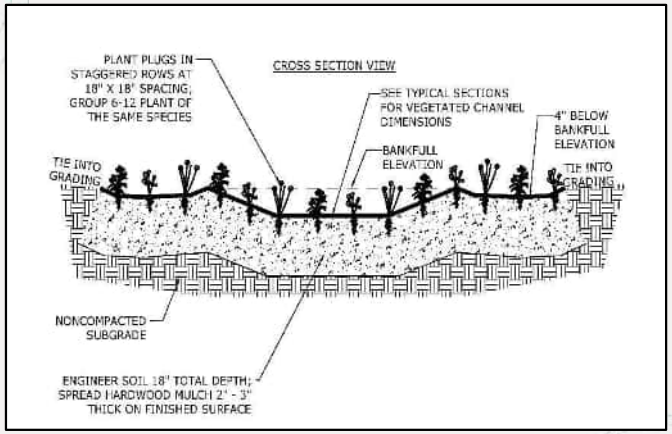




Kort Pilot Project – Rock Toe Detail



Kort Way Pilot Project – Rock Toe
Post Construction



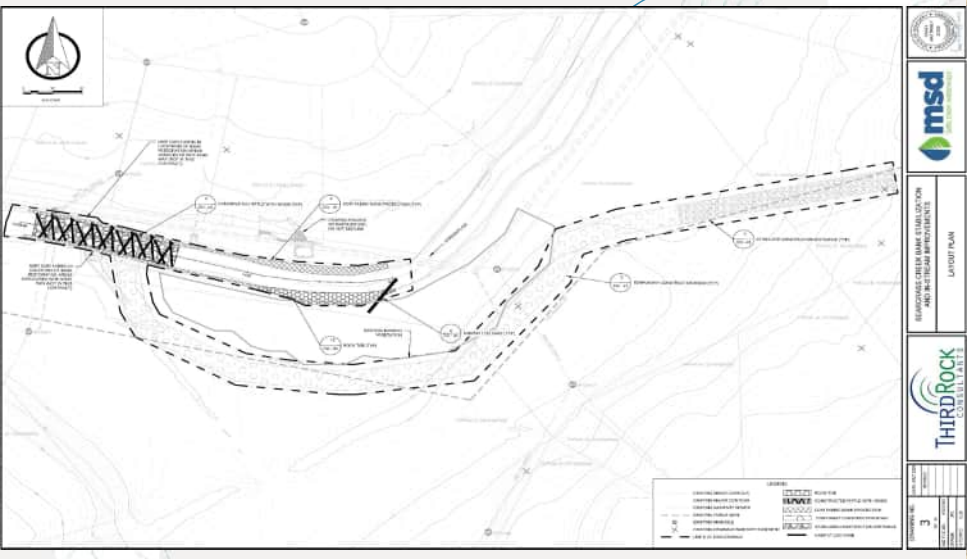
Kort Pilot Project – Vernal Pool Detail



Kort Way Pilot Project – Vernal Pool
Post Construction

South Fork Beargrass Creek Bank Stabilization

- During Construction of the Kort Way Pilot Project, Louisville MSD asked Third Rock Consultants to provide a design for in-stream structures and bank stabilization on South Fork Beargrass Creek.
- Eroding bank was threatening sewer infrastructure.





South Fork Beargrass Creek– Riffle with Wood Post Construction

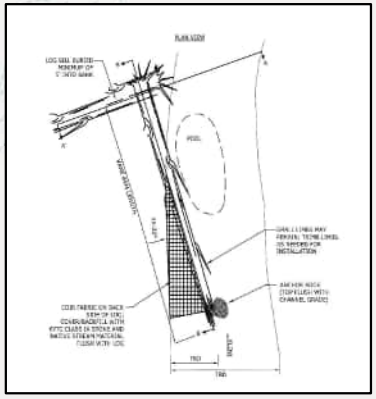


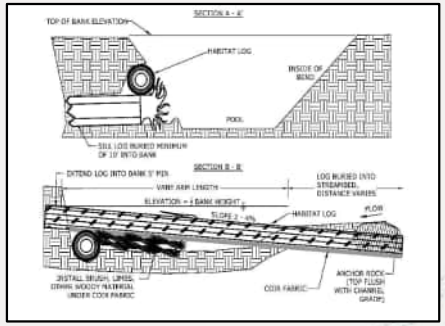
South Fork Beargrass Creek– Bank Erosion Before Construction



Selective Clearing in Green Infrastructure

South Fork Beargrass Creek– Rock Toe Post Construction





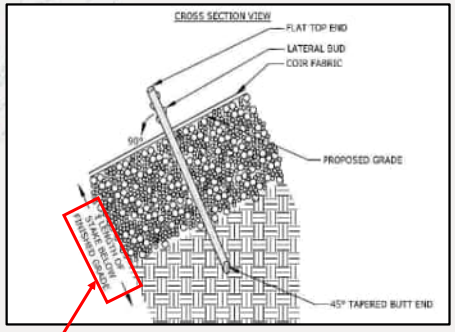
South Fork Beargrass Creek– Habitat Log Vane Detail



South Fork Beargrass Creek– Habitat Log Vane
Post Construction



South Fork Beargrass Creek– Live Stakes
Post Construction



Commonly Ignored in Live Stake Planting

Live Stakes		
Common Name	**Botantical Name**	**Quantity**
Buttonbush	*Cephalanthus occidentalis*	500
Black Willow	*Salix nigra*	
Silky Dogwood	*Cornus amomum*	
Elderberry	*Sambucus canadensis*	
Arrowwood	*Virburnum dentatum*	

South Fork Beargrass Creek– Live Stake Detail



Kort Way Pilot Project – October 2025
Photo Credit: Louisville MSD

Thank You!

APPENDIX E-1

Wildcat Wheels Lessons Learned Meeting

LESSONS LEARNED MEETING

2513.0 Construct Wildcat Wheels

MEETING FACILITATOR	MEETING DATE AND TIME
Chelsea Hansing & Joe Kane	7/14/2025 – 11 am

ATTENDEES

Joe Kane, CPM Project Manager
Chelsea Hansing, Senior Capital Construction Coordinator
Alex Short, RossTarrant Architects
John Haddix, Jarboe Construction
Joey Daniels, Will Varney, & Jamie Hutchins, UK Transportation

OFFLINE Contributors

Area 3 Manager (John Gambill), Campus Planning and Interior Design (Paul Knowles, Shareese Malone, and Sarah Baker), UK ITS (Shelby Avery), UK FIS (Janet Schwartz), UK ADA (Heather Roop), UK Stormwater (Kevin Lewis & Richard McClure), UK Sustainability (Shane Tedder), UK Key Shop (Skip VanHook), UK Grounds (Jerry Hart, Nic Williamson), UKPD (Stephen Cornett), UKFM (Harold Sandford), CPM Engineer (Brad Leach), UK Procurement (Corey Leslie & Ken Scott), UK Controls (Eric Hess), UK Fire Marshal (Greg Williamson and Jonathan Rednour)

MEETING OBJECTIVES

ORIGINAL PROJECT GOAL
State the project's scope of work and deliverables.
Was the product delivered on time and to client satisfaction?

This project provides for the relocation of the University of Kentucky's Wildcat Wheels Bicycle Library to Parking Structure #7 located on the south end of campus. Space within the parking garage currently used for physical plant storage and a generator room will be renovated to create the new Wildcat Wheels space. The existing generator will be relocated as part of this project, within the parking garage footprint to accommodate the new space. The new space will consist of a workshop and storage area. One alternate: Renovation of the exiting office space as explained in the project drawings.

TIMELINE
Compare the initial schedule to the actual timeline.
Were there events that impacted the schedule or client relationship?

	ORIGINAL	AS COMPLETED
Begin Programming	8/4/2023	5/21/2023
Program Review Meeting	8/25/2023	6/11/2023
Begin Phase 1 Schematic Design	9/1/2023	6/18/2023
Phase 1 SD Documents submitted to CPMD	10/13/2023	7/30/2023
Phase 1 SD Review Meeting	10/27/2023	8/13/2023
Phase 2 DD Documents submitted to CPMD	11/26/2023	9/12/2023
Phase 2 Design Development Review Meeting	12/18/23	9/26/2023
Phase 3 Construction Documents submitted to CPMD	5/3/24	5/3/2024
Phase 3 CD Review Meeting	5/13/24	5/13/2024
Final Documents presented to CPMD	5/20/24	5/20/2024

Advertise for Bidding	5/27/24	5/27/2024
Pre-Bid Conference	6/12/24	5/30/2024
Bid Date	3/29/24	6/12/2024
Contract Awarded	6/27/24	6/27/24
Construction Begins	7/1/24	7/1/24
Substantial Completion	12/19/24	3/3/24
Final Completion	1/18/25	4/3/24

BUDGET

Did the outcome match the original cost goals?

Category	Estimated Cost	Actual Expenditure
Administrative Costs	$94,185	$93,685
Design Costs	$120,425	$120,425
Construction Costs (Includes general contractor and misc. construction contracts, abatement, CNS/IT upgrades, etc.)	$1,360,790	$1,352,384
Fixed Furniture and Equipment	$70,887	$68,887
Contingency (covers costs associated with unforeseen risk)	$9,213	
Total	$1,655,500	$1,635,380

TEAM DISCUSSION

Did we get our desired results?

Yes. By all accounts, the space turned out great and, except for a few small items that didn't make it into the project scope, it is exactly what we wanted.

What went well?

Getting over hurdles as a team whenever they arose; good communication; everyone was responsive. OAC meetings and agendas were efficient and productive. Quick responses from GC and DT on challenges – finding quick solutions to unique situations. Good subcontractors did good, quality work.

What could've gone better?

Scheduling could have been better – especially with regards to the P3 project. If we had known about the adjacent project earlier, we could have scheduled our work better. Getting clearer instructions and Fire Marshal approval earlier may have saved us some frustrations and waiting times. In person CD review would have been helpful, especially since there was such a long pause in the project. Likewise, in person coordination for phasing would have been beneficial. It would have been good to walk the site EARLY in design with the occupants/end users and identify exactly what should be included in the project scope; there was some confusion for end users who thought certain improvements would be made but were not actually included in the project at bidding.

What could we do differently next time?
Better comments from UK stakeholders during design and early in the construction phase. Consider putting construction on hold if there's a big hurdle/stalemate such as the generator issue. Pay more attention to the ADA plan earlier.

ACTION ITEMS FOR FUTURE PROJECTS

What are the actions that we can implement now?
More higher-level conversations about projects that are upcoming in adjacent areas.

From: Lewis, Charles K.
To: Hansing, Chelsea
Subject: RE: 2513.0 Wildcat Wheels - Lessons Learned Meeting
Date: Monday, June 30, 2025 10:34:38 AM
Attachments: image004.png
image005.png

Chelsea,

I offer the following comments:

- Design standard 334000S01 which addresses site stormwater and requires the submittal of certain documents to UK EQM for review and approval no later than Phase 3 of the design process was not followed, which violates the University's stormwater permit requirements.
    - Documents should be submitted and approved prior to the project being bid . In this instance site demolition and grading took place before anything had been submitted for review and EQM had to reach out to the project manager to request the required documents.
    - The submittal of stormwater information for review NLT the CD phase is crucial to prevent project delays and costly change orders associated with the stormwater infrastructure. For projects that are unique or have a substantial impact on stormwater, submittal during DD phase is preferred.
- Project review comments were not addressed – 95% CD plans were provided for review and comments were made requesting a Stormwater Narrative and Erosion Prevention and Sediment Control Plan be submitted to EQM for review and approval.
    - No response was received regarding these comments and no documents were submitted until requested again by EQM after demolition and grading had taken place.
- Neither this project nor the PS7 project addressed the overlap of disturbance between the projects which led to issues with perimeter sediment control that were noted during a PS7 site audit.

Please let me know if you have any questions or need any clarification.

Thanks,

Kevin Lewis
Water Quality Compliance Manager
University of Kentucky
Environmental Quality Management
355 Cooper Drive
Lexington, KY 40506-0490
Office: 859-257-0093
Mobile: 864-940-5131
kevin.lewis@uky.edu

From: Hansing, Chelsea <Chelsea@uky.edu>

From: Scott, Ken
To: Hansing, Chelsea
Subject: RE: 2513.0 Wildcat Wheels - Lessons Learned Meeting
Date: Friday, June 27, 2025 8:59:11 AM
Attachments: image001.png
image002.png

I recall that the sidewalk in front of the garage had to be closed, and pedestrians would have to go around in the street or cross the street to the other side. However, there were no considerations given for students/visitors with disabilities that would have to do that in the plans. EG; Having to navigate the curbs in a wheelchair. I brought it up at the pre-bid because I recall the trouble we had with Marrillia on Rose Street Maybe not important, but I thought I would bring it up.

Ken

From: Hansing, Chelsea <Chelsea@uky.edu>
Sent: Thursday, June 26, 2025 11:28 AM
To: Knowles, Paul C. <pcknow1@email.uky.edu>; Malone, Shareese <samalo2@uky.edu>; Baker, Sarah E. <SBaker.Design@uky.edu>; Avery, Shelby L. <Shelby.Avery@uky.edu>; Roop, Heather C. <heather.roop@uky.edu>; Lewis, Charles K. <kevin.lewis@uky.edu>; McClure, Richard L. <richard.mcclure@uky.edu>; Tedder, Shane <shane.tedder@uky.edu>; Van Hook, Bradley E. <skip.vanhook@uky.edu>; Hart, Jerry P. <jphart@uky.edu>; Williamson, Nicolas P. <nwilliamson@uky.edu>; Cornett, Stephen P. <Stephen.Cornett@uky.edu>; Sandford, Harold R. <hsandfor@email.uky.edu>; Gambill, John L. <jgambill@email.uky.edu>; Hess, Eric R. <eric.hess@uky.edu>; Tincher, Bobbie <roberta.tincher@uky.edu>; Rednour, Jonathon K. <Jonathon.Rednour@uky.edu>; Williamson, Glenn G. <glenn.williamson@uky.edu>; Leach, Bradley L. <brad.leach@uky.edu>; Leslie, Corey W. <Corey.Leslie@uky.edu>; Scott, Ken <Kenneth.Scott@uky.edu>; Armstrong, Timothy J. <tjarms2@email.uky.edu>; Broeking, Lance <lance@uky.edu>; Ketron, John R. <jrketr1@email.uky.edu>; Brown, Nathan <nathan.brown@uky.edu>; Poore, Lee <lee.poore@uky.edu>
Cc: Kane, Joseph M. <Joseph.Kane@uky.edu>
Subject: 2513.0 Wildcat Wheels - Lessons Learned Meeting

All,

We have a Lessons Learned follow up meeting scheduled with our client (**Wildcat Wheels**), design team and contractor. As part of this process, if you have any feedback you would like to provide on this project, we would love to hear from you!

Our goal is to document what went well, what didn't and how we can implement continuous improvement/best practices in the future.

We are specifically interested in the following, but all feedback and suggestions for

APPENDIX E-2

Stormwater Quality Device Maintenance

UK Water Quality Units

Date	Location	Comments
6/21/2025	Student Ctr - Contech CDS Hydrodynamic Separator A	
6/21/2025	Holmes Hall - Hydrodynamic Separator	
6/21/2025	Jewell Hall - Manufactured WQ Device	
6/21/2025	Academic Science Building - VortSentry #2	
6/21/2025	Pretreatment Device	first manhole
6/21/2025	Haggin Hall - Manufactured WQ Device	second manhole
6/21/2025	Johnson Hall - Hydro Dynamic Separator	
6/21/2025	Lewis Hall - Downstream Defender	
6/21/2025	The 90 - Hydrodynamic Separator	
6/21/2025	University Flats - Downstream Defender #1	
6/21/2025	University Flats - Downstream Defender #3	
6/21/2025	College Way Parking Lot Pretreatment Device #2	
6/21/2025	College Way Parking Lot Pretreatment Device #1	
6/21/2025	College Way Parking Lot Pretreatment Device #3	
6/21/2025	College Way Parking Lot Pretreatment Device #4	
6/21/2025	New Baseball Stadium - Hydrodynamic Separator #2	
6/21/2025	New Baseball Stadium - Hydrodynamic Separator #4	
6/21/2025	AGR Water Quality Unit	
6/21/2025	University Flats - Downstream Defender #2	
6/21/2025	New Baseball Stadium - Hydrodynamic Separator #1	
6/21/2025	New Baseball Stadium - Hydrodynamic Separator #4	

APPENDIX E-3

EcoGro Natural Areas Stewardship Report

University of Kentucky Main Campus
2025 Natural Areas Stewardship Report

UK's campus is home to a wide variety of beautiful views, from well-manicured garden beds to more "wild" projects that mimic native ecosystems. Particularly in this latter category, EcoGro is proud to have provided another year of service in managing these natural areas along Alumni Drive. Balancing the needs of many often-competing plant and animal species while preventing the establishment of invasive species is no simple task, but EcoGro has the skills, tools and knowledge to give back to our community in this way.

The benefits of projects like these to both existing ecosystems and to learning and human health is well-researched and does not need to be further stated here. These projects are a symbol to the community, and anyone that saw these areas of Alumni before installation can clearly see the benefits to integrating our systems with natural ones instead of fighting against nature.

This report serves to provide an overview of the state of these projects through 2025. Through regular communication with UK managers and crews we are able to quickly address any issues that arise, and ensure they are handled in a timely manner. We attribute this success to a combination of regular monitoring of the sites, keeping up with best management practices (BMP's), and proactive measures to prevent further unnecessary work for ourselves or others in the future.

The University of Kentucky has demonstrated great leadership in demonstrating best management practices in stormwater mitigation, ecological restoration, and green infrastructure. The use of natural areas in education has been of great value to both the University and the community, whether that be through the use of outdoor classrooms or on-campus research sites. With so many eyes on these sites, it is a valued and appreciated demonstration of the University's commitment to education and sustainability. Proper operation and educational use of the sites listed in this report may support multiple programs and policies. Two such policies directly upheld are:

- **UK's Sustainability Strategic Plan:** by using key methods of grounds maintenance and operations, and urban forest management; maximizing stormwater infiltration and evapotranspiration; minimizing negative impacts to water quality; optimizing the use of water on campus grounds; conducting water-focused outreach and engagement on campus.
- **UK's Stormwater Quality Management Plan:** These projects facilitate minimum control measures of UK's MS4 program and compliance with KDOW permits.

We often receive positive feedback from the general public nearby about how the sites are appreciated, providing an aesthetically pleasing break from the comfortable monotony of turf grass and concrete. The natural spaces on campus serve as an effective, professional demonstration of stormwater management principles and are recognized as the new benchmarks of successful stormwater management in central Kentucky. The significance of these projects demonstrates active movement by UK towards ecological awareness and responsibility. EcoGro thanks UK for their continued contributions to stewardship of the environment and leadership in best management practices for the future, serving as an example of how to balance human needs with natural beauty. Let's now take a look at the individual projects that are managed on campus.

FEMA / Alumni Dr. Stream Section

- Plants are well established and providing effective treatment of stormwater and wildlife habitat. We have observed tadpoles in early spring, numerous pollinators through the flowering season, and various birds throughout the year, including a healthy breeding population of ducks!
- The phenomena of forest succession and abundance of volunteer trees will cover the natural area with a shady forest canopy over the coming several years. Pioneer species such as sweetgum and maple thrive in an open canopy, but as this fills in more late-succession species will begin to germinate and grow.These are long-living, desirable species such as oak and hickory. Although this is a natural progression for our Kentucky landscape, it will eventually shade out many of our showy wildflowers. Efforts to selectively remove volunteer trees and shrub species of lesser ecological value will help keep sunlight on showy perennial wildflowers.
- Over the past nine years, there have been areas where muskrats had burrowed into banks – especially locations where large boulders provide gaps at the waterline and a higher elevation of earth at the floodplain interface. It is unknown if any of these burrows are actively used. We recommend that workers be aware of potential wildlife and the general conditions associated with working in natural areas.



Here we see the height of summer, and vegetation is lush and abundant. Our trimmers make short work of what plants grow into the walking trail, carving enticing winding paths through the greenspace. (August)





Each year thanks to our efforts, fewer and fewer cattail either re-sprout or germinate. These photos show an area that had an unwanted amount of cattail and that was treated with aquatic glyphosate in 2024. Only a few individual cattail resprouted in 2025, and those were treated again. Success! (March).





Pictured up top, we see life starting to emerge after the long winter (April). By December (bottom), most plants have died off or entered dormancy. Yet behind the scenes, life goes on as the standing dead stems of the year's plants offer refuge through the winter to next year's pollinators.





Throughout most of the year, several families of ducks call this section of stream their home and can frequently be seen being ducks (Top August, bottom April).

FEMA / Alumni Drive Basins

- A major consideration for management of the basins is the potential for cut plant material to accumulate and clog stormwater outlets and inlets. We have made it a priority at each site visit to ensure outlets are free of obstructions and to remove material if they are not. We also reduce the possibility of causing a clog ourselves by either finely cutting up vegetation into smaller pieces when cutting is needed or removing material from the basins. Coordination with UK Grounds staff has made for a smooth process managing the space and materials. We appreciate their understanding of and consideration for how to properly manage these types of greenspaces.





Above, heavy April rains after our annual cutdown carried cut vegetative material out and away from the basins as water levels rose then dropped. Extra care was taken in this time to ensure the stormwater inlets remained clear. Below is an example of a small clog, which our team would remove with a pitchfork.



A year in three photos, the cycles of nature enacting before us. (April, July, & October).





September and October present a stunning mosaic of fall colors as the days grow short.

Alumni Drive East Stream and Bioswale

- Now past its' sixth full growing season, we are seeing many of the planted and desirable volunteer trees grow above their herbaceous neighbors, demonstrating early succession from meadow to a mixed, open-canopy forest. The site is an example of multiple desirable characteristics promoted by Cooperative Extension Service publications and BMP's for wetlands.
- Amongst the thick herbaceous cover of perennial wildflowers and native grasses, the trees and shrubs have continued their growth. Pioneer species indicative of early succession (such as black cherry, wild plum, sycamore and elms) have taken full advantage of ample sunlight and continue putting on impressive amounts of growth. Slower growing species (such as oak, pawpaw, pecan and persimmon) are continuing their progress towards the light and above the quick-growing plants around them.
- Volunteer trees are increasing in abundance and size as planted trees mature. Sycamore, box elder, elm and similar pioneer trees that were not planted are approaching the same size as those that were planted. In some cases the volunteers have grown even larger. We monitor and manage the number of these volunteer trees in order to provide preference for planted species and to prevent crowding or increasing the difficulty of future management, as well as maintaining our aesthetic standards.
- Pink flagging tape has proven a useful management practice, though is in relative decline on the site as so many trees become tall enough to "graduate" beyond the need for extra visibility. Another aspect of the increased visibility is the reduction of a chance of harm by periodic stewardship practices, such as the use of trimmers or herbicide.



Small sinkholes/animal burrows present possible safety hazards for users of the space. Our team temporarily flagged these holes using bright orange until a more permanent solution is reached (August).











A collection of photos from the East End stream section throughout the year. Note the before and after photos at the very top showing one of the trail sections (August).







Walkways and seating areas were kept clear and accessible through the growing season (top and left).

Stormwater inlets and outlets were checked during each site visit and cleared if needed (below).



Stadium View Drive Stormwater Treatment

- During winter months, herbaceous cover is left in place to provide shelter for wildlife. It was cut back at the end of February, before migratory birds returned to build nests.
- With the project's fourth full season of growth, native plants are well-established with less pressure from invasives. Catttails biggest species of concern, but remains under control. A mix of perennials and annuals keep the site interesting year round.
- The rock channel and sand filter remain stable and are performing as expected. Sediment buildup was noticed at the February visit, washed down from some stored material just upstream. The drain was shoveled out to retain function, and erosion sock was moved to better prevent material being washed down the street and into the basin.
- Stormwater inlets and outlets are checked with each visit and cleared if/when needed.





Regardless of the season, the site offers visitors a wide array of colors. Above, we see a variety of greens and yellows at summer's peak (August). Below, we see that even through the winter we get beautiful splashes of color (February).





Visitors to the area coming to see athletic events are also greeted by an array of native flowers (August).





Above: Before and after a trim of the outdoor classroom (November).





Above: A small trench was dug to drain excess water and allow the rest of the sediment to be more easily removed. Below: The perpetrator of the excess sedimentation, a pile of brick chips. Sock was moved to resolve the issue (March).

APPENDIX F-1

LFUCG Water Quality Incentive Grant Applications

HOPE LODGE STORMWATER IMPROVEMENTS FEASIBILITY STUDY

LFUCG INFRASTRUCTURE GRANT APPLICATION

UNIVERSITY OF KENTUCKY
LEXINGTON, KENTUCKY

JULY 2024

PREPARED BY:

BELL ENGINEERING
2480 FORTUNE DRIVE, SUITE 350
LEXINGTON, KENTUCKY 40509

Table of Contents

LFUCG FY2025 Application for Class B Infrastructure Grants
Letter of Vice President's Support
Letter of Stakeholder Support – Hope Lodge
Grant Proposal Budget
Schematic Design Layout
Drainage Area Exhibit
Reference Images of Site
Executive Summary of Project

LEXINGTON

Lexington-Fayette Urban County Government
Department of Environmental Quality & Public Works

The Stormwater Quality Projects Incentive Grant Program
APPLICATION FORM FOR CLASS B INFRASTRUCTURE PROJECTS
Division of Water Quality – Document #INC.2025I.2

GRANT FISCAL YEAR: **2025 (July 1, 2024 – June 30, 2025)**
APPLICATION DEADLINE: **FRIDAY, JULY 26, 2024**

Refer to Document #INC.2025I.1 "The Stormwater Quality Projects Incentive Grant Program, Application Packet for Class B Infrastructure Projects" prior to filling out this application.

Please provide responses to all questions below. Mail **nine (9)** copies of the completed and signed form, all typed responses, and any supporting documentation to the address given on Page 5.21-7104.3

In addition to the hard copies, a digital copy of the application form with attachments is also required. It can be provided via a flash drive or emailed to fmabson@lexingtonky.gov and/or sbullock@lexingtonky.gov.

------- ALL APPLICATIONS MUST BE SIGNED OR THEY WILL NOT BE CONSIDERED -------

Official Name of Applicant as Registered with the State of Kentucky: The University of Kentucky Research Foundation

Organization Number as Registered with the State of Kentucky: 0052708

Official Mailing Address: 500 South Limestone, Kinkaid Hall, Lexington, KY 40526-0001

Federal Employer Identification Number (optional): 616033693

LEXserv Account Number: 21-7104.300

Name of Primary Project Contact: Kim C. Carter

Cell or Daytime Phone Number: 859-257-9420 Email: ospa@uky.edu

Name of Secondary Project Contact: Britney Ragland

Cell or Daytime Phone Number: 859-257-4171 Email: britney.ragland@uky.edu

Name of Design Consulting Firm: Bell Engineering Name of Design Firm Contact: Bo Smith, PE

Cell or Daytime Phone Number: 859-278-5412 Email: bsmith@hkbell.com

Grant Being Applied For (check all that apply):
☒ Feasibility
☐ Projects $75,000 or Less
☐ Design and/or Construction

Grant Amount Being Requested:	(a)	$41,034
Proposed Cost Share to be Provided:	(b)	$10,260
Estimated Total Project Cost [(a) + (b)]:	(c)	$51,294
Proposed Cost Share % of Total Project Cost [(b) ÷ (c)]:	(d)	20% (20% min.)

If the entire grant amount requested is unavailable, does the Applicant wish to be considered for partial funding? ☒ YES ☐ NO (If YES, refer to question B5 for more information)

A representative budget is attached as reference to this application. If partial funding is award, the University of Kentucky will be responsible for budget overages shall they choose to continue with the project.

Is any additional information, such as supporting documentation, letters from partners / stakeholders, etc., attached to this form? ☒ YES ☐ NO If YES – See Question 8.

---

1) Address of Project Site: 1500 College Way, Lexington, KY 40502

2) Is the Applicant also the Property Owner of the project site? ☐ YES ☒ NO
   If NO, provide the following:
   Property Owner Name: Eric Monday – University of Kentucky
   Property Owner Address: 410 Administration Drive, Lexington, KY 40506
   Phone Number: 859-257-1841 Email: emonday@uky.edu

3) Is the Project Site currently undeveloped (*e.g.*, vacant, woods, etc.)? ☐ YES ☒ NO

4) Does the project propose to target a documented building or road flooding problem? ☒YES ☐ NO
   If YES, refer to question A3 and attach documentation of flooding *(e.g.*, photos, insurance claims, etc.)

5) Is the project site an LFUCG designated industrial or high-risk commercial facility? ☐ YES ☒ NO
   If YES, describe how the proposed plan addresses pollutants of concern related to commercial/industrial activities with potential exposure to stormwater: _____

6) Does the project propose to remove and/or retrofit an existing impervious surface? ☐ YES ☒ NO
   If YES, refer to question A7 and describe the existing control(s):
   The eventual project may replace impervious parking with pervious pavers, but the feasibility study will determine this later.

7) Provide typed responses to the following questions and attach to this form or insert text below each question in this document. Include as much detail as possible, including any information the Applicant feels is pertinent but not asked below.

   A. **PROJECT ELEMENTS:**

      A1. Describe the overall project purpose and general project elements (*e.g.*, parking lot retrofit, building expansion, BMPs only, etc.).

      This study is proposed in response to the previous Five-Year Stormwater Improvements Feasibility Study completed in May 2024. This study identified the area surrounding the Hope Lodge as an area with numerous stormwater concerns. Preliminary investigations found the concerns to be primarily due to runoff from the nearby Montclair neighborhood.

This project would further narrow down proposed design elements, scope of work, and costs required to reduce localized flooding and improve stormwater conveyance.

A2. List all proposed Best Management Practices (BMPs) and indicate whether each BMP is for water quality control, water quantity control, or both.

Install vegetated swale system – Quantity and Quality Control

Repairs to Existing Dry Detention Basin – Quantity and Quality Control

Pervious Paver Parking Area – Quantity and Quality Control

Connect Spring to Underground Conveyance System – Quantity Control

A3. Describe any existing building or road flooding problems and how the proposed project would impact, reduce, or eliminate those problems.

This project will address a noted flooding concern in the Hope Lodge parking area. Previous efforts mitigated flooding concerns with the installation of a concrete curb. This effort removed the threat of flooding in the building, but flow has been redirected to the parking area. This project will investigate methods of mitigation for this localized flooding.






A4. Provide a site sketch that includes the location(s) the BMPs AND/OR tree canopy proposed and delineates the areas draining to them. See Attached.

A5. Provide the amount of square feet of impervious area (*e.g.*, parking lots, rooftops, etc.) to be removed or retrofitted to a pervious surface AND/OR the proposed tree canopy area (in square feet) to be added (tree canopy is calculated using Article 26-5(6)(e)2 of the LFUCG Zoning Ordinance with categories of trees found in Section VII of the LFUCG Planting Manual).

This feasibility study will consider the possibility of removing approximate 780 square yards of impervious area currently used for parking at the Hope Lodge facility. This area would be replaced with pervious pavers. Additionally, the study intends to investigate options for installing native vegetation and raingardens which would increase tree cover, although the extent of this increase has yet to be determined.

A6. Provide the amount of square feet of drainage area that would drain to each of the proposed BMPs AND/OR tree canopy.

The area of study collects flow from a drainage area of approximately 20 acres.

A7. List any proposed BMPs that are retrofits to an existing stormwater control structure or impervious surface (including proposed tree canopy establishment / expansion).

Grading repairs are intended for the existing dry detention basin.

A8. For water quality BMPs:

Describe how the water quality BMPs would function and the types of pollutants they address. Reference the proposed design criteria to be used.

Vegetative Swale will provide additional infiltration as outlined in the LFUCG Standards.

Pervious Pavers will provide additional infiltration as outlined in the LFUCG Standards.

a. Does this project address *E. coli* pollution? ☐ YES ☒ NO If YES, please describe how the project addresses it:

A9. For water quantity BMPs – describe how they would function, if they provide peak control and/or volume control, the storm events being considered, etc. Reference the proposed design criteria to be used.

Vegetative Swale and installed storm sewers will provide capacity to convey flows from a 10-year and 100-year intensity storms as outlined in the LFUCG stormwater manual.

A10. List any proposed BMPs that are not currently listed in Chapter 10 of LFUCG's Stormwater Manual.

All proposed BMPs are listed in Chapter 10 of the stormwater manual.

A11. If the proposed project is an upgrade or enhancement to a structure required by local, state, or federal regulations, clearly explain how the proposed grant-funded portion of the project would exceed the minimum requirements.

This project does not address any required regulatory actions, and rather is intended to correct a problem before regulatory action is required. This project is focused on proactive improvement in a sensitive area.

A12. Does this project fulfill one or more of the proposed BMPs of an approved Watershed Management Plan?

☐ YES ☒ NO If YES, please explain:

B. **PROJECT IMPLEMENTATION:**

B1. Describe the project team (include at a minimum):

- Applicant's Grant Manager: Britney Ragland, UKY
- Project Design Consulting Firm: Bell Engineering
- Design Consulting Firm's project members, including professional(s) of record for the project (*i.e.*, the person who will seal the design plans and record drawings): Jim Buckles, PE; Bo Smith, PE
- Material Suppliers (if known, not required): TBD
- Contractor (if known, not required): TBD
- Other Stakeholders: KET, Hope Lodge, Ronald McDonald House

B2. Describe the proposed approach to permitting and designing the project elements.

The consultant will work with University personnel to provide recommendations for the implementation of improvements to the Hope Lodge Drainage area and build off of the plans made in the 2024 Five-Year Stormwater Improvements Feasibility Study. This effort will focus on narrowing down design scope, cost, permitting requirements, and other project elements necessary for the implementation of a future LFUCG Class B Infrastructure Grant.

B3. Describe the proposed approach for securing a contractor and completing construction. Will the construction work go through a bidding process? If so, how? If not, why not? The University will select a design consultant at will through existing Per Diem contracts. Consideration will be given to design experience with similar projects and familiarity with the University campus.

B4. Provide a proposed schedule for project implementation, including the start and finish of each project phase (*e.g.*, Design, Construction).

Feasibility Report Drafting – June 2025 to January 2026

Prepare Final Draft of Feasibility Report – February 2026

B5. Attach a proposed project budget with line items for (a) Equipment and Supplies, (b) Consulting Fees, (c) Construction Costs, (d) Personnel, and (e) Other Project Specific Costs as appropriate. Include as much detail as possible in the proposed budget, breaking out costs for various project phases and types of expenses. See Attached.

NOTE:

i. If the project is proposing new or additional parking, provide justification for the value of the proposed improvements using the following formula:

Unit Price of a Standard Pervious Lot (in sqft) – Unit Price of a Standard Asphalt Parking Lot (in sqft) = Net Value of Proposed Stormwater Facilities (upgrade cost amount)

ii. If you have elected to be considered for partial funding, include the following in addition to the proposed project budget as detailed above:

a. Separate all budget items into stand-alone projects that could be constructed independently of one another.

b. Rank the proposed stand-alone projects by order of funding preference.

B6. Describe the approach for meeting the grant cost share, such as funding sources available, donated hours or supplies, etc. Describe the portions of the project elements to be covered by the Applicant's cost share.

The University is committed to providing a 20% match as required for this grant proposal. This match will provide for in-kind salary for the PI, funding for engineering consultant fees, and any overages beyond 20%.

C. **EDUCATION:**

C1. Describe any future educational opportunities that completion of this project will offer, whether to employees / personnel or the public in general.

The University is aptly positioned to incorporate improvements into a number of educational opportunities, including but not limited to: Integration into course curriculum, incorporation in research projects for graduate and undergraduate researchers, UK Facilities Management Training, and extension and outreach opportunities.

C2. Describe any specific water quality / stormwater educational program and/or curriculum this infrastructure project is tied to.

No specific curriculums were considered, though the project is applicable for review by University courses in hydrology and stormwater design. A portion of the feasibility study effort will focus on the determination of specific educational opportunities this site may offer.

D. **PROJECT SUSTAINABILITY:**

D1. Describe the project site's current and future uses, include an aerial map or site plan, if possible. Describe how the proposed BMPs are appropriate for future site uses.

This site is located between the Hope Lodge, Kentucky Educational Television, and the Ronald McDonald House off of College Way. The neighborhoods surrounding this area have experienced significant growth and have contributed to the localized flooding this area of campus sees. However, it is not anticipated that future land use on campus will impact the project location. The feasibility study will focus on identifying BMPs that are compatible with the UK Master Plan for this region of campus.

D2. Describe the plan for future inspection and maintenance of the improvements. Will an Inspection, Operation, & Maintenance (IOM) Plan be developed for this project or will industry standard guidelines be used? Include who will be performing future maintenance (*e.g.*, internal staff, contractors, etc.).

During the installation of the specified improvements, the general contractor will be responsible for the implementation and maintenance of the installed BMPs. After the completion of this project, UK's Facilities Management Grounds Team and Utilities Department will maintain the BMP. BMPs will be monitored in accordance with the University's MS4 permit and SWQMP.

D3. Describe the availability and sustainability of funding sources to cover future maintenance costs.

The University intends to utilize annual funding for the maintenance of campus grounds and utilities to maintain the project site.

D4. Describe how the site plan will allow for access to all BMPs for appropriate maintenance. This installation has sufficient access for maintenance from the Hope Lodge Parking Area. Thus, all provided installations will be readily accessible for maintenance.

8) **SUPPORTING DOCUMENTATION:** Include with the application any additional information, letters of support from partners / stakeholders, etc. INCLUDE A COVER SHEET THAT LISTS ALL OF THE ATTACHMENTS.

9) **PROJECT EXECUTIVE SUMMARY:** Provide a project narrative describing the existing situation or need for the project, project name, proposed project elements, anticipated costs, proposed benefits, project sustainability, and any unique aspects of the project. The maximum length shall be half (1/2) a page (8.5"x11") using Times New Roman Font, Size 12.

AUTHORIZED SIGNATURES
This form shall be signed by hand. Electronic signatures are not acceptable. Please indicate which submittal application is the original.

APPLICANT
I certify that my organization is in full compliance with all applicable provisions of the LFUCG Code of Ordinances listed in the Application Packet, is a Class B Water Quality Management Fee ratepayer, and is current on all LEXserv-billed services. I further certify that the information provided in this grant application is complete and true to the best of my knowledge, and that I am duly authorized to submit this application on behalf of my organization.

In addition, I certify that if my organization's application is selected for funding that my organization agrees to execute a Grant Award Agreement with LFUCG that will include all project elements, eligible expenses (*i.e.*, budget items), terms, and conditions, to be forwarded for approval by the Urban County Council.

Kim C. Carter — 7/24/2024

Signature of Applicant — **Date**

Kim C. Carter — Associate Director, University of KY Research Foundation

Printed Name of Applicant — **Title of Applicant**

IF THE SITE OF THE PROPOSED PERMANENT INFRASTRUCTURE OR EQUIPMENT IS NOT OWNED BY THE APPLICANT, THE PROPERTY OWNER SHALL SIGN BELOW.

PROPERTY OWNERS
I hereby authorize the above-signed Applicant to apply for a Water Quality Management Fee-funded Class B Infrastructure Stormwater Quality Projects Incentive Grant. If this project is selected for a grant, I authorize construction of the described project elements on my property located at (provide complete address): University of Kentucky, 410 Administration Drive, Lexington, KY 40506. I also agree to execute the *Agreement to Maintain Stormwater Control Facilities Funded by an LFUCG Class B Infrastructure Stormwater Quality Projects Incentive Grant* at the completion of construction.

072324

Signature of Property Owner — **Date**

Digitally signed by Shannan Stamper
Reason: Reviewed for form and legality
Date: 2024.07.23 14:58:39 -04'00'

Eric N. Monday, EVPFA
Printed Name of Property Owner

MAIL OR DELIVER NINE (9) COPIES OF THIS FORM WITH ATTACHMENTS TO:
Frank Mabson
LFUCG Division of Water Quality
125 Lisle Industrial Avenue, Suite 180
Lexington, KY 40511
(Must be delivered or postmarked by FRIDAY, JULY 26, 2024, to be considered)

University of Kentucky
Facilities Management
Office of the Vice President

July 23, 2024

Frank Mabson
LFUCG Division of Water Quality
125 Lisle Industrial Avenue, Suite 180
Lexington KY 40511

Dear Mr. Mabson,

University of Kentucky Facilities Management is in support of the UK proposal, *Hope Lodge Stormwater Improvements Feasibility Study,* to the LFUCG Stormwater Incentive Grant Program. There is potential for significant improvements to the stormwater system along this property which will benefit both the Hope Lodge facility and the overall stormwater quality and quantity in the watershed. The proposal is aligned with our Campus Master Plan and Landscape Guidelines, and it supports several of the core principles in UK's Strategic Plan.

Furthermore, Facilities Management is committed to providing $10,260 in matching funds to support the study and design of this project.

Sincerely,

Mary S. Vosevich
Vice President and Chief Facilities Officer
Facilities Management
University of Kentucky
Lexington, Kentucky

Subject: Stormwater survey Grant
Date: Friday, July 19, 2024 at 2:26:35 PM Eastern Daylight Time
From: Jodi Burrell
To: Ragland, Britney M.
CC: Jason Young

CAUTION: External Sender

Hello Brittany,

The American Cancer Society is in support of the stormwater survey grant project. Please let me know if you need anything else from us.

We appreciate your work on this project.

Jodi Burrell | Director, Real Estate and Facilities Management
American Cancer Society, Inc.
270 Peachtree Street NW Suite 1300
Atlanta, GA 30303
Phone: +1 (678) 5282103
cancer.org | 1.800.227.2345

This message (including any attachments) is intended exclusively for the individual to whom it is addressed and may contain proprietary, protected, or confidential information. If you are not the named addressee, you are not authorized to read, print, copy, or disseminate this message or any part of it. If you have received this message in error, please notify the sender immediately.

FY 2025 Class B Infrastructure Budget

Type of Expense	Participants	Item	Unit Price		Quantity	Funded by Organization	Funded by Grant	Total Expense
Design								
Design - Civil / Master Planning	Consultant	Stormwater Study & Project Development			1.0	$8,305.00	$34,195.00	$42,500.00
Indirect Costs								
University Indirect Costs	University Sponsored Projects	Max of 20% allowable Indirect costs					$6,839.00	$6,839.00
Other Costs								
PI Cost Share	Principal Investigator	Salary & Benefit Match - Britney Ragland*	$81.45	HR	24.0	$1,955.00		$1,955.00
				TOTAL PROJECT BUDGET:		$10,260.00	$41,034.00	$51,294.00
						ORGANIZATION SHARE	**GRANT SHARE**	
		***COST SHARE % =**	**20.00%**	OK		20.0%	80.0%	

* NOTE: ALL ESTIMATES OF HOURS AND SALARY/WAGE TOTALS ARE FOR ILLUSTRATIVE PURPOSES ONLY. The University of Kentucky as a not-for-profit institute for higher education is neither required, nor is its accounting system capable of, reporting personnel expenses by the number of hours or hourly rate per the university's federal rate agreement, Uniform Guidelines, applicable OMB Circulars and other federal procurement regulations.



DESIGNER	BHS	DATE	BY	REVISION
DRAWN	CRB			
CHECKED	ZKH			
APPROVED	JDB			

GRAPHIC SCALE

SCALE: 1" = 30'

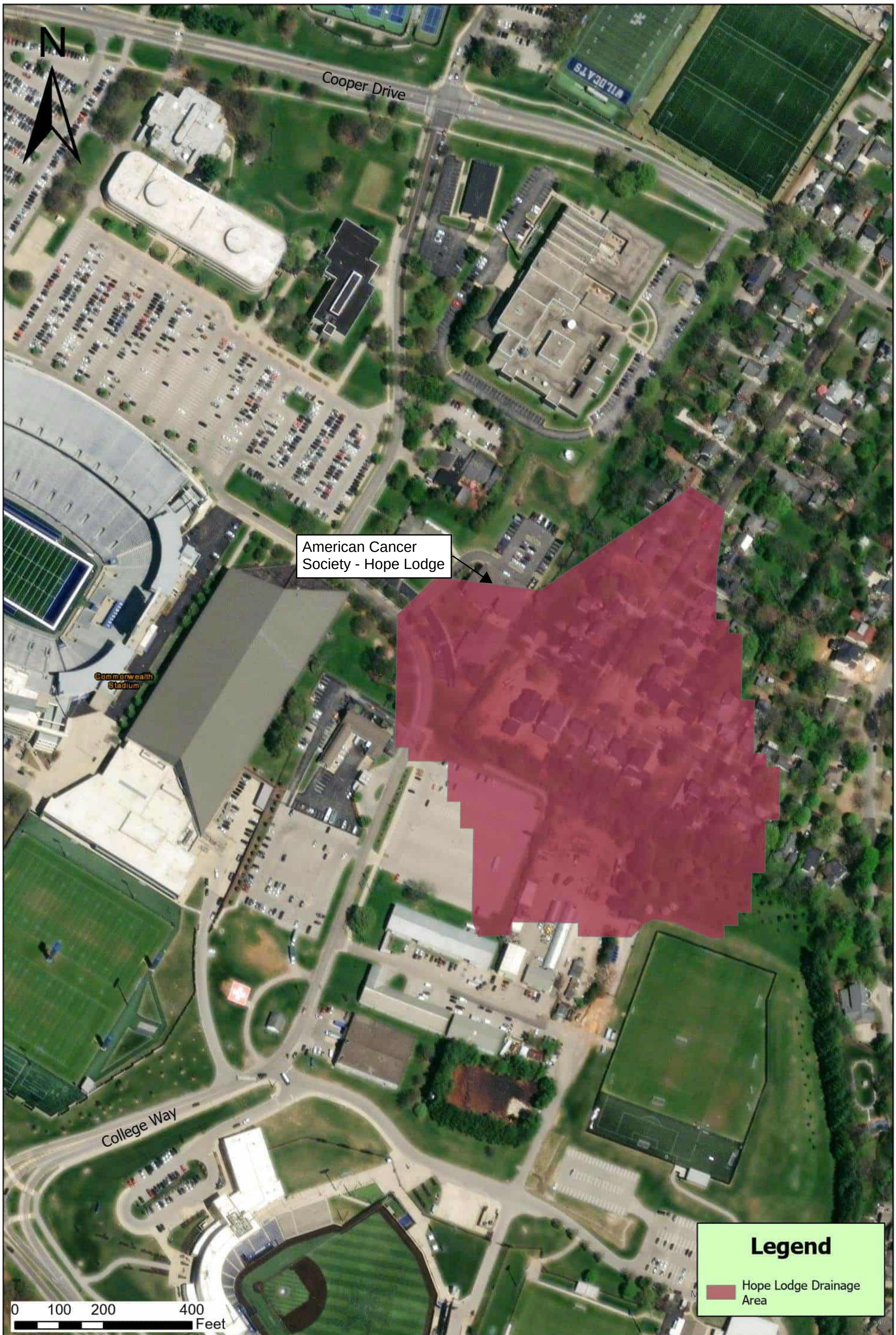
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Somerset, KY (606) 485-4011

UNIVERSITY OF KENTUCKY
LEXINGTON, KENTUCKY

FIVE-YEAR STORM WATER BEST MANAGEMENT PRACTICES PLAN, NEW LINE HOPE LODGE DRAINAGE AREA IMPROVEMENTS

DIVISION	–
CONTRACT NO.	600-143
DATE	MARCH 2024
SHEET NO.	1 OF 10



bell engineering		Date: July 2024 Drawn: BHS Approved: BHS	ALL RIGHTS RESERVED THIS DOCUMENT IS THE PROPERTY OF BELL ENGINEERING AND SHALL NOT BE REPRODUCED IN WHOLE OR IN PART OR USED FOR CONSTRUCTION OF OTHER THAN THIS SPECIFIC PROJECT WITHOUT THE WRITTEN PERMISSION OF BELL ENGINEERING	DRAINAGE AREA HOPE LODGE FEASIBILITY STUDY UNIVERSITY OF KENTUCKY	Scale: 1 in = 200 ft Page: 1 of 1

Reference Images of Site



The above images show site conditions prior to the installation of a concrete curb to redirect flow away from the Hope Lodge building. This project was successful in removing flooding concerns from the building basement. However, flooding concerns still exist in the parking area.







The above images show conditions at the LFUCG outfall from the Montclair neighborhood, located at the head of the grass swale on the Hope Lodge property. Images shown were taken the morning of July 22, 2024.



The above image shows the grass swale at the project site. This image was taken on the morning of July 22, 2024 following an estimated rainfall event of approximately 0.17 inches.



The above image shows the grass swale and basin at the project site. This image was taken on the morning of July 22, 2024 following an estimated rainfall event of approximately 0.17 inches.





The above images show the location of the spring which has opened by the Oswald Building on Sports Center Drive. The area surrounding the tree pictured has become saturated and poses a potential podestrian hazard, leading University Grounds staff to construct a temporary barrier around the area.

EXECUTIVE SUMMARY

Stormwater from the Montclair neighborhood currently flows down a grassy swale around the Hope Lodge facility and into the KET Dry Detention Pond, causing localized flooding in the basement and parking lot. In the short term, a curb has been installed to mitigate these issues. This proposed project aims to examine the design elements, scope of work, and costs needed to improve or retrofit the existing swale in order to better manage stormwater and reduce flooding impacts. Potential design elements may include constructing an engineered bioswale, making repairs to the KET Dry Detention Pond (such as removing accumulated sediment and replanting native vegetation, and installing an emergency spillway), and considering the installation of pervious pavers in the parking lot to address additional flow from Sports Center Drive. Additionally, this project would explore the possibility of allowing the natural spring along Sports Center Drive to drain by coring into the drainage box at Oswald Building.

Through addressing known flooding concerns, enhancing stormwater quality, and creating opportunities for public outreach and education, this project aims to bring about significant improvements. Given the project's complexity and potential costs, UK proposes funding a Feasibility Study to thoroughly understand the site challenges, constraints, and opportunities, and to develop drawings for future infrastructure enhancements. The total budgeted cost for this study is expected to be $51,294, with approximately 80% of the cost supplied by grant funds and the remaining 20% matched by University funds.

ATHLETICS COMPLEX STORMWATER INFRASTRUCTURE REPAIRS

LFUCG INFRASTRUCTURE GRANT APPLICATION

UNIVERSITY OF KENTUCKY
LEXINGTON, KENTUCKY

JULY 2024

PREPARED BY:

BELL ENGINEERING
2480 FORTUNE DRIVE, SUITE 350
LEXINGTON, KENTUCKY 40509

Table of Contents

LFUCG FY2025 Application for Class B Infrastructure Grants
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Proposed Grant Budget
Schematic Design Layout
Drainage Area Exhibit
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Executive Summary of Project

LEXINGTON

Lexington-Fayette Urban County Government
Department of Environmental Quality & Public Works

The Stormwater Quality Projects Incentive Grant Program
APPLICATION FORM FOR CLASS B INFRASTRUCTURE PROJECTS
Division of Water Quality – Document #INC.2025I.2

GRANT FISCAL YEAR: **2025 (July 1, 2024 – June 30, 2025)**
APPLICATION DEADLINE: **FRIDAY, JULY 26, 2024**

Refer to Document #INC.2025I.1 "The Stormwater Quality Projects Incentive Grant Program, Application Packet for Class B Infrastructure Projects" prior to filling out this application.

Please provide responses to all questions below. Mail **nine (9)** copies of the completed and signed form, all typed responses, and any supporting documentation to the address given on Page 5.21-7104.3

In addition to the hard copies, a digital copy of the application form with attachments is also required. It can be provided via a flash drive or emailed to fmabson@lexingtonky.gov and/or sbullock@lexingtonky.gov.

------- ALL APPLICATIONS MUST BE SIGNED OR THEY WILL NOT BE CONSIDERED -------

Official Name of Applicant as Registered with the State of Kentucky: The University of Kentucky Research Foundation

Organization Number as Registered with the State of Kentucky: 0052708

Official Mailing Address: 500 South Limestone, Kinkaid Hall, Lexington, KY 40526-0001

Federal Employer Identification Number (optional): 616033693

LEXserv Account Number: 21-7104.300

Name of Primary Project Contact: Kim C. Carter

Cell or Daytime Phone Number: 859-257-9420 Email: ospa@uky.edu

Name of Secondary Project Contact: Britney Ragland

Cell or Daytime Phone Number: 859-257-4171 Email: britney.ragland@uky.edu

Name of Design Consulting Firm: Bell Engineering Name of Design Firm Contact: Bo Smith, PE

Cell or Daytime Phone Number: 859-278-5412 Email: bsmith@hkbell.com

Grant Being Applied For (check all that apply):
☐ Feasibility
☐ Projects $75,000 or Less
☒ Design and/or Construction

Grant Amount Being Requested:	(a)	$322,000
Proposed Cost Share to be Provided:	(b)	$80,500
Estimated Total Project Cost [(a) + (b)]:	(c)	$402,500
Proposed Cost Share % of Total Project Cost [(b) ÷ (c)]:	(d)	20% (20% min.)

If the entire grant amount requested is unavailable, does the Applicant wish to be considered for partial funding? ☐ YES ☒ NO (If YES, refer to question B5 for more information)

Is any additional information, such as supporting documentation, letters from partners / stakeholders, etc., attached to this form? ☒ YES ☐ NO If YES – See Question 8.

1) Address of Project Site: 770 Alumni Drive, Lexington, KY 40503

2) Is the Applicant also the Property Owner of the project site? ☐ YES ☒ NO
   If NO, provide the following:
   Property Owner Name: Eric Monday – University of Kentucky
   Property Owner Address: 410 Administration Drive, Lexington, KY 40506
   Phone Number: 859-257-1841 Email: emonday@uky.edu

3) Is the Project Site currently undeveloped (*e.g.*, vacant, woods, etc.)? ☐ YES ☒ NO

4) Does the project propose to target a documented building or road flooding problem? ☐YES ☒ NO
   If YES, refer to question A3 and attach documentation of flooding *(e.g.*, photos, insurance claims, etc.)

5) Is the project site an LFUCG designated industrial or high-risk commercial facility? ☐ YES ☒ NO
   If YES, describe how the proposed plan addresses pollutants of concern related to commercial/industrial activities with potential exposure to stormwater: _____

6) Does the project propose to remove and/or retrofit an existing impervious surface? ☐ YES ☒ NO
   If YES, refer to question A7 and describe the existing control(s): _____

7) Provide typed responses to the following questions and attach to this form or insert text below each question in this document. Include as much detail as possible, including any information the Applicant feels is pertinent but not asked below.

   A. **PROJECT ELEMENTS:**

      A1. Describe the overall project purpose and general project elements (*e.g.*, parking lot retrofit, building expansion, BMPs only, etc.).

      Previous developments to the project location removed a grass swale and directed flow to an underground conveyance system. However, later improvements to the Athletic complex reintroduced flow to the area which was previously a grass swale. This portion of flow is currently missing the stormwater conveyance system and causing damage to a downstream infiltration basin. Additionally, the excess moisture in the project location has led to the loss of recently installed tree canopy. This project would reintroduce a vegetated swale to this location and direct this portion of flow back to the underground conveyance system, allowing for the continued operation of the infiltration basin and the reintroduction of tree canopy along the mixed-use trail.

      A2. List all proposed Best Management Practices (BMPs) and indicate whether each BMP is for water quality control, water quantity control, or both.

      Install vegetated swale system – Quantity and Quality Control

      Repairs to Existing Infiltration Basin – Quantity and Quality Control

      Connect to Underground Conveyance System – Quantity Control

      A3. Describe any existing building or road flooding problems and how the proposed project would impact, reduce, or eliminate those problems.

      This project is intended to prevent a road flooding problem by addressing an at-risk area before flooding has progressed to the point of impact to existing infrastructure. Presently, a large amount of flow is ponding along the mixed-use trail and causing damage to the embankment of the downstream infiltration basin. There is a risk that with continued

ponding and damage to the downstream infrastructure, flow could begin to pond over the mixed-use trail and eventually Alumni Drive.

A4. Provide a site sketch that includes the location(s) the BMPs AND/OR tree canopy proposed and delineates the areas draining to them. See Attached.

A5. Provide the amount of square feet of impervious area (*e.g.*, parking lots, rooftops, etc.) to be removed or retrofitted to a pervious surface AND/OR the proposed tree canopy area (in square feet) to be added (tree canopy is calculated using Article 26-5(6)(e)2 of the LFUCG Zoning Ordinance with categories of trees found in Section VII of the LFUCG Planting Manual).

No impervious area is anticipated to be removed in this project.

A6. Provide the amount of square feet of drainage area that would drain to each of the proposed BMPs AND/OR tree canopy.

The improvements would capture flow from approximately 21 acres of developed land on the University's campus. See Attached.

A7. List any proposed BMPs that are retrofits to an existing stormwater control structure or impervious surface (including proposed tree canopy establishment / expansion).

Grading repairs are intended for the existing infiltration basin.

A8. For water quality BMPs:

Describe how the water quality BMPs would function and the types of pollutants they address. Reference the proposed design criteria to be used.

Vegetative Swale will provide additional infiltration as outlined in the LFUCG Standards.

a. Does this project address *E. coli* pollution? ☐ YES ☒ NO If YES, please describe how the project addresses it:

A9. For water quantity BMPs – describe how they would function, if they provide peak control and/or volume control, the storm events being considered, etc. Reference the proposed design criteria to be used.

Vegetative Swale and installed storm sewers will provide capacity to convey flows from a 10-year and 100-year intensity storms as outlined in the LFUCG stormwater manual.

A10. List any proposed BMPs that are not currently listed in Chapter 10 of LFUCG's Stormwater Manual.

All proposed BMPs are listed in Chapter 10 of the stormwater manual.

A11. If the proposed project is an upgrade or enhancement to a structure required by local, state, or federal regulations, clearly explain how the proposed grant-funded portion of the project would exceed the minimum requirements.

This project does not address any required regulatory actions, and rather is intended to correct a problem before regulatory action is required. This project is focused on proactive improvement in a sensitive area.

A12. Does this project fulfill one or more of the proposed BMPs of an approved Watershed Management Plan?

☐ YES ☒ NO If YES, please explain:

B. **PROJECT IMPLEMENTATION:**

B1. Describe the project team (include at a minimum):

- Applicant's Grant Manager: Britney Ragland, UKY
- Project Design Consulting Firm: Bell Engineering
- Design Consulting Firm's project members, including professional(s) of record for the project (*i.e.*, the person who will seal the design plans and record drawings): Jim Buckles, PE; Bo Smith, PE
- Material Suppliers (if known, not required): TBD
- Contractor (if known, not required): TBD
- Other Stakeholders: TBD

B2. Describe the proposed approach to permitting and designing the project elements.

As a highly visible area of campus, it is imperative to reduce the effects of stormwater runoff with minimal disturbance to the surrounding area. Additional, sensitive improvements are located downstream of the project area. As a result, work to improve this area will be carefully planned to avoid disrupting the function of downstream improvements. As this work affects the headwaters of a regulated stream, the design of project elements would follow guidelines set by a USACE nationwide permit.

B3. Describe the proposed approach for securing a contractor and completing construction. Will the construction work go through a bidding process? If so, how? If not, why not? Public Bid through Lynn Imaging's UK Procurement portal.

B4. Provide a proposed schedule for project implementation, including the start and finish of each project phase (*e.g.*, Design, Construction).

Final Design Phase – June 2025 to November 2025

Bidding - November 2025

Construction – December 2025 to May 2026

B5. Attach a proposed project budget with line items for (a) Equipment and Supplies, (b) Consulting Fees, (c) Construction Costs, (d) Personnel, and (e) Other Project Specific Costs as appropriate. Include as much detail as possible in the proposed budget, breaking out costs for various project phases and types of expenses. See Attached.

NOTE:

i. If the project is proposing new or additional parking, provide justification for the value of the proposed improvements using the following formula:

Unit Price of a Standard Pervious Lot (in sqft) – Unit Price of a Standard Asphalt Parking Lot (in sqft) = Net Value of Proposed Stormwater Facilities (upgrade cost amount)

ii. If you have elected to be considered for partial funding, include the following in addition to the proposed project budget as detailed above:

a. Separate all budget items into stand-alone projects that could be constructed independently of one another.

b. Rank the proposed stand-alone projects by order of funding preference.

B6. Describe the approach for meeting the grant cost share, such as funding sources available, donated hours or supplies, etc. Describe the portions of the project elements to be covered by the Applicant's cost share.

The University is committed to providing a 20% match as required for this grant proposal. This match will cover engineering consultant fees, a portion of construction costs, and contingencies.

C. **EDUCATION:**

C1. Describe any future educational opportunities that completion of this project will offer, whether to employees / personnel or the public in general.

This project is within a highly visible area with access from a mixed-use trail, making it a prime location for educational signage and guided programs beginning in the arboretum or on campus. Additionally, access from the mixed-use trail make this a prime location access for university courses.

C2. Describe any specific water quality / stormwater educational program and/or curriculum this infrastructure project is tied to.

University of Kentucky students studying engineering or a related field will be invited to participate in the design development for this project.

D. **PROJECT SUSTAINABILITY:**

D1. Describe the project site's current and future uses, include an aerial map or site plan, if possible. Describe how the proposed BMPs are appropriate for future site uses.

This site is located between the Athletics Complex and Mixed-Use trail on Alumni Drive. See attached site plan for guidance. The proposed installation conforms to the existing and future land uses relating to the University of Kentucky Master Plan. The proposed improvements ensure the area can continue to support its current land use for years to come.

D2. Describe the plan for future inspection and maintenance of the improvements. Will an Inspection, Operation, & Maintenance (IOM) Plan be developed for this project or will industry standard guidelines be used? Include who will be performing future maintenance (*e.g.*, internal staff, contractors, etc.).

During the installation of the specified improvements, the general contractor will be responsible for the implementation and maintenance of the installed BMPs. After the completion of this project, UK's Facilities Management Grounds Team and Utilities Department will maintain the BMP. BMPs will be monitored in accordance with the University's MS4 permit and SWQMP.

D3. Describe the availability and sustainability of funding sources to cover future maintenance costs.

The University intends to utilize annual funding for the maintenance of campus grounds and utilities to maintain the project site.

D4. Describe how the site plan will allow for access to all BMPs for appropriate maintenance. This installation has sufficient access for maintenance from the mixed-use trail and Alumni Drive. Thus, all provided installations will be readily accessible for maintenance.

8) **SUPPORTING DOCUMENTATION:** Include with the application any additional information, letters of support from partners / stakeholders, etc. INCLUDE A COVER SHEET THAT LISTS ALL OF THE ATTACHMENTS.

9) **PROJECT EXECUTIVE SUMMARY:** Provide a project narrative describing the existing situation or need for the project, project name, proposed project elements, anticipated costs, proposed benefits, project sustainability, and any unique aspects of the project. The maximum length shall be half (1/2) a page (8.5"x11") using Times New Roman Font, Size 12.

AUTHORIZED SIGNATURES
This form shall be signed by hand. Electronic signatures are not acceptable. Please indicate which submittal application is the original.

APPLICANT
I certify that my organization is in full compliance with all applicable provisions of the LFUCG Code of Ordinances listed in the Application Packet, is a Class B Water Quality Management Fee ratepayer, and is current on all LEXserv-billed services. I further certify that the information provided in this grant application is complete and true to the best of my knowledge, and that I am duly authorized to submit this application on behalf of my organization.

In addition, I certify that if my organization's application is selected for funding that my organization agrees to execute a Grant Award Agreement with LFUCG that will include all project elements, eligible expenses (*i.e.*, budget items), terms, and conditions, to be forwarded for approval by the Urban County Council.

Kim C. Carter — **Signature of Applicant**

7/24/2024 — **Date**

Kim C. Carter
Printed Name of Applicant

Associate Director, University of KY Research Foundation
Title of Applicant

IF THE SITE OF THE PROPOSED PERMANENT INFRASTRUCTURE OR EQUIPMENT IS NOT OWNED BY THE APPLICANT, THE PROPERTY OWNER SHALL SIGN BELOW.

PROPERTY OWNERS
I hereby authorize the above-signed Applicant to apply for a Water Quality Management Fee-funded Class B Infrastructure Stormwater Quality Projects Incentive Grant. If this project is selected for a grant, I authorize construction of the described project elements on my property located at (provide complete address): University of Kentucky, 410 Administration Drive, Lexington, KY 40506. I also agree to execute the *Agreement to Maintain Stormwater Control Facilities Funded by an LFUCG Class B Infrastructure Stormwater Quality Projects Incentive Grant* at the completion of construction.

Signature of Property Owner

072324 — **Date**

Eric N. Monday, EVPFA
Printed Name of Property Owner

Digitally signed by Shannan Stamper
Reason: Reviewed for form and legality
Date: 2024.07.23 15:01:13 -04'00'

MAIL OR DELIVER NINE (9) COPIES OF THIS FORM WITH ATTACHMENTS TO:
Frank Mabson
LFUCG Division of Water Quality
125 Lisle Industrial Avenue, Suite 180
Lexington, KY 40511
(Must be delivered or postmarked by FRIDAY, JULY 26, 2024, to be considered)

University of Kentucky
Facilities Management
Office of the Vice President

July 23, 2024

Frank Mabson
LFUCG Division of Water Quality
125 Lisle Industrial Avenue, Suite 180
Lexington KY 40511

Dear Mr. Mabson,

University of Kentucky Facilities Management is in support of the UK proposal, *Athletics Complex Stormwater Infrastructure Repairs,* to the LFUCG Stormwater Incentive Grant Program. The various benefits to the area including efficient water conveyance within the watershed and opportunities to improve upon the tree canopy in the future. The proposal is aligned with our Campus Master Plan and Landscape Guidelines, and it supports several of the core principles in UK's Strategic Plan.

Furthermore, Facilities Management is committed to providing $80,500 in matching funds to support the project in addition to future maintenance activities as required.

Sincerely,

Mary S. Vosevich
Vice President and Chief Facilities Officer
Facilities Management
University of Kentucky
Lexington, Kentucky

FY 2025 Class B Infrastructure Grant
Athletics Complex Repairs Budget

	Type of Expense	Participants	Item	Unit Price		Quantity	Funded by Organization	Funded by Grant	Total Expense
	Design								
	Design - Civil	Consultant	Project Design & Development			1.0	$4,000	$16,000	$20,000
	Design - Civil	Consultant	Project Planning and Administration			1.0	$6,300	$25,200	$31,500
	Design - Civil	Consultant	Preparation of Bid Package and Recommendation to Award			1.0	$600	$2,400	$3,000
	Construction								
	Construction	Contractor	Project Construction			1.0	$46,000	$184,000	$230,000
	Construction	Contractor	Overrun for Market Conditions				$4,000	$16,000	$20,000
	Construction	Consultant	Construction Administration			1.0	$1,200	$4,800	$6,000
	Construction	University Sponsored Projects	University Project Manager			1.0	$4,600	$18,400	$23,000
	Construction	Consultant	Construction Inspection Services			1.0	$4,600	$18,400	$23,000
	Construction	Consultant	Contingencies			1.0	$9,200	$36,800	$46,000
					TOTAL PROJECT BUDGET:		$80,500	$322,000	$402,500
							ORGANIZATION SHARE	**GRANT SHARE**	
			***COST SHARE % =**	**20.00%**	OK		20%	80%	

Proposed Infrastructure Grant Budget
Athletics Complex Repairs
University of Kentucky
FY 2025 Class B Infrastructure Grant



DESIGNER	BHS	DATE	BY	REVISION
DRAWN	CRB			
CHECKED	ZKH			
APPROVED	JDB			

GRAPHIC SCALE

SCALE: 1" = 30'

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Hopkinsville, KY (270) 886-5466
Somerset, KY (606) 485-4011

UNIVERSITY OF KENTUCKY
LEXINGTON, KENTUCKY

FIVE-YEAR STORM WATER BEST MANAGEMENT PRACTICES PLAN, BASEBALL/SOFTBALL COMPLEX

DIVISION	–
CONTRACT NO.	600-143
DATE	MARCH 2024
SHEET NO.	3 OF 10



bell engineering

Date: July 2024

Drawn: BHS

Approved: BHS

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DRAINAGE AREA
ATHLETICS COMPLEX STORMWATER REPAIRS
UNIVERSITY OF KENTUCKY

Scale:
1 in = 200 ft

Reference Images of Site



The above images show site conditions on the morning of July 22, 2024 following an approximately 0.17-inch rainfall event. Water is not captured by the existing stormwater infrastructure in the area and has caused damage to a downstream basin.



The above image shows the condition of the berm at the existing sedimentation basin. Flow from the project area has eroded the berm as seen in the lower right corner of the image. Further damage to the berm may impact the basin's functionality and cause greater flooding concerns in the project area.



The above image better illustrates erosion damage to the berm of the basin along alumni drive. Flow from the athletics complex has eroded a portion of the berm, leading to the potential of greater stormwater concerns in the project area.



A portion of stormwater in the project area bypasses the existing controls, leading to ponding near Alumni Drive's mixed-use trail. This has resulted in the loss of tree canopy in the area, as the waterlogged soils have become unsuitable for many of the trees planted here. The image above provides an example of a recently removed tree as a result of these conditions.

EXECUTIVE SUMMARY

This project aims to address issues with a failing Stormwater Best Management Practice (BMP) that is no longer effective in managing stormwater on the southern edge of the UK Barnhart Family Athletics Complex. The natural landscape in the area has been altered by recent projects such as the Alumni Drive realignment, the UK Baseball Stadium, and the Soccer/Softball Complex, leading to water retention and the growth of cattails and swamp-related vegetation. This has made grounds maintenance difficult and necessitates repair to ensure the future restoration of the tree canopy. Additionally, the area may pose a flooding risk during high-flow conditions due to its proximity to Alumni Drive and a pedestrian trail. The proposed project involves the design and construction of two catch basins and approximately 250 feet of stormwater piping to realign with the existing stormwater infrastructure. The anticipated budget for this project is $402,500. It is expected that 80% of the funds for this project will be committed through grant funding, with a 20% match by the University.

LFUCG Stormwater Quality Project Incentive Grant Program–Class B Education Project

Project Title: "Reforested Stormwater Basins: A help or hindrance to stormwater management in Lexington, KY?"

Principal Investigator/Project Manager: Kenton Sena, Ph.D.

Enclosures:

- Class B Education Project Application Form
- Executive Summary
- Schedule
- Budget

LEXINGTON

Lexington-Fayette Urban County Government
Department of Environmental Quality and Public Works

The Stormwater Quality Projects Incentive Grant Program
APPLICATION FORM FOR CLASS B EDUCATION PROJECTS
Division of Water Quality – Document #INC.2025E.2

GRANT FISCAL YEAR: **2025 (July 1, 2024 – June 30, 2025)**
APPLICATION DEADLINE: **FRIDAY, MAY 3, 2024**

Refer to Document #INC.2025E.1 "The Stormwater Quality Projects Incentive Grant Program, Application Packet for Class B Education Projects" prior to filling out this application.

Please provide responses to all questions below. Mail **nine (9)** copies of the completed and signed form, all typed responses, and any supporting documentation to the address given on Page 4.

------- **ALL APPLICATIONS MUST BE SIGNED OR THEY WILL NOT BE CONSIDERED** -------

Official Name of Applicant as Registered with the State of Kentucky: The University of Kentucky Research Foundation

Organization Number as Registered with the State of Kentucky: 0052708

Official Mailing Address: 500 South Limestone, 109 Kinkead Hall, Lexington, KY 40526-0001

Federal Employer Identification Number (optional): 616033693

LEXserv Account Number: 21-7104.300

Name of Primary Project Contact: Kim C. Carter

Cell or Daytime Phone Number: 859-257-9420 Email: ospa@uky.edu

Name of Secondary Project Contact: Kenton L. Sena, Ph.D

Cell or Daytime Phone Number: 859-444-1723 Email: Kenton.sena@uky.edu

Grant Amount Being Requested:	(a) $30,698
Proposed Cost Share to be Provided:	(b) $6,954
Estimated Total Project Cost:	(c) $37,652 [(a) + (b)]
Proposed Cost Share % of Total Project Cost (after first $3,000)	(d) 20% [(b) ÷ ((c)-$3,000)] (Note: Must be > 20%)

If the entire grant amount requested is unavailable, does the Applicant wish to be considered for partial funding? ☒ YES ☐ NO

Is any additional information, such as supporting documentation, letters from partners / stakeholders, etc., attached to this form? ☐ YES ☒ NO If YES – See Question 7.

1) Who is the general Target Audience for the proposed project? Our target audience for this project will be stormwater management professionals and stakeholders and community members.

2) What is the expected size of the proposed Target Audience (*i.e.*, # of people reached / involved)? We hope to engage at least 20 stormwater professionals and 100 community members through our proposed project.

3) Does the proposed project involve an educational element (*e.g.*, an audience being taught about water quality issues, etc.)? ☒ YES ☐ NO

4) Does the proposed project include a public involvement element (*e.g.*, audience participates in an activity, such as plantings, installation of stormwater control devices, stream cleanups to improve water quality, etc.)? ☒ YES ☐ NO

5) Is the proposed project associated with an existing or proposed stormwater BMP*? ☒ YES ☐ NO
If YES, answer the following two questions:

A. Does the stormwater BMP address water quantity? ☒ YES ☐ NO

If YES, please describe: The proposed project will evaluate the effects of tree planting on stormwater basin hydrologic function, with emphasis on infiltration and water storage. The project will also evaluate the effects of tree plantings especially in riparian areas (Reforest the Bluegrass program sites) on infiltration and water storage, exploring urban reforestation as a potential stormwater BMP.

B. Does the stormwater BMP address water quality? ☐ YES ☒ NO

If YES, please describe: _____

If YES, does the water quality BMP address *E. coli* pollution? ☐ YES ☐ NO

If YES, please describe: _____

C. Does the BMP fulfill one or more of the proposed BMPs of an approved Watershed Management Plan? ☐ YES ☒ NO

If YES, please explain: _____

* *BMP = Best Management Practice – infrastructure that controls stormwater quality or quantity, such as a detention pond, rain garden, permeable pavement, etc.*

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6) Provide typed responses to the following questions and attach to this form or insert text below each question in this document. Include as much detail as possible, including any information the Applicant feels is pertinent but not specifically requested below.

A. PROJECT ELEMENTS:

A1. Describe the overall project purpose and need, along with the general project elements (*e.g.*, educational elements, public involvement elements, developing curriculum, seminars, brochures, etc.).

Stormwater management relies heavily on "gray infrastructure," including culverts, drains, and basins, to remove stormwater from parking lots, streets, roads, and other developed areas quickly and efficiently. However, green infrastructure, with installations such as bioswales and rain gardens, is increasingly of interest in stormwater management. A key component of green infrastructure in an urban environment is the urban forest. Urban forests can store a significant volume of water in their canopies through interception, and urban trees can improve infiltration rates in urban soils through their deep and extensive root systems.

Because of this, urban reforestation has been identified as a stormwater management strategy. Urban reforestation in Lexington, especially through the world-class Reforest the Bluegrass program, has been conducted in large part to help manage the city's stormwater. However, the effects of urban reforestation on infiltration and other stormwater management objectives have not been experimentally evaluated on these sites. Similarly, in recent years, LFUCG and partners have implemented tree-planting projects in multiple stormwater basins throughout the city. These treed stormwater basins are expected to outperform traditional mowed basins with respect to infiltration and water uptake. However, these basins may be more challenging and costly to maintain, and the additional biomass contributed by planted trees may compromise basin storage specifications. **Thus, the proposed project will evaluate the potential effects of urban reforestation, both in stormwater basins and in Reforest the Bluegrass sites, on stormwater management by evaluating infiltration rates, soil water storage, and potential evapotranspiration.** This improved understanding of the role of planted forests in stormwater management will inform LFUCG's management decisions.

Part 1: Evaluating Urban Forests as Stormwater Management:
The proposed study will evaluate the effectiveness of reforestation for stormwater management in both stormwater basins and Reforest the Bluegrass sites through the following guiding questions:

Q1: How much potential stormwater volume will be displaced by tree biomass in a given reforested stormwater basin?
Q2: Will planting trees in basins increase or decrease management/maintenance costs?
Q3: Will planting trees in basins or mowed grasslands increase infiltration rates?
Q4: Will planting trees in basins or mowed grasslands increase soil water storage capacity?

This assessment will implement a paired sampling design, pairing reforested basins with mowed basins with similar characteristics (for stormwater basins), and pairing reforested sites with adjacent mowed sites (for Reforest the Bluegrass sites).

> ***Q1: Biomass volume:*** Volume of planted trees will be assessed using the equation for volume of a cylinder, measuring diameter with calipers at the ground line (or chest height, if appropriate), and assessing tree height with a meter stick, telescoping height pole, or laser hypsometer (as appropriate). Tree volume will be summed across the basin. We will also estimate potential future volume of planted trees, assuming a typical stocking density and size.
> ***Q2: Maintenance/management costs:*** Conventionally, stormwater basins are mowed periodically, representing a regular maintenance cost. While reforesting the basin will decrease costs for mowing, planted trees and their leaf litter may increase maintenance especially in autumn during leaf fall. Maintenance costs for study basins will be estimated in collaboration with basin managers.
> ***Q3: Infiltration:*** Infiltration rates will be evaluated in mowed and reforested basins, as well as in Reforest the Bluegrass sites and adjacent mowed areas, using a MiniDisk infiltrometer. Infiltration assessments will be conducted in at least three random and representative locations per site at least three times throughout the study.

Q4: Water table: A groundwater well will be installed near the outlet of each basin, equipped with a pressure transducer and datalogger to record water height every 15 minutes. These data will be analyzed to evaluate whether the timing and magnitude of dewatering differs between reforested and mowed basins. Soil samples will be collected from Reforest the Bluegrass sites and adjacent mowed areas to evaluate soil water storage capacity in these sites.

The proposed project presents a unique opportunity to evaluate the effectiveness of urban reforestation as stormwater management, both in stormwater basins and in general. Lexington's world-class Reforest the Bluegrass program has resulted in a series of reforested urban sites ranging from new (< 1 yr since planting) to established forests (up to 25 years since planting). Evaluating infiltration and soil moisture storage at these sites will demonstrate 1) whether reforestation activities measurably affect these outcomes highly relevant to stormwater management and, if so, 2) on what timescales. Similarly, we already have several stormwater basins that have been planted with trees. Characterizing infiltration and soil water storage at these sites will clarify whether these activities can contribute to or detract from stormwater management goals.

Part 2: Education and Outreach

The key goal of our proposed project is to communicate project results to relevant community members and stakeholders, particularly members of the stormwater management community. We anticipate a multi-modal approach to communicating results, including the following:

Infographics: Infographics convey data concisely, in a highly accessible and shareable format. We will create infographics to share results of our stormwater basin and Reforest the Bluegrass assessments with members of the public. We anticipate that these infographics, paired with more detailed text, will be useful features in both web- and text-based communications such as webpages, social media, and brochures, and we will share the infographics widely with project partners including LFUCG Urban Forestry.

Extension Publication: The University of Kentucky Extension has existing extension publications regarding low-impact development; we will develop an additional extension publication reporting project results, adding to the body of knowledge. This publication will target professionals, such as managers involved in decision making and design for stormwater management.

Field Days: We will host at least one field day at project sites to share project results with stormwater managers and other relevant professionals.

Conference Presentations: We will present project results at relevant meetings such as the Kentucky Water Research Institute symposium, the annual Kentucky Stormwater Association meeting, and the LFUCG Stormwater Stakeholders Advisory Committee meeting.

Tabling at Reforest the Bluegrass: We will have a table at the April 2025 Reforest the Bluegrass planting event to share about the benefits of planting trees in our city, including benefits for stormwater management.

Public Engagement Days: We will host at least one public engagement day at a project site. Participants will learn about benefits of urban reforestation for stormwater

management and other management objectives, and will help clean up the project site by removing invasive species and picking up trash.

A2. *Describe the target audience in more detail. Who is it? What size is it? Why is this group an appropriate audience for the proposed subject material? What are the needs of this audience?*

Our proposed multi-tiered project seeks to reach both stormwater management professionals and community members. We will engage stormwater management professionals through extension publications, field days, and conference presentations, and we will engage members of the community more broadly through infographics, tabling at events, and public engagement days. The results of our proposed project will clarify the effects of planting trees on stormwater management in our area. This information is critical for informed stormwater management moving forward. Furthermore, urban reforestation as a stormwater management strategy requires significant public support and engagement; engaging the public in conversations about the effectiveness of tree planting for stormwater management will thus also be critical.

A3. *For public education elements – describe the subject material proposed, where presentations will be held, etc.*

Our public education elements will include both online and in-person modalities. Online elements will be distributed through relevant social media and website channels, such as the LiveGreenLex social media accounts and the Reforest the Bluegrass website. Our in-person public education plans include tabling at Reforest the Bluegrass, and possibly other relevant local events, to share information about the effectiveness of planting trees for stormwater management benefits.

A4. *For public involvement elements – describe types of activities proposed, where and when they will occur, etc. If some of these elements are not yet known, explain in general terms.*

We will host at least one public engagement day, where community members will be invited to a project site to learn about the benefits of urban reforestation for stormwater management and other benefits. We will also engage community members in a service project to clean up project sites as needed, by removing invasive species and trash.

B. PROJECT IMPLEMENTATION:

B1. *Describe the project team and the proposed approach to creating and implementing the project elements. Name the Project Manager (required) and their contact information. Name project team members and stakeholders if possible.*

Project Manager: Kenton Sena, Ph.D., kenton.sena@uky.edu, 859-444-1723
Dr. Sena is a lecturer with expertise in forest hydrology and urban restoration ecology in the UK Lewis Honors College. He has worked closely with LFUCG's Urban Forestry division since summer 2020 to monitor ecological effects of reforestation at Reforest the Bluegrass sites, engaging over a dozen undergraduate students in service- and research-learning.
Team Member: Lee Moser, M.S., lee.moser@uky.edu, 859-218-4327
Lee Moser is an Extension Associate Senior in the UK Martin-Gatton College of Agriculture, Food, and Environment, where he specializes in stream and watershed science with extensive research and outreach experience in rural and urban settings on projects related to water quality and quantity.

The project team will also include two undergraduate student research assistants (TBN), who will assist Sena and Moser in installing groundwater wells and monitoring equipment in project basins, conducting analyses in Reforest the Bluegrass sites, developing products and conducting project field days, and monitoring instrumented basins over time.

Sena and Moser have extensive experience with data collection, project management, and science communication.

B2. *For Projects > $3,000, describe the Applicant's funding sources available to cover the required cost share (at least 20% of the total project costs). Also, describe the portions of the project elements to be covered by the Applicant's cost share.*

Required cost share for the proposed project will be met by 1) a portion of the Project Manager's salary, and 2) salary and fringe for an additional undergraduate student to assist on the project. Both of these costs will be funded through internal UK sources.

B3. *Explain in detail the proposed project success measures. In other words, how will success be measured in quantifiable ways (e.g., # of participants attending an event, etc.)? Describe how the project and its success measures will meet the goals of the Incentive Grant Program.*

The proposed project will be evaluated as follows:

1. Products produced, including datasets, publications, and infographics.
2. Presentations given, including conferences and other meetings.
3. Number of participants at professional-facing events, such as the field day(s).
4. Number of participants at public-facing events, such as tabling and basin clean- up day(s).

5. Data to reflect use and/or knowledge gains, including survey instruments (online and in-person), social media metrics, website visits and downloads, etc.

B4. **Attach** a preliminary schedule for project implementation. Figure 1 in the Application Packet provides an Example Schedule.

B5. **Attach** a preliminary project budget. Figure 2 in the Application Packet provides an Example Budget.

C. PROJECT SUSTAINABILITY:

C1. Does the project have a long-term component for ongoing education and/or involvement beyond the grant's end? Is so, please describe. If YES, please answer C2 and C3, as well. Yes, this project will install monitoring equipment in project sites, which can be easily and inexpensively monitored by undergraduate student assistants. Furthermore, Sena and Moser will be willing and able to host additional field days for stormwater management professionals and community members, as there is interest.

C2. Does the Applicant have dedicated personnel to implement the program on a long-term basis? Is so, please describe. Sena will manage the program long-term. He has coordinated regular water quality monitoring on seven stream sites in Lexington since fall 2021 and thus has experience running long-term monitoring in the Lexington area.

C3. Does the Applicant have an ongoing source of funding for future program implementation beyond the grant period? If so, please describe. Ongoing funding for monitoring project sites will be sought primarily from internal sources, such as the Student Sustainability Council.

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7) **SUPPORTING DOCUMENTATION:** Include with the application any additional information, letters of support from partners / stakeholders, etc. INCLUDE A COVER SHEET THAT LISTS ALL OF THE ATTACHMENTS.

8) **PROJECT EXECUTIVE SUMMARY:** Provide a project narrative describing the existing situation or need for the project, project name, proposed project elements, anticipated costs, proposed benefits, project sustainability, and any unique aspects of the project. The maximum length shall be half (1/2) a page (8.5"x11") using Times New Roman Font, Size 12.

.....

AUTHORIZING SIGNATURE
This form shall be signed by hand. Electronic signatures are not acceptable. Please indicate which submittal application is the original.

APPLICANT
I certify that my organization is in full compliance with all applicable provisions of the LFUCG Code of Ordinances listed in the Application Packet, is a Class B Water Quality Management Fee ratepayer, and is current on all LexServ-billed services. I further certify that the information provided in this grant application is complete and true to the best of my knowledge, and that I am duly authorized to submit this application on behalf of my organization.

In addition, I certify that if my organization's application is selected for funding that my organization agrees to execute a Grant Award Agreement with LFUCG that will include all project elements, eligible expenses (*i.e.*, budget items), terms, and conditions, to be forwarded for approval by the Urban County Council.

Kim C. Carter
KCD **Signature of Applicant**

4/29/2024
Date

Kim C. Carter
Printed Name of Applicant

Associate Director
Title of Applicant

MAIL OR DELIVER NINE (9) COPIES OF THIS FORM WITH ATTACHMENTS TO:
Frank Mabson
LFUCG Division of Water Quality
125 Lisle Industrial Avenue, Suite 180
Lexington, KY 40511
(Must be delivered or postmarked by FRIDAY, MAY 3, 2024, to be considered)

Executive Summary

The proposed project, entitled "Reforested Stormwater Basins: A help or hindrance to stormwater management in Lexington, KY?," seeks to 1) assess effects of reforestation on stormwater management and 2) share these results with stormwater managers and community members. Specifically, the project will investigate infiltration rates and soil water storage in both forested and mowed stormwater basins (as well as forested and mowed areas not explicitly associated with stormwater management), estimate potential basin volume displaced by aboveground biomass in treed basins, and estimate management costs for treed and mowed basins. Drawing from these data, we will develop communications and field days for both stormwater managers and members of the community. For example, we will develop infographics to distribute via webpages, social media, and newsletters to community members, and we will develop extension publications and professional presentations to deliver project results to stormwater managers. We expect project results to directly influence stormwater management decision making in the city and broader region. Project costs include personnel time for the project manager and project team members, supplies to install monitoring equipment and assess infiltration and soil storage in project sites, and travel to present project results. Long-term, the project will be sustained as part of Project Manager Sena's long-term water quality monitoring program.

Activity	Schedule
Approval of Grant Award Agreement and Notice to Proceed (NTP)	Anticipated Winter 2024 – 2025
Identify project basins (5 treed + 5 mowed) and secure access permissions	Within two months of NTP
Install groundwater wells and monitoring instruments in project basins	Spring 2025
Table at Reforest the Bluegrass	April 2025
Monitor project basins	Continuous after well installation and instrumentation; spring 2025 through end of project
Assess infiltration and soil water storage in Reforest the Bluegrass sites	May – June 2025
Plan and Advertise for Field Day and Public Engagement Day	June 2025
Hold Field Day and Public Engagement Day	June – July 2025
Present at Kentucky Stormwater Association Meeting	July 2025
Draft Communications Materials: Infographic, Extension Publication, etc.	August – December 2025
Final Report	30 days after project completion

Budget
FY 2025 Class B Education Project

Activities	Type of Expense	Participants	Item	Unit Price		Quantity	Funded by Organization	Funded by Grant	Total Expense
Site visits; groundwater well installation; monitoring; developing products and hosting field days	Personnel	Kenton Sena, Principal Investigator	Project manager hours estimated as 5.56% annual effort during summer charged to sponsor, which equates to approximately 86.67 hours. The hourly rate includes fringe benefits. Please note that health insurance is not charged for summer effort.	$ 50.37	per hour	86.67		$ 4,366.00	$ 4,366.00
Site visits; groundwater well installation; monitoring; developing products and hosting field days	Personnel	Kenton Sena, Principal Investigator	Project manager hours estimated as 2% annual effort during academic year charged as cost share, which equates to approximately 31.20 hours. The hourly rate includes fringe benefits and health insurance pro-rated based on the effort.	$ 61.46	per hour	31.20	$ 1,918.00		$ 1,918.00
Site visits; groundwater well installation; developing products and hosting field days	Personnel	Moser	Personnel hours estimated as 5% of annual salary, which equates to approximately 104 hours.	$ 39.11	per hour	104	$ -	$ 4,068.00	$ 4,068.00
Site visits, groundwater well installation; monitoring	Personnel	Undergraduate research assistant, TBN	Personnel hours at standard student rate	$ 16.245	per hour	400	$ -	$ 6,498.00	$ 6,498.00
Monitoring, help with developing products; help with field days	Personnel	Undergraduate research assistant, TBN	Personnel hours at standard student rate	$ 16.245	per hour	310	$ 5,036.00	$ -	$ 5,036.00
Travel to Kentucky Stormwater Association Meeting to present project results	Travel	Sena, Moser	Estimate includes registration, mileage, and lodging	$ 1,500.00	per trip	1	$ -	$ 1,500.00	$ 1,500.00
Install groundwater wells	Supplies	Sena, Moser, Undergraduate student(s)	Groundwater wells	$ 50.00	each	10	$ -	$ 500.00	$ 500.00
Install groundwater wells	Supplies	Sena, Moser, Undergraduate student(s)	Filter packing material	$ 25.00	per bag	10	$ -	$ 250.00	$ 250.00
Install groundwater wells	Supplies	Sena, Moser, Undergraduate student(s)	Locking well caps	$ 40.00	each	10	$ -	$ 400.00	$ 400.00
Monitoring equipment for groundwater wells	Supplies	Sena, Moser, Undergraduate student(s)	Water level loggers for tracking water depth in wells	$ 550.00	each	10	$ -	$ 5,500.00	$ 5,500.00
Monitoring equipment for groundwater wells	Supplies	Sena, Moser, Undergraduate student(s)	Barometric pressure logger for calibrating water level loggers	$ 500.00	each	1	$ -	$ 500.00	$ 500.00
Monitoring equipment for groundwater wells	Supplies	Sena, Moser, Undergraduate student(s)	Assembly for downloading data from loggers	$ 1,000.00	each	1	$ -	$ 1,000.00	$ 1,000.00
Instrument to assess infiltration rates	Supplies	Sena, Moser, Undergraduate student(s)	MiniDisk Infiltrometer	$ 500.00	each	2	$ -	$ 1,000.00	$ 1,000.00
Total Direct Costs							$ 6,954.00	$ 25,582.00	$ 32,536.00
Indirect Costs				20%	Direct Costs			$ 5,116.00	$ 5,116.00
							TOTAL PROJECT BUDGET	$ 6,954.00	$ 30,698.00	$ 37,652.00
								ORGANIZATION SHARE	GRANT SHARE	
			MATCH % AFTER FIRST $5,000 =			20.00%	0%	20%	80%	
			MUST BE > 20%							

* NOTE: ALL ESTIMATES OF HOURS AND SALARY/WAGE TOTALS ARE FOR ILLUSTRATIVE PURPOSES ONLY. The University of Kentucky as a not-for-profit institute for higher education is neither required, nor is its accounting system capable of, reporting personnel expenses by the number of hours or hourly rate per the university's federal rate agreement, Uniform Guidelines, applicable OMB Circulars and other federal procurement regulations.

APPENDIX F-2

Stormwater Stakeholder Meeting Minutes

Environmental Quality Management

MS4 Stormwater Stakeholders Advisory Committee Meeting Minutes

Date: April 4th, 2025
1000 – 1130

Location: Peterson 226 Conference Room

Purpose: To review MS4 permit requirements and stakeholder responsibilities as well as to provide updates on the stormwater program and our SWQMP efforts in order to track compliance with the MS4 permit.

Attendees: Harold Sandford, Carter Whitton, Richard McClure, Matt Mueller, Mike Duffy, Nathan Weber, Brian Butler, Graham Gray, Jerry Hart, Wayne Thomas, Corey Baker, Kevin Lewis

I. WELCOME

- Newly invited stakeholders – Med Center Facilities (Derek Crouse/Matt Mueller/Chris Buford), UK Grounds (Corey Baker)
- Introduction slide with example of construction entrance from the PS7 project noting issues with the approach that the contractor is using.

II. ANNUAL REPORT

- Program Reminders - Provided an overview of the purpose of the MS4 permit including how the the MS4 Permit defines requirements that the University must meet to discharge stormwater from campus., the 6 Minimum Control Measures (MCM's), Additional Permit Requirements including the SWQMP, need to Address Impaired Waters, Maintain Monitoring Plan requirements, Proper Program Funding and Annual Reporting Requirements.
- Stakeholder Responsibilities are defined by the SWQMP which include Who, What, When, and Evidence of Completion. The Tracking Spreadsheet includes all this information.
- An Executive Summary Overview was provided highlighting accomplishments during 2024. The Executive Summary Overview is included as an attachment to these minutes.
- Report Overall Findings show compliance with the requirements of the permit but falling short of what was initially targeted in the SWQMP. Part of the Reduction of Overall Efforts was a result of Construction/Project Reviews.

III. MS4 PERMIT REQUIREMENTS

- Permit Summary Chart - Defines permit requirements and how they apply to the university, includes the Legal Authority Requirements.
- MCM 1&2: Outreach, Education, and Public Participation - Originally supposed to be completed by TFISI, then transitioned to Sustainability, now back to EQM to be completed with Interns and managed by Nathan Weber. Sustainability will be able to help through providing interns in addition to other outreach by sustainability, utilities, and facilities.

  MCM 1&2 tasks and requirements include:
  - Implement and maintain a public education program
  - Achieve measurable improvements in target audience understanding of stormwater pollution and preventative actions

- Measure target audience understanding/adoption of targeted behaviors and understanding of their impacts on water quality
- Implement public involvement/participation program with activities such as stormwater management workgroups, education volunteers/opportunities, storm drain marking, clean-up events, etc.
- Provide public notice of program participation opportunities

- MCM 3: Illicit Discharge Detection and Elimination - Managed by EQM who contacts other departments around campus as needed to address reported discharges. The website and required annual training are important resources for training of all staff. Directors noted that training plans appear to be lacking and will need to be updated. Personnel briefing requirements were also discussed.

  MCM 3 tasks and requirements include:
  - Develop and maintain comprehensive mapping
  - Develop and implement a plan to address illicit discharges
  - Develop mechanism and protocols for public reporting of spills and other discharges
  - Provide staff training on the identification and reporting of illicit discharges

  Reminder: Inform the responsible entity and the DOW Regional Office should a sanitary sewer line failure/defect be found as a source to the MS4. If the permittee is the responsible entity, they will proceed to remediate the discharge by following a corrective action plan or a Sanitary Sewer Overflow Plan on a schedule approved by the Division of Water.

- MCM 4**:** Construction Site Stormwater Runoff Control - Covers all the construction projects on campus. The Stormwater Construction Manual development was discussed with plans to provide to CPM for review and comment. The need for a formalized process for handling contractors who are not maintaining compliance with the approved EPSC and SWPPP for the site was discussed.

  MCM 4 tasks and requirements include:
  - Implement and enforce an ordinance or other regulatory mechanism that reduces pollutants in any stormwater runoff to the MS4 from constructions activities ≥ 1 acre or part of a larger common plan. Must include:
    - Requirements equal to or greater than KYR10 permit
    - Requirements for construction site operators to control waste
    - Require NOI submittal for KYR10 coverage
    - Establishment of authority for site-plan review
    - Establishment of authority for receipt and consideration of public input
    - Establishment of authority for site inspections and enforcement of control measures
  - Develop, implement, and enforce a program to reduce pollutants in stormwater runoff from active construction sites. Program shall include:
    - Permitting process with plan review and enforcement capability.
    - Procedures for inspecting all known permitted construction sites, enforcement shall be conducted based on inspections.
    - Develop and implementation of an escalating enforcement strategy to respond to issues of noncompliance.
    - Procedures to inventory projects and prioritize sites for inspection, including tracking inspection results and enforcement procedures taken
    - A training program for staff in the fundamentals of EPSC and plan review
    - Procedures for providing construction site operators with educational and training measures or notifying them of training opportunities

- MCM 5: Post-Construction Stormwater in New and Re-Development - This is how long-term water quality and quantity are controlled in response to the permit requirements. The BMP inspection and maintenance process was discussed including the BMP O&M Manual with the Preventative Maintenance Plan (PMP). Routine and Maintenance inspections should be completed by their "owner" with EQM being responsible for compliance inspections with assistance from Strand on the underground detention basins. Maintenance that is being performed needs to be documented. Formal implementation of the PMP still needs to be completed.

  MCM 5 tasks and requirements include:
  - Develop, adopt, and implement an ordinance or other regulatory mechanism that addresses post-construction stormwater runoff from new and redevelopment projects
  - Review and update local requirements for post construction controls. Requirements shall include a treatment standard based on an 80th percentile precipitation event.
  - Specify design parameters (design storm) for the sizing of post-construction controls
  - Require management measures that are designed, built, and maintained to treat, filter, flocculate, infiltrate, scree, evapo-transpire, harvest, and reuse stormwater runoff, or otherwise manage stormwater runoff quality.
  - Reflect local community issues, including water quality impairments
  - Develop and implement project review, approval, and enforcement procedures for new and redevelopment projects.
    - Include written procedures for site-plan review and approval process and required re-approval process when changes to stormwater management measures are required.
    - Include written procedures for post-construction process to have been installed per design specifications, which includes enforceable procedures for bringing noncompliant projects into compliance.
  - Require BMP owners to establish & enter into long-term maintenance practices of BMP's.
  - Establish and implement written procedures for inspections of BMP's annually. All BMP's must be inspected during the permit cycle with the goal of verifying correct operation and proper maintenance.
  - Create a program to notify the BMP owner/operator of deficiencies based on the inspection. Follow-up inspections must be conducted to ensure completion of required repairs. If repairs are not made, the permittee shall enforce its correction orders and perform the necessary work if need be.

- MCM 6: Pollution Prevention/Good Housekeeping for Campus Operations - Includes all stakeholders in some manner because it includes everything that is done on campus that can impact stormwater. Examples of issues discussed includes the Med Center Loading Dock, Stadium View sediment migration into BMP, Equipment Maintenance, and Street Sweeper operations.

  MCM 6 tasks and requirements include:
  - Develop and implement a written O&M plan that includes a training component with the goal of preventing or reducing pollutant runoff from operations and construction activities. Include:
    - Inventory of facilities
    - Maintenance Activities
    - Maintenance Schedules
    - BMPs to reduce floatables and other pollutants discharged from the MS4 as well as controls to reduce the discharge of pollutants from:
      - Streets, roads, highways, and parking lots
      - Maintenance and storage yards with exposed bulk materials
      - Fuel storage facilities

        - Fleet maintenance shops with outdoor storage areas
        - Salt/sand storage locations
        - Snow disposal areas
        - Waste transfer stations
    - Procedures for the proper disposal of waste removed for the storm sewer and other areas of the MS4

IV. STAKEHOLDER UPDATES

- EQM (Kevin/Nathan/Strand)
    - Drain markers have been redesigned to remove the noted watershed to improve management and to add a QR code that directs people to the stormwater website.
- UEM (Graham/Mike/Carter)
    - Device cleanout is typically done over spring break but there was a stormwater repair on University Drive that took place instead. Maintenance is rescheduled for right after students leave campus.
- Grounds (Jerry/Corey)
    - Need to discuss whether drain maintenance tool is going to be used moving forward.
    - Cleaned out College View bioretention. Removed 4 tons of debris.
    - Gluck pond planting was removed and there has been an increase in goose population. There are plans this summer to replant the vegetation around the pond to address concerns. Unfortunately, there is a significant amount of effort required to maintain the vegetation.
    - Grounds is interested in having more input on review of design in relation to future maintenance requirements.
- Facility Operations/Custodial (Harold)
    - SPCC plan has been signed and distributed.
- CPMD (Richard/Wayne)
    - Tracking of mud on roadway is currently a big issue. Contractors are not considering their impact on the adjacent areas and their responsibility for corrective action. Larger projects seem to have the most issues because of the traffic volume and number of entrances.
    - Dust control has also been an issue on some larger sites. Notes about dust control are required to be included in their SWPPP but may need to extend to requiring a street sweeper be kept on site.
    - The implementation of specific enforcement procedures could help with compliance.

V. QUESTIONS/COMMENTS/ADDITIONAL DISCUSSION

- The next stakeholder meeting is scheduled for July 25th.

Environmental Quality Management

MS4 Stormwater Stakeholders Advisory Committee Meeting Minutes

Date: July 25th, 2025
1000 – 1145

Location: Peterson 226 Conference Room

Purpose: To review MS4 permit requirements and stakeholder responsibilities as well as to provide updates on the stormwater program and our SWQMP efforts in order to track compliance with the MS4 permit.

Attendees: Donnie Mefford, Carlie Laughlin, Harold Sandford, Derek Crouse, Nathan Weber, Brian Butler, Richard McClure, Kevin Lewis, Steven Vogel, Mike Duffy, Orion Saunier, Jerry Hart, Corey Baker, Tim Armstrong, Graham Gray, Shane Tedder, Wayne Thomas

I. WELCOME

- Simpson Avenue Outlet - New Sink Hole/Cave at the outfall of the 96”x50” concrete culvert owned by LFUCG discharging near Simpson Avenue. Drains approximately 220-acre campus watershed. LFUCG was notified of the change in condition.

II. BMP O&M/PMP OVERVIEW

- Reviewed development timeline starting in 2023 with initial updates, formal presentation at Stakeholder meeting, and detailed presentation to BMP owners at the end of 2023.
- Reviewed elements of plan including the content of the BMP O&M manual, types of inspections, and the PMP matrix.

III. BMP INSPECTION SUMMARY OVERVIEW

- Underground Systems - Noted approximately 2/3 of all systems inspected need near-term or short-term maintenance or structural repair. Many of the structural repairs are related to grout around pipes and manhole risers that is failing.
- Aboveground Systems - Noted only about 1/3 of all systems inspected need near-term or short-term maintenance or structural repair. Highlighted the permeable pavement near the former SAE house needs significant maintenance and repairs, Peterson inlet filters are missing, and the sinkhole repair area at Woodland Glen requires stabilization.
- Moving Forward
    - Implementation of PMP plan by BMP owners. Training for maintenance tasks has been requested to help support implementation.
    - Leverage Compliance Go based on owner workflow.
    - Provide BMP reports to Stakeholders for review.

IV. SPILLS AND ILLICIT DISCHARGES

- Uptick in number of reports since January 2025. Includes sediment, spills, sanitary sewer overflow, hydraulic line breaks, and improper bulk storage. Reports are allowing for a response to occur prior to entering the storm system. Ongoing stormwater training that includes identification and reporting of illicit discharges should be taken by all staff that can impact stormwater.

- Recent Shawneetown sanitary sewer overflow to stream from blockage in LFUCG line including waste from Baptist Hospital. Ongoing efforts to identify the cause and impact of the incident.

V. CONSTRUCTION PROJECT REVIEW – PROCEDURAL GAPS/ISSUES

- Discussed stormwater submittal issues including, failure of designers to provide stormwater submittal NLT CD Phase, failure to have submittal approved prior to bid, projects installing stormwater components before submittal/calculations are received and reviewed. Examples included the Memorial Coliseum Renovation and Parking Structure 7 Expansion.
- Discussed lack of engineer plan review prior to construction. Many issues, some serious, are being found during the stormwater review, including Pence, EQMC, HEB, Memorial, and Cancer Center.
- Discussed need for inspection of sanitary & storm prior to UK acceptance. Construction-related Issues being discovered during "NOT" inspection have included no grout or failing grout, misaligned risers, missing risers, and system full of debris. Project examples included Memorial Coliseum and Indoor Track.

VI. COMMON CONSTRUCTION RELATED COMPLIANCE ISSUES

- Discussed various construction-related erosion control issues. Examples included construction entrances with either failure to install as designed or failure to maintain as required, tracking, concrete washout, cutting/grinding slurry, directional boring slurry, silt fence installation/maintenance, and inlet protection.

VII. STAKEHOLDER UPDATES

- EQM (Kevin/Nathan/Strand)
    - GPP Recertification is ongoing with major changes including the addition of the composting system and mulch storage.
    - GPP Annual Inspections will be occurring soon. Nathan will be reaching out to schedule as needed.
    - Activity Information Sheets are being updated and will be posted on the UK Stormwater website.
- UEM (Graham/Mike/Britney/Carter)
    - Shawneetown Sanitary Sewer - Discussed above.
    - Need to discuss who will be responsible for addressing the structural repairs on BMPs.
- Grounds (Jerry/Corey/Tim)
    - Six rain gardens along Limestone/Avenue of Champions have been given to the university and will need to be added to the system. The rain gardens were cleaned out by Utilities.
    - BCTC basin is scheduled to be maintained once the area is dry enough to access.
    - Street Sweeper – Plan is being developed to hire a contractor to provide street sweeping.
- Facility Operations/Custodial (Harold/Tim)
    - No Updates
- Facilities Engineering
    - Need to request that Joe Kelly attend these meetings in the future.
- Med Center Facilities (Matt/Chris/Derek)
    - No updates.
- Athletics (Donnie)
    - Stadium View storage issues have been addressed. All stored clay has been removed.
- Sustainability (Shane/Carlie)
    - Tree Cell project at Craft Center came in over budget. An extension of the grant was provided by the city and a new site is being selected.
    - Shawneetown stream restoration grant funds were returned to the city because the enabling project was not funded.

    - Two new grants have received the signed agreement and notice to proceed.
        - Ronald McDonald feasibility study.
        - Baseball Outfall infrastructure grant.
    - Internship Program will begin in August with interns focusing on stormwater outreach.
- Extension (Amanda/Lee)
    - Not present.
- CPMD (Richard/Kevin/Wayne)
    - No updates.
- KWRI (Steve E.)
    - Not present.

Environmental Quality Management

MS4 Stormwater Stakeholders Advisory Committee Meeting Minutes

Date: October 24th, 2025
1000 – 1200

Location: Peterson 226 Conference Room

Purpose: To review MS4 permit requirements and stakeholder responsibilities as well as to provide updates on the stormwater program and our SWQMP efforts in order to track compliance with the MS4 permit.

I. WELCOME 1000-1005

Kevin Lewis discussed the complaint about slurry at the Peterson Service building and dewatering from construction sites that was being directly discharged to the sanitary and then storm sewer even after discussing the issues with the contractors. Reminded everyone that boring slurry and dewatering needs to go through a BMP before it is discharged and the availability of Activity Information Sheets (AISs) that can be used for educating staff and contractors. AISs are available on the website and from EQM. Additional AISs can be developed upon request.

II. FOWR OPEN RECORDS REQUESTS: UK STORMWATER PROGRAM 1005-1035

Kevin Lewis shared information about the open records request from the Friends of Wolf Run including the issue that prompted the request, the university's response, the status, and reminders for staff moving forward regarding the construction approval process and program implementation.

III. GROUNDWATER PROTECTION PLAN 1035-1050

- Plan Updates and Recertification Status – Steven Vogel reviewed purpose of the plan and the status of the current updates/recertification of the Groundwater Protection Plan.
- Compliance Discussion – Nathan Weber reviewed the findings from the most recent inspections and provided reminders about what is required from the program both in staff training and the protection of groundwater.

IV. WATER HARVESTING SYSTEMS 1050-1100

- Individual System Status – Kevin Lewis provided an overview of the four major harvesting systems on campus, the purpose of each of the systems, and the group discussed the status and issues with the operation of the systems.
- Maintenance Responsibilities & Data Reporting – Kevin shared an excerpt of the operation and maintenance manual and need for data to submit with the annual report.

V. STORMWATER QUALITY MANAGEMENT PLAN 1100-1110

- Refresher/Overview – Tasks and Tracking – Steve Vogel
- Program Review – Steve Vogel

VI. STAKEHOLDER UPDATES 1110-1155

- EQM (Kevin/Nathan/Strand)
  - Finalizing and posting AISs on the stormwater website.
  - Final review of GPP in preparation for recertification. Can send to any stakeholder that is interested in reviewing prior to sending for signature.
  - Working on implementation of software to help maintain compliance with SPCC, GPP, Construction Site, and Post-Construction BMP requirements through the reporting of findings from the inspection process and recording actions taken in response.
  - Collecting and preparing information for the annual report.
  - EQM has two interns working on MCM1 and 2 tasks and with KWRRI.
- UEM (Graham/Mike/Carter)
  - Water quality units were cleaned over the summer and have added PS8 to the maintenance task list. Will be following up with contractor on how the PS8 system will be maintained.
  - Considering how underground detention system preventative maintenance will be balanced with other issues. Would like to request a meeting to discuss expectations for maintenance.
  - Shawneetown repairs were completed to address sanitary overflow to storm.
  - Two other sanitary overflows were responded to even when owned by city.
  - SPCC inspections have been completed and improvements have been noted.
- Grounds (Jerry/Corey/Tim)
  - Will be completing inspections in near future.
  - Spill reporting and response has been excellent.
  - Need to meet to further discuss management plan responsibilities.
  - Gluck pond had weeds removed but had issues with the goose population but now that the plants have grown back, the goose population has decreased but plantings need to be reconsidered for aesthetics. Floating wetland was previously discussed but denied due to concerns with the liner.
  - Recent walk during storm event showed that the storm system seems to be operating. Potential changes to the BCTC detention areas may need to be considered.
  - Discussed issues with Hope Lodge detention basin and the adjacent property owner.
  - Street sweeper has been contracted with a schedule that has been updated. Will provide quantities of collection.
- Facility Operations/Custodial (Harold/Tim)
  - Working on employee training related to stormwater and illicit discharge reporting/prevention.
  - Will be looking into the water harvesting system issues and provide updated.
- Facilities Project Management (Joe Kelly)
  - Would like to consider engaging project managers in training on how to protect stormwater and prevent impacts from construction projects.
- Med Center Facilities (Matt/Chris/Derek)
  - No updates.
- Sustainability (Shane)
  - No updates.
- Extension (Amanda/Lee)
  - No updates
- CPMD (Richard/Wayne)
  - Still working on keeping EQMC site in compliance and getting the site stabilized. Need to consider how to get basin to stabilize more quickly and are considering putting sod in the bottom areas. Adjacent development may have additional impacts to water quantity and quality.
  - Need to consider how to leverage Compliance Go to notify contractor and staff to improve compliance.

- KWRRI (Steve E.)
    - 180 people at annual symposium
    - Finalizing training on erosion and sediment control training to allow anyone to take training. Plans to be released before the end of the year.
    - Working with a grant on the development of digital twins for stormwater projects. Will be working with staff across campus to improve integration of stormwater content within coursework.
    - Working on developing additional components on www.kyms4.org website.

VII. QUESTIONS/COMMENTS/ADDITIONAL DISCUSSION 1155-1200

- Next Meeting: December 2025 or 1st Quarter 2026
- Stormwater Walk – Stakeholders were generally open to doing a walk around campus to review stormwater. Will continue to discuss options for this in the future.

APPENDIX F-3

Limestone/Avenue of Champions Rain Garden Maintenance Photos


Before


After


During

APPENDIX F-4

General Stormwater Training Documentation

Item ID	Item Title	Last Name	First Name	Middle Nar	Organization	Completion Status ID	Completio	Completion Date
EHS-STORMWATER	General Stormwater Training	Geisinger	Kevin	A	Athletics - Facilities	WBT-PASSED	Passed	3/24/2025 10:52 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Back	Mark	A	Athletics - Facilities	WBT-PASSED	Passed	3/14/2025 09:13 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Anderson-	Mary		Athletics - Facilities	WBT-PASSED	Passed	3/19/2025 03:56 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Smith	Trevor	Kyle	Athletics - Operations	WBT-PASSED	Passed	9/16/2025 03:16 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Parker	Ayanna	Janay	Athletics - Operations	WBT-PASSED	Passed	3/22/2025 04:18 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Reed	Nathaniel	Deatley	Athletics - Operations	WBT-PASSED	Passed	3/21/2025 09:17 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Reed	Nathaniel	Deatley	Athletics - Operations	WBT-PASSED	Passed	9/17/2025 12:40 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Barnes	Joshua	Todd	Athletics - Operations	WBT-PASSED	Passed	3/25/2025 09:54 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Gage	Jaxson	Royce	Athletics - Operations	WBT-PASSED	Passed	9/16/2025 01:51 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Goode	Matthew	Thomas	Athletics - Operations	WBT-PASSED	Passed	3/21/2025 10:20 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Goode	Matthew	Thomas	Athletics - Operations	WBT-PASSED	Passed	9/16/2025 11:11 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Nelson	James	M.	Athletics - Operations	WBT-PASSED	Passed	9/4/2025 08:58 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Nelson	James	M.	Athletics - Operations	WBT-PASSED	Passed	3/25/2025 08:49 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Galloway	Keegan	Douglas	Athletics - Operations	WBT-PASSED	Passed	3/21/2025 09:16 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Harmon	Xavier	Mark	Athletics - Operations	WBT-PASSED	Passed	3/21/2025 09:30 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Harmon	Xavier	Mark	Athletics - Operations	WBT-PASSED	Passed	9/17/2025 08:12 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Hayosh	John	G	Athletics - Operations	WBT-PASSED	Passed	3/21/2025 11:16 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Hayosh	John	G	Athletics - Operations	WBT-PASSED	Passed	9/18/2025 02:16 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Vittetow	Jacob	Nelson	Athletics - Operations	WBT-PASSED	Passed	9/15/2025 03:24 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Hargrave	Cole	Hamilton	Athletics - Operations	WBT-PASSED	Passed	3/27/2025 09:43 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Hernandez	Pablo	Gonzalez	Athletics - Operations	WBT-PASSED	Passed	9/4/2025 08:48 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Hernandez	Pablo	Gonzalez	Athletics - Operations	WBT-PASSED	Passed	3/21/2025 09:19 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Pettus	John	Nicholas	Athletics - Operations	WBT-PASSED	Passed	3/21/2025 10:13 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Pettus	John	Nicholas	Athletics - Operations	WBT-PASSED	Passed	9/16/2025 08:41 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Elswick	Marcus	D	Athletics - Operations	WBT-PASSED	Passed	3/20/2025 07:56 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Elswick	Marcus	D	Athletics - Operations	WBT-PASSED	Passed	9/4/2025 08:23 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Maki	Bradley	Michael Ra	Athletics - Operations	WBT-PASSED	Passed	9/17/2025 12:46 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Emery	Andrew	W	Athletics - Operations	WBT-PASSED	Passed	11/25/2025 01:10 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Emery	Andrew	W	Athletics - Operations	WBT-PASSED	Passed	3/19/2025 11:29 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Thompson	Bryce	Montgome	Athletics - Operations	WBT-PASSED	Passed	9/16/2025 09:12 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Hall	Dawson	Riley	Athletics - Operations	WBT-PASSED	Passed	9/23/2025 08:40 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Munguia	Brenden	Kyle	Athletics - Operations	WBT-PASSED	Passed	3/25/2025 08:42 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Munguia	Brenden	Kyle	Athletics - Operations	WBT-PASSED	Passed	9/15/2025 03:27 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Smith	Andrew	Constantin	Athletics - Operations	WBT-PASSED	Passed	9/4/2025 08:56 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Blankensh	Chad	E	Athletics - Operations	WBT-PASSED	Passed	3/14/2025 09:59 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Britt	Cole	Patrick	Athletics - Operations	WBT-PASSED	Passed	3/21/2025 10:32 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Smith	Nathan	Scott	Athletics - Operations	WBT-PASSED	Passed	3/21/2025 10:18 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Reynolds	Mason	Carter	Athletics - Operations	WBT-PASSED	Passed	3/21/2025 10:51 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Ott	Alexander	John	Athletics - Operations	WBT-PASSED	Passed	3/14/2025 10:36 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Burton	Rodney		Athletics - Operations	WBT-PASSED	Passed	3/14/2025 10:41 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Thomas	John	R	Campus Maintenance Central	WBT-PASSED	Passed	3/7/2025 08:41 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Thacker	Todd	Q	Campus Maintenance Central	WBT-PASSED	Passed	4/18/2025 09:26 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Saunier	Zachariah	C.	Campus Maintenance Central	WBT-PASSED	Passed	10/2/2025 03:38 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Chwatko	Waldemar		Campus Maintenance Central	WBT-PASSED	Passed	4/24/2025 01:45 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Bublitz	Eric	Shawn Ma	Campus Maintenance Central	WBT-PASSED	Passed	8/31/2025 12:16 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Coy	Andrew	Edward	Campus Maintenance Central	WBT-PASSED	Passed	10/1/2025 07:00 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Rison	Brian	S	Campus Maintenance Central	WBT-PASSED	Passed	4/23/2025 02:27 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Barnett	Meyrick	Scott	Campus Maintenance Central	WBT-PASSED	Passed	4/23/2025 02:27 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Barboza	Jaime	Lee Edwar	Campus Maintenance Central	WBT-PASSED	Passed	3/7/2025 08:22 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Porter	Gregory		Campus Maintenance Central	WBT-PASSED	Passed	4/21/2025 03:00 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Stacy	Ryan	R	Campus Maintenance Central	WBT-PASSED	Passed	4/18/2025 08:54 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Hubbard	Robert	A	Campus Maintenance Central	WBT-PASSED	Passed	4/23/2025 02:27 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Miller	Derek	Allen	Campus Maintenance Central	WBT-PASSED	Passed	2/25/2025 03:31 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Wilson	Hobert	D	Campus Maintenance Central	WBT-PASSED	Passed	4/23/2025 02:27 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Stepp	Germayne	H	Campus Maintenance Central	WBT-PASSED	Passed	4/16/2025 01:20 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Cramer	Hugh	Johnston	Campus Maintenance Central	WBT-PASSED	Passed	4/16/2025 01:44 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Faw	Stephen	Allen	Campus Maintenance Central	WBT-PASSED	Passed	4/21/2025 03:00 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Sorrell	Scott	Allen	Campus Maintenance Central	WBT-PASSED	Passed	12/18/2025 09:28 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Sorrell	Scott	Allen	Campus Maintenance Central	WBT-PASSED	Passed	4/15/2025 11:08 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Williams	Ricky	Joe	Campus Maintenance Central	WBT-PASSED	Passed	4/18/2025 08:46 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Strausbau	Kevin	W	Campus Maintenance Central	WBT-PASSED	Passed	4/17/2025 08:42 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Roberts	David	Edward	Campus Maintenance Central	WBT-PASSED	Passed	11/10/2025 02:11 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Sexton	Eric	Wayne	Campus Maintenance Central	WBT-PASSED	Passed	4/21/2025 10:15 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Shelton	Dorian	Q.	Campus Maintenance Central	WBT-PASSED	Passed	4/16/2025 03:48 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Haungs	Tony	Dwayne	Campus Maintenance Central	WBT-PASSED	Passed	4/17/2025 12:13 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Frazier	Ben	R	Campus Maintenance Central	WBT-PASSED	Passed	4/23/2025 02:27 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Flannery	Forrest	W	Campus Maintenance Central	WBT-PASSED	Passed	4/21/2025 01:15 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Spears	Russell	D	Campus Maintenance Central	WBT-PASSED	Passed	9/10/2025 02:06 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Mason	Douglas	Arthur	Campus Maintenance Central	WBT-PASSED	Passed	4/17/2025 09:59 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Hopkins	Eric	Vincent	Campus Maintenance Central	WBT-PASSED	Passed	11/21/2025 11:27 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Dunn	Lance	M	Campus Maintenance Central	WBT-PASSED	Passed	4/21/2025 09:43 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Clark	Norman	Tyler Woo	Campus Maintenance Central	WBT-PASSED	Passed	12/3/2025 08:55 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Bond Jr.	LaMonte	A.	Campus Maintenance Central	WBT-PASSED	Passed	4/23/2025 02:27 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Carter	Timothy		Campus Maintenance Central	WBT-PASSED	Passed	4/16/2025 02:37 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Demoss	Ernest	Aaron	Campus Maintenance Central	WBT-PASSED	Passed	4/23/2025 02:27 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Shaw	Mark	Riley	Campus Maintenance Central	WBT-PASSED	Passed	4/21/2025 12:31 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Carroll	James	Franklin	Campus Maintenance Central	WBT-PASSED	Passed	11/4/2025 11:23 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Bright	Larry	W	Campus Maintenance Central	WBT-PASSED	Passed	4/18/2025 10:24 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Moore	Kenneth	D	Campus Maintenance Central	WBT-PASSED	Passed	2/5/2025 11:30 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Spears	Isaiah	Seth	Campus Maintenance Central	WBT-PASSED	Passed	4/25/2025 01:37 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Bertrand	Kevin	R	Campus Maintenance Central	WBT-PASSED	Passed	8/22/2025 12:56 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Pearre	Justin	Carter	Campus Maintenance Central	WBT-PASSED	Passed	5/27/2025 10:16 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Seat	Douglas	P	Campus Maintenance Central	WBT-PASSED	Passed	4/23/2025 02:27 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Moberly	Charles	W	Campus Maintenance Central	WBT-PASSED	Passed	4/17/2025 04:31 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Perez Arar	Jorge	I	Campus Maintenance Central	WBT-PASSED	Passed	4/23/2025 02:27 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Keefer	Jerry	Carlson	Campus Maintenance Central	WBT-PASSED	Passed	4/14/2025 09:17 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Keefer	Jerry	Carlson	Campus Maintenance Central	WBT-PASSED	Passed	11/21/2025 11:29 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Fayne	Garrett	Walker	Campus Maintenance Central	WBT-PASSED	Passed	1/22/2025 10:14 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Biddle	Robert	J	Campus Maintenance Central	WBT-PASSED	Passed	4/23/2025 02:27 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Drury	Stephen	G	Campus Maintenance Central	WBT-PASSED	Passed	4/23/2025 02:27 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Drury	Stephen	G	Campus Maintenance Central	WBT-PASSED	Passed	4/23/2025 12:24 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Dunn	Levi	Cole	Campus Maintenance Central	WBT-PASSED	Passed	10/17/2025 09:48 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Fayne	Jack	T	Campus Maintenance Central	WBT-PASSED	Passed	11/21/2025 11:09 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Woodrow	Thomas	Bailey	Campus Maintenance Central	WBT-PASSED	Passed	7/22/2025 02:02 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Dennis	Ryan	J.	Campus Maintenance Central	WBT-PASSED	Passed	4/17/2025 10:52 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Johnson	David	Anthony	Campus Maintenance Central	WBT-PASSED	Passed	4/18/2025 08:23 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Moody	James	E	Campus Maintenance Central	WBT-PASSED	Passed	4/23/2025 02:27 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Reid	Michael	D	Campus Maintenance Central	WBT-PASSED	Passed	4/8/2025 02:44 PM US/Eastern

EHS-STORMWATER	General Stormwater Training	Parsons	Richard	Lee	Campus Maintenance Central	WBT-PASSED	Passed	4/23/2025 02:27 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Hughes	William	Patrick	Campus Maintenance Central	WBT-PASSED	Passed	4/23/2025 02:27 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Gess	Brian	K	Campus Maintenance Central	WBT-PASSED	Passed	4/22/2025 08:35 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Hill	Nathan	Lee	Campus Maintenance Central	WBT-PASSED	Passed	4/23/2025 02:27 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Miller	Matthew	W	Campus Maintenance Central	WBT-PASSED	Passed	4/23/2025 02:27 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Switzer	Clarence	B.	Campus Maintenance Central	WBT-PASSED	Passed	4/21/2025 02:37 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Hall	Bishop	A	Campus Maintenance Central	WBT-PASSED	Passed	4/29/2025 02:41 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Weber	Charles	F	Campus Maintenance Central	WBT-PASSED	Passed	4/23/2025 02:27 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Kendrick	Dwight	E	Campus Maintenance Central	WBT-PASSED	Passed	4/23/2025 02:27 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Shank	Craig	D	Campus Maintenance Central	WBT-PASSED	Passed	4/23/2025 02:27 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Demus	Keith	A	Campus Maintenance Central	WBT-PASSED	Passed	4/23/2025 02:27 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Hogue	Joel	Scott	Campus Physical Plant	WBT-PASSED	Passed	12/18/2025 01:05 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Sandford	Harold	R	Campus Physical Plant	WBT-PASSED	Passed	4/7/2025 03:13 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Timoshchu	Lyudmila		Campus Physical Plant	WBT-PASSED	Passed	4/7/2025 03:45 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Abston	Summer	Ellen	Campus Planning	WBT-PASSED	Passed	1/13/2025 10:46 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Redmon	Sandy	Flack	Capital Project Management	WBT-PASSED	Passed	11/20/2025 03:03 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Powell	Angela		Capital Project Management	WBT-PASSED	Passed	11/20/2025 03:29 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Hoerr	Brian	Charles	Capital Project Management	WBT-PASSED	Passed	8/4/2025 05:52 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Fisher	Peter	Garrett	Capital Project Management	WBT-PASSED	Passed	5/12/2025 04:46 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Fisher	Peter	Garrett	Capital Project Management	WBT-PASSED	Passed	11/21/2025 09:49 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Baker	Sarah	Elizabeth	Capital Project Management	WBT-PASSED	Passed	11/21/2025 09:27 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Winkler	Leslie	W	Capital Project Management	WBT-PASSED	Passed	6/11/2025 07:03 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Cooper	Denise	Denise	Capital Project Management	WBT-PASSED	Passed	5/8/2025 03:37 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Sidwell	Laura	Lee	Capital Project Management	WBT-PASSED	Passed	11/21/2025 09:12 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Nordine	Sarah	Ashley	Capital Project Management	WBT-PASSED	Passed	11/21/2025 09:30 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Hansing	Chelsea		Capital Project Management	WBT-PASSED	Passed	4/7/2025 03:40 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Leach	Bradley	L	Capital Project Management	WBT-PASSED	Passed	4/7/2025 03:34 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Thomas	Wayne	Andrew	Capital Project Management	WBT-PASSED	Passed	4/7/2025 02:59 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Block	Megan	B	Capital Project Management	WBT-PASSED	Passed	11/21/2025 08:20 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Block	Megan	B	Capital Project Management	WBT-PASSED	Passed	4/8/2025 08:45 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Walton	Angela	Perry	Capital Project Management	WBT-PASSED	Passed	4/8/2025 08:13 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Walton	Angela	Perry	Capital Project Management	WBT-PASSED	Passed	11/21/2025 07:49 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Ahmad	Tonya	Danielle	Capital Project Management	WBT-PASSED	Passed	4/8/2025 08:27 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Ingram	Keith	Keith	Capital Project Management	WBT-PASSED	Passed	4/7/2025 03:20 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Thomas	Corey	Wayne	Capital Project Management	WBT-PASSED	Passed	11/25/2025 08:28 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Rhodus	Ashley	Abshire	Capital Project Management	WBT-PASSED	Passed	4/21/2025 11:10 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Sandusky	Anne	Taylor	Capital Project Management	WBT-PASSED	Passed	4/7/2025 03:06 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Hudgins	Jeff	Howell	Capital Project Management	WBT-PASSED	Passed	4/9/2025 08:56 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Lewis	Kevin	Kevin	Environmental Quality Management	WBT-PASSED	Passed	11/21/2025 10:26 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Butler	Brian	P	Environmental Quality Management	WBT-PASSED	Passed	9/12/2025 01:56 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Weber	Nathan		Environmental Quality Management	WBT-PASSED	Passed	4/25/2025 01:31 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Huller	Sarah	Olivia	Environmental Quality Management	WBT-PASSED	Passed	8/27/2025 02:15 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	McAtee	Briana	Lorene	Environmental Quality Management	WBT-PASSED	Passed	8/27/2025 09:47 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Peel	Jordan	T	External Learner - Crothall	WBT-PASSED	Passed	11/24/2025 06:21 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Teater	Deborah	A	External Learner - Crothall	WBT-PASSED	Passed	12/6/2025 08:56 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Coffman	Nakia	Danelle	External Learner - Crothall	WBT-PASSED	Passed	12/15/2025 09:16 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Whitfield	Tenesha	G	External Learner - Crothall	WBT-PASSED	Passed	12/30/2025 01:22 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Courtad	Curt	M	External Learner - Crothall	WBT-PASSED	Passed	12/3/2025 10:34 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Barkley	Elizabeth	Wells	External Learner - Crothall	WBT-PASSED	Passed	12/4/2025 02:49 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Drysdale	Joshua		External Learner - Crothall	WBT-PASSED	Passed	12/4/2025 02:51 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Weaver	Amy	L	External Learner - Crothall	WBT-PASSED	Passed	12/9/2025 02:17 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Burnette	Gary		External Learner - Crothall	WBT-PASSED	Passed	12/4/2025 10:33 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Hayes	John	E	External Learner - Crothall	WBT-PASSED	Passed	12/12/2025 12:24 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Block	Robert	Harris	External Learner - Crothall	WBT-PASSED	Passed	11/26/2025 11:30 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Majczan	Demi	M	External Learner - Crothall	WBT-PASSED	Passed	12/4/2025 09:55 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Trent	Anthony	J	External Learner - Crothall	WBT-PASSED	Passed	12/15/2025 10:09 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Crupper	Jordan	W	External Learner - Crothall	WBT-PASSED	Passed	11/24/2025 11:54 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Jansen	Claire	A	External Learner - Crothall	WBT-PASSED	Passed	12/5/2025 08:57 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Long	Toni		External Learner - Crothall	WBT-PASSED	Passed	11/25/2025 03:10 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Long	Toni		External Learner - Crothall	WBT-PASSED	Passed	11/24/2025 09:33 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Ratcliffe	Timothy	M	External Learner - EVS	WBT-PASSED	Passed	12/6/2025 09:52 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Hale	Charlene	S	External Learner - EVS	WBT-PASSED	Passed	12/24/2025 10:46 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Floyd	Ciera		External Learner - EVS	WBT-PASSED	Passed	11/24/2025 12:31 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Browner	Joelln		External Learner - EVS	WBT-PASSED	Passed	12/3/2025 01:24 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Longa	George	A	External Learner - EVS	WBT-PASSED	Passed	11/26/2025 03:31 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Slone	Irton		Facilities Project Management	WBT-PASSED	Passed	11/24/2025 12:40 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Slone	Irton		Facilities Project Management	WBT-PASSED	Passed	2/25/2025 07:51 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Wiggam	Mark	Stanley	Facilities Project Management	WBT-PASSED	Passed	4/7/2025 02:59 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Wiggam	Mark	Stanley	Facilities Project Management	WBT-PASSED	Passed	11/21/2025 10:07 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Robinson	Edward	Gale	Facilities Project Management	WBT-PASSED	Passed	11/21/2025 09:02 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Manning	Ed	Edward	Facilities Project Management	WBT-PASSED	Passed	12/18/2025 01:50 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Morris	Ronald	L	Facilities Project Management	WBT-PASSED	Passed	12/2/2025 01:42 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Carpenter	Jamie		Facilities Project Management	WBT-PASSED	Passed	12/2/2025 10:48 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Herbert	Tandellier	P	Facilities Project Management	WBT-PASSED	Passed	12/1/2025 02:16 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Tarter	Joshua	D	Facilities Project Management	WBT-PASSED	Passed	12/2/2025 10:04 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Antic	Tomi		Facilities Project Management	WBT-PASSED	Passed	12/1/2025 12:24 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Geddam	Joshika		Facilities Shared Services	WBT-PASSED	Passed	12/5/2025 09:25 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Smith	Jen	Renee	Facilities Shared Services	WBT-PASSED	Passed	11/20/2025 02:40 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Barnes	Shaun	Alan	Facilities Shared Services	WBT-PASSED	Passed	5/15/2025 08:01 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Stanton	Brian	P	Fleet Services	WBT-PASSED	Passed	12/12/2025 02:08 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Swanson	Andrew	D.	KCES Region Central Area 04	WBT-PASSED	Passed	5/23/2025 02:36 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Cox	Kevin	D	Medical Center Physical Plant	WBT-PASSED	Passed	5/23/2025 09:29 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Wilson	Jarrett	Carson	Medical Center Physical Plant	WBT-PASSED	Passed	10/15/2025 07:22 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Casias	Anthony	Avery	Medical Center Physical Plant	WBT-PASSED	Passed	11/28/2025 09:29 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Christophe	Jeffery	Shannon	Medical Center Physical Plant	WBT-PASSED	Passed	8/22/2025 01:13 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Brand	Paul	Stephen	Medical Center Physical Plant	WBT-PASSED	Passed	8/26/2025 11:15 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Marmo	Gerald	Anthony	Medical Center Physical Plant	WBT-PASSED	Passed	4/24/2025 05:09 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Petersen	Neil	Alan	Medical Center Physical Plant	WBT-PASSED	Passed	5/6/2025 07:59 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Jones	Patrick	M	Medical Center Physical Plant	WBT-PASSED	Passed	4/23/2025 11:43 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Ayers	Austin	Henry	Medical Center Physical Plant	WBT-PASSED	Passed	4/8/2025 10:37 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Messer	Jacob	Scott	Medical Center Physical Plant	WBT-PASSED	Passed	11/25/2025 09:41 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Seavey	William	Paul	Medical Center Physical Plant	WBT-PASSED	Passed	7/30/2025 03:15 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Huddleston	Mark	Allen	Medical Center Physical Plant	WBT-PASSED	Passed	4/8/2025 07:49 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Santiamag	Peter	E	Medical Center Physical Plant	WBT-PASSED	Passed	4/21/2025 03:01 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Collins	Cade	Xavier	Medical Center Physical Plant	WBT-PASSED	Passed	5/26/2025 09:09 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Severyn	Andriy		Medical Center Physical Plant	WBT-PASSED	Passed	9/17/2025 02:46 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Strange	Garth	Damron	Medical Center Physical Plant	WBT-PASSED	Passed	9/2/2025 07:58 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Jasper	Malcolm	A.	Medical Center Physical Plant	WBT-PASSED	Passed	8/20/2025 11:35 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Wigginton	Joseph	William	Medical Center Physical Plant	WBT-PASSED	Passed	7/22/2025 10:24 AM US/Eastern

EHS-STORMWATER	General Stormwater Training	Corbett	Jermaine	Davon	Medical Center Physical Plant	WBT-PASSED	Passed	7/23/2025 10:31 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Griggs	Alexandria	Nickcol	Medical Center Physical Plant	WBT-PASSED	Passed	8/22/2025 10:14 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Tincher	Donnie	R	Medical Center Physical Plant	WBT-PASSED	Passed	8/7/2025 08:45 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Tincher	Donnie	R	Medical Center Physical Plant	WBT-PASSED	Passed	2/26/2025 06:48 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Ordaz	Jesus	Alejandro	Medical Center Physical Plant	WBT-PASSED	Passed	9/8/2025 08:51 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Thomas	Preston	Percy	Medical Center Physical Plant	WBT-PASSED	Passed	5/15/2025 12:31 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Crouse	Derek	T	Medical Center Physical Plant	WBT-PASSED	Passed	11/19/2025 03:43 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Jackson	DeAndre	Antoinio	Medical Center Physical Plant	WBT-PASSED	Passed	4/8/2025 08:13 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Christen	Jeffrey	A.	Medical Center Physical Plant	WBT-PASSED	Passed	4/8/2025 05:54 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Simpson	Ronald	Craig	Medical Center Physical Plant	WBT-PASSED	Passed	4/8/2025 05:26 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Noffsinger	Jared	Pottinger	Medical Center Physical Plant	WBT-PASSED	Passed	4/21/2025 02:49 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Begley	Brady	E.	Medical Center Physical Plant	WBT-PASSED	Passed	8/28/2025 12:08 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Hardy	Craig	W.	Medical Center Physical Plant	WBT-PASSED	Passed	4/7/2025 04:20 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Cresap	Christophe	Larry Way	Medical Center Physical Plant	WBT-PASSED	Passed	6/21/2025 11:38 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Arnold	Charles	L	Medical Center Physical Plant	WBT-PASSED	Passed	4/3/2025 08:43 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Webb	Jacob	Thomas	Medical Center Physical Plant	WBT-PASSED	Passed	4/8/2025 07:57 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Ortynska	Lyudmyla	D.	Phys Plt-Custodial Services	WBT-PASSED	Passed	6/3/2025 10:33 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Cole	Chris	Robin	Phys Plt-Custodial Services	WBT-PASSED	Passed	4/15/2025 11:58 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Patterson-	Nioka	Machelle	Phys Plt-Custodial Services	WBT-PASSED	Passed	4/14/2025 09:11 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Fugate	Haley	Nicole	Phys Plt-Custodial Services	WBT-PASSED	Passed	12/5/2025 11:33 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Alkenbrack	Jefferey	M	Phys Plt-Custodial Services	WBT-PASSED	Passed	2/25/2025 12:36 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Martinez	Tito	Abrahan	Phys Plt-Custodial Services	WBT-PASSED	Passed	4/9/2025 11:54 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Combs	Joshua	Burke	Phys Plt-Custodial Services	WBT-PASSED	Passed	4/8/2025 02:22 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Thomas	Charles	Robert	Phys Plt-Custodial Services	WBT-PASSED	Passed	9/24/2025 05:46 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Miles	Dustin	Glenn	Phys Plt-Custodial Services	WBT-PASSED	Passed	12/20/2025 12:55 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Underwood	Bradley	Thomas	Phys Plt-Custodial Services	WBT-PASSED	Passed	9/25/2025 01:37 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Sanders	Elise	Marie	Phys Plt-Custodial Services	WBT-PASSED	Passed	4/11/2025 06:39 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Useni	Ana		Phys Plt-Custodial Services	WBT-PASSED	Passed	12/19/2025 12:10 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Yeary	Paul	Mark	Phys Plt-Custodial Services	WBT-PASSED	Passed	4/10/2025 10:34 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Brown	LeNora	Ann	Phys Plt-Custodial Services	WBT-PASSED	Passed	5/21/2025 09:08 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Monroe	Cynthia	Ragland	Phys Plt-Custodial Services	WBT-PASSED	Passed	4/13/2025 01:18 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Timsina St	Khina	M	Phys Plt-Custodial Services	WBT-PASSED	Passed	4/11/2025 11:59 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Reyes	Michael	R	Phys Plt-Custodial Services	WBT-PASSED	Passed	6/4/2025 12:37 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Gibbs	Artis	B	Phys Plt-Custodial Services	WBT-PASSED	Passed	3/27/2025 05:23 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	McDaniel	Stephanie	Mae	Phys Plt-Custodial Services	WBT-PASSED	Passed	12/23/2025 10:11 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Hite	Autumn	Serenity	Phys Plt-Custodial Services	WBT-PASSED	Passed	10/14/2025 02:29 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Hite	Autumn	Serenity	Phys Plt-Custodial Services	WBT-PASSED	Passed	10/15/2025 02:15 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Saucedo	Crystal	Dawn	Phys Plt-Custodial Services	WBT-PASSED	Passed	11/4/2025 10:29 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Johnson	Quince	L	Phys Plt-Custodial Services	WBT-PASSED	Passed	7/25/2025 12:51 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Cummins	Joshua	Lee	Phys Plt-Custodial Services	WBT-PASSED	Passed	4/10/2025 12:24 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Caldwell	Shane	David	Phys Plt-Custodial Services	WBT-PASSED	Passed	4/11/2025 01:47 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Askvig	Jacob	Richard	Phys Plt-Custodial Services	WBT-PASSED	Passed	4/11/2025 10:09 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Clayborne	Shawna	Marie	Phys Plt-Custodial Services	WBT-PASSED	Passed	1/2/2025 11:54 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Moreno	Sierra	Lanai	Phys Plt-Custodial Services	WBT-PASSED	Passed	5/15/2025 05:48 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Goode	Ryan	Keith	Phys Plt-Custodial Services	WBT-PASSED	Passed	6/21/2025 11:27 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Ortiz Ruiz	Dolores	M	Phys Plt-Custodial Services	WBT-PASSED	Passed	4/9/2025 01:49 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Correa Ric	Margarita	M	Phys Plt-Custodial Services	WBT-PASSED	Passed	9/4/2025 03:53 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Rosales C	Fatima		Phys Plt-Custodial Services	WBT-PASSED	Passed	11/11/2025 12:32 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Carter	RK	Keikiokalai	Phys Plt-Custodial Services	WBT-PASSED	Passed	2/20/2025 11:57 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Smith	Thomas	Zachary	Phys Plt-Custodial Services	WBT-PASSED	Passed	7/30/2025 02:01 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Kimball	Shawnniqu	Lucinda	Phys Plt-Custodial Services	WBT-PASSED	Passed	2/25/2025 06:29 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Lowe	Charles	Matthew	Phys Plt-Custodial Services	WBT-PASSED	Passed	1/7/2025 07:15 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	White	Kelvin	Wayne	Phys Plt-Custodial Services	WBT-PASSED	Passed	4/10/2025 09:36 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	White	Kelvin	Wayne	Phys Plt-Custodial Services	WBT-PASSED	Passed	2/28/2025 10:25 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	LeRoy	Connie	R.	Phys Plt-Custodial Services	WBT-PASSED	Passed	5/27/2025 10:14 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Jackson	Shirley	Mae	Phys Plt-Custodial Services	WBT-PASSED	Passed	5/21/2025 09:03 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Barnes	Allie	Reeves	Phys Plt-Custodial Services	WBT-PASSED	Passed	9/19/2025 05:55 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Sanders	Monic	Schnell	Phys Plt-Custodial Services	WBT-PASSED	Passed	4/10/2025 02:22 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Ulshafer	John	C	Phys Plt-Grounds Services	WBT-PASSED	Passed	8/10/2025 10:56 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Youngs	Kyle	Christophe	Phys Plt-Grounds Services	WBT-PASSED	Passed	12/18/2025 01:26 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Zurkuhlen	Scott	G	Phys Plt-Grounds Services	WBT-PASSED	Passed	1/21/2025 09:02 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Bryant	Cameron	Jacob	Phys Plt-Grounds Services	WBT-PASSED	Passed	7/9/2025 09:47 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Morrison	Chuck	Rodney	Phys Plt-Grounds Services	WBT-PASSED	Passed	4/9/2025 07:54 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Cornett	Justin	Gabriel All	Phys Plt-Grounds Services	WBT-PASSED	Passed	8/13/2025 02:04 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Hesley	Jesse	J	Phys Plt-Grounds Services	WBT-PASSED	Passed	9/11/2025 07:44 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Seqgebruc	Daniel	Robert	Phys Plt-Grounds Services	WBT-PASSED	Passed	9/16/2025 12:54 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Geibel	Erin	Rose	Phys Plt-Recycling Operations	WBT-PASSED	Passed	10/27/2025 01:33 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Lark	Ryan	Patrick	Phys Plt-Recycling Operations	WBT-PASSED	Passed	11/24/2025 01:11 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Meeks	Corey	Tyler	Phys Plt-Trucking Services	WBT-PASSED	Passed	2/5/2025 07:45 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Bedford	Sam		Phys Plt-Trucking Services	WBT-PASSED	Passed	8/19/2025 01:28 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Raglin	Kenneth	B	Phys Plt-Trucking Services	WBT-PASSED	Passed	12/10/2025 01:03 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Flaherty	Michael	Joseph	Phys Plt-Trucking Services	WBT-PASSED	Passed	5/15/2025 10:46 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Costello	Corinne	Leigh	Phys Plt-Trucking Services	WBT-PASSED	Passed	11/26/2025 12:16 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	McCree	K'Rissa	Laree	Phys Plt-Trucking Services	WBT-PASSED	Passed	1/17/2025 10:49 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Eads	Larry	Joe	STEPS Temporary Employment	WBT-PASSED	Passed	10/20/2025 10:58 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Critchley	Matthew	M	STEPS Temporary Employment	WBT-PASSED	Passed	12/20/2025 03:24 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Benge	Cyrus	Stormy	STEPS Temporary Employment	WBT-PASSED	Passed	10/7/2025 05:58 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Smith	Nathaniel	Ray	STEPS Temporary Employment	WBT-PASSED	Passed	9/15/2025 10:43 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Lanza	Colt	S	STEPS Temporary Employment	WBT-PASSED	Passed	12/11/2025 08:06 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Helme	Donald	Wade	STEPS Temporary Employment	WBT-PASSED	Passed	4/11/2025 08:22 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Rose	Alison	Danielle	STEPS Temporary Employment	WBT-PASSED	Passed	10/7/2025 12:45 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Pollard	Mitchell	Mitchell	Student Success Administration	WBT-PASSED	Passed	4/7/2025 06:31 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Altizer	Shawn		Utilities & Energy Management	WBT-PASSED	Passed	11/18/2025 12:25 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Minton	Jonathan	Edward	Utilities & Energy Management	WBT-PASSED	Passed	4/8/2025 08:47 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Howard	Colton	Shane	Utilities & Energy Management	WBT-PASSED	Passed	2/28/2025 08:40 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	VanDine	Eric	Michael	Utilities & Energy Management	WBT-PASSED	Passed	4/17/2025 08:36 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Del Rey De	Barbara	K	Utilities & Energy Management	WBT-PASSED	Passed	11/25/2025 03:14 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Stewart	Christophe	S	Utilities & Energy Management	WBT-PASSED	Passed	5/27/2025 10:54 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Ward	Steven	Daniel	Utilities & Energy Management	WBT-PASSED	Passed	7/22/2025 08:19 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Ward	Steven	Daniel	Utilities & Energy Management	WBT-PASSED	Passed	12/11/2025 09:24 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Saunier	Lucas	Edward Ba	Utilities & Energy Management	WBT-PASSED	Passed	4/17/2025 09:08 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Farris	Allen	S	Utilities & Energy Management	WBT-PASSED	Passed	4/16/2025 02:13 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Templeton	Chad	Edward	Utilities & Energy Management	WBT-PASSED	Passed	11/30/2025 01:58 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Perry	Ally	Lizabeth	Utilities & Energy Management	WBT-PASSED	Passed	5/14/2025 04:48 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Tyree	William	Franklin	Utilities & Energy Management	WBT-PASSED	Passed	4/8/2025 09:03 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	McGuire	Patrick	S	Utilities & Energy Management	WBT-PASSED	Passed	4/28/2025 10:10 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Knapp	Benjamin	Owen	Utilities & Energy Management	WBT-PASSED	Passed	11/13/2025 07:47 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Kyrylczuk	Michael	Andrew	Utilities & Energy Management	WBT-PASSED	Passed	11/24/2025 02:59 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Derenge	David	Patrick	Utilities & Energy Management	WBT-PASSED	Passed	12/11/2025 09:17 AM US/Eastern

EHS-STORMWATER	General Stormwater Training	Poynter	Martin	L	Utilities & Energy Management	WBT-PASSED	Passed	1/26/2025 03:05 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Baldwin	Michael	L	Utilities & Energy Management	WBT-PASSED	Passed	4/14/2025 02:18 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Joseph	Jack	Kelly	Utilities & Energy Management	WBT-PASSED	Passed	9/10/2025 09:27 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Joseph	Jack	Kelly	Utilities & Energy Management	WBT-PASSED	Passed	4/16/2025 10:38 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Walters	Randal	S.	Utilities & Energy Management	WBT-PASSED	Passed	4/27/2025 12:11 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Harris	Joseph	Miles	Utilities & Energy Management	WBT-PASSED	Passed	11/14/2025 08:06 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	De Rossitt	Chad	C	Utilities & Energy Management	WBT-PASSED	Passed	4/12/2025 11:38 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Kemp	Dustin	Eugene	Utilities & Energy Management	WBT-PASSED	Passed	4/17/2025 10:02 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Pelat	Christian	Mickael	Utilities & Energy Management	WBT-PASSED	Passed	12/11/2025 07:45 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Clark	Ken	Gale	Utilities & Energy Management	WBT-PASSED	Passed	4/20/2025 10:56 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Christophe	Jared	Lee	Utilities & Energy Management	WBT-PASSED	Passed	12/22/2025 08:01 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Spickard	Patrick	James	Utilities & Energy Management	WBT-PASSED	Passed	1/23/2025 05:16 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Tincher	Bobbie		Utilities & Energy Management	WBT-PASSED	Passed	4/17/2025 03:16 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Moncrief	John	Ellis	Utilities & Energy Management	WBT-PASSED	Passed	10/13/2025 08:23 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Currey	Steven	Douglas	Utilities & Energy Management	WBT-PASSED	Passed	9/1/2025 12:12 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Saunier	Azariah	Luke Pine	Utilities & Energy Management	WBT-PASSED	Passed	3/6/2025 05:13 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Clark	Sharky	Ellis	Utilities & Energy Management	WBT-PASSED	Passed	5/4/2025 01:07 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Badstibner	Jacob	Alexander	Utilities & Energy Management	WBT-PASSED	Passed	8/27/2025 04:03 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Johnson	VanNess	Ramon	Utilities & Energy Management	WBT-PASSED	Passed	5/2/2025 05:09 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Tolliver	Galen	C	Utilities & Energy Management	WBT-PASSED	Passed	4/14/2025 01:32 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Hall	Anthony	Joseph	Utilities & Energy Management	WBT-PASSED	Passed	9/20/2025 01:29 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Martin	Edward	Helm	Utilities & Energy Management	WBT-PASSED	Passed	5/6/2025 07:23 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Duffy	Michael	J	Utilities & Energy Management	WBT-PASSED	Passed	12/19/2025 03:09 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Combs	Joshua	Scout	Utilities & Energy Management	WBT-PASSED	Passed	11/23/2025 11:31 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Cronk	Kelly	Jon	Utilities & Energy Management	WBT-PASSED	Passed	11/17/2025 08:27 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Tackett	Nicole	Louise	Utilities & Energy Management	WBT-PASSED	Passed	4/18/2025 10:53 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Chenault	Cory	D	Utilities & Energy Management	WBT-PASSED	Passed	11/19/2025 07:52 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Zornes	Edward	Michael	Utilities & Energy Management	WBT-PASSED	Passed	11/24/2025 11:39 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	DeBoard	Seth	Ryan	Utilities & Energy Management	WBT-PASSED	Passed	4/25/2025 12:40 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Robbins	Matthew	Alexander	Utilities & Energy Management	WBT-PASSED	Passed	11/14/2025 08:09 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Perry	Orin	Michael	Utilities & Energy Management	WBT-PASSED	Passed	11/17/2025 11:04 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Sandford	Matthew	T	Utilities & Energy Management	WBT-PASSED	Passed	9/26/2025 05:06 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Cada	Payton	Lorraine	Utilities & Energy Management	WBT-PASSED	Passed	4/26/2025 06:39 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Back	Kevin	Scott	Utilities & Energy Management	WBT-PASSED	Passed	4/10/2025 12:01 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Hoard	Jacob	Allen	Utilities & Energy Management	WBT-PASSED	Passed	11/14/2025 07:24 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Meristil	Makens	Rolph	Utilities & Energy Management	WBT-PASSED	Passed	3/26/2025 09:11 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Pippen	Brian	Ray	Utilities & Energy Management	WBT-PASSED	Passed	12/23/2025 01:29 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Jones	Daniel	Jason	Utilities & Energy Management	WBT-PASSED	Passed	11/25/2025 01:58 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Cosby	Michael	Evan	Utilities & Energy Management	WBT-PASSED	Passed	5/2/2025 07:13 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Rowlett	Roy	E	Utilities & Energy Management	WBT-PASSED	Passed	12/17/2025 10:40 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Cummins	Jeff	Michael	Utilities & Energy Management	WBT-PASSED	Passed	4/21/2025 02:44 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Huffines	Henry	L.	Utilities & Energy Management	WBT-PASSED	Passed	12/11/2025 07:21 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Mack	Antoine	Dupree	Utilities & Energy Management	WBT-PASSED	Passed	11/24/2025 12:10 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Keely	Daniel	C	Utilities & Energy Management	WBT-PASSED	Passed	9/19/2025 07:52 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Shropshire	Emma	Dawn	Utilities & Energy Management	WBT-PASSED	Passed	11/24/2025 10:31 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Brinegar	Tara	N.	Utilities & Energy Management	WBT-PASSED	Passed	4/29/2025 01:50 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Pizarro	Ivana	A.	Utilities & Energy Management	WBT-PASSED	Passed	9/10/2025 02:55 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Pizarro	Ivana	A.	Utilities & Energy Management	WBT-PASSED	Passed	3/2/2025 08:28 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Watts	Stephen	D	Utilities & Energy Management	WBT-PASSED	Passed	4/16/2025 07:54 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Zierer	Paul	J.	Utilities & Energy Management	WBT-PASSED	Passed	12/4/2025 10:40 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Derenge	Michael	Francis	Utilities & Energy Management	WBT-PASSED	Passed	8/29/2025 11:45 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Parker	Spencer	J	Utilities & Energy Management	WBT-PASSED	Passed	8/29/2025 08:28 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Whitton	Carter	H	Utilities & Energy Management	WBT-PASSED	Passed	12/3/2025 03:12 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Booth	Steven	G	Utilities & Energy Management	WBT-PASSED	Passed	4/14/2025 09:03 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Dalton	Daniel	Kenneth	Utilities & Energy Management	WBT-PASSED	Passed	9/2/2025 11:28 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Hopewell	Cody	Alan	Utilities & Energy Management	WBT-PASSED	Passed	12/4/2025 03:56 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Webb	Jarrett	Stephen	Utilities & Energy Management	WBT-PASSED	Passed	5/22/2025 09:03 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Gonzalez	Adelina	Rose	Utilities & Energy Management	WBT-PASSED	Passed	3/11/2025 11:48 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Gray	Graham	M	Utilities & Energy Management	WBT-PASSED	Passed	11/25/2025 03:31 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Boone	Louis	M	Utilities & Energy Management	WBT-PASSED	Passed	11/25/2025 07:06 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Boone	Louis	M	Utilities & Energy Management	WBT-PASSED	Passed	4/8/2025 07:19 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Assel	April	Danielle	Utilities & Energy Management	WBT-PASSED	Passed	4/10/2025 08:56 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Brown	Austin	Taylor	Utilities & Energy Management	WBT-PASSED	Passed	5/9/2025 03:22 AM US/Eastern
EHS-STORMWATER	General Stormwater Training	Reasor	Ross	G	Utilities & Energy Management	WBT-PASSED	Passed	4/29/2025 01:30 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Cochran	Branden	Lane	Utilities & Energy Management	WBT-PASSED	Passed	3/4/2025 12:27 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Allen	Jennifer	T	VP - Facilities	WBT-PASSED	Passed	4/30/2025 03:53 PM US/Eastern
EHS-STORMWATER	General Stormwater Training	Ragland	Britney	Marie	VP - Facilities	WBT-PASSED	Passed	12/16/2025 04:43 PM US/Eastern

APPENDIX F-5

Spill Prevention & Control Countermeasures Training Documentation

Item ID	Item Title	Last Name	First Name	Middle Nan	Organizatio	Completior	Completior	Completion Date
EHS-SPCC-	Spill Prever	Geisinger	Kevin	A	Athletics - F	WBT-PASSE	Passed	3/25/2025 04:08 PM US/Eastern
EHS-SPCC-	Spill Prever	Back	Mark	A	Athletics - F	WBT-PASSE	Passed	3/14/2025 10:08 AM US/Eastern
EHS-SPCC-	Spill Prever	Anderson-F	Mary		Athletics - F	WBT-PASSE	Passed	3/19/2025 04:52 PM US/Eastern
EHS-SPCC-	Spill Prever	Smith	Trevor	Kyle	Athletics - (	WBT-PASSE	Passed	1/28/2025 02:05 PM US/Eastern
EHS-SPCC-	Spill Prever	Pettus	John	Nicholas	Athletics - (	WBT-PASSE	Passed	9/15/2025 03:46 PM US/Eastern
EHS-SPCC-	Spill Prever	Reed	Nathaniel	Deatley	Athletics - (	WBT-PASSE	Passed	9/15/2025 03:46 PM US/Eastern
EHS-SPCC-	Spill Prever	Maki	Bradley	Michael Ra	Athletics - (	WBT-PASSE	Passed	9/17/2025 01:48 PM US/Eastern
EHS-SPCC-	Spill Prever	Thompson	Bryce	Montgomer	Athletics - (	WBT-PASSE	Passed	9/16/2025 10:09 AM US/Eastern
EHS-SPCC-	Spill Prever	Emery	Andrew	W	Athletics - (	WBT-PASSE	Passed	3/19/2025 03:10 PM US/Eastern
EHS-SPCC-	Spill Prever	Emery	Andrew	W	Athletics - (	WBT-PASSE	Passed	11/25/2025 03:58 PM US/Eastern
EHS-SPCC-	Spill Prever	Barnes	Joshua	Todd	Athletics - (	WBT-PASSE	Passed	11/25/2025 03:15 PM US/Eastern
EHS-SPCC-	Spill Prever	Thompson	Jason	Ryan	Athletics - (	WBT-PASSE	Passed	3/22/2025 09:32 PM US/Eastern
EHS-SPCC-	Spill Prever	Gage	Jaxson	Royce	Athletics - (	WBT-PASSE	Passed	9/16/2025 02:52 PM US/Eastern
EHS-SPCC-	Spill Prever	Goode	Matthew	Thomas	Athletics - (	WBT-PASSE	Passed	11/25/2025 12:42 PM US/Eastern
EHS-SPCC-	Spill Prever	Munguia	Brenden	Kyle	Athletics - (	WBT-PASSE	Passed	9/16/2025 10:45 AM US/Eastern
EHS-SPCC-	Spill Prever	Munguia	Brenden	Kyle	Athletics - (	WBT-PASSE	Passed	1/22/2025 09:42 AM US/Eastern
EHS-SPCC-	Spill Prever	Nelson	James	M.	Athletics - (	WBT-PASSE	Passed	12/2/2025 03:36 PM US/Eastern
EHS-SPCC-	Spill Prever	Galloway	Keegan	Douglas	Athletics - (	WBT-PASSE	Passed	1/23/2025 03:44 PM US/Eastern
EHS-SPCC-	Spill Prever	Galloway	Keegan	Douglas	Athletics - (	WBT-PASSE	Passed	9/22/2025 01:20 PM US/Eastern
EHS-SPCC-	Spill Prever	Harmon	Xavier	Mark	Athletics - (	WBT-PASSE	Passed	9/17/2025 09:20 AM US/Eastern
EHS-SPCC-	Spill Prever	Harmon	Xavier	Mark	Athletics - (	WBT-PASSE	Passed	3/21/2025 11:16 AM US/Eastern
EHS-SPCC-	Spill Prever	Smith	Andrew	Constantin	Athletics - (	WBT-PASSE	Passed	9/4/2025 11:36 AM US/Eastern
EHS-SPCC-	Spill Prever	Hayosh	John	G	Athletics - (	WBT-PASSE	Passed	9/18/2025 01:29 PM US/Eastern
EHS-SPCC-	Spill Prever	Vittetow	Jacob	Nelson	Athletics - (	WBT-PASSE	Passed	9/16/2025 02:07 PM US/Eastern
EHS-SPCC-	Spill Prever	Hernandez	Pablo	Gonzalez	Athletics - (	WBT-PASSE	Passed	9/4/2025 11:43 AM US/Eastern
EHS-SPCC-	Spill Prever	Britt	Cole	Patrick	Athletics - (	WBT-PASSE	Passed	1/8/2025 08:48 AM US/Eastern
EHS-SPCC-	Spill Prever	Smith	Nathan	Scott	Athletics - (	WBT-PASSE	Passed	1/17/2025 01:13 PM US/Eastern
EHS-SPCC-	Spill Prever	Reynolds	Mason	Carter	Athletics - (	WBT-PASSE	Passed	1/17/2025 01:48 PM US/Eastern
EHS-SPCC-	Spill Prever	Burton	Rodney		Athletics - (	WBT-PASSE	Passed	3/14/2025 11:42 AM US/Eastern
EHS-SPCC-	Spill Prever	Bolton	Scott	W.	Campus M	WBT-PASSE	Passed	4/18/2025 10:31 AM US/Eastern
EHS-SPCC-	Spill Prever	Moberly	Charles	W	Campus M	WBT-PASSE	Passed	4/16/2025 11:30 PM US/Eastern
EHS-SPCC-	Spill Prever	Sorrell	Scott	Allen	Campus M	WBT-PASSE	Passed	4/16/2025 02:37 PM US/Eastern
EHS-SPCC-	Spill Prever	Sidwell	Eric	S	Campus M	WBT-PASSE	Passed	8/5/2025 02:52 PM US/Eastern
EHS-SPCC-	Spill Prever	Warner	Karl	C.	Campus M	WBT-PASSE	Passed	4/17/2025 09:02 AM US/Eastern
EHS-SPCC-	Spill Prever	Durham	Clyde	Allen	Campus M	WBT-PASSE	Passed	4/16/2025 01:16 PM US/Eastern
EHS-SPCC-	Spill Prever	Dunn	Shayne	L	Campus M	WBT-PASSE	Passed	4/17/2025 09:01 AM US/Eastern
EHS-SPCC-	Spill Prever	Butler	Brian	P	Environmer	WBT-PASSE	Passed	9/12/2025 02:56 PM US/Eastern
EHS-SPCC-	Spill Prever	Weber	Nathan		Environmer	WBT-PASSE	Passed	4/25/2025 03:46 PM US/Eastern
EHS-SPCC-	Spill Prever	Huller	Sarah	Olivia	Environmer	WBT-PASSE	Passed	8/27/2025 03:11 PM US/Eastern
EHS-SPCC-	Spill Prever	McAtee	Briana	Lorene	Environmer	WBT-PASSE	Passed	8/27/2025 10:52 AM US/Eastern
EHS-SPCC-	Spill Prever	Stanton	Brian	P	Fleet Servic	WBT-PASSE	Passed	12/12/2025 11:12 AM US/Eastern
EHS-SPCC-	Spill Prever	Conn	Jason	Ray	Fleet Servic	WBT-PASSE	Passed	10/29/2025 03:25 PM US/Eastern
EHS-SPCC-	Spill Prever	Peck	Edward	D.	Fleet Servic	WBT-PASSE	Passed	11/13/2025 08:57 AM US/Eastern
EHS-SPCC-	Spill Prever	Higdon	Andrea	Lynn	Martin-Gatt	WBT-PASSE	Passed	10/27/2025 04:16 PM US/Eastern
EHS-SPCC-	Spill Prever	Green	Sara		Martin-Gatt	WBT-PASSE	Passed	10/28/2025 02:58 PM US/Eastern
EHS-SPCC-	Spill Prever	Green	Sara		Martin-Gatt	WBT-PASSE	Passed	10/29/2025 11:54 AM US/Eastern
EHS-SPCC-	Spill Prever	Burdette	Michael	Timothy	Medical Ce	WBT-PASSE	Passed	5/16/2025 11:14 PM US/Eastern
EHS-SPCC-	Spill Prever	Tincher	Donnie	R	Medical Ce	WBT-PASSE	Passed	8/7/2025 09:09 AM US/Eastern
EHS-SPCC-	Spill Prever	Thomas	Preston	Percy	Medical Ce	WBT-PASSE	Passed	5/15/2025 01:27 PM US/Eastern

EHS-SPCC-Spill Prever	Gay	Fred	Reed	Medical Ce	WBT-PASSE	Passed	4/24/2025 11:18 AM US/Eastern
EHS-SPCC-Spill Prever	Stewart	Nathan	Patrick	Medical Ce	WBT-PASSE	Passed	3/5/2025 09:36 AM US/Eastern
EHS-SPCC-Spill Prever	Linzy	Austin	Jeffrey	Medical Ce	WBT-PASSE	Passed	5/14/2025 04:19 PM US/Eastern
EHS-SPCC-Spill Prever	Christen	Jeffrey	A.	Medical Ce	WBT-PASSE	Passed	4/8/2025 06:53 AM US/Eastern
EHS-SPCC-Spill Prever	Santiamagr	Peter	E	Medical Ce	WBT-PASSE	Passed	4/21/2025 03:56 PM US/Eastern
EHS-SPCC-Spill Prever	Black	Connor	Davis	Medical Ce	WBT-PASSE	Passed	10/15/2025 12:15 PM US/Eastern
EHS-SPCC-Spill Prever	Noffsinger	Jared	Pottinger	Medical Ce	WBT-PASSE	Passed	4/21/2025 03:57 PM US/Eastern
EHS-SPCC-Spill Prever	Navales	Jomari	A.	Medical Ce	WBT-PASSE	Passed	6/16/2025 04:51 AM US/Eastern
EHS-SPCC-Spill Prever	Youngs	Kyle	Christophe	Phys Plt-Gr	WBT-PASSE	Passed	12/18/2025 02:47 PM US/Eastern
EHS-SPCC-Spill Prever	Smith	Tony	D	Phys Plt-Gr	WBT-PASSE	Passed	9/25/2025 08:59 AM US/Eastern
EHS-SPCC-Spill Prever	Ulshafer	John	C	Phys Plt-Gr	WBT-PASSE	Passed	7/23/2025 08:55 PM US/Eastern
EHS-SPCC-Spill Prever	Whitt	Marvin	L.	Phys Plt-Gr	WBT-PASSE	Passed	3/3/2025 09:27 AM US/Eastern
EHS-SPCC-Spill Prever	Curry	Adam	Bruce	Phys Plt-Gr	WBT-PASSE	Passed	1/28/2025 11:43 AM US/Eastern
EHS-SPCC-Spill Prever	Hardin	Matthew	Ryan	Phys Plt-Gr	WBT-PASSE	Passed	7/30/2025 10:09 AM US/Eastern
EHS-SPCC-Spill Prever	Goodwin	Donta	Dupree	Phys Plt-Gr	WBT-PASSE	Passed	9/24/2025 02:28 PM US/Eastern
EHS-SPCC-Spill Prever	Hale	Andrew	Joshua Skyl	Phys Plt-Gr	WBT-PASSE	Passed	4/3/2025 03:06 PM US/Eastern
EHS-SPCC-Spill Prever	Kash	Hannah	Jane	RCARS	WBT-PASSE	Passed	11/11/2025 02:55 PM US/Eastern
EHS-SPCC-Spill Prever	Sympson	William		Research	WBT-PASSE	Passed	11/3/2025 03:33 PM US/Eastern
EHS-SPCC-Spill Prever	Zanone	Stephen	R	Research F	WBT-PASSE	Passed	10/29/2025 10:26 AM US/Eastern
EHS-SPCC-Spill Prever	Johnson	Wyatt	Ray	Research F	WBT-PASSE	Passed	10/30/2025 02:04 PM US/Eastern
EHS-SPCC-Spill Prever	Rudd	Shannon	C	Research F	WBT-PASSE	Passed	10/30/2025 11:51 AM US/Eastern
EHS-SPCC-Spill Prever	Peake	Jesse	Matthew	Research F	WBT-PASSE	Passed	10/29/2025 12:04 PM US/Eastern
EHS-SPCC-Spill Prever	Sparrow	Kip	Curry	Research F	WBT-PASSE	Passed	10/30/2025 02:29 PM US/Eastern
EHS-SPCC-Spill Prever	Abbott	Randy	G	Research F	WBT-PASSE	Passed	11/11/2025 08:24 AM US/Eastern
EHS-SPCC-Spill Prever	Vonroth	Tyler	Jones	STEPS Tem	WBT-PASSE	Passed	11/21/2025 06:20 PM US/Eastern
EHS-SPCC-Spill Prever	Kirk	Ash	Reese	STEPS Tem	WBT-PASSE	Passed	11/28/2025 09:46 AM US/Eastern
EHS-SPCC-Spill Prever	Critchley	Matthew	M	STEPS Tem	WBT-PASSE	Passed	12/21/2025 02:38 PM US/Eastern
EHS-SPCC-Spill Prever	Altizer	Shawn		Utilities & E	WBT-PASSE	Passed	12/4/2025 11:16 PM US/Eastern
EHS-SPCC-Spill Prever	Minton	Jonathan	Edward	Utilities & E	WBT-PASSE	Passed	4/8/2025 10:43 AM US/Eastern
EHS-SPCC-Spill Prever	Clark	Sharky	Ellis	Utilities & E	WBT-PASSE	Passed	7/24/2025 01:59 PM US/Eastern
EHS-SPCC-Spill Prever	VanDine	Eric	Michael	Utilities & E	WBT-PASSE	Passed	11/26/2025 10:50 AM US/Eastern
EHS-SPCC-Spill Prever	Johnson	VanNess	Ramon	Utilities & E	WBT-PASSE	Passed	5/1/2025 07:37 PM US/Eastern
EHS-SPCC-Spill Prever	Stewart	Christophe	S	Utilities & E	WBT-PASSE	Passed	12/17/2025 11:23 AM US/Eastern
EHS-SPCC-Spill Prever	Ward	Steven	Daniel	Utilities & E	WBT-PASSE	Passed	10/20/2025 06:54 AM US/Eastern
EHS-SPCC-Spill Prever	Saunier	Lucas	Edward Bar	Utilities & E	WBT-PASSE	Passed	4/17/2025 10:16 PM US/Eastern
EHS-SPCC-Spill Prever	Templeton	Chad	Edward	Utilities & E	WBT-PASSE	Passed	11/29/2025 08:55 PM US/Eastern
EHS-SPCC-Spill Prever	Farris	Allen	S	Utilities & E	WBT-PASSE	Passed	11/24/2025 11:58 AM US/Eastern
EHS-SPCC-Spill Prever	Hall	Anthony	Joseph	Utilities & E	WBT-PASSE	Passed	4/23/2025 03:42 PM US/Eastern
EHS-SPCC-Spill Prever	Tyree	William	Franklin	Utilities & E	WBT-PASSE	Passed	11/17/2025 02:39 PM US/Eastern
EHS-SPCC-Spill Prever	Duffy	Michael	J	Utilities & E	WBT-PASSE	Passed	12/19/2025 05:01 PM US/Eastern
EHS-SPCC-Spill Prever	Combs	Joshua	Scout	Utilities & E	WBT-PASSE	Passed	11/24/2025 12:43 AM US/Eastern
EHS-SPCC-Spill Prever	Cronk	Kelly	Jon	Utilities & E	WBT-PASSE	Passed	11/17/2025 09:22 AM US/Eastern
EHS-SPCC-Spill Prever	McGuire	Patrick	S	Utilities & E	WBT-PASSE	Passed	4/28/2025 09:37 AM US/Eastern
EHS-SPCC-Spill Prever	Zornes	Edward	Michael	Utilities & E	WBT-PASSE	Passed	11/25/2025 12:40 AM US/Eastern
EHS-SPCC-Spill Prever	Chenault	Cory	D	Utilities & E	WBT-PASSE	Passed	11/19/2025 07:19 AM US/Eastern
EHS-SPCC-Spill Prever	DeBoard	Seth	Ryan	Utilities & E	WBT-PASSE	Passed	4/25/2025 04:56 PM US/Eastern
EHS-SPCC-Spill Prever	Robbins	Matthew	Alexander	Utilities & E	WBT-PASSE	Passed	11/14/2025 08:32 AM US/Eastern
EHS-SPCC-Spill Prever	Baldwin	Michael	L	Utilities & E	WBT-PASSE	Passed	11/25/2025 08:30 AM US/Eastern
EHS-SPCC-Spill Prever	Walters	Randal	S.	Utilities & E	WBT-PASSE	Passed	4/27/2025 11:34 AM US/Eastern
EHS-SPCC-Spill Prever	Perry	Orin	Michael	Utilities & E	WBT-PASSE	Passed	11/18/2025 12:27 AM US/Eastern

EHS-SPCC- Spill Prever	Joseph	Jack	Kelly	Utilities & E	WBT-PASSE	Passed	11/25/2025 02:11 PM US/Eastern
EHS-SPCC- Spill Prever	Harris	Joseph	Miles	Utilities & E	WBT-PASSE	Passed	11/14/2025 08:03 AM US/Eastern
EHS-SPCC- Spill Prever	Sandford	Matthew	T	Utilities & E	WBT-PASSE	Passed	9/25/2025 05:52 AM US/Eastern
EHS-SPCC- Spill Prever	Davis	Micah	Daniel	Utilities & E	WBT-PASSE	Passed	11/25/2025 04:54 PM US/Eastern
EHS-SPCC- Spill Prever	De Rossitt	Chad	C	Utilities & E	WBT-PASSE	Passed	9/22/2025 01:54 PM US/Eastern
EHS-SPCC- Spill Prever	Cada	Payton	Lorraine	Utilities & E	WBT-PASSE	Passed	4/23/2025 05:42 AM US/Eastern
EHS-SPCC- Spill Prever	Back	Kevin	Scott	Utilities & E	WBT-PASSE	Passed	12/3/2025 12:12 PM US/Eastern
EHS-SPCC- Spill Prever	Back	Kevin	Scott	Utilities & E	WBT-PASSE	Passed	4/11/2025 09:11 AM US/Eastern
EHS-SPCC- Spill Prever	Hoard	Jacob	Allen	Utilities & E	WBT-PASSE	Passed	11/14/2025 08:24 AM US/Eastern
EHS-SPCC- Spill Prever	Pippen	Brian	Ray	Utilities & E	WBT-PASSE	Passed	12/22/2025 03:21 PM US/Eastern
EHS-SPCC- Spill Prever	Reynolds	James	Edward	Utilities & E	WBT-PASSE	Passed	11/22/2025 05:40 AM US/Eastern
EHS-SPCC- Spill Prever	Cosby	Michael	Evan	Utilities & E	WBT-PASSE	Passed	4/28/2025 07:10 PM US/Eastern
EHS-SPCC- Spill Prever	Cummins	Jeff	Michael	Utilities & E	WBT-PASSE	Passed	4/26/2025 09:49 AM US/Eastern
EHS-SPCC- Spill Prever	Huffines	Henry	L.	Utilities & E	WBT-PASSE	Passed	10/20/2025 08:32 AM US/Eastern
EHS-SPCC- Spill Prever	Keely	Daniel	C	Utilities & E	WBT-PASSE	Passed	9/19/2025 07:22 AM US/Eastern
EHS-SPCC- Spill Prever	Kemp	Dustin	Eugene	Utilities & E	WBT-PASSE	Passed	5/20/2025 08:52 PM US/Eastern
EHS-SPCC- Spill Prever	Shropshire	Emma	Dawn	Utilities & E	WBT-PASSE	Passed	11/24/2025 12:03 PM US/Eastern
EHS-SPCC- Spill Prever	Brinegar	Tara	N.	Utilities & E	WBT-PASSE	Passed	11/26/2025 09:59 AM US/Eastern
EHS-SPCC- Spill Prever	Pelat	Christian	Mickael	Utilities & E	WBT-PASSE	Passed	10/20/2025 01:33 PM US/Eastern
EHS-SPCC- Spill Prever	Pizarro	Ivana	A.	Utilities & E	WBT-PASSE	Passed	9/10/2025 01:58 PM US/Eastern
EHS-SPCC- Spill Prever	Pizarro	Ivana	A.	Utilities & E	WBT-PASSE	Passed	4/28/2025 08:28 AM US/Eastern
EHS-SPCC- Spill Prever	Clark	Ken	Gale	Utilities & E	WBT-PASSE	Passed	11/25/2025 04:48 PM US/Eastern
EHS-SPCC- Spill Prever	Hannabach	Robert	Jacob	Utilities & E	WBT-PASSE	Passed	12/5/2025 09:33 AM US/Eastern
EHS-SPCC- Spill Prever	Zierer	Paul	J.	Utilities & E	WBT-PASSE	Passed	10/6/2025 11:04 AM US/Eastern
EHS-SPCC- Spill Prever	Zierer	Paul	J.	Utilities & E	WBT-PASSE	Passed	4/17/2025 11:45 AM US/Eastern
EHS-SPCC- Spill Prever TRUE	Matthew	R		Utilities & E	WBT-PASSE	Passed	9/2/2025 07:48 AM US/Eastern
EHS-SPCC- Spill Prever	Derenge	Michael	Francis	Utilities & E	WBT-PASSE	Passed	12/14/2025 09:54 PM US/Eastern
EHS-SPCC- Spill Prever	Parker	Spencer	J	Utilities & E	WBT-PASSE	Passed	4/30/2025 12:56 PM US/Eastern
EHS-SPCC- Spill Prever	Christophe	Jared	Lee	Utilities & E	WBT-PASSE	Passed	12/22/2025 11:25 PM US/Eastern
EHS-SPCC- Spill Prever	Whitton	Carter	H	Utilities & E	WBT-PASSE	Passed	12/4/2025 03:01 PM US/Eastern
EHS-SPCC- Spill Prever	Booth	Steven	G	Utilities & E	WBT-PASSE	Passed	10/7/2025 10:08 AM US/Eastern
EHS-SPCC- Spill Prever	Spickard	Patrick	James	Utilities & E	WBT-PASSE	Passed	12/6/2025 08:09 PM US/Eastern
EHS-SPCC- Spill Prever	Dalton	Daniel	Kenneth	Utilities & E	WBT-PASSE	Passed	9/5/2025 10:26 AM US/Eastern
EHS-SPCC- Spill Prever	Webb	Jarrett	Stephen	Utilities & E	WBT-PASSE	Passed	4/28/2025 09:48 AM US/Eastern
EHS-SPCC- Spill Prever	Gray	Graham	M	Utilities & E	WBT-PASSE	Passed	11/26/2025 11:12 AM US/Eastern
EHS-SPCC- Spill Prever	Moncrief	John	Ellis	Utilities & E	WBT-PASSE	Passed	11/25/2025 11:49 AM US/Eastern
EHS-SPCC- Spill Prever	Boone	Louis	M	Utilities & E	WBT-PASSE	Passed	11/25/2025 08:52 AM US/Eastern
EHS-SPCC- Spill Prever	Assel	April	Danielle	Utilities & E	WBT-PASSE	Passed	4/10/2025 10:09 AM US/Eastern
EHS-SPCC- Spill Prever	Brown	Austin	Taylor	Utilities & E	WBT-PASSE	Passed	5/9/2025 02:28 AM US/Eastern
EHS-SPCC- Spill Prever	Cochran	Branden	Lane	Utilities & E	WBT-PASSE	Passed	4/15/2025 11:26 AM US/Eastern
EHS-SPCC- Spill Prever	Ragland	Britney	Marie	VP - Facilitie	WBT-PASSE	Passed	12/17/2025 01:34 PM US/Eastern

From: Gray, Graham M.
To: Ragland, Britney M.; Duffy, Michael J.; Zierer, Paul J.; Keely, Daniel C.; Phillips, Jerry D.; Hoard, Jacob A.; Moberly, Charles W.; Conner, Eric S.; Huffines, Henry L.; Whitton, Carter H.; Smith, William T.; Hughes, Steven P.; Nord, John R.
Cc: Hibbard, David W.; Butler, Brian P.; Lewis, Charles K.
Subject: SPCC - Spill Prevention - UEM
Date: Wednesday, March 12, 2025 2:30:43 PM

Thank you for attending our SPCC Meeting this morning. The Plan has been updated and here are a few highlights worth repeating:

- Phone Numbers for a Spill, etc.
    - Between 8 am and 5 pm on Monday through Friday (except holidays, emergency closing, etc.) please contact Environmental Quality Management (EQM) at (859) 323-6280
    - For after hours, weekends, holidays, emergency closing, etc. please contact UK Police at (859) 257-8573. UK Police will then contact EQM. Do NOT call 911 for an SPCC event
    - PLEASE MAKE SURE TO PUT THESE 2 CONTACTS IN YOUR CELL PHONE IMMEDIATELY
- ALL upcoming inspections, training records, and related paperwork should be placed in the SPCC binders that were handed out this morning. We want to keep ALL SPCC documents in a single binder for each plant. Make sure that all UEM employees know where to find and have access to an SPCC binder (UEM has a total of 10 such binders).
    - Here are the locations:
        - Central Heating
        - Cooling Plant #2
        - Central Utility Plant (CUP)
        - Med Center Heating & Cooling
        - Cooling Plant #1
        - Britney Ragland's office
        - Mike Duffy's office
        - Carter Whitton's office
        - Steven Hughes' office
        - Graham Gray's office
- Review the SPCC Plan and pay special attention to the plant/location where you work. If you find and error or need to make an update in the future, please send them to me and I'll forward to EQM.
- Verify that your spill kits are fully stocked – if not, get an order in to Stores for needed replacements
- Our printer vendor forgot to include the binder inserts on the outside edge of the

binders – I will distribute these when they are received

Thanks again,

Graham

APPENDIX G

Small MS4 Training Certificates

KENTUCKY STORMWATER ASSOCIATION

2025 Kentucky Stormwater Association Spring Quarterly
March 12, 2025 (10 AM - Noon ET)
Professional Development Hours
Virtual Webinar via Zoom

Presentation Title	Speaker	Duration (hours)	Session Attended (check box)
Post Construction Maintenance: Kentucky Status	James Shelley	0.5	
Louisville's MSD Post Construction Program, Long Term Mainteance, and Inspector Training	Brett Clark	1	0.5
Connecting with the Kentucky Landscape Industry to improve success of native plantings for stormwater control projects	Dr. Cindy Finneseth	0.5	X

KENTUCKY STORMWATER ASSOCIATION

Professional Development Hours

KSA Quarterly Meeting
Limelight Series
Leveraging Partnerships
Wednesday, December 17, 2025

Kentucky Water Research Institute

Presentation Title	Speaker	Duration (Hours)	Session Attended (Check Box)
Overview of Potential Partnerships	*Steve Evans, Associate Director, KWRI*	0.4	X
Regional Partnerships or Consortia	*Keith Robinson and Brooke Shireman, Greater Cincinnati Stormwater Collaborative*	0.4	X
Watershed Groups	*Jim Silliman, Oldham County Fiscal Court and Currys Fork Watershed*	0.4	X
Trash and Litter	*Angie Muncy, Solid Waste Coordinators of Kentucky*	0.4	X
Schools	*Perry Thomas, Kentucky Association of Environmental Education*	0.4	X

Signature Kevin Lewis *Date* 1/20/26

From: Kentucky Stormwater
To: Lewis, Charles K.
Subject: CEU/PDH Record for 2025 KSA Conference
Date: Monday, July 21, 2025 10:15:54 AM
Attachments: LOGO KSA DARK AND LIGHT BLUE COLOR RGB (1).png

You don't often get email from kystormwater@gmail.com. Learn why this is important

CAUTION: External Sender

KENTUCKY STORMWATER ASSOCIATION

July 9-11, 2025 Kentucky Stormwater Association Annual Conference
Hyatt Regency | Lexington, KY | Professional Development Hours

Presentation Title	Speaker(s)	PDH Credits
Riparian Reforestation in Lexington, KY: The influence on seven urban streams	Ben Brammel - Ashbury University & Kenton Sena - University of Kentucky	0.5
Green Sinks - An Important Tool for Stormwater Management and Flood Mitigation	Brian Storz - KDOW & Rodney Fouch - City of Morehead	1
Performing for the Protocol at the Expense of Overall Functionality	Chris Allen - Contech Engineered Solutions	0.5
Regional Evaluation for Detention Basin Retrofits in Southwest Ohio	Chris Rust- Strand Associates & David Rutter - OH, KY, IN Regional Council of Gov	0.5
MS4 Legal Update	Clay Larkin - Dentons	1
Enforcement Roundtable: Discussing Efficient Methods of Persuading Compliance in the Regulated Community	Courtenay Howell & Chad Doughty - CoBG, Gabe Hensley - LFUCG, Brooke Shireman - SD1, Deborah Singleton - KDOW	1
Soil Function in Reforested and Restored Areas: Implications for Stormwater	John McMaine - University of Kentucky	0.5
Reforested Stormwater Basins: A help or hindrance to stormwater mgmt in Lexington, KY?	Kenton Sena - University of Kentucky	0.5
What's My Water: Identifying MS4 Receiving Waters and Water Quality Status	Lucas Hanks - Kentucky Division of Water	0.5
KDOW MS4 Updates	Lucas Hanks - Kentucky Division of Water	0.5
Audits Happen: How to be ready!	Marilyn Coffey - GPD Group	0.5
Continuing a History of Stormwater Upgrades with the Holmes Street Complete Street Project	Matt Noonon, P.E. - City of Frankfort, Matt McMackin - Strand Associates	0.5
E 7th Street Sinkhole/Stormwater Best Management Practices	Samuel Lee - Stantec Consulting	0.5
Gatton Park on the Town Branch	Steven Vogel - Strand Associates	1

Print or save this email for your records. Please confirm suitability with the appropriate agency or board.
Envirocert International has approved KSA Conference sessions listed on the Professional Development Hours section of their website.

Thank you,
Courtenay Howell
Secretary
Kentucky Stormwater Association
www.kentuckystormwater.org

EFCN
environmental finance center network

CERTIFICATE OF ATTENDANCE

HEREBY CERTIFIES THAT

Kevin Lewis

Completed 1.5 hours of webinar training at

Green Infrastructure for Small Systems: Exploring Real World Examples

September 18th, 2025 | 1:00 PM – 2:30 PM EDT



AVERI DAVIS
PROGRAM MANAGER
SU-EFC

10/23/2025
DATE

Caroline Koch,
Director of Water Policy,
WaterNow Alliance
INSTRUCTORS

For attendance verification, please contact smallsystems@syr.edu

CERTIFICATE OF ATTENDANCE

THIS CERTIFICATE IS PRESENTED TO

Kevin Lewis

FOR ATTENDING 1.0 HOUR OF THE
DWQ CAPITAL PROJECTS EROSION AND SEDIMENT CONTROL TRAINING
ON OCTOBER 27, 2025

CONDUCTED BY THE
LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT
DIVISION OF WATER QUALITY

NAME	TITLE	DATE
Baine Vue	*MS4 Section Manager*	*October 27, 2025*

CERTIFICATE OF ATTENDANCE

THIS CERTIFICATE IS PRESENTED TO

Kevin Lewis

FOR ATTENDING 3.0 HOURS
OF THE MS4UM ON DECEMBER 19, 2025

CONDUCTED BY THE
LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT
DIVISION OF WATER QUALITY

NAME	TITLE	DATE
Bailee Mar	*MS4 Section Manager*	*December 19, 2025*

APPENDIX H

Updated SWQMP Tables

Activity	2018 SWQMP Tasks	Responsibility	Measurable Goal	Evidence of Completion	Deadline/Frequency						
					PY1	PY2	PY3	PY4	PY5	Continued	Complete/ Recurring
	The program must be formalized in a written Stormwater Quality Management Plan (SWQMP) that details how the required six minimum control measures will be implemented. This document must be modified as needed.				X	= Original Schedule	X	= Updated Schedule	✓	= Complete /Stopped	↺ = Recurring
MCM 1	**Public Education and Outreach**										
	1.A – Strengthen Education, Outreach and Participation Program	EMD, TFISE	▪ Develop partnership with TFISE in year one ▪ Develop MCM 1&2 budget in year one to determine operating constraints of program ▪ Develop MCM 1&2 program improvements in year one ▪ Hire interns to assist TFISE in education/outreach activities by year two	▪ Provide agreement between EMD and TFISE (MOU) ▪ Provide copy of operational budget for MCM 1&2. ▪ Provide detailed outline of program for MCM 1&2. ▪ Provide copies of intern final reports, presentations, data, etc.	X	X		X	X	X	↺
	1.B – Update and maintain stormwater website	EMD, TFISE	▪ Website redesigned ▪ Website routinely updated ▪ Page visits are trackable/analytics package	▪ Updated website launched, documentation of regular updates, page traffic information		X	X	X			✓
	1.B.1 – Develop interactive MS4 Map	EMD/FIS	▪ Create a map for inclusion on the website that provides detailed MS4 information above and beyond the existing 2D map. Examples of information to include: stormwater flow direction, watershed information, post construction bmp information (photos, descriptions, etc.) ▪ Develop interactive Story Map	▪ Provide link to published map			X				✓
	1.B.2 – Develop illicit discharge reporting system	EMD	▪ Create mobile friendly illicit discharge reporting web feature that allows the user to take photos, provide comments, and send information to EMD with minimal effort.	▪ Provide link of operational website that includes access to reporting system ▪ Provide the number of complaints through website and copies of the submitted reports		X	X				✓
	1.B.3 – Develop educator resource page (in conjunction with task 1.C.3)	TFISE	▪ Create a portion of the website to include stormwater resources for educators ▪ Create content to include on the resource page ▪ Develop notification of availability once completed	▪ Provide link to resource page ▪ Provide access to created educator resources			X				✓
	1.B.4 – Develop and maintain social media sites focused on UK stormwater	TFISE, EMD	▪ Begin utilizing existing social media accounts (Facebook, Twitter, etc.) to promote UK stormwater ▪ Add account links to UK Stormwater page ▪ Regularly update sites to keep information relevant	▪ Provide links to social media accounts		X		X	X	X	↺
	1.C – Develop and distribute public (faculty, staff, students, visitors) specific educational materials	TFISE	▪ Create education materials that specifically address how UK's public impacts and can protect stormwater.	▪ Provide a copy of the created materials, numbers distributed		X	X	X	X	X	↺
	1.C.1 – Extend program focus to visitors	TFISE	▪ Identify ways in which visitors can impact stormwater and develop an awareness campaign to target those actions	▪ Provide a copy of awareness program items (pamphlets, signage, etc.)			X	X	X	X	
	1.C.1.a – Develop awareness materials to address illicit discharge prevention from tailgater RV's (No dumping of gray/black water holding tanks) – Coordinate with Task 8.A	TFISE, Athletics, EMD, Transportation Services	▪ Develop awareness materials and coordinate distribution with annual parking pass/ticket sales.	▪ Provide copy of awareness materials and number distributed			X	X	X	X	
	1.C.2 – Provide mechanism for incorporating students in stakeholder/planning process	EMD, Sustainability, TFISE	▪ Create meeting/forum/platform for students to provide input in campus stormwater management decisions	▪ Provide meeting dates, sign in sheets, meeting minutes, agendas, etc.				X	X	X	
	1.C.3 - Focus on pollutants impairing local waterways	TFISE	▪ Create awareness materials that specifically address pollutants identified in the 303d list impairing local waters as well as existing TMDL's. ▪ Specify how those on campus can help reduce these problems.	▪ Provide copy of materials created as well as numbers distributed.				X	X	X	
	1.C.4 – Create stormwater education materials for staff/extension use	TFISE	▪ Create curriculum that can be used to educate University public on their impacts to campus stormwater, MS4 requirements, and how they can help	▪ Provide any materials developed		X	X	X	X	X	↺
	1.D – Participate in and/or facilitate special events/activities/joint sponsored events to increase stormwater awareness	TFISE	▪ Facilitate/Participate in one event per semester (minimum) that focuses on campus stormwater.	▪ Provide information on the events (dates, times, sign in sheets, photos, agendas, etc.)	X	X	X	X	X	X	↺
	1.D.1 – Involve student organizations	TFISE	▪ Work with student organizations to get participation in a minimum of one event/activity per year. ▪ Devise incentive program to boost participation	▪ Provide name of special event/activity, name of student organization, sign in sheet/attendance numbers per activity, and photos ▪ Provide description of incentive and names of qualifying groups	X	X	X	X	X	X	↺
	1.E – Create stormwater awareness articles/posts/podcasts/videos for campus wide distribution (e.g. UKNow/Website/Kernel/Social Media/News Letters)	TFISE	▪ Develop and publish at least 1 article/post/podcast/ video per year	▪Provide copy of created items		X	X	X	X	X	↺

Activity	2018 SWQMP Tasks	Responsibility	Measurable Goal	Evidence of Completion	Deadline/Frequency						
					PY1	PY2	PY3	PY4	PY5	Continued	Complete/ Recurring
	1.F – Update staff IDDE training and create method to ensure training is conducted annually	EMD, TFISE	▪ Update training to make more user friendly and relevant to campus activities ▪ Integrate training into online training programs and routine staff meetings	▪ Provide copy of training ▪ Provide sign in sheets and online training records annually			X	X			✓
	1.F.1 – Develop short promotional video on the most frequent illicit discharges and how to report them	EMD, TFISE	▪ Develop video/videos that can be utilized to train staff as well as promote the illicit discharge program and stormwater protection to general campus audiences to be shared through targeted outreach, social media, and other outlets.	▪ Provide copy of the completed video/link to access video ▪ Provide distribution list/number of viewings, etc.				X			✓
	1.G – Update individual departmental stormwater training and improve delivery system/participation	EMD, TFISE, Facility Operations, Utilities, Athletics	▪ Work to improve/develop department specific (Facility Operations, Athletics, Utilities) stormwater training and include that training in online systems and in routine departmental trainings, minimum annually. ▪ Expand training to areas such as grad students, outdoor labs, etc. that may impact stormwater	▪ Provide copy of/link to the developed training			X	X	X	X	
	1.H – Update and conduct campus wide survey to determine effectiveness of the Outreach and Ed.program	TFISE	▪ Determine if/which questions must be retained from previous survey, develop more campus relevant survey, and conduct survey of faculty, staff, and students to determine stormwater awareness and areas of program improvement.	▪ Provide copy of survey along with results and analysis		X	X				✓
	1.H.1. – Conduct follow up survey every 2-4 years	TFISE	▪ Utilizing updated survey, conduct survey of faculty/staff/students on routine basis to determine program effectiveness and areas needing improvement	▪ Provide results and analysis of survey					X		✓
	1.I – Regularly meet with LFUCG MS4 Coordinator to coordinate programs and provide updates	EMD	▪ Set up meetings/calls (minimum quarterly) to discuss relevant issues from each MS4 that could benefit or impact the other.	▪ Provide dates of the meeting/calls along with a summary of the discussion		X	X	X	X	X	↻
	1.J – Develop a consortium of stormwater professionals targeting universities	TFISE	▪ Develop a network of individuals ▪ Meet with stormwater professionals to discuss campus stormwater and share ideas at least once annually.	▪ Provide meeting date(s), attendees, and the agenda/list of topics discussed				X	X	X	↻
	1.K – Develop a stormwater steward certification program (StormCats) similar to the backyard stream steward certification process	TFISE	▪ Develop program along with online modules that can be used to gain certification in stormwater protection. Center program around campus/MS4.	▪ Provide link to program and modules (e.g. Canvas)				X	X	X	
MCM 2	**Public Involvement/Participation**										
	2.A – Update and Improve the stormdrain marking program	EMD/TFISE	▪ Develop a redesign for the stormdrain marking program and plan in year two ▪ Coordinate the program and participation with the marked drain inventory and the interactive map completion.	▪ Provide progress update of efforts/changes completed each year		X	X	X	X	X	↻
	2.A.1 – Update inventory of marked drains via intern program	EMD	▪ Develop an outline for intern job responsibilities ▪ Begin/complete intern hiring process ▪ Work with FIS to create map/inventory for intern to document findings ▪ Assign duties to intern and train ▪ Continue with process annually until inventory is complete	▪ Intern progress will be tracked via map/inventory system. Provide updates on progress via inventory/map versions and/or link.		X	X	X	X	X	↻
	2.A.2 – Develop interactive map to show/track drain marking activity	EMD/FIS	▪ Work with FIS to develop interactive map to be added to webpage that indicates storm drain locations and which ones are marked/need to be marked.	▪ Map added to website, link provided		X	X	X			✓
	2.A.3 – Develop advertising/awareness campaign to improve program participation	TFISE	▪ Create various advertising materials ▪ Market program to faculty, staff, students, and visitors through various means to increase awareness and participation annually once completed.	▪ Provide # stormdrains marked annually ▪ Provide # of participants annually ▪ Provide copy of marketing materials			X	X	X	X	↻
	2.B – Involve students, faculty, and staff in stormwater activities (e.g. drain marking, rain garden maintenance, new stream restoration project)	TFISE	▪ Involve students in a minimum of two activities per year	▪ Provide list of activities, list of participants, and photos	X	X	X	X	X	X	↻
	2.B.1 – Develop procedures for alerting public (Faculty, Staff, Students, etc.) of program participation opportunities and changes/updates	TFISE	▪ Determine notification preferences, including how best to utilize the webpage (see task 2.B.2) ▪ Create procedures outlining when and how notifications are used	▪ Provide copy of notification methods and procedures/include in the Stormwater Operations Manual ▪ Provide copies of any notifications		X	X	X	X	X	
	2.B.2 – Update webpage (see task 1.B) to include an events calendar or latest info	TFISE/EMD	▪ Include public alerts, notifications, and updates on webpage/social media.	▪ Provide link to webpage & copies/dates of notifications			X				✓

Activity	2018 SWQMP Tasks	Responsibility	Measurable Goal	Evidence of Completion	Deadline/Frequency						
					PY1	PY2	PY3	PY4	PY5	Continued	Complete/ Recurring
	2.C. – Consider development of brief pre and post survey for activity participants	TFISE	• Develop pre and post survey templates in year three and identify activities suitable to perform surveys • Conduct at least one survey activity in years 4 and 5 to gain feedback on the stormwater program and/or the activity.	• Provide a copy of any surveys conducted along with the results			X	X	X		✓
MCM 3	**Illicit Discharge Detection and Elimination**										
	3.A - Maintain and update MS4 and Utility Maps annually/as necessary	EMD, Utilities	• Add recently installed bmp's, changes, and updates to MS4 system as they occur	• Utility map updated online • Latest version of MS4 map added to website	X	X	X	X	X	X	↻
	3.A.1. - Update Utility map to include Bell 2017 assessment/mapping info	Utilities	• Provide the survey information from Bell's assessment to FIS for inclusion on the Utility map	• Include the latest data on the utility map and provide the link		X	X	X	X		✓
	3.A.2 – Develop clear procedures for recording/reporting of MS4 boundary expansion and inclusion of new territory in MS4/University O&M and add to the Stormwater Operations Manual	EMD, Facility Operations, Utilities, Real Estate	• Determine steps and current procedures for adding property and notification to Utilities/Facility Operations/EMD in year two • Develop/amend current procedures and include documentation of notification in year two/three • Add procedures to Stormwater Operations Manual	• Provide list of procedures • Provide list/map of added properties (include link)		X	X				✓
	3.B - Review IDDE Plan and update as necessary	EMD	• Bring the plan up to date • Include the updated MS4 map and adjust any references to the map	• Provide copy of updated plan	X						✓
	3.B.1 – Update to include the new permit requirements	EMD	• Compare contents of existing plan to the permit requirements • Amend content as necessary	• Provide copy of updated plan	X						✓
	3.B.2 – Develop SSO protocols and resolution timeframes	EMD, Facility Operations, Utilities	• Develop a Sanitary Sewer Overflow response policy/procedures/guidelines that include clean up requirements, reasonable timeframes for clean-up/correction, and notification procedures • Distribute protocols to those involved in SSO response, train as necessary	• Provide copy of procedures • Provide distribution list and/or training sign in sheet		X	X	X	X	X	
	3.B.3 – Incorporate procedures/requirements into the Stormwater Operations Manual	EMD	• Add SSO section to the Stormwater Operations Manual	• Provide copy of the Stormwater Operations Manual once completed					X	X	
	3.B.4 – Visually inspect outfalls from campus annually	EMD	• Inspect outfalls during dry weather based on IDDE Manual requirements • Input inspections into MS4 database	• Provide copy of outfall inspection reports	X	X	X	X	X	X	↻
	3.B.5 – Evaluate the assessment of dry weather flows in known areas of concern on campus	EMD	• Determine the need for dry weather flow assessment based on historical sampling data and outfall inspections • Determine if resources are available this permit cycle for sampling efforts (time, budget) • Develop/add to monitoring program as necessary	• Provide summary of determination, timetables, and a copy of the monitoring plan/QAPP if/when developed.		X	X	X	X	X	
	3.B.5.a – Evaluate assessment of UK based dry weather flows to the Manchester Street Culvert via confined space entry and sampling of E.coli, Ammonia, TSS, and other constituents	EMD	• Review LFUCG sampling data • Observe dry weather flows through system • Discuss possibility of coordination with LFUCG • Develop/add to monitoring program as necessary	• Provide summary of evaluation and any assessment findings (if applicable)				X	X	X	
	3.C – Update website and complaint reporting mechanism (see tasks 1.B and 1.B.2)	EMD, TFISE	• Develop a reporting mechanism that allows the user to quickly snap a photo of an issue and send directly to EMD.	• Provide link to reporting mechanism		X	X				✓
	3.D – Update staff training on illicit discharge identification and reporting (see task 1.F)	EMD, TFISE, Facility Operations	• Consolidate and update existing online staff training • Develop staff protocols for reporting and include information on the new reporting mechanism • Add protocols to IDDE Manual/Stormwater Operations Manual	• Provide copy of/link to training • Provide copy of protocols			X	X			✓
	3.D.1 – Integrate illicit discharge detection and prevention into routine staff duties	Facility Operations, Utilities, Athletics	• Evaluate activities already being performed by staff where the inspection of storm drains and reporting of issues can be easily integrated. • Add inspection of surrounding storm drains to SPCC monthly inspection list • Train grounds staff how to identify issues when mowing, etc.	• Provide list/description of activities where IDDE has been integrated			X	X			✓
	3.D.2 – Include all information/procedures into a comprehensive Stormwater Operations Manual	EMD	• Integrate training and procedures developed into the Stormwater Operations Manual	• Provide copies of any/all procedure updates being included in manual or a copy of the created/updated Stormwater Operations Manual				X	X	X	
	3.D.3 – Develop video on most frequent illicit discharges and how to report them (Task 1.F.1)	TFISE, EMD	• Determine most frequent illicit discharges • Work with TFISE to develop video • Distribute/utilize video	• Provide link to video • Provide distribution list and/or list of trainings/discussions where video is used					X		✓

Activity	2018 SWQMP Tasks	Responsibility	Measurable Goal	Evidence of Completion	Deadline/Frequency						
					PY1	PY2	PY3	PY4	PY5	Continued	Complete/ Recurring
	3.E – Update and maintain the illicit discharge tracking program as necessary	EMD	• Document all complaints and input into MS4 web as they occur	• Provide copy of complaint reports	X	X	X	X	X	X	↻
	3.F – Evaluate performing additional/routine Thermal Imaging scans to locate possible discharges and develop procedures as necessary	EMD, Utilities	• Determine if additional/routine scans will be beneficial/economically viable	• Provide summary of determination		X					✓
			• Determine protocols for how/when scans will be used.	• Provide copy of protocols/include in Stormwater Operations Manual							
			• Plan for future scans as necessary	• Provide schedule of future scan (if applicable)							
	3.F.1 – Locate, prioritize, and minimize heating/cooling system leaks	Utilities	• Investigate as necessary to determine source of leaks impacting the storm sewer system	• Provide list of annual investigation efforts/repairs made/maintenance costs	X	X	X	X	X	X	↻
			• Develop a prioritized repair list	• Provide prioritized repair list							
			• Repair/maintain system as necessary to minimize leaks and impact to the storm sewer system								
	3.G – Complete Greenhouse conversion to sanitary sewer	Facility Operations	• Divert remaining greenhouse drains from storm to sanitary	• Provide evidence of completion (project as-builts/invoices)	X		X	X	X		✓
	3.H – Minimize cigarette butts entering storm drains	EMD, Facility Operations, Grounds	• Meet with UK Tobacco-free Taskforce to discuss cigarette butts entering storm drains, the impact on stormwater, and stormwater requirements.	• Provide sign-in sheet/meeting minutes/copy of invite			X	X			✓
			• Develop/implement bmp's to prevent cigarette butts from entering storm drains	• Provide list/description of bmp's implemented							
			• Coordinate with LFUCG at campus boundaries								
MCM 4	**Construction Site Stormwater Runoff Control**										
	4.A. – Improve the project notification/review process, including timing of notification and inclusion of appropriate departments	CPMD/Facility Operations	• Update the Capital Projects Typical Projects Step List	• Provide copy of updated project steps list							
			• Educate CPMD Project Managers on updated project steps	• Provide copy of presentation and/or meeting sign in sheet for PM training		X	X				✓
			• Develop/verify Facility Operations procedures and update as necessary	• Provide copy of updated Facility Operations procedures							
	4.B – Develop alternative to permit issuance as part of formal review process (i.e. – EMD Notification to Proceed)	CPMD, EMD	• Create project step that requires approval of water quality measures by CPMD and EMD before a project can proceed	• Provide procedures for approval process							
			• Create procedures for how step will be utilized and enforced			X	X				✓
			• Integrate step into MS4 web and project manager project step list								
	4.C – Strengthen contract language requiring contractors to implement SWPPP controls, obtain stormwater permit coverage, and maintain compliance with stormwater requirements	CPMD	• Update contract language to provide for better enforcement capability and correction of construction site stormwater deficiencies	• Provide copy of updated contract language	X						✓
	4.D – Perform audit inspections on construction sites monthly	CPMD	• Inspect all active construction sites once per month minimum	• Provide number of inspections conducted as well as copies of the inspections/annual inspection report	X	X	X	X	X	X	↻
	4.D.1 – Update construction site inspection checklist as necessary	CPMD, EMD	• Tailor existing checklist to better meet UK needs or develop new checklist	• Provide copy of updated checklist		X					✓
			• Update MS4 web with any changes								
	4.D.2 – Develop progressive/escalating enforcement policy and procedures for SWPPP/KYR10 violations (See task 3.A)	CPMD, EMD	• In conjunction with contract language changes, develop enforcement policy and procedures for SWPPP violations.	• Provide copy of enforcement policy/procedures		X	X				✓
			• Update design standards to clarify requirements and expectations of contractors	• Provide copy of updated design standards							
	4.D.2.a – Develop RFP for Stormwater Remediation and award contract	CPMD	• Draft and post Stormwater Remediation RFP	• Provide selected contractor information and description of duties							
			• Review proposals and select contractor	• Provide list of construction sites contractor has been hired to repair along with list of deficiencies corrected		X					✓
			• Utilize contractor to repair stormwater deficiencies on active construction sites as needed								
	4.D.3 – Update/maintain inspection and enforcement tracking mechanism as necessary	CPMD, EMD	• MS4 Web regularly updated with inspection and compliance information	• Provide an up to date inspection report	X	X	X	X	X	X	↻
	4.D.4 – Develop and implement an internal QC process to ensure site inspections are being performed and KYR 10 requirements are being met	EMD	• Develop procedures for the auditing of UK's construction site stormwater inspection program to ensure MS4 permit requirements are being met	• Provide copy of procedures				X	X	X	↻
			• Conduct audit of program annually	• Provide audit results/report							
	4.E – Review construction plans to ensure SWPPP measures are being incorporated for all projects disturbing 1 acre or more	CPMD	• Review all applicable construction project plans to ensure stormwater requirements are being met	• Provide list of all construction projects reviewed annually	X	X	X	X	X	X	↻
			• Update MS4 web with review information								

Activity	2018 SWQMP Tasks	Responsibility	Measurable Goal	Evidence of Completion	Deadline/Frequency						
					PY1	PY2	PY3	PY4	PY5	Continued	Complete/ Recurring
	4.E.1 – Continue to utilize LFUCG's most recent stormwater requirements, including their Stormwater Manual and LID guidelines	CPMD, EMD	▪ Update contract/design standards as needed ▪ Review projects based on LFUCG guidelines ▪ Update MS4 Web as needed	▪ Provide copy of updated contract/design standards ▪ Provide project review reports from MS4 web	X	X	X	X	X	X	↻
	4.E.2 – Update SWPPP review checklists	CPMD, EMD	▪ Adopt the LFUCG Land Disturbance Permit Application and Sediment Control Plan Checklist for project review, tailor to fit UK needs, and integrate into MS4 web ▪ Develop addition checklist for SWPPP requirement review based on KYR10 and integrate into MS4 Web	▪ Provide copy of updated checklist(s)		X					✓
	4.F – Have designated staff reviewing plans or performing inspections receive/maintain KEPSC Inspector Certification	EMD	▪ Require designated staff to maintain current certification	▪ Provide staff certification information	X	X	X	X	X	X	↻
	4.G – Develop training program to educate contractors and designers on stormwater requirements	CPMD, EMD	▪ Create training program procedures, goals, and guidelines	▪ Provide copy of training procedures/goals/guidelines		X	X	X	X	X	
	4.G.1 – Develop UK construction process/requirement training	CPMD, Facility Operations	▪ Develop training in year two ▪ Conduct training annually (minimum)	▪ Provide training presentation/ information ▪ Provide training schedule & sign in sheets			X	X	X	X	↻
	4.G.2 – Develop KYR10 Requirement training	CPMD, EMD	▪ Develop training in year two/three ▪ Conduct training with each project/annually (minimum)	▪ Provide training presentation/ information ▪ Provide training schedule & sign in sheets			X	X	X	X	↻
	4.G.3 – Develop SWPPP development/requirement training	CPMD, EMD	▪ Develop training in year three ▪ Conduct annually/as needed	▪ Provide training presentation/ information ▪ Provide training schedule & sign in sheets			X	X	X	X	↻
	4.G.4 – Work with the Kentucky Transportation Center to provide KEPSC Inspector Training on campus annually (minimum)	EMD	▪ Contact the Kentucky Transportation Center and discuss possibility of providing training on campus annually ▪ Hold training annually (if possible)	▪ Provide summary of discussion ▪ Provide training schedule (if applicable)		X					✓
	4.G.5 – Develop stormwater site inspection review training to be provided for each project	CPMD, EMD	▪ Develop training in year three to be provided during the preconstruction meeting of each project	▪ Provide copy of training ▪ Provide list of projects and sign in/training acknowledgement sheet			X	X	X	X	↻
	4.H – Develop formal policy/guidance/procedure for small construction projects (<1 acre)	CPMD, Facility Operations	▪ Create written procedures/policy for handling stormwater on small construction projects (review, approval, bmp selection, inspection, contractor training, etc.) ▪ Put policy in place for small construction projects (as appropriate)	▪ Provide copy of developed policies/procedures		X	X	X	X	X	
MCM 5	**Post Construction Stormwater Management**										
	5.A – Continue the adoption of LFUCG Post Construction Requirements for New/Redevelopment	CPMD/EMD	▪ Require the submittal of a narrative and Executive Summary for new or re-development for all applicable projects ▪ Review projects based on latest LFUCG standards ▪ Update design and construction standards with any changes to post construction stormwater quality requirements as necessary ▪ Update MS4 web with project information and approvals	▪ Maintain submitted information for each project ▪ Provide copy of updated design and construction standards if applicable ▪ Provide list of approved projects/ MS4 web report	X	X	X	X	X	X	↻
	5.A.1 – Review possibility of finalizing LFUCG Memorandum of Understanding	EMD	▪ Begin discussions with UK and LFUCG regarding the completion of a MOU between the two MS4's ▪ Complete and sign the MOU if applicable	▪ Provide summary of the determination and/or copy of the completed/signed MOU			X	X	X	X	
	5.A.2 – Evaluate the development of a Stormwater Masterplan for UK's main campus	EMD, CPMD, Sustainability, Facility Operations, Utilities	▪ Meet with applicable stakeholders to determine the need for a masterplan, it's components, and development ▪ Begin development of masterplan or schedule development of masterplan as needed ▪ Create UK standards for stormwater post construction BMP selection (consider local water quality impairments) ▪ Evaluate adopting the UK Landscape Guidelines as policy and enforcement of the policy ▪ Incorporate into work flow and utilize the SITES review process (or equivalent) on all construction projects	▪ Provide meeting minutes/summary, sign in sheet, and copy of masterplan or schedule (if applicable) ▪ Provide copy of post construction BMP selection standards ▪ Provide update on Landscape Guidelines as policy determination along with procedures for enforcement of policy if applicable ▪ Provide procedures for SITES review process (or equivalent) ▪ Provide documentation of review processes use on new construction sites (score cards, etc)		X	X	X	X	X	
	5.B – Review plans to ensure post-construction stormwater quality treatment has been addressed	CPMD/EMD	▪ Review plans in accordance with latest LFUCG requirements ▪ Document review of plans in MS4 Web	▪ Provide report of reviewed projects	X	X	X	X	X	X	↻
	5.B.1 – Have those employees responsible attend training regarding plan review and post construction BMP's when available	CPMD/EMD	▪ Attend training when available	▪ Provide training information (dates, attendees, etc)	X	X	X	X	X	X	↻

Activity	2018 SWQMP Tasks	Responsibility	Measurable Goal	Evidence of Completion	Deadline/Frequency						
					PY1	PY2	PY3	PY4	PY5	Continued	Complete/ Recurring
	5.B.2 – Adopt the LFUCG Land Disturbance Permit Application and Sediment Control Plan Checklist for project review and tailor to fit UK's needs. (Task 4.E.2.a)	CPMD/EMD	• Checklist adopted, tailored to fit UK needs, and updated to include additional components for post construction requirements • Update MS4 Web with new checklist • Begin using new checklist for project review	• Provide copy of updated checklist • Provide MS4 web report and/or copies of completed project review checklists		X					✓
	5.C – Conduct inspections to ensure measures are being installed correctly	CPMD	• Conduct punch list walkthrough and/or NOT inspection for all new construction projects upon project completion • Document inspection in MS4 web	• Provide list of completed inspections	X	X	X	X	X	X	↺
	5.D – Revise long-term post-construction stormwater quality BMP inspection program	Facility Operations, EMD, Utilities	• Inspect 20% of above ground post construction BMPs annually • Inspect 100% of underground BMP's annually • Develop preventative maintenance program for all UK owned post construction BMP's in year two • Develop tracking system to assess long term pm cost for bmp's in conjunction with PM program • Assist EDR with development of PM program for EDR owned bmp's in year two • Document all inspections and maintenance in MS4 web or effective equivalent	• Provide report/list of all inspected bmp's along with findings • Provide preventative maintenance program procedures/ guidelines • Provide copy of pm cost assessment • Provide list of all maintenance performed on BMP's • Provide copy of EDR PM plan	X	X	X	X	X	X	↺
	5.E – Incorporate all relevant post-construction information into new Stormwater Operations Manual	CPMD, EMD, Facility Operations	▪ Include all inspection, bmp maintenance procedures and schedules, site plan review/post construction processes, etc. in new Stormwater Operations Manual	▪ Provide copy of Stormwater Operations Manual/Procedures			X	X	X	X	
	5.F – Advise administrative staff on the benefits of green infrastructure and the costs of construction and maintenance as compared to that of gray infrastructure. Do this prior to/in conjunction with tasks 5.A.2	EMD, Facility Operations Grounds, Sustainability	• Develop comparison of green vs gray infrastructure to include costs and benefits • Provide information to administrative staff via report and/or presentation	• Provide copy of report/presentation		X	X	X	X	X	
	5.G – Incorporate Stormwater Program into Sustainability Strategic Plan	EMD, Sustainability	• Update Sustainability Strategic Plan to include water section	• Provide copy of updated Strategic Plan	X						✓
MCM 6	**Pollution Prevention/Good Housekeeping for Municipal Operations**										
	6.A – Develop comprehensive UK Stormwater Operations Manual to include all policies/procedures/bmps utilized to meet permit requirements (all MCM's)	Facility Operations, Utilities, Athletics, EMD	• Integrate all existing procedures/ departmental policies into new manual • Update existing policies/procedures to improve permit compliance (Environmental Handbook, Factsheets, etc.) • Create new policies/procedures as necessary • Incorporate inventory of facilities, campus maintenance activities, and maintenance schedules	• Provide completed Stormwater Operations Manual					X	X	
	6.A.1 – Update BMP O&M Manual to include specific maintenance requirements, calendar of required activities, and responsibilities for each existing post construction BMP	EMD, CPMD, Utilities, Facility Operations	• Compile all O&M Manuals for new and recently installed bmp's • Create bmp specific requirements based on manufacturer's recommendations and existing O&M manual • Create calendar for completing required maintenance activities for all bmp's • Assign/Update responsibilities for maintenance of each bmp • Incorporate/Coordinate with BMP inspection program (see task 5.D)	• Provide copy of O&M manual including the activity calendar and responsibility assignments to be integrated into comprehensive Stormwater Procedure Manual.			X	X	X		✓
	6.A.1.a – Determine which activities will be contracted out (e.g. underground bmp annual inspections and maintenance, pervious pavement cleaning) and issue RFP as necessary (See task 5.D – Preventative Maintenance Program)	Facility Operations, Utilities	• Determine which activities require contractor assistance • Draft and issue RFP • Hire contractor • Schedule and perform inspections and maintenance as needed	• Provide inspection reports and maintenance invoices		X	X	X	X	X	↺
	6.A.1.b – Incorporate maintenance calendar into SAP Plant Maintenance system and create scheduled work orders for all activities	Facility Operations, Utilities	• Provide completed O&M Manual and calendar to Facility Operations/Utilities • Utilize information to create reoccurring work orders in PM system	• Provide example reports of SAP data/work orders				X	X	X	
	6.A.2. – Evaluate incorporation of SPCC program into Stormwater Program	EMD	• Determine if/how the two programs can be combined • Create plan to integrate two programs (as necessary)	• Provide determination and integration plan (if available)			X				✓

Activity	2018 SWQMP Tasks	Responsibility	Measurable Goal	Evidence of Completion	Deadline/Frequency						
					PY1	PY2	PY3	PY4	PY5	Continued	Complete/ Recurring
	6.A.3 – Develop procedures for rainwater harvesting system monitoring and reporting	Facility Operations, EMD	• Utilizing LFUCG requirements and manufacturers O&M manuals, develop departmental procedures for monitoring the use of harvesting systems. • Record monthly/annual use and total water harvested	• Provide water harvesting data for all systems				X	X	X	↺
	6.A.4 – Create policy/procedures surrounding stormwater protection during emergency/unplanned events (water main breaks, etc.)	Facility Operations, Utilities, EMD	• Develop SOP for bmp implementation in response to emergencies/ unplanned events	• Provide copy of policy/ procedures		X	X	X	X	X	
	6.A.5 – Create policy/procedures for unknown spill cleanup (dumpsters, etc.)	Facility Operations	• Create SOP for response, notification, & proper clean-up of unknown spills	• Provide copy of policy/ procedures		X	X	X			✓
	6.A.6 – Develop SOP's for all Athletics activities that impact stormwater	Athletics, EMD	• Assess Athletics maintenance activities and determine which activities (e.g. irrigation, fertilization, materials storage, etc.) have the potential to impact stormwater • Develop SOP's/BMP's for those activities	• Provide fact sheets/SOP's			X	X			✓
	6.B – Update Employee Training Program	EMD, Utilities, Facility Operations, Athletics	• Evaluate employee training participation/documentation and improve as needed • Update/consolidate training as necessary • Train employees on new procedures developed during permit term • Integrate training prescribed actions into departmental procedures & employee behaviors/actions	• Provide list of updated training • Provide sign in sheets for any training conducted • Provide evidence of procedures that have been amended to alter employee behavior to protect stormwater	X	X	X	X	X		✓
	6.C – Evaluate pollution prevention measures for coal stockpiles and upgrade, improve, or maintain as necessary	Utilities, EMD	• Assess and improve coal pile discharge at Wildcat Court • Evaluate remaining coal pile bmp's for effectiveness • Determine alternate bmp's for ineffective bmps • Install new bmp's as necessary	• Provide assessment information and list of replacement bmp's installed		X	X	X	X	X	
	6.D – Develop Waterfowl Management Program in response to local impairments (See task 8.C)	Facility Operations	• Assess waterfowl impact on water quality • Assess and move forward with alternative management techniques for Gluck Pond • Develop area specific Waterfowl Management Program for impacted areas of campus as needed	• Provide assessment results • Provide description and photos of installed bmp's and measures put in place at Gluck Pond • Provide copy of management plan			X	X			✓
	6.E – Develop steam/chilled water infrastructure repair priority list (See task 3.F.1)	Utilities	• Create list of required maintenance based on leak detection efforts	• Provide list of annual investigation efforts/repairs made/maintenance costs • Provide prioritized repair list	X	X	X	X	X	X	↺
	6.F – Create procedures to address/repair stormwater issues/problems on campus once they are identified	EMD, Utilities, Facility Operations, Athletics	• Create general procedures for notification, responsibility assignment, bmp installation (temporary and permanent), repair/resolution, timeframes, and reporting. • Add procedures to the Stormwater Operations Manual	• Provide copy of procedures				X	X	X	
	6.G – Evaluate changes to administrative regulation 6:3 with regard to stormwater during upcoming review cycle in 2021	EMD	• During regular administrative regulation review cycle, determine if administrative regulation 6:3 needs to be amended based on stormwater program performance.	• Provide assessment summary and/or any administrative regulation updates				X			✓
SWQMP Review and Mod											
	7.A – Review SWQMP annually and update as required by permit	EMD	▪ Determine completion of SWQMP tasks annually ▪ Evaluate bmp effectiveness and scheduling ▪ Modify SWQMP as needed (in accordance with permit)	▪ Provide a summary of the SWQMP assessment along with a description of any modifications made. Include a description of any replacement BMP's along with an analysis of why the former bmp was ineffective or infeasible. ▪ Provide information regarding any modifications to the schedule **See the permit for more details regarding the information to be included with this task*	X	X	X	X	X	X	↺

Activity	2018 SWQMP Tasks	Responsibility	Measurable Goal	Evidence of Completion	Deadline/Frequency						
					PY1	PY2	PY3	PY4	PY5	Continued	Complete/ Recurring
TMDL's & Impaired Waters											
	8.A – Implement BMP's in Big Elm Fork Watershed in response to recent impairment	Utilities, Athletics	• Continue sewer line evaluation/cross connection review • Seal all manholes in Shawneetown/Greg Page area as needed • Evaluate development of BMP's to prevent discharges of grey/blackwater from tailgating RV's. Implement as necessary. (Coordinate with Task 1.C.1.a) • Perform monitoring to evaluate bmp implementation/need • Develop additional bmps as necessary	• Provide assessment reports/invoices/photos • Provide photos/description of any bmp's implemented • Provide monitoring results/assessment	X	X	X	X	X	X	
	8.B – Begin/continue watershed focused monitoring as appropriate (see task 9.A)	EMD	• Sample watershed dry weather flow to determine contribution to local impairments and direct bmp implementation (as appropriate)	• Provide sample results/analysis and a description of any action taken as a result				X	X	X	
	8.C – Continue goose population control efforts at Gluck Pond and FEMA Basins/Big Elm Fork (See task 6.D)	Facility Operations	• Reduce waterfowl populations	• Provide a description of efforts taken along with an assessment of waterfowl populations	X	X	X	X	X	X	↻
Monitoring Plan											
	9.A – Assess need/desire/ability to develop and implement watershed focused monitoring plan with emphasis on local watershed impairments	EMD	• Evaluate the development of a watershed focused monitoring plan • Create/Update monitoring plan as necessary • Coordinate with LFUCG to determine their monitoring locations, monitoring dates, constituents, and historical data • Develop/Update QAPP in association with monitoring plan as necessary • Submit monitoring plan and QAPP to DOW for approval if/when developed • Begin collecting water samples in accordance with written monitoring plan and QAPP if/when developed	• Provide copy of Monitoring Plan, QAPP, DOW approval, and Water Quality Monitoring Data/Analysis or summary of determination to not pursue watershed focused monitoring				X	X	X	↻
	9.B – Evaluate/Plan completion of campus research monitoring database	TFISE, EMD	• Work with TFISE Water Working Group to evaluate and complete the campus research monitoring database (as needed)	• Provide summary of actions related to the database and link to completed database if applicable					X	X	
Fiscal Req.'s											
	10.A – Perform assessment to determine if all departments are adequately funded to perform stormwater duties as assigned	Facility Operations, Utilities, Athletics, TFISE, EMD	• As work is being done to complete SWQMP tasks, determine if departments are properly funded to accomplish tasks and reoccurring stormwater responsibilities • Develop stormwater budget for Utilities Division • Assess Grounds Department's ability to perform BMP/storm drain maintenance • Develop initial/reoccurring training budget for specialized maintenance needs (if/as needed)	• Provide annual stormwater budget information	X	X	X	X	X	X	↻
Reporting Req.'s											
	11.A - Develop and submit the annual report by April 15th	EMD	• Compile information regarding SWQMP task completion along with any additional stormwater efforts	• Report submitted annually by April 15th	X	X	X	X	X	X	↻
	11.A.1 – Develop reporting system for those providing annual report info	EMD/TFISE	• Have stakeholders provide evidence of task completion along with any additional stormwater effort information in a timely manner	• Information received and included in annual report	X	X	X	X	X	X	↻